GAVI Alliance

Annual Progress Report 2014

Submitted by

The Government of
Rwanda

Reporting on year: **2014**
Requesting for support year: **2016**
Date of submission: **14/05/2015**

Deadline for submission: 27/05/2015

Please submit the APR 2014 using the online platform https://AppsPortal.gavialliance.org/PDExtranet

Enquiries to: apr@gavi.org or representatives of a GAVI Alliance partner. The documents can be shared with GAVI Alliance partners, collaborators and general public. The APR and attachments must be submitted in English, French, Spanish, or Russian.

Note: *You are encouraged to use previous APRs and approved Proposals for GAVI support as reference documents. The electronic copy of the previous APRs and approved proposals for GAVI support are available at* http://www.gavialliance.org/country/

The GAVI Secretariat is unable to return submitted documents and attachments to countries. Unless otherwise specified, documents will be shared with the GAVI Alliance partners and the general public.

GAVI ALLIANCE
GRANT TERMS AND CONDITIONS

FUNDING USED SOLELY FOR APPROVED PROGRAMMES

The applicant country ("Country") confirms that all funding provided by the GAVI Alliance will be used and applied for the sole purpose of fulfilling the programme(s) described in the Country's application. Any significant change from the approved programme(s) must be reviewed and approved in advance by the GAVI Alliance. All funding decisions for the application are made at the discretion of the GAVI Alliance Board and are subject to the Independent Review Committee (IRC) and its processes and the availability of funds.

AMENDMENT TO THE APPLICATION

The Country will notify the GAVI Alliance in its Annual Progress Report (APR) if it wishes to propose any change to the programme(s) description in its application. The GAVI Alliance will document any change approved by the GAVI Alliance, and the Country's application will be amended.

RETURN OF FUNDS

The Country agrees to reimburse to the GAVI Alliance all funding amounts that are not used for the programme(s) described in its application. The country's reimbursement must be in US dollars and be provided, unless otherwise decided by the GAVI Alliance, within sixty (60) days after the Country receives the GAVI Alliance's request for a reimbursement and be paid to the account or accounts as directed by the GAVI Alliance.

SUSPENSION/ TERMINATION

The GAVI Alliance may suspend all or part of its funding to the Country if it has reason to suspect that funds have been used for purpose other than for the programmes described in the Country's application, or any GAVI Alliance-approved amendment to the application. The GAVI Alliance retains the right to terminate its support to the Country for the programmes described in its application if a misuse of GAVI Alliance funds is confirmed.

ANTICORRUPTION

The Country confirms that funds provided by the GAVI Alliance shall not be offered by the Country to any third person, nor will the Country seek in connection with its application any gift, payment or benefit directly or indirectly that could be construed as an illegal or corrupt practice.

AUDITS AND RECORDS

The Country will conduct annual financial audits, and share these with the GAVI Alliance, as requested. The GAVI Alliance reserves the right, on its own or through an agent, to perform audits or other financial management assessment to ensure the accountability of funds disbursed to the Country.

The Country will maintain accurate accounting records documenting how GAVI Alliance funds are used. The Country will maintain its accounting records in accordance with its government-approved accounting standards for at least three years after the date of last disbursement of GAVI Alliance funds. If there is any claims of misuse of funds, Country will maintain such records until the audit findings are final. The Country agrees not to assert any documentary privilege against the GAVI Alliance in connection with any audit.

CONFIRMATION OF LEGAL VALIDITY

The Country and the signatories for the Country confirm that its application, and APR, are accurate and correct and form legally binding obligations on the Country, under the Country's law, to perform the programmes described in its application, as amended, if applicable, in the APR.

CONFIRMATION OF COMPLIANCE WITH THE GAVI ALLIANCE TRANSPARANCY AND ACCOUNTABILITY POLICY

The Country confirms that it is familiar with the GAVI Alliance Transparency and Accountability Policy (TAP) and complies with the requirements therein.

USE OF COMMERCIAL BANK ACCOUNTS

The Country is responsible for undertaking the necessary due diligence on all commercial banks used to manage GAVI cash-based support. The Country confirms that it will take all responsibility for replenishing GAVI cash support lost due to bank insolvency, fraud or any other unforeseen event.

ARBITRATION

Any dispute between the Country and the GAVI Alliance arising out of or relating to its application that is not settled amicably within a reasonable period of time, will be submitted to arbitration at the request of either the GAVI Alliance or the Country. The arbitration will be conducted in accordance with the then-current UNCITRAL Arbitration Rules. The parties agree to be bound by the arbitration award, as the final adjudication of any such dispute. The place of arbitration will be Geneva, Switzerland. The languages of the arbitration will be English or French.

For any dispute for which the amount at issue is US$ 100,000 or less, there will be one arbitrator appointed by the GAVI Alliance. For any dispute for which the amount at issue is greater than US $100,000 there will be three arbitrators appointed as follows: The GAVI Alliance and the Country will each appoint one arbitrator, and the two arbitrators so appointed will jointly appoint a third arbitrator who shall be the chairperson.

The GAVI Alliance will not be liable to the country for any claim or loss relating to the programmes described in the application, including without limitation, any financial loss, reliance claims, any harm to property, or personal injury or death. Country is solely responsible for all aspects of managing and implementing the programmes described in its application.

By filling this APR the country will inform GAVI about:

Accomplishments using GAVI resources in the past year

Important problems that were encountered and how the country has tried to overcome them

Meeting accountability needs concerning the use of GAVI disbursed funding and in-country arrangements with development partners

Requesting more funds that had been approved in previous application for ISS/NVS/HSS, but have not yet been released

How GAVI can make the APR more user-friendly while meeting GAVI's principles to be accountable and transparent.

1. Application Specification

Reporting on year: **2014**

Requesting for support year: **2016**

1.1. NVS & INS support

Type of Support	Current Vaccine	Preferred presentation	Active until
Routine New Vaccines Support	HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV quadrivalent, 1 dose(s) per vial, LIQUID	2017
Routine New Vaccines Support	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	2015
Routine New Vaccines Support	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	2015
Routine New Vaccines Support	Rotavirus, 3-dose schedule	Rotavirus, 2-dose schedule	2015
Routine New Vaccines Support	Measles second dose, 10 dose(s) per vial, LYOPHILISED	Measles second dose, 10 dose(s) per vial, LYOPHILISED	2017

DTP-HepB-Hib (Pentavalent) vaccine: Based on current country preferences the vaccine is available through UNICEF in fully liquid 1 and 10 dose vial presentations and in a 2 dose-2 vials liquid/lyophilised formulation, to be used in a three-dose schedule. Other presentations are also WHO pre-qualified, and a full list can be viewed on the WHO website, but availability would need to be confirmed specifically.

1.2. Programme extension

Type of Support	Vaccine	Start year	End year
Routine New Vaccines Support	HPV quadrivalent, 1 dose(s) per vial, LIQUID	2018	2021
Routine New Vaccines Support	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	2016	2021
Routine New Vaccines Support	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	2016	2021
Routine New Vaccines Support	Rotavirus, 2-dose schedule	2016	2021
Routine New Vaccines Support	Measles second dose, 10 dose(s) per vial, LYOPHILISED	2018	2020

1.3. ISS, HSS, CSO support

Type of Support	Reporting fund utilisation in 2014	Request for Approval of	Eligible For 2014 ISS reward
VIG	Yes	Not applicable	No
HSFP	Yes	Next tranch of HSFP Grant No	No

VIG: Vaccine Introduction Grant; COS: Campaign Operational Support

1.4. Previous Monitoring IRC Report

There is no APR Monitoring IRC Report available for Rwanda from previous year.

2. Signatures

2.1. Government Signatures Page for all GAVI Support (ISS, INS, NVS, HSS, CSO)

By signing this page, the Government of Rwanda hereby attests the validity of the information provided in the report, including all attachments, annexes, financial statements and/or audit reports. The Government further confirms that vaccines, supplies, and funding were used in accordance with the GAVI Alliance Standard Grant Terms and Conditions as stated in this Annual Progress Report (APR).

For the Government of Rwanda

Please note that this APR will not be reviewed or approved by the High Level Review Panel (HLRP) without the signatures of both the Minister of Health & Minister Finance or their delegated authority.

Minister of Health (or delegated authority)		Minister of Finance (or delegated authority)	
Name	Dr BINAGWAHO Agnes	Name	Amb. Claver GATETE
Date		Date	
Signature		Signature	

This report has been compiled by (these persons may be contacted in case the GAVI Secretatiat has queries on this document):

Full name	Position	Telephone	Email
GATERA Maurice	Director of Vaccine Preventable Diseases Program	+250 785152534	gamaurice2003@gmail.com

2.2. ICC signatures page

If the country is reporting on Immunisation Services (ISS), Injection Safety (INS) and/or New and Under-Used Vaccines (NVS) supports

In some countries, HSCC and ICC committees are merged. Please fill-in each section where information is appropriate and upload in the attached documents section the signatures twice, one for HSCC signatures and one for ICC signatures

The GAVI Alliance Transparency and Accountability Policy (TAP) is an integral part of GAVI Alliance monitoring of country performance. By signing this form the ICC members confirm that the funds received from the GAVI Alliance have been used for purposes stated within the approved application and managed in a transparent manner, in accordance with government rules and regulations for financial management.

2.2.1. ICC report endorsement

We, the undersigned members of the immunisation Inter-Agency Coordinating Committee (ICC), endorse this report. Signature of endorsement of this document does not imply any financial (or legal) commitment on the part of the partner agency or individual.

Name/Title	Agency/Organization	Signature	Date
Dr Ovberedjo Martins	WHO		
Ms Noala SKINNER	UNICEF		

Mr PETER Malnak	USAID		
Dr MUYOMBANO Antoine	Rotary International		
RWAGASANA Erneste	Director General of BUFMAR		
Mr George GAHENDA	URUNANA Development Communication		
Dr Daniel NGAMIJE	Single Project Implementation Unit (SPIU/MOH)		
Dr NGABO Fidele	Maternal, Child and Community Health Division Manager		

ICC may wish to send informal comments to: apr@gavi.org

All comments will be treated confidentially

Comments from Partners:

Comments from the Regional Working Group:

2.3. HSCC signatures page

We, the undersigned members of the National Health Sector Coordinating Committee (HSCC), WHO, UNICEF, USAID, Rotary International. BUFMAR, URUNANA, SPIU, MCCH , endorse this report on the Health Systems Strengthening Programme. Signature of endorsement of this document does not imply any financial (or legal) commitment on the part of the partner agency or individual.

The GAVI Alliance Transparency and Accountability Policy is an integral part of GAVI Alliance monitoring of country performance. By signing this form the HSCC members confirm that the funds received from the GAVI Alliance have been used for purposes stated within the approved application and managed in a transparent manner, in accordance with government rules and regulations for financial management. Furthermore, the HSCC confirms that the content of this report has been based upon accurate and verifiable financial reporting.

Name/Title	Agency/Organization	Signature	Date
Dr Ovberedjo Martins	WHO		
Ms Noala SKINNER	UNICEF		

Mr PETER Malnak	USAID		
Dr MUYOMBANO Antoine	Rotary International		
RWAGASANA Erneste	Director General of BUFMAR		
Mr George GAHENDA	URUNANA Development Communication		
Dr Daniel NGAMIJE	Single Project Implementation Unit (SPIU/MOH)		
Dr NGABO Fidele	Ag. Maternal, Child and Community Health Division Manager		

HSCC may wish to send informal comments to: apr@gavi.org

All comments will be treated confidentially

Comments from Partners:

Comments from the Regional Working Group:

2.4. Signatures Page for GAVI Alliance CSO Support (Type A & B)

Rwanda is not reporting on CSO (Type A & B) fund utilisation in 2015

3. Table of Contents

This APR reports on Rwanda's activities between January – December 2014 and specifies the requests for the period of January – December 2016

Sections

4. Baseline & annual targets

Countries are encouraged to aim for realistic and appropriate wastage rates informed by an analysis of their own wastage data. In the absence of country-specific data, countries may use indicative maximum wastage values as shown on the **Wastage Rate Table** available in the guidelines. Please note the benchmark wastage rate for 10ds pentavalent which is available.

Please also note that if the country applies the WHO multi-dose vial policy for IPV, the maximum indicative wastage rates are 5%, 15% and 20% for the 1-dose, 5-dose and 10-dose presentations respectively.

Number	Achievements as per JRF		Targets (preferred presentation)							
	2014		2015		2016		2017		2018	
	Original approved target according to Decision Letter	Reported	Original approved target according to Decision Letter	Current estimation	Previous estimates in 2014	Current estimation	Previous estimates in 2014	Current estimation	Previous estimates in 2014	Current estimation
Total births	348,611	345,966	357,675	353,502		360,920		368,343		375,713
Total infants' deaths	17,431	16,475	17,884	16,833		17,187		17,540		17,891
Total surviving infants	331180	329,491	339,791	336,669		343,733		350,803		357,822
Total pregnant women	348,611	345,966	357,675	353,502		360,920		368,343		375,713
Number of infants vaccinated (to be vaccinated) with BCG	345,125	348,629	354,098	354,098		360,920		368,343		375,713
BCG coverage[1]	99 %	101 %	99 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Number of infants vaccinated (to be vaccinated) with OPV3	336,053	335,850	344,791	336,669	343,733	343,733	350,803	350,803		357,822
OPV3 coverage[2]	101 %	102 %	101 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Number of infants vaccinated (to be vaccinated) with DTP1[3]	337,782	340,962	346,564	336,669	343,733	343,733	350,803	350,803		357,822
Number of infants vaccinated (to be vaccinated) with DTP3[3][4]	336,053	335,850	344,791	336,669	343,733	343,733	350,803	350,803		357,822
DTP3 coverage[2]	101 %	102 %	101 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%) for DTP	5	2	5	15	1	15	1	15		15
Wastage[5] factor in base-year and planned thereafter for DTP	1.05	1.02	1.05	1.18	1.01	1.18	1.01	1.18	1.00	1.18
Number of infants vaccinated (to be vaccinated) with 1st dose of DTP-HepB-Hib	337,782	340,962	346,564	336,669		343,733		350,803		357,822
Number of infants vaccinated (to be vaccinated) with 3rd dose of DTP-HepB-Hib	337,782	335,850	344,791	336,669		343,733		350,803		357,822
DTP-HepB-Hib coverage[2]	102 %	102 %	101 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%)	5	2	15	15		15		15		15
Wastage[5] factor in base-year and planned thereafter (%)	1.05	1.02	1.18	1.18	1	1.18	1	1.18	1	1.18
Maximum wastage rate value for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	0 %	0 %	0 %	25 %	0 %	25 %	0 %	25 %	0 %	25 %
Number of infants vaccinated (to be vaccinated) with 1st dose of Pneumococcal (PCV13)	337,782	340,962	346,564	336,669		343,733		350,803		357,822

Number of infants vaccinated (to be vaccinated) with 3rd dose of Pneumococcal (PCV13)	337,782	335,850	344,791	336,669		343,733		350,803		357,822
Pneumococcal (PCV13) coverage[2]	102 %	102 %	101 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%)	5	2	2	2		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)	1.05	1.02	1.02	1.02	1	1.02	1	1.02	1	1.02
Maximum wastage rate value for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with 1st dose of Rotavirus	337,782	340,962	346,564	336,669		343,733		350,803		357,822
Number of infants vaccinated (to be vaccinated) with the last dose of Rotavirus		340,962		336,669		343,733		350,803		357,822
Rotavirus coverage[2]	0 %	103 %	0 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%)	5	2	2	2		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)	1.05	1.02	1.02	1.02	1	1.02	1	1.02	1	1.02
Maximum wastage rate value for Rotavirus, 2-dose schedule	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with 1st dose of HPV quadrivalent	161,732	142,405	165,937	143,900		149,122		153,051		155,455
Number of infants vaccinated (to be vaccinated) with 3rd dose of HPV quadrivalent	0	142,305	0	143,900		149,122		153,051		155,455
HPV quadrivalent coverage[2]	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Wastage[5] rate in base-year and planned thereafter (%)	5	2	5	2		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)										
Maximum wastage rate value for HPV quadrivalent, 1 dose(s) per vial, LIQUID	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with 1st dose of Measles		321,195		336,669	326,546	343,733	333,263	350,803		357,822
Number of infants vaccinated (to be vaccinated) with 2nd dose of Measles		122,342		329,936	326,546	336,858	333,263	343,787		350,666
Measles coverage[2]	0 %	37 %	0 %	98 %	0 %	98 %	0 %	98 %	0 %	98 %
Wastage[5] rate in base-year and planned thereafter (%)		20		18	1	15	1	15		15
Wastage[5] factor in base-year and planned thereafter (%)	1	1.25	1	1.22	1.01	1.18	1.01	1.18	1	1.18
Maximum wastage rate value for Measles second dose, 10 dose(s) per vial, LYOPHILISED	0.00 %	40.00 %	0.00 %	40.00 %	0.00 %	40.00 %	0.00 %	40.00 %	0.00 %	40.00 %
Pregnant women vaccinated with TT+	264,475	346,843	271,352	353,502		360,920		368,343		375,713

TT+ coverage[7]	76 %	100 %	76 %	100 %	0 %	100 %	0 %	100 %	0 %	100 %
Vit A supplement to mothers within 6 weeks from delivery	0	0	0	0		0		0		0
Vit A supplement to infants after 6 months	0	0	0	0	N/A	0	N/A	0	N/A	0
Annual DTP Drop out rate [(DTP1 – DTP3) / DTP1] x 100	1 %	1 %	1 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %

Number	Targets (preferred presentation)					
	2019		2020		2021	
	Previous estimates in 2014	Current estimation	Previous estimates in 2014	Current estimation	Previous estimates in 2014	Current estimation
Total births		383,061		390,393		397,801
Total infants' deaths		18,241		18,590		18,943
Total surviving infants		364,820		371,803		378,858
Total pregnant women		383,061		390,393		397,801
Number of infants vaccinated (to be vaccinated) with BCG		383,061		390,393		397,801
BCG coverage[1]	0 %	100 %	0 %	100 %	0 %	100 %
Number of infants vaccinated (to be vaccinated) with OPV3		364,820		371,803		378,858
OPV3 coverage[2]	0 %	100 %	0 %	100 %	0 %	100 %
Number of infants vaccinated (to be vaccinated) with DTP1[3]		364,820		371,803		378,858
Number of infants vaccinated (to be vaccinated) with DTP3[3][4]		364,820		371,803		378,858
DTP3 coverage[2]	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%) for DTP		15		15		15
Wastage[5] factor in base-year and planned thereafter for DTP	1.00	1.18	1.00	1.18	1.00	1.18
Number of infants vaccinated (to be vaccinated) with 1st dose of DTP-HepB-Hib		364,820		371,803		378,858
Number of infants vaccinated (to be vaccinated) with 3rd dose of DTP-HepB-Hib		364,820		371,803		378,858
DTP-HepB-Hib coverage[2]	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%) [6]		15		15		15
Wastage[5] factor in base-year and planned thereafter (%)	1	1.18	1	1.18	1	1.18
Maximum wastage rate value for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	0 %	25 %	0 %	25 %	0 %	25 %
Number of infants vaccinated (to be vaccinated) with 1st dose of Pneumococcal (PCV13)		364,820		371,803		378,858
Number of infants vaccinated (to be vaccinated) with 3rd dose of Pneumococcal (PCV13)		364,820		371,803		378,858

Pneumococcal (PCV13) coverage[2]	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%)		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)	1	1.02	1	1.02	1	1.02
Maximum wastage rate value for **Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID**	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with **1st** dose of **Rotavirus**		364,820		371,803		378,858
Number of infants vaccinated (to be vaccinated) with the last dose of **Rotavirus**		364,820		371,803		378,858
Rotavirus coverage[2]	0 %	100 %	0 %	100 %	0 %	100 %
Wastage[5] rate in base-year and planned thereafter (%)		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)	1	1.02	1	1.02	1	1.02
Maximum wastage rate value for **Rotavirus, 2-dose schedule**	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with **1st** dose of **HPV quadrivalent**		156,365		149,770		149,893
Number of infants vaccinated (to be vaccinated) with **3rd** dose of **HPV quadrivalent**		156,365		149,770		149,893
HPV quadrivalent coverage[2]	0 %	0 %	0 %	0 %	0 %	0 %
Wastage[5] rate in base-year and planned thereafter (%)		2		2		2
Wastage[5] factor in base-year and planned thereafter (%)						
Maximum wastage rate value for **HPV quadrivalent, 1 dose(s) per vial, LIQUID**	0 %	5 %	0 %	5 %	0 %	5 %
Number of infants vaccinated (to be vaccinated) with **1st** dose of **Measles**		364,820		371,803		
Number of infants vaccinated (to be vaccinated) with **2nd** dose of **Measles**		357,524		364,367		
Measles coverage[2]	0 %	98 %	0 %	98 %	0 %	0 %
Wastage[5] rate in base-year and planned thereafter (%)		15		15		
Wastage[5] factor in base-year and planned thereafter (%)	1	1.18	1	1.18	1	1
Maximum wastage rate value for **Measles second dose, 10 dose(s) per vial, LYOPHILISED**	0.00 %	40.00 %	0.00 %	40.00 %	0.00 %	40.00 %
Pregnant women vaccinated with **TT+**		383,061		390,393		397,801
TT+ coverage[7]	0 %	100 %	0 %	100 %	0 %	100 %
Vit A supplement to mothers within 6 weeks from delivery		0		0		0

Vit A supplement to infants after 6 months	N/A	0	N/A	0	N/A	0
Annual DTP Drop out rate [(DTP1 – DTP3) / DTP1] x 100	0 %	0 %	0 %	0 %	0 %	0 %

[1] Number of infants vaccinated out of total births

[2] Number of infants vaccinated out of total surviving infants

[3] Indicate total number of children vaccinated with either DTP alone or combined

[4] Please make sure that the DTP3 cells are correctly populated

[5] The formula to calculate a vaccine wastage rate (in percentage): [(A – B) / A] x 100. Whereby: A = the number of doses distributed for use according to the supply records with correction for stock balance at the end of the supply period; B = the number of vaccinations with the same vaccine in the same period.

[7] Number of pregnant women vaccinated with TT+ out of total pregnant women

5. General Programme Management Component

5.1. Updated baseline and annual targets

Note: Fill in the table in section 4 Baseline and Annual Targets before you continue

The numbers for 2014 must be consistent with those that the country reported in the **WHO/UNICEF Joint Reporting Form (JRF) for 2014.** The numbers for 2015 - 2017 in <u>Table 4 Baseline and Annual Targets</u> should be consistent with those that the country provided to GAVI in previous APR or in new application for GAVI support or in cMYP.

In fields below, please provide justification and reasons for those numbers that in this APR are different from the referenced ones:

- Justification for any changes in **births**

  In August 2012, Rwanda has conducted National Rwanda Housing and population Census and produced a document titled "Population Projections" in which total population has been projected by age from 2012 to 2032. According to this document; in 2014 the total population has been estimated at 11,002,631 inhabitants; the number of live birth at 345,966 and the number of surviving infants is estimated at 329,491. Taking into account that during 2014 APR, figures of live birth has been decreased compare to 2013 APR; these are due to the use of projections now available from National Institute of Statistics. (in 2013 APR, the number of live birth was estimated at 348 611 while in 2014, the number of live birth was estimated at 345 966 based on projection from NISR ; there is a slight decrease of 2 645 if we compare 2 years).

- Justification for any changes in **surviving infants**

  In the same calculation and use of data from 2012 census projection, slight change in numbers also has been observed from 331, 180 to 329, 491surviving infants between 2013 and 2014 respectively ; however mortality rate has remained the same in consecutive years, because no Demographic and Health survey conducted since 2011, the last one was conducted in 2010. Rwanda is willing to update all figures in due time and having updated mortality rate as of now DHS is being conducted and hopefully results will be available before the end of 2015.

- Justification for any changes in targets by vaccine. **Please note that targets in excess of 10% of previous years' achievements will need to be justified.** For IPV, supporting documentation must also be provided as an attachment(s) to the APR to justify ANY changes in target population.

  No changes in targets by vaccine. However, Measles Vaccine second dose has been introduced in Rwanda routine immunisation program targeting children of 15months of age(noting that Rwanda started measles second dose in July 2014). calculation of immunization coverage should consider half of target population instead of considering entire year, moreover as measles second dose concerns children beyond one year there should be a slight change in denominator (e.g Taking into account surviving probability up to 2years). Then the annual measles second dose target population for Rwanda is 317 309 children instead of 329 491 children (Rwanda pop. projection 2012 census, P 76). Finally, to calculate measles second dose immunization coverage, Rwanda is suggesting to change table 4.1 (target should be children between 12 months-23 months as denominator instead of considering under 1 year children)

- Justification for any changes in **wastage by vaccine**

  No change related to the vaccine wastage. Rwanda immunization program will always aim at decreasing vaccine wastage rate in the reference of WHO standards. However, according to the projection since next year 2016 there could be an increase of pentavalent vaccine wastage due to the change of presentation of pentavalent vaccine from one dose / vial to 10 doses/ vial. There might be also a slight decrease in wastage rate of MR vaccine, because it will be administered at both 9 months and 15 months children.

5.2. Monitoring the Implementation of GAVI Gender Policy

5.2.1. At any point in the past five years, were sex-disaggregated data on DTP3 coverage available in your country from administrative data sources and/or surveys? **no, not available**

If yes, please report the latest data available and the year that it is from.

Data Source	Reference Year for Estimate	DTP3 Coverage Estimate	
		Boys	**Girls**
N/A	N/A	N/A	N/A

5.2.2. How have any discrepancies in reaching boys versus girls been addressed programmatically?

The data for sex-disaggregated on immunization services access in Rwanda is not available simply because all Rwandan children eligible to any immunization services would get it without considering whether she/he is female or male and therefore there is no discrepancies in reaching boys versus girls apart for HPV vaccine which targets adolescent girls. Morever, routine immunization survey conducted together by Government of Rwanda, UNICEF and WHO has shown that there is no sex descrepancies on immunization coverage as much as sex is concerned. Rwanda has decided not to collect immunization data by sex. We should note that Rwanda has introduced since 2009 immunization cards based on sex for growth monitoring purpose.

5.2.3. If no sex-disaggregated data are available at the moment, do you plan in the future to collect sex-disaggregated coverage estimates? **No**

5.2.4. How have any gender-related barriers to accessing and delivering immunisation services (eg, mothers not being empowered to access services, the sex of service providers, etc) been addressed programmatically ? (For more information on gender-related barriers, please see GAVI's factsheet on gender and immunisation, which can be found on http://www.gavialliance.org/about/mission/gender/)

In Rwanda no gender-related barriers to accessing and delivering immunization services because all children either girl or boy have equal rights toward immunization services. Immunization services are provided by either male or female and Rwandan women are empowered because they can take a decision of bringing the child to the immunization services without waiting order from her husband.
Also the social mobilization activities led by community health workers team in the community is also composed both male and female who play a big role in the immunization program in the community. .

5.3. Overall Expenditures and Financing for Immunisation

The purpose of **Table 5.3a** is to guide GAVI understanding of the broad trends in immunisation programme expenditures and financial flows. Please fill the table using US$.

Exchange rate used	1 US$ = 710.325641	Enter the rate only; Please do not enter local currency name

Table 5.3a: Overall Expenditure and Financing for Immunisation from all sources (Government and donors) in US$

Expenditure by category	Expenditure Year 2014	Source of funding						
		Country	**GAVI**	**UNICEF**	**WHO**	**CDC**	**IARC**	**Global Fund**
Traditional Vaccines*	1,291,334	1,291,334	0	0	0	0	0	0
New and underused Vaccines**	18,658,036	696,181	17,961,855	0	0	0	0	0

Injection supplies (both AD syringes and syringes other than ADs)	190,647	78,198	112,449	0	0	0	0	0
Cold Chain equipment	284,050	33,500	82,000	168,550	0	0	0	0
Personnel	2,375,538	2,087,800	184,501	0	103,237	0	0	0
Other routine recurrent costs	3,112,912	972,763	1,621,815	51,450	350,884	31,000	85,000	0
Other Capital Costs	471,487	0	471,487	0	0	0	0	0
Campaigns costs	153,912	153,912	0	0	0	0	0	0
0		0	0	0	56,876	0	0	0
Total Expenditures for Immunisation	26,537,916							
Total Government Health		5,313,688	20,434,107	220,000	510,997	31,000	85,000	0

Traditional vaccines: BCG, DTP, OPV, Measles 1st dose (or the combined MR, MMR), TT. Some countries will also include HepB and Hib vaccines in this row, if these vaccines were introduced without GAVI support

5.4. Interagency Coordinating Committee (ICC)

How many times did the ICC meet in 2014? **4**

Please attach the minutes **(Document nº 4)** from the ICC meeting in 2015 endorsing this report.

List the key concerns or recommendations, if any, made by the ICC on sections 5.1 Updated baseline and annual targets to 5.3 Overall Expenditures and Financing for Immunisation

Are any Civil Society Organisations members of the ICC? **Yes**

If Yes, which ones?

List CSO member organisations:
URUNANA Development communication
Bureau des Formations Médicales Agréées du Rwanda (BUFMAR)
Rotary club
Rwanda red cross

5.5. Priority actions in 2015 to 2016

What are the country's main objectives and priority actions for its EPI programme for 2015 to 2016

The main objectives and priorities actions for EPI programme for 2015 to 2016 are:

- To improve and sustain higher coverage objectives for all current vaccines above 95%

- To introduce Inactivated Polio Vaccine (IPV) as one of the strategies of polio endgame

- Switch from tOPV to bOPV in 2016

- Implementation of elimination mode of measles surveillance and congenital rubella syndrome surveillance (CRS)

- Strengthening REC strategies in all districts

- Introduce performing vaccine management system(SMT)

- To increase cold chain storage capacity and quality at central level and expand storage capacity at peripheral level.

5.6. Progress of transition plan for injection safety

For all countries, please report on progress of transition plan for injection safety

Please report what types of syringes are used and the funding sources of Injection Safety material in 2014

Vaccine	Types of syringe used in 2014 routine EPI	Funding sources of 2014
BCG	AD 0.05 syringes	Government
Measles	AD 0.5 syringes	Government
TT	AD 0.5 syringes	Government
DTP-containing vaccine	AD 0.5 syringes	GAVI and Government co-financing
IPV	N/A	N/A
PCV 13	AD 0.5 syringes	GAVI and Government co-financing
HPV	AD 0.5 syringes	GAVI and Government co-financing
MR	AD 0.5 syringes	Government

Does the country have an injection safety policy/plan? **Yes**

If Yes: Have you encountered any obstacles during the implementation of this injection safety policy/plan?

If No: When will the country develop the injection safety policy/plan? (Please report in box below)

None.

Please explain in 2014 how sharps waste is being disposed of, problems encountered, etc.

All sharp wastes are collected in safety boxes from all sites (fixed and outreach) and finally incinerated at health facilities.

6. Immunisation Services Support (ISS)

6.1. Report on the use of ISS funds in 2014

Rwanda is not reporting on Immunisation Services Support (ISS) fund utilisation in 2014

6.2. Detailed expenditure of ISS funds during the 2014 calendar year

Rwanda is not reporting on Immunisation Services Support (ISS) fund utilisation in 2014

6.3. Request for ISS reward

Request for ISS reward achievement in Rwanda is not applicable for 2014

7. New and Under-used Vaccines Support (NVS)

7.1. Receipt of new & under-used vaccines for 2014 vaccine programme

7.1.1. Did you receive the approved amount of vaccine doses for 2014 Immunisation Programme that GAVI communicated to you in its Decision Letter (DL)? Fill-in table below

Table 7.1: Vaccines received for 2014 vaccinations against approvals for 2014

Please also include any deliveries from the previous year received against this Decision Letter

Vaccine type	[A] Total doses for 2014 in Decision Letter	[B] Total doses received by 31 December 2014	[C] Total doses postponed from previous years and received in 2014	Did the country experience any stockouts at any level in 2014?
HPV quadrivalent	636,900	403,190	0	No
Pneumococcal (PCV13)	804,300	759,600	0	No
DTP-HepB-Hib	849,800	766,800	0	No
Rotavirus	987,900	1,274,850	286,950	No
Measles second dose		0	0	No

If values in [A] and [B] are different, specify:

▪ What are the main problems encountered? (Lower vaccine utilisation than anticipated due to delayed new vaccine introduction or lower coverage? Delay in shipments? Stock-outs? Excessive stocks? Problems with cold chain? Doses discarded because VVM changed colour or because of the expiry date? ...)

For all antigens except Rotavirus vaccine, total doses received during 2014 are less than planned in 2014 decision letter. The reason is that some co-financing doses which were planned in 2014; their shipment occurred in 2015. (HPV vaccine: co-financing of 27200 doses were received in 2015 while planned in 2014; Pneumoccocal (PCV-13): co-financing of 45000 doses received in 2015 while planned in 2014; DTP-HepB-Hib: Co-financing of 83040 doses received in 2015 while planned in 2014 and Rotavirus co-financing of 24750 doses received in 2015 while planned in 2014.

For HPV vaccine, Rwanda did not receive total doses for 2014 planned in decision letter (636,900), Rwanda has received only 403,190 HPV doses and it is expecting to receive remaining doses in 2015 equivalent to 206,510 doses.

▪ What actions have you taken to improve the vaccine management, e.g. such as adjusting the plan for vaccine shipments? (in the country and with UNICEF Supply Division)

GAVI would also appreciate feedback from countries on feasibility and interest of selecting and being shipped multiple Pentavalent vaccine presentations (1 dose and 10 dose vials) so as to optimise wastage, coverage and cost.

Rwanda has conducted an Effective Vaccine Management Assessment (EVMA) in 2014 and one of the recommendations is related to the improvement of stock management system by using DVD MT at district level to facilitate the management of vaccines at peripheral level. In 2015 it is planned to equip all District Hosptals with computers and train EPI persons in Disricts on use of DVD-MT.

Rwanda has aleady recived pentavalent vaccine 10 doses/vial and will be shifting by July 2015 as the current stock of 1 dose/vial in health facilities has to be utilized.

If **Yes** for any vaccine in **Table 7.1**, please describe the duration, reason and impact of stock-out, including if the stock-out was at the central, regional, district or at lower facility level.

No stock out occured in 2014 at all levels.

7.2. Introduction of a New Vaccine in 2014

7.2.1. If you have been approved by GAVI to introduce a new vaccine in 2014, please refer to the vaccine introduction plan in the proposal approved and report on achievements:

DTP-HepB-Hib, 10 dose(s) per vial, LIQUID		
Nationwide introduction	No	
Phased introduction	No	
The time and scale of introduction was as planned in the proposal? If No, Why ?	No	Rwanda introduced Pentavalent vaccine in 2002

When is the Post Introduction Evaluation (PIE) planned? **August 2002**

HPV quadrivalent, 1 dose(s) per vial, LIQUID		
Nationwide introduction	Yes	27/04/2011
Phased introduction	No	
The time and scale of introduction was as planned in the proposal? If No, Why ?	No	HPV has been introduced in Rwanda in 2011 under Merck support for 3 years donnation and in 2014 Rwanda started co-financing HPV vaccine under GAVI support. Post introduction evaluation of HPV vaccine was conducted in 2012 and Rwanda is not planning to conduct another PIE.

When is the Post Introduction Evaluation (PIE) planned? **October 2012**

Measles second dose, 10 dose(s) per vial, LYOPHILISED		
Nationwide introduction	Yes	01/07/2014
Phased introduction	No	
The time and scale of introduction was as planned in the proposal? If No, Why ?	Yes	

When is the Post Introduction Evaluation (PIE) planned? **October 2015**

Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID		
Nationwide introduction	No	
Phased introduction	Yes	25/04/2009
The time and scale of introduction was as planned in the proposal? If No, Why ?	No	Rwanda first introduced PCV-7 in 2009 and then shifted to PCV 13 in 2011, the introduction did not go as it was planned in the proposal because of waste management of pre-filled syringes.

When is the Post Introduction Evaluation (PIE) planned? **March 2010**

Rotavirus, 1 dose(s) per vial, ORAL		
Nationwide introduction	Yes	25/05/2012
Phased introduction	No	

The time and scale of introduction was as planned in the proposal? If No, Why ?	Yes	

When is the Post Introduction Evaluation (PIE) planned? **June 2013**

7.2.2. If your country conducted a PIE in the past two years, please attach relevant reports and provide a summary on the status of implementation of the recommendations following the PIE. (Document N° 9))

In past two years two PIEs were conducted (PIE for Rotavirus vaccine conducted in June 2013 and PIE for MR vaccine conducted in November 2014). Reports and status of implementation of the recommendations following the PIE are attached.

7.2.3. Adverse Event Following Immunization (AEFI)

Is there a national dedicated vaccine pharmacovigilance capacity? **Yes**

Is there a national AEFI expert review committee? **Yes**

Does the country have an institutional development plan for vaccine safety? **Yes**

Is the country sharing its vaccine safety data with other countries? **No**

Does your country have a risk communication strategy with preparedness plans to address vaccine crises? **No**

7.2.4. Surveillance

Does your country conduct sentinel surveillance for:

a. rotavirus diarrhea? **Yes**

b. pediatric bacterial meningitis or pneumococcal or meningococcal disease? **Yes**

Does your country conduct special studies around:

a. rotavirus diarrhea? **Yes**

b. pediatric bacterial meningitis or pneumococcal or meningococcal disease? **Yes**

If so, does the National Immunization Technical Advisory Group (NITAG) or the Inter-Agency Coordinating Committee (ICC) regularly review the sentinel surveillance and special studies data to provide recommendations on the data generated and how to further improve data quality? **No**

Do you plan to use these sentinel surveillance and/or special studies data to monitor and evaluate the impact of vaccine introduction and use? **Yes**

Please describe the results of surveillance/special studies and inputs of the NITAG/ICC:

The first Study of PCV impact on pediatric pneumonia and meningitis hospitalization in collaboration with UNICEF was completed in 2014 and concluded that:

- The study concluded that pneumonia and 200 meningitis hospitalizations plus 290 deaths were prevented in children under five.

The study related to rotavirus vaccine impact and effectiveness has just started in August 2012 in eight sentinel sites and is still ongoing.

7.3. New Vaccine Introduction Grant lump sums 2014

7.3.1. Financial Management Reporting

	Amount US$	Amount local currency
Funds received during 2014 (A)	0	0
Remaining funds (carry over) from 2013 (B)	299,500	202,162,500
Total funds available in 2014 (C=A+B)	299,500	202,162,500
Total Expenditures in 2014 (D)	299,500	202,162,500
Balance carried over to 2015 (E=C-D)	0	0

Detailed expenditure of New Vaccines Introduction Grant funds during the 2014 calendar year

Please attach a detailed financial statement for the use of New Vaccines Introduction Grant funds in the 2014 calendar year (Document No 10,11) . Terms of reference for this financial statement are available in **Annexe 1** Financial statements should be signed by the Finance Manager of the EPI Program and and the EPI Manager, or by the Permanent Secretary of Ministry of Health

7.3.2. Programmatic Reporting

Please report on major activities that have been undertaken in relation to the introduction of a new vaccine, using the GAVI New Vaccine Introduction Grant

In relation to the introduction of new vaccine using the GAVI New Vaccine Introduction Grant; following activities have been undertaken:
- Social mobilization activities, IEC Materials production and Advocacy meetings with Health workers
- Cold chain epuipment and Maintenance
- Programme management
- Surveillance and Monitoring: initiation of measles surveillance mode of elimination and Congenital Rubella Syndrome sentinel site surveillance.

- Waste management in some districts hospitals and health facilities have been supported by Ministry of Health

Please describe any problem encountered and solutions in the implementation of the planned activities

None

Please describe the activities that will be undertaken with any remaining balance of funds for 2015 onwards

No remaining funds.

7.4. Report on country co-financing in 2014

Table 7.4 : Five questions on country co-financing

	Q.1: What were the actual co-financed amounts and doses in 2014?	
Co-Financed Payments	Total Amount in US$	Total Amount in Doses
Awarded Vaccine #1: DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	195,144	83,040
Awarded Vaccine #2: HPV quadrivalent, 1 dose(s) per vial, LIQUID	122,400	27,200

Awarded Vaccine #3: Measles second dose, 10 dose(s) per vial, LYOPHILISED	0	0
Awarded Vaccine #4: Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	148,500	45,000
Awarded Vaccine #5: Rotavirus, 1 dose(s) per vial, ORAL	123,750	24,750

Q.2: Which were the amounts of funding for country co-financing in reporting year 2014 from the following sources?

Government	696,181.22 (This amount includes hindling fee, Buffer and freight, insurance&inspection)
Donor	0
Other	0

Q.3: Did you procure related injections supplies for the co-financing vaccines? What were the amounts in US$ and supplies?

Co-Financed Payments	Total Amount in US$	Total Amount in Doses
Awarded Vaccine #1: DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	0	0
Awarded Vaccine #2: HPV quadrivalent, 1 dose(s) per vial, LIQUID	0	0
Awarded Vaccine #3: Measles second dose, 10 dose(s) per vial, LYOPHILISED	0	0
Awarded Vaccine #4: Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	0	0
Awarded Vaccine #5: Rotavirus, 1 dose(s) per vial, ORAL	0	0

Q.4: When do you intend to transfer funds for co-financing in 2016 and what is the expected source of this funding

Schedule of Co-Financing Payments	Proposed Payment Date for 2016	Source of funding
Awarded Vaccine #1: DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	November	Government
Awarded Vaccine #2: HPV quadrivalent, 1 dose(s) per vial, LIQUID	November	Government
Awarded Vaccine #3: Measles second dose, 10 dose(s) per vial, LYOPHILISED	November	Government
Awarded Vaccine #4: Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	November	Government
Awarded Vaccine #5: Rotavirus, 1 dose(s) per vial, ORAL	November	Government

Q.5: Please state any Technical Assistance needs for developing financial sustainability strategies, mobilising funding for immunization, including for co-financing

The Rwanda EPI program has 12 antigens in its routine immunization program and it is planning to introduce IPV in 2015. Therefore, for maintaining and improving the vaccination service delivery to the target populations, Rwanda will need technical assistance to enhance durable financial sustainability strategies

	and plans.

***Note:** co-financing is not mandatory for IPV

Is support from GAVI, in form of new and under-used vaccines and injection supplies, reported in the national health sector budget? **No**

7.5. Vaccine Management (EVSM/VMA/EVM)

Please note that Effective Vaccine Store Management (EVSM) and Vaccine Management Assessment(VMA) tools have been replaced by an integrated Effective Vaccine Management (EVM) tool. The information on EVM tool can be found at
http://www.who.int/immunization/programmes_systems/supply_chain/evm/en/index3.html

It is mandatory for the countries to conduct an EVM prior to an application for introduction of a new vaccine. This assessment concludes with an Improvement Plan including activities and timelines whose progress report is reported with annual report. The EVM assessment is valid for a period of three years.

When was the latest Effective Vaccine Management (EVM) or an alternative assessment (EVSM/VMA) carried out? **May 2014**

Please attach:

   (a) EVM assessment **(Document No 12)**

   (b) Improvement plan after EVM **(Document No 13)**

   (c) Progress report on the activities implemented during the year and status of implementation of recommendations from the Improvement Plan **(Document No 14)**

Progress report on EVM/VMA/EVSM Improvement Plan' is a mandatory requirement

Are there any changes in the Improvement plan, with reasons? **No**

If yes, provide details

No change in the improvement plan.

When is the next Effective Vaccine Management (EVM) assessment planned? **June 2018**

7.6. Monitoring GAVI Support for Preventive Campaigns in 2014

Rwanda does not report on NVS Preventive campaign

7.7. Change of vaccine presentation

Due to the high demand in the early years of introduction, and in order to ensure safe introductions of this new vaccine, countries' requests for switch of PCV presentation (PCV10 or PCV13) will not be considered until 2015.

Countries wishing to apply for switch from one PCV to another may apply in 2014 Annual Progress Report for consideration by the IRC

For vaccines other than PCV, if you would prefer, during 2014, to receive a vaccine presentation which differs from what you are currently being supplied (for instance the number of doses per vial, from one form (liquid/lyophilised) to the other, …), please provide the vaccine specifications and refer to the minutes of the ICC meeting recommending the change of vaccine presentation. The reasons for requesting a change in vaccine presentation should be provided (e.g. cost of administration, epidemiologic data, number of children per session). Requests for change in presentation will be noted and considered based on the supply availability and GAVI's overall objective to shape vaccine markets, including existing contractual commitments. Country will be notified in the If supplied through UNICEF, planning for a switch in presentation should be initiated following the issuance of Decision Letter (DL) for next year, about the ability to meet the requirement including timelines for supply availability, if applicable. Countries should inform about the time required to undertake necessary activities for preparing such a taking into account country activities needed in order to switch as well as supply availability.

You have requested switch of presentation(s); Below is (are) the new presentation(s) :

* **Rotavirus, 1 dose(s) per vial, ORAL**

Please attach the minutes of the ICC and NITAG (if available) meeting (Document N° **27**) that has endorsed the requested change.

7.8. Renewal of multi-year vaccines support for those countries whose current support is ending in 2015

If 2015 is the last year of approved multiyear support for a certain vaccine and the country wishes to extend GAVI support, the country should request for an extension of the co-financing agreement with GAVI for vaccine support starting from 2016 and for the duration of a new Comprehensive Multi-Year Plan (cMYP).

The country hereby requests an extension of GAVI support for the years 2016 to 2019 for the following vaccines:

* **DTP-HepB-Hib, 10 dose(s) per vial, LIQUID**

* **HPV quadrivalent, 1 dose(s) per vial, LIQUID**

* **Measles second dose, 10 dose(s) per vial, LYOPHILISED**

* **Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID**

* **Rotavirus, 2-dose schedule**

At the same time it commits itself to co-finance the procurement of the following vaccines in accordance with the minimum Gavi co-financing levels as summarised in section 7.11 Calculation of requirements.

* **DTP-HepB-Hib, 10 dose(s) per vial, LIQUID**

* **HPV quadrivalent, 1 dose(s) per vial, LIQUID**

* **Measles second dose, 10 dose(s) per vial, LYOPHILISED**

* **Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID**

* **Rotavirus, 2-dose schedule**

The multi-year support extension is in line with the new cMYP for the years 2016 to 2019, which is attached to this APR (Document N°**16**). The new costing tool is also attached (Document N°**17**) for the following vaccines:

* **DTP-HepB-Hib, 10 dose(s) per vial, LIQUID**

* **HPV quadrivalent, 1 dose(s) per vial, LIQUID**

* **Measles second dose, 10 dose(s) per vial, LYOPHILISED**

* **Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID**

* **Rotavirus, 2-dose schedule**

The country ICC has endorsed this request for extended support of the following vaccines at the ICC meeting whose minutes are attached to this APR. (Document N°**18**)

* **DTP-HepB-Hib, 10 dose(s) per vial, LIQUID**

* **HPV quadrivalent, 1 dose(s) per vial, LIQUID**

* **Measles second dose, 10 dose(s) per vial, LYOPHILISED**

* **Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID**

* **Rotavirus, 2-dose schedule**

7.9. Request for continued support for vaccines for 2016 vaccination programme

In order to request NVS support for 2016 vaccination do the following

Confirm here below that your request for 2016 vaccines support is as per 7.11 Calculation of requirements
Yes

If you don't confirm, please explain

.

7.10. Weighted average prices of supply and related freight cost

Table 7.10.1: Commodities Cost

Estimated prices of supply are not disclosed

Table 7.10.2: Freight Cost

Vaccine Antigen	Vaccine Type	2007	2008	2009	2010	2011	2012	2013
DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID							
HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV quadrivalent, 1 dose(s) per vial, LIQUID							
Measles second dose, 10 dose(s) per vial, LYOPHILISED	Measles second dose, 10 dose(s) per vial, LYOPHILISED							
Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID							
Rotavirus, 2-dose schedule	Rotavirus, 2-dose schedule							
Rotavirus, 3-dose schedule	Rotavirus, 3-dose schedule							

Vaccine Antigen	Vaccine Type	2014	2015	2016	2017	2018	2019	2020
DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	3.40 %	4.30 %	3.60 %	4.40 %	4.40 %	4.40 %	4.40 %
HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV quadrivalent, 1 dose(s) per vial, LIQUID	3.80 %	3.80 %	3.80 %	4.60 %	4.10 %	4.30 %	4.30 %
Measles second dose, 10 dose(s) per vial, LYOPHILISED	Measles second dose, 10 dose(s) per vial, LYOPHILISED	13.80 %	13.00 %	12.60 %	12.30 %	12.00 %	11.80 %	11.40 %
Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	4.40 %	4.50 %	3.00 %	4.50 %	4.60 %	3.10 %	3.10 %
Rotavirus, 2-dose schedule	Rotavirus, 2-dose schedule	3.90 %	4.20 %	4.40 %	4.40 %	4.40 %	4.40 %	4.40 %
Rotavirus, 3-dose schedule	Rotavirus, 3-dose schedule	7.10 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %

Vaccine Antigen	Vaccine Type	2021
DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	DTP-HepB-Hib, 10 dose(s) per vial, LIQUID	4.40 %
HPV quadrivalent, 1 dose(s) per vial, LIQUID	HPV quadrivalent, 1 dose(s) per vial, LIQUID	4.30 %

Measles second dose, 10 dose(s) per vial, LYOPHILISED	Measles second dose, 10 dose(s) per vial, LYOPHILISED	11.40 %
Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID	3.10 %
Rotavirus, 2-dose schedule	Rotavirus, 2-dose schedule	4.40 %
Rotavirus, 3-dose schedule	Rotavirus, 3-dose schedule	0.00 %

7.11. Calculation of requirements

Table 7.11.1: Specifications for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID

ID		Source		2014	2015	2016	2017	2018
	Number of surviving infants	Parameter	#	331,180	339,791	343,733	350,803	357,822
	Number of children to be vaccinated with the first dose	Parameter	#	337,782	346,564	343,733	350,803	357,822
	Number of children to be vaccinated with the third dose	Parameter	#	337,782	344,791	343,733	350,803	357,822
	Immunisation coverage with the third dose	Parameter	%	101.99 %	101.47 %	100.00 %	100.00 %	100.00 %
	Number of doses per child	Parameter	#	3	3	3	3	3
	Estimated vaccine wastage factor	Parameter	#	1.05	1.18	1.18	1.18	1.18
	Stock in Central Store Dec 31, 2014		#	384,628				
	Stock across second level Dec 31, 2014 (if available)*		#	24,382				
	Stock across third level Dec 31, 2014 (if available)*	Parameter	#					
	Number of doses per vial	Parameter	#		10	10	10	10
	AD syringes required	Parameter	#		Yes	Yes	Yes	Yes
	Reconstitution syringes required	Parameter	#		No	No	No	No
	Safety boxes required	Parameter	#		Yes	Yes	Yes	Yes
cc	Country co-financing per dose	Parameter	$		0.35	0.35	0.35	0.35
ca	AD syringe price per unit	Parameter	$		0.0448	0.0448	0.0448	0.0448
cr	Reconstitution syringe price per unit	Parameter	$		0	0	0	0
cs	Safety box price per unit	Parameter	$		0.0054	0.0054	0.0054	0.0054
fv	Freight cost as % of vaccines value	Parameter	%		4.30 %	3.60 %	4.40 %	4.40 %

ID		Source		2019	2020	2021	TOTAL
	Number of surviving infants	Parameter	#	364,820	371,803	378,858	2,838,810
	Number of children to be vaccinated with the first dose	Parameter	#	364,820	371,803	378,858	2,852,185
	Number of children to be vaccinated with the third dose	Parameter	#	364,820	371,803	378,858	2,850,412
	Immunisation coverage with the third dose	Parameter	%	100.00 %	100.00 %	100.00 %	
	Number of doses per child	Parameter	#	3	3	3	
	Estimated vaccine wastage factor	Parameter	#	1.18	1.18	1.18	
	Number of doses per vial	Parameter	#	10	10	10	
	AD syringes required	Parameter	#	Yes	Yes	Yes	

	Reconstitution syringes required	Parameter	#	No	No	No	
	Safety boxes required	Parameter	#	Yes	Yes	Yes	
cc	Country co-financing per dose	Parameter	$	0.35	0.35	0.35	
ca	AD syringe price per unit	Parameter	$	0.0448	0.0448	0.0448	
cr	Reconstitution syringe price per unit	Parameter	$	0	0	0	
cs	Safety box price per unit	Parameter	$	0.0054	0.0054	0.0054	
fv	Freight cost as % of vaccines value	Parameter	%	4.40 %	4.40 %	4.40 %	

* Please describe the method used for stock count in the text box below. We assume the closing stock (Dec 31, 2014) is the same as the opening stock (Jan 1, {1}). If there is a difference, please provide details in the text box below.

The physical inventory was conducted and no difference observed between the closing (Dec 31, 2014) and opening stock (Jan 1, 2015)

For pentavalent vaccines, GAVI applies a benchmark of 4.5 months of buffer + operational stocks. Countries should state their buffer + operational stock requirements when different from the benchmark up to a maximum of 6 months. For support on how to calculate the buffer and operational stock levels, please contact WHO or UNICEF. By default, a buffer + operational stock of 4.5 months is pre-selected.

Not defined

Co-financing tables for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID

Co-financing group	Low

	2014	2015	2016	2017	2018
Minimum co-financing	0.20	0.20	0.20	0.20	0.20
Recommended co-financing as per APR 2013			0.20	0.20	0.20
Your co-financing	0.20	0.35	0.35	0.35	0.35

	2019	2020	2021
Minimum co-financing	0.20	0.20	0.20
Recommended co-financing as per APR 2013	0.20	0.20	0.20
Your co-financing	0.35	0.35	0.35

Table 7.11.2: Estimated GAVI support and country co-financing (GAVI support)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	766,800	997,500	1,020,700	1,321,400	1,347,700
Number of AD syringes	#	879,000	1,127,400	1,178,200	1,670,000	1,703,400
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	9,775	12,425	13,850	18,800	19,175
Total value to be co-financed by GAVI	$	1,622,500	2,036,500	1,943,500	2,101,500	2,143,000

Table 7.11.2: Estimated GAVI support and country co-financing (GAVI support)

		2019	2020	2021
Number of vaccine doses	#	1,374,000	1,399,200	1,425,900

		1,736,700	1,769,900	1,803,500
Number of AD syringes	#	1,736,700	1,769,900	1,803,500
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	19,550	19,925	20,300
Total value to be co-financed by GAVI	$	2,185,000	2,219,000	2,261,500

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2014	**2015**	**2016**	**2017**	**2018**
Number of vaccine doses	#	83,000	214,500	236,400	386,700	394,400
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	0	0	0	0
Total value to be co-financed by the Country [1]	$	170,000	424,500	450,000	615,000	627,000

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2019	**2020**	**2021**
Number of vaccine doses	#	402,100	410,900	418,700
Number of AD syringes	#	0	0	0
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	0	0	0
Total value to be co-financed by the Country [1]	$	639,500	652,000	664,000

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 1)

		Formula	**2014**	**2015**		
				Total	**Government**	**GAVI**
A	Country co-finance	V				
B	Number of children to be vaccinated with the first dose	Table 4	337,782	346,564		
B1	Number of children to be vaccinated with the third dose	Table 4	337,782	346,564		
C	Number of doses per child	Vaccine parameter (schedule)	3	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,013,346	1,037,193		
E	Estimated vaccine wastage factor	Table 4	1.05	1.18		
F	Number of doses needed including wastage	D x E		1,223,887		
G	Vaccines buffer stock	*Buffer on doses needed + buffer on doses wasted* *Buffer on doses needed = (D - D of previous year original approved) x 0.375* *Buffer on doses wasted =* • *if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375* • *else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0*				
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)				
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)				
H2	Reported stock on January 1st	Table 7.11.1	609,795	384,628		

H3	Shipment plan	Approved volume		1,212,000	
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size		1,212,000	
J	Number of doses per vial	Vaccine Parameter			
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10			
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10			
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10			
N	Cost of vaccines needed	I x vaccine price per dose (g)			
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)			
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)			
Q	Cost of safety boxes needed	M x safety box price per unit (cs)			
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)			
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)			
T	Total fund needed	(N+O+P+Q+R+S)			
U	Total country co-financing	I x country co-financing per dose (cc)			
V	Country co-financing % of GAVI supported proportion	U / (N + R)			

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 2)

		Formula	2016		
			Total	Government	GAVI
A	Country co-finance	V	18.80 %		
B	Number of children to be vaccinated with the first dose	Table 4	343,733	64,623	279,110
B1	Number of children to be vaccinated with the third dose	Table 4	343,733	64,623	279,110
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,031,199	193,867	837,332
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,216,815	228,763	988,052
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = • _if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375_ • _else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0_	- 2,247	- 422	- 1,825
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)	- 42,108	- 7,916	- 34,192
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)	404,820	76,107	328,713
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,257,000	236,318	1,020,682
J	Number of doses per vial	Vaccine Parameter	10		

		Formula			
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,178,166	0	1,178,166
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	13,828	0	13,828
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,258,829	424,663	1,834,166
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	52,782	0	52,782
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	76	0	76
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	81,318	15,288	66,030
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,393,005	449,888	1,943,117
U	Total country co-financing	I x country co-financing per dose (cc)	439,950		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	18.80 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 3)

		Formula	2017		
			Total	Government	GAVI
A	Country co-finance	V	22.64 %		
B	Number of children to be vaccinated with the first dose	Table 4	350,803	79,411	271,392
B1	Number of children to be vaccinated with the third dose	Table 4	350,803	79,411	271,392
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,052,409	238,231	814,178
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,241,843	281,112	960,731
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = • _if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375_ • _else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0_	465,691	105,417	360,274
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)			
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)			
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,708,000	386,635	1,321,365
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,669,911	0	1,669,911
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	18,788	0	18,788

		Formula			
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,529,548	572,606	1,956,942
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	74,813	0	74,813
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	103	0	103
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	111,301	25,195	86,106
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,715,765	614,759	2,101,006
U	Total country co-financing	I x country co-financing per dose (cc)	597,800		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	22.64 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 4)

		Formula	2018		
			Total	Government	GAVI
A	Country co-finance	V	22.64 %		
B	Number of children to be vaccinated with the first dose	Table 4	357,822	80,999	276,823
B1	Number of children to be vaccinated with the third dose	Table 4	357,822	80,999	276,823
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,073,466	242,997	830,469
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,266,690	286,737	979,953
G	Vaccines buffer stock	**Buffer on doses needed** + **buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = • if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375 • else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0	475,009	107,527	367,482
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)			
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)			
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,742,000	394,331	1,347,669
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,703,323	0	1,703,323
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	19,162	0	19,162
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,579,902	584,004	1,995,898
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	76,309	0	76,309
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	105	0	105

		Formula			
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	113,516	25,697	87,819
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,769,832	626,998	2,142,834
U	Total country co-financing	I x country co-financing per dose (cc)	609,700		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	22.64 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 5)

		Formula	2019		
			Total	Government	GAVI
A	Country co-finance	V	22.64 %		
B	Number of children to be vaccinated with the first dose	Table 4	364,820	82,584	282,236
B1	Number of children to be vaccinated with the third dose	Table 4	364,820	82,584	282,236
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,094,460	247,750	846,710
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,291,463	292,345	999,118
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = • _if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375_ • _else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0_	484,299	109,630	374,669
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)			
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)			
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,776,000	402,028	1,373,972
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,736,635	0	1,736,635
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	19,536	0	19,536
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,630,256	595,403	2,034,853
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	77,802	0	77,802
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	107	0	107
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	115,732	26,198	89,534
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,823,897	639,236	2,184,661
U	Total country co-financing	I x country co-financing per dose (cc)	621,600		

		Formula		2020	
V	Country co-financing % of GAVI supported proportion	U / (N + R)	22.64 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 6)

		Formula	2020		
			Total	Government	GAVI
A	Country co-finance	V	22.70 %		
B	Number of children to be vaccinated with the first dose	Table 4	371,803	84,392	287,411
B1	Number of children to be vaccinated with the third dose	Table 4	371,803	84,392	287,411
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,115,409	253,176	862,233
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,316,183	298,747	1,017,436
G	Vaccines buffer stock	**Buffer on doses needed** + **buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = *if(wastage factor of previous year current estimation < wastage factor of previous year original approved): ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375* *else: (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0*	493,569	112,031	381,538
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)			
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)			
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,810,000	410,834	1,399,166
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,769,876	0	1,769,876
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	19,910	0	19,910
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,673,370	606,801	2,066,569
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	79,291	0	79,291
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	109	0	109
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	117,629	26,700	90,929
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,870,399	651,523	2,218,876
U	Total country co-financing	I x country co-financing per dose (cc)	633,500		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	22.70 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.4: Calculation of requirements for DTP-HepB-Hib, 10 dose(s) per vial, LIQUID (part 7)

		Formula	2021		
			Total	Government	GAVI
A	Country co-finance	V	22.70 %		
B	Number of children to be vaccinated with the first dose	Table 4	378,858	85,994	292,864
B1	Number of children to be vaccinated with the third dose	Table 4	378,858	85,994	292,864
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B + B1 + Target for the 2nd dose ((B -0.41 x (B - B1))	1,136,574	257,980	878,594
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D X E	1,341,158	304,416	1,036,742
G	Vaccines buffer stock	**Buffer on doses needed** + **buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.375 **Buffer on doses wasted** = • _if(wastage factor of previous year current estimation < wastage factor of previous year original approved):_ ((F - D) - ((F - D) of previous year original approved - (F - D) of previous year current estimation)) x 0.375 • _else:_ (F - D - ((F - D) of previous year original approved)) x 0.375 >= 0	502,934	114,156	388,778
H	Stock to be deducted	H1 - (F (2015) current estimation x 0.375)			
H1	Calculated opening stock	H2 (2015) + H3 (2015) - F (2015)			
H2	Reported stock on January 1st	Table 7.11.1			
H3	Shipment plan	Approved volume			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,844,500	418,664	1,425,836
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,803,459	0	1,803,459
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	20,290	0	20,290
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,724,327	618,367	2,105,960
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	80,795	0	80,795
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	111	0	111
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	119,871	27,209	92,662
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,925,104	663,940	2,261,164
U	Total country co-financing	I x country co-financing per dose (cc)	645,575		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	22.70 %		

Given that the shipment plan of 2014 is not yet available, the volume approved for 2014 is used as our best proxy of 2014 shipment. The information would be updated when the shipment plan will become available.

Table 7.11.1: Specifications for Measles second dose, 10 dose(s) per vial, LYOPHILISED

ID		Source		2014	2015	2016	2017	2018
	Number of surviving infants	Parameter	#	331,180	339,791	343,733	350,803	357,822
	Number of children to be vaccinated with the first dose	Parameter	#	0	0	343,733	350,803	357,822
	Number of children to be vaccinated with the second dose	Parameter	#			336,858	343,787	350,666
	Immunisation coverage with the second dose	Parameter	%	0.00 %	0.00 %	98.00 %	98.00 %	98.00 %
	Number of doses per child	Parameter	#	1	1	1	1	1
	Estimated vaccine wastage factor	Parameter	#	1.00	1.00	1.18	1.18	1.18
	Stock in Central Store Dec 31, 2014		#	221,000				
	Stock across second level Dec 31, 2014 (if available)*		#	13,650				
	Stock across third level Dec 31, 2014 (if available)*	Parameter	#					
	Number of doses per vial	Parameter	#		10	10	10	10
	AD syringes required	Parameter	#		Yes	Yes	Yes	Yes
	Reconstitution syringes required	Parameter	#		Yes	Yes	Yes	Yes
	Safety boxes required	Parameter	#		Yes	Yes	Yes	Yes
cc	**Country co-financing per dose**	Parameter	$		0.00	0.00	0.00	0.00
ca	**AD syringe price per unit**	Parameter	$		0.0448	0.0448	0.0448	0.0448
cr	**Reconstitution syringe price per unit**	Parameter	$		0	0	0	0
cs	**Safety box price per unit**	Parameter	$		0.0054	0.0054	0.0054	0.0054
fv	**Freight cost as % of vaccines value**	Parameter	%			12.60 %	12.30 %	12.00 %
fd	**Freight cost as % of devices value**	Parameter	%					

ID		Source		2019	2020	TOTAL
	Number of surviving infants	Parameter	#	364,820	371,803	2,459,952
	Number of children to be vaccinated with the first dose	Parameter	#	364,820	371,803	1,788,981
	Number of children to be vaccinated with the second dose	Parameter	#	357,524	364,367	1,753,202
	Immunisation coverage with the second dose	Parameter	%	98.00 %	98.00 %	
	Number of doses per child	Parameter	#	1	1	
	Estimated vaccine wastage factor	Parameter	#	1.18	1.18	
	Number of doses per vial	Parameter	#	10	10	
	AD syringes required	Parameter	#	Yes	Yes	
	Reconstitution syringes required	Parameter	#	Yes	Yes	
	Safety boxes required	Parameter	#	Yes	Yes	
cc	**Country co-financing per dose**	Parameter	$	0.00	0.00	
ca	**AD syringe price per unit**	Parameter	$	0.0448	0.0448	
cr	**Reconstitution syringe price per unit**	Parameter	$	0	0	
cs	**Safety box price per unit**	Parameter	$	0.0054	0.0054	
fv	**Freight cost as % of vaccines value**	Parameter	%	11.80 %	11.40 %	
fd	**Freight cost as % of devices value**	Parameter	%			

* Please describe the method used for stock count in the text box below. We assume the closing stock (Dec 31, 2014) is the same as the opening stock (Jan 1, {1}). If there is a difference, please provide details in the text box below.

The physical inventory was conducted and no difference observed between the closing (Dec 31, 2014) and opening stock (Jan 1, 2015)

Co-financing tables for Measles second dose, 10 dose(s) per vial, LYOPHILISED

Co-financing group	Low

	2014	2015	2016	2017	2018
Minimum co-financing					
Recommended co-financing as per					
Your co-financing					

	2019	2020
Minimum co-financing		
Recommended co-financing as per		
Your co-financing		

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#			286,100	435,800	444,500
Number of AD syringes	#			246,600	410,000	418,100
Number of re-constitution syringes	#			31,500	48,000	48,900
Number of safety boxes	#			3,150	4,800	4,900
Total value to be co-financed by GAVI	$			99,000	155,500	161,500

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2019	2020
Number of vaccine doses	#	538,200	548,500
Number of AD syringes	#	519,700	529,700
Number of re-constitution syringes	#	59,300	60,400
Number of safety boxes	#	5,925	6,050
Total value to be co-financed by GAVI	$	199,500	208,000

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#			0	0	0
Number of AD syringes	#			0	0	0
Number of re-constitution syringes	#			0	0	0
Number of safety boxes	#			0	0	0
Total value to be co-financed by the Country [1]	$			0	0	0

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2019	2020
Number of vaccine doses	#	0	0
Number of AD syringes	#	0	0
Number of re-constitution syringes	#	0	0
Number of safety boxes	#	0	0
Total value to be co-financed by the Country *[1]*	$	0	0

Table 7.11.4: Calculation of requirements for Measles second dose, 10 dose(s) per vial, LYOPHILISED (part 1)

		Formula	2014	2015		
				Total	Government	GAVI
A	Country co-finance	V				
B	Number of children to be vaccinated with the first dose	Table 4	0	0		
C	Number of doses per child	Vaccine parameter (schedule)	1	1		
D	Number of doses needed	B x C	0	0		
E	Estimated vaccine wastage factor	Table 4	1.00	1.00		
F	Number of doses needed including wastage	D x E		0		
G	Vaccines buffer stock	**Buffer on doses needed** + **buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x				
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year				
H2	Reported stock on January 1st	Table 7.11.1	0	221,000		
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size		0		
J	Number of doses per vial	Vaccine Parameter				
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10				
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10				
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10				
N	Cost of vaccines needed	I x vaccine price per dose (g)				
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)				
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)				
Q	Cost of safety boxes needed	M x safety box price per unit (cs)				
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)				
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)				
T	Total fund needed	(N+O+P+Q+R+S)				
U	Total country co-financing	I x country co-financing per dose (cc)				
V	Country co-financing % of GAVI supported proportion	U / (N + R)				

Table 7.11.4: Calculation of requirements for Measles second dose, 10 dose(s) per vial, LYOPHILISED (part 2)

		Formula	2016		
			Total	Government	GAVI
A	Country co-finance	V	0.00 %		
B	Number of children to be vaccinated with the first dose	Table 4	336,858	0	336,858
C	Number of doses per child	Vaccine parameter (schedule)	1		
D	Number of doses needed	B x C	343,733	0	343,733
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D x E	405,605	0	405,605
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x	101,402	0	101,402
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year	221,000	0	221,000
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	286,100	0	286,100
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	246,549	0	246,549
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	31,472	0	31,472
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	3,148	0	3,148
N	Cost of vaccines needed	I x vaccine price per dose (g)	76,961	0	76,961
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	11,046	0	11,046
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	1,102	0	1,102
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	18	0	18
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	9,698	0	9,698
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	98,825	0	98,825
U	Total country co-financing	I x country co-financing per dose (cc)	0		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	0.00 %		

Table 7.11.4: Calculation of requirements for Measles second dose, 10 dose(s) per vial, LYOPHILISED (part 3)

		Formula	2017		
			Total	Government	GAVI
A	Country co-finance	V	0.00 %		
B	Number of children to be vaccinated with the first dose	Table 4	343,787	0	343,787
C	Number of doses per child	Vaccine parameter (schedule)	1		
D	Number of doses needed	B x C	350,803	0	350,803
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D x E	413,948	0	413,948
G	Vaccines buffer stock	**Buffer on doses needed** + buffer on doses wasted **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x	21,851	0	21,851
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	435,800	0	435,800
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	409,920	0	409,920
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	47,939	0	47,939
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	4,794	0	4,794
N	Cost of vaccines needed	I x vaccine price per dose (g)	120,281	0	120,281
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	18,365	0	18,365
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	1,678	0	1,678
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	27	0	27
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	14,795	0	14,795
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	155,146	0	155,146
U	Total country co-financing	I x country co-financing per dose (cc)	0		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	0.00 %		

Table 7.11.4: Calculation of requirements for Measles second dose, 10 dose(s) per vial, LYOPHILISED (part 5)

		Formula	2019		
			Total	Government	GAVI
A	Country co-finance	V	0.00 %		
B	Number of children to be vaccinated with the first dose	Table 4	357,524	0	357,524
C	Number of doses per child	Vaccine parameter (schedule)	1		
D	Number of doses needed	B x C	364,820	0	364,820
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D x E	430,488	0	430,488
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x	107,622	0	107,622
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	538,200	0	538,200
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	519,687	0	519,687
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	59,203	0	59,203
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	5,921	0	5,921
N	Cost of vaccines needed	I x vaccine price per dose (g)	155,540	0	155,540
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	23,282	0	23,282
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	2,073	0	2,073
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	33	0	33
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	18,354	0	18,354
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	199,282	0	199,282
U	Total country co-financing	I x country co-financing per dose (cc)	0		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	0.00 %		

Table 7.11.4: Calculation of requirements for Measles second dose, 10 dose(s) per vial, LYOPHILISED (part 6)

		Formula	2020		
			Total	Government	GAVI
A	Country co-finance	V	0.00 %		
B	Number of children to be vaccinated with the first dose	Table 4	364,367	0	364,367
C	Number of doses per child	Vaccine parameter (schedule)	1		
D	Number of doses needed	B x C	371,803	0	371,803
E	Estimated vaccine wastage factor	Table 4	1.18		
F	Number of doses needed including wastage	D x E	438,728	0	438,728
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x	109,682	0	109,682
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	548,500	0	548,500
J	Number of doses per vial	Vaccine Parameter	10		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	529,634	0	529,634
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	60,336	0	60,336
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	6,034	0	6,034
N	Cost of vaccines needed	I x vaccine price per dose (g)	163,453	0	163,453
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	23,728	0	23,728
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	2,112	0	2,112
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	33	0	33
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	18,634	0	18,634
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	207,960	0	207,960
U	Total country co-financing	I x country co-financing per dose (cc)	0		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	0.00 %		

Table 7.11.1: Specifications for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID

ID		Source		2014	2015	2016	2017	2018
	Number of surviving infants	Parameter	#	331,180	339,791	343,733	350,803	357,822
	Number of children to be vaccinated with the first dose	Parameter	#	337,782	346,564	343,733	350,803	357,822
	Number of children to be vaccinated with the third dose	Parameter	#	337,782	344,791	343,733	350,803	357,822
	Immunisation coverage with the third dose	Parameter	%	101.99 %	101.47 %	100.00 %	100.00 %	100.00 %
	Number of doses per child	Parameter	#	3	3	3	3	3
	Estimated vaccine wastage factor	Parameter	#	1.05	1.02	1.02	1.02	1.02
	Stock in Central Store Dec 31, 2014		#	494,000				
	Stock across second level Dec 31, 2014 (if available)*		#	24,830				
	Stock across third level Dec 31, 2014 (if available)*	Parameter	#					
	Number of doses per vial	Parameter	#		1	1	1	1
	AD syringes required	Parameter	#		Yes	Yes	Yes	Yes
	Reconstitution syringes required	Parameter	#		No	No	No	No
	Safety boxes required	Parameter	#		Yes	Yes	Yes	Yes
cc	**Country co-financing per dose**	Parameter	$		0.35	0.35	0.35	0.35
ca	**AD syringe price per unit**	Parameter	$		0.0448	0.0448	0.0448	0.0448
cr	**Reconstitution syringe price per unit**	Parameter	$		0	0	0	0
cs	**Safety box price per unit**	Parameter	$		0.0054	0.0054	0.0054	0.0054
fv	**Freight cost as % of vaccines value**	Parameter	%		4.50 %	3.00 %	4.50 %	4.60 %

ID		Source		2019	2020	2021	TOTAL
	Number of surviving infants	Parameter	#	364,820	371,803	378,858	2,838,810
	Number of children to be vaccinated with the first dose	Parameter	#	364,820	371,803	378,858	2,852,185
	Number of children to be vaccinated with the third dose	Parameter	#	364,820	371,803	378,858	2,850,412
	Immunisation coverage with the third dose	Parameter	%	100.00 %	100.00 %	100.00 %	
	Number of doses per child	Parameter	#	3	3	3	
	Estimated vaccine wastage factor	Parameter	#	1.02	1.02	1.02	
	Number of doses per vial	Parameter	#	1	1	1	
	AD syringes required	Parameter	#	Yes	Yes	Yes	
	Reconstitution syringes required	Parameter	#	No	No	No	
	Safety boxes required	Parameter	#	Yes	Yes	Yes	
cc	**Country co-financing per dose**	Parameter	$	0.35	0.35	0.35	
ca	**AD syringe price per unit**	Parameter	$	0.0448	0.0448	0.0448	
cr	**Reconstitution syringe price per unit**	Parameter	$	0	0	0	
cs	**Safety box price per unit**	Parameter	$	0.0054	0.0054	0.0054	
fv	**Freight cost as % of vaccines value**	Parameter	%	3.10 %	3.10 %	3.10 %	

* Please describe the method used for stock count in the text box below. We assume the closing stock (Dec 31, 2014) is the same as the opening stock (Jan 1, {1}). If there is a difference, please provide details in the text box below.

N/A; No difference observed between the stock on 31st December 2014 and 1st January 2015.

Co-financing tables for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID

Co-financing group	Low

	2014	2015	2016	2017	2018
Minimum co-financing	0.20	0.20	0.20	0.20	0.20
Recommended co-financing as per			0.20	0.20	0.20
Your co-financing	0.20	0.35	0.35	0.35	0.35

	2019	2020	2021
Minimum co-financing	0.20	0.20	0.20
Recommended co-financing as per	0.20	0.20	0.20
Your co-financing	0.35	0.35	0.35

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	759,500	961,200	739,900	1,202,700	1,224,800
Number of AD syringes	#	829,000	1,148,300	880,400	1,447,200	1,476,200
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	9,225	12,650	9,050	14,725	15,025
Total value to be co-financed by GAVI	$	2,779,500	3,500,000	2,610,000	4,236,000	4,249,000

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2019	2020	2021
Number of vaccine doses	#	1,245,700	1,269,600	1,292,200
Number of AD syringes	#	1,505,000	1,533,900	1,563,000
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	15,325	15,625	15,900
Total value to be co-financed by GAVI	$	4,221,500	4,296,000	4,372,500

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	44,800	104,400	82,800	134,800	139,700
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	0	0	0	0
Total value to be co-financed by the Country [1]	$	161,000	373,000	292,000	475,000	484,500

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2019	2020	2021
Number of vaccine doses	#	145,800	148,900	151,500
Number of AD syringes	#	0	0	0
Number of re-constitution syringes	#	0	0	0

Number of safety boxes	#	0	0	0
Total value to be co-financed by the Country *[1]*	$	494,500	504,000	513,000

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 1)

		Formula	2014	2015		
				Total	Government	GAVI
A	Country co-finance	V				
B	Number of children to be vaccinated with the first dose	Table 4	337,782	346,564		
C	Number of doses per child	Vaccine parameter (schedule)	3	3		
D	Number of doses needed	B x C	1,013,346	1,039,692		
E	Estimated vaccine wastage factor	Table 4	1.05	1.02		
F	Number of doses needed including wastage	D x E		1,060,486		
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25				
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year				
H2	Reported stock on January 1st	Table 7.11.1	544,000	494,000		
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size		1,065,600		
J	Number of doses per vial	Vaccine Parameter				
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10				
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10				
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10				
N	Cost of vaccines needed	I x vaccine price per dose (g)				
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)				
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)				
Q	Cost of safety boxes needed	M x safety box price per unit (cs)				
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)				
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)				
T	Total fund needed	(N+O+P+Q+R+S)				
U	Total country co-financing	I x country co-financing per dose (cc)				
V	Country co-financing % of GAVI supported proportion	U / (N + R)				

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 2)

		Formula	2016		
			Total	Government	GAVI
A	Country co-finance	V	10.06 %		
B	Number of children to be vaccinated with the first dose	Table 4	343,733	34,578	309,155
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	1,031,199	103,733	927,466
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	1,051,823	105,807	946,016
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	- 2,017	- 202	- 1,815
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year	228,879	23,024	205,855
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	822,600	82,749	739,851
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	880,334	0	880,334
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	9,049	0	9,049
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,778,743	279,525	2,499,218
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	39,439	0	39,439
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	50	0	50
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	83,363	8,386	74,977
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,901,595	291,883	2,609,712
U	Total country co-financing	I x country co-financing per dose (cc)	287,910		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	10.06 %		

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 3)

		Formula	2017		
			Total	Government	GAVI
A	Country co-finance	V	10.08 %		
B	Number of children to be vaccinated with the first dose	Table 4	350,803	35,348	315,455
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	1,052,409	106,042	946,367
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	1,073,458	108,163	965,295
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	263,209	26,522	236,687
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,337,400	134,758	1,202,642
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,447,180	0	1,447,180
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	14,712	0	14,712
N	Cost of vaccines needed	I x vaccine price per dose (g)	4,445,518	447,933	3,997,585
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	64,834	0	64,834
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	81	0	81
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	200,049	20,158	179,891
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	4,710,482	474,631	4,235,851
U	Total country co-financing	I x country co-financing per dose (cc)	468,090		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	10.08 %		

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 5)

		Formula	2019		
			Total	Government	GAVI
A	Country co-finance	V	10.48 %		
B	Number of children to be vaccinated with the first dose	Table 4	364,820	38,225	326,595
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	1,094,460	114,674	979,786
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	1,116,350	116,968	999,382
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	273,720	28,680	245,040
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,391,400	145,787	1,245,613
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,504,999	0	1,504,999
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	15,306	0	15,306
N	Cost of vaccines needed	I x vaccine price per dose (g)	4,508,136	472,348	4,035,788
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	67,424	0	67,424
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	84	0	84
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	139,753	14,643	125,110
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	4,715,397	494,064	4,221,333
U	Total country co-financing	I x country co-financing per dose (cc)	486,990		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	10.48 %		

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 6)

		Formula	2020		
			Total	Government	GAVI
A	Country co-finance	V	10.49 %		
B	Number of children to be vaccinated with the first dose	Table 4	371,803	39,017	332,786
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	1,115,409	117,050	998,359
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	1,137,718	119,391	1,018,327
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	278,957	29,274	249,683
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,418,400	148,845	1,269,555
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,533,803	0	1,533,803
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	15,603	0	15,603
N	Cost of vaccines needed	I x vaccine price per dose (g)	4,588,524	481,514	4,107,010
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	68,715	0	68,715
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	85	0	85
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	142,245	14,927	127,318
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	4,799,569	503,660	4,295,909
U	Total country co-financing	I x country co-financing per dose (cc)	496,440		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	10.49 %		

Table 7.11.4: Calculation of requirements for Pneumococcal (PCV13), 1 dose(s) per vial, LIQUID (part 7)

		Formula	2021		
			Total	Government	GAVI
A	Country co-finance	V	10.49 %		
B	Number of children to be vaccinated with the first dose	Table 4	378,858	39,757	339,101
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	1,136,574	119,271	1,017,303
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	1,159,306	121,656	1,037,650
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	284,250	29,829	254,421
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	1,443,600	151,490	1,292,110
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	1,562,907	0	1,562,907
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	15,880	0	15,880
N	Cost of vaccines needed	I x vaccine price per dose (g)	4,670,046	490,068	4,179,978
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	70,019	0	70,019
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	87	0	87
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	144,772	15,193	129,579
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	4,884,924	512,617	4,372,307
U	Total country co-financing	I x country co-financing per dose (cc)	505,260		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	10.49 %		

Table 7.11.1: Specifications for Rotavirus, 2-dose schedule

ID		Source		2014	2015	2016	2017	2018
	Number of surviving infants	Parameter	#	331,180	339,791	343,733	350,803	357,822
	Number of children to be vaccinated with the first dose	Parameter	#	337,782	346,564	343,733	350,803	357,822
	Number of children to be vaccinated with the second dose	Parameter	#			343,733	350,803	357,822
	Number of children to be vaccinated with the third dose	Parameter	#					
	Immunisation coverage with the third dose	Parameter	%	0.00 %	0.00 %	100.00 %	100.00 %	100.00 %
	Number of doses per child	Parameter	#	2	2	2	2	2
	Estimated vaccine wastage factor	Parameter	#	1.05	1.02	1.02	1.02	1.02
	Stock in Central Store Dec 31, 2014		#	839,887				
	Stock across second level Dec 31, 2014 (if available)*		#	40,850				
	Stock across third level Dec 31, 2014 (if available)*	Parameter	#					
	Number of doses per vial	Parameter	#		1	1	1	1
	AD syringes required	Parameter	#		No	No	No	No
	Reconstitution syringes required	Parameter	#		No	No	No	No
	Safety boxes required	Parameter	#		No	No	No	No
cc	Country co-financing per dose	Parameter	$		0.35	0.35	0.35	0.35
ca	AD syringe price per unit	Parameter	$		0.0448	0.0448	0.0448	0.0448
cr	Reconstitution syringe price per unit	Parameter	$		0	0	0	0
cs	Safety box price per unit	Parameter	$		0.0054	0.0054	0.0054	0.0054
fv	Freight cost as % of vaccines value	Parameter	%		4.20 %	4.40 %	4.40 %	4.40 %

ID		Source		2019	2020	2021	TOTAL
	Number of surviving infants	Parameter	#	364,820	371,803	378,858	2,838,810
	Number of children to be vaccinated with the first dose	Parameter	#	364,820	371,803	378,858	2,852,185
	Number of children to be vaccinated with the second dose	Parameter	#	364,820	371,803	378,858	2,167,839
	Number of children to be vaccinated with the third dose	Parameter	#				0
	Immunisation coverage with the second dose	Parameter	%	100.00 %	100.00 %	100.00 %	
	Number of doses per child	Parameter	#	2	2	2	
	Estimated vaccine wastage factor	Parameter	#	1.02	1.02	1.02	
	Number of doses per vial	Parameter	#	1	1	1	
	AD syringes required	Parameter	#	No	No	No	
	Reconstitution syringes required	Parameter	#	No	No	No	
	Safety boxes required	Parameter	#	No	No	No	
cc	Country co-financing per dose	Parameter	$	0.35	0.35	0.35	
ca	AD syringe price per unit	Parameter	$	0.0448	0.0448	0.0448	
cr	Reconstitution syringe price per unit	Parameter	$	0	0	0	
cs	Safety box price per unit	Parameter	$	0.0054	0.0054	0.0054	
fv	Freight cost as % of vaccines value	Parameter	%	4.40 %	4.40 %	4.40 %	

* Please describe the method used for stock count in the text box below. We assume the closing stock (Dec 31, 2014) is the same as the opening stock (Jan 1, {1}). If there is a difference, please provide details in the text box below.

Co-financing tables for Rotavirus, 2-dose schedule

Co-financing group	Low

	2014	2015	2016	2017	2018
Minimum co-financing	0.13	0.20	0.20	0.20	0.20
Recommended co-financing as per APR 2013			0.20	0.20	0.20
Your co-financing	0.13	0.35	0.35	0.35	0.35

	2019	2020	2021
Minimum co-financing	0.20	0.20	0.20
Recommended co-financing as per APR 2013	0.20	0.20	0.20
Your co-financing	0.35	0.35	0.35

Table 7.11.2: Estimated GAVI support and country co-financing (GAVI support)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	963,000	428,000	33,300	759,900	774,000
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	0	0	0	0
Total value to be co-financed by GAVI	$	5,055,500	2,247,000	78,500	1,790,000	1,823,000

Table 7.11.2: Estimated GAVI support and country co-financing (GAVI support)

		2019	2020	2021
Number of vaccine doses	#	789,300	804,600	819,900
Number of AD syringes	#	0	0	0
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	0	0	0
Total value to be co-financed by GAVI	$	1,859,000	1,895,000	1,931,500

Table 7.11.3: Estimated GAVI support and country co-financing (Country support)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	24,900	30,600	5,800	132,700	135,100
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	0	0	0	0
Total value to be co-financed by the Country [1]	$	130,500	160,500	14,000	312,500	318,500

Table 7.11.3: Estimated GAVI support and country co-financing (Country support)

	2019	2020	2021

Number of vaccine doses	#	137,800	140,500	143,200
Number of AD syringes	#	0	0	0
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	0	0	0
Total value to be co-financed by the Country *[1]*	$	324,500	331,000	337,500

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 1)

		Formula	2014	2015		
				Total	Government	GAVI
A	Country co-finance	V				
B	Number of children to be vaccinated with the first dose	Table 4	337,782	346,564		
C	Number of doses per child	Vaccine parameter (schedule)	2	2		
D	Number of doses needed	B x C	1,013,346	1,039,692		
E	Estimated vaccine wastage factor	Table 4	1.05	1.02		
F	Number of doses needed including wastage	D x E		1,060,486		
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25				
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year				
H2	Reported stock on January 1st	Table 7.11.1	385,950	839,887		
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size		458,600		
J	Number of doses per vial	Vaccine Parameter				
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10				
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10				
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10				
N	Cost of vaccines needed	I x vaccine price per dose (g)				
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)				
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)				
Q	Cost of safety boxes needed	M x safety box price per unit (cs)				
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)				
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)				
T	Total fund needed	(N+O+P+Q+R+S)				
U	Total country co-financing	I x country co-financing per dose (cc)				
V	Country co-financing % of GAVI supported proportion	U / (N + R)				

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 2)

		Formula	2016		
			Total	Government	GAVI
A	Country co-finance	V	14.86 %		
B	Number of children to be vaccinated with the first dose	Table 4	343,733	51,080	292,653
C	Number of doses per child	Vaccine parameter (schedule)	2		
D	Number of doses needed	B x C	687,466	102,159	585,307
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	701,216	104,203	597,013
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	- 87,985	- 13,074	- 74,911
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year	574,766	85,412	489,354
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	39,000	5,796	33,204
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	87,984	13,075	74,909
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	0	0	0
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	3,872	576	3,296
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	91,856	13,650	78,206
U	Total country co-financing	I x country co-financing per dose (cc)	13,650		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	14.86 %		

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 3)

		Formula	2017		
			Total	Government	GAVI
A	Country co-finance	V	14.86 %		
B	Number of children to be vaccinated with the first dose	Table 4	350,803	52,131	298,672
C	Number of doses per child	Vaccine parameter (schedule)	2		
D	Number of doses needed	B x C	701,606	104,261	597,345
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	715,639	106,347	609,292
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	175,473	26,076	149,397
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	892,500	132,629	759,871
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,013,480	299,210	1,714,270
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	0	0	0
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	88,594	13,166	75,428
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,102,074	312,375	1,789,699
U	Total country co-financing	I x country co-financing per dose (cc)	312,375		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	14.86 %		

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 5)

		Formula	2019		
			Total	Government	GAVI
A	Country co-finance	V	14.86 %		
B	Number of children to be vaccinated with the first dose	Table 4	364,820	54,214	310,606
C	Number of doses per child	Vaccine parameter (schedule)	2		
D	Number of doses needed	B x C	729,640	108,427	621,213
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	744,233	110,596	633,637
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	182,480	27,118	155,362
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	927,000	137,756	789,244
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,091,312	310,776	1,780,536
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	0	0	0
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	92,018	13,675	78,343
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,183,330	324,450	1,858,880
U	Total country co-financing	I x country co-financing per dose (cc)	324,450		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	14.86 %		

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 6)

		Formula	2020 Total	2020 Government	2020 GAVI
A	Country co-finance	V	14.86 %		
B	Number of children to be vaccinated with the first dose	Table 4	371,803	55,252	316,551
C	Number of doses per child	Vaccine parameter (schedule)	2		
D	Number of doses needed	B x C	743,606	110,503	633,103
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	758,479	112,713	645,766
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	185,972	27,637	158,335
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	945,000	140,431	804,569
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,131,920	316,811	1,815,109
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	0	0	0
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	93,805	13,940	79,865
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,225,725	330,750	1,894,975
U	Total country co-financing	I x country co-financing per dose (cc)	330,750		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	14.86 %		

Table 7.11.4: Calculation of requirements for Rotavirus, 2-dose schedule (part 7)

		Formula	2021		
			Total	Government	GAVI
A	Country co-finance	V	14.86 %		
B	Number of children to be vaccinated with the first dose	Table 4	378,858	56,300	322,558
C	Number of doses per child	Vaccine parameter (schedule)	2		
D	Number of doses needed	B x C	757,716	112,600	645,116
E	Estimated vaccine wastage factor	Table 4	1.02		
F	Number of doses needed including wastage	D x E	772,871	114,852	658,019
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	189,500	28,161	161,339
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	963,000	143,105	819,895
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	0	0	0
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(K + L) / 100 x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,172,528	322,845	1,849,683
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	0	0	0
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	95,592	14,206	81,386
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,268,120	337,050	1,931,070
U	Total country co-financing	I x country co-financing per dose (cc)	337,050		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	14.86 %		

Table 7.11.1: Specifications for HPV quadrivalent, 1 dose(s) per vial, LIQUID

ID		Source		2014	2015	2016	2017	2018
	Number of surviving infants	Parameter	#	331,180	339,791	343,733	350,803	357,822
	Number of children to be vaccinated with the first dose	Parameter	#	161,732	165,937	149,122	153,051	155,455
	Number of children to be vaccinated with the third dose	Parameter	#	0	0	149,122	153,051	155,455
	Immunisation coverage with the third dose	Parameter	%	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
	Number of doses per child	Parameter	#	3	3	3	3	3
	Estimated vaccine wastage factor	Parameter	#	1.00	1.00	1.00	1.00	1.00
	Stock in Central Store Dec 31, 2014		#	16,480				
	Stock across second level Dec 31, 2014 (if available)*		#	28,858				
	Stock across third level Dec 31, 2014 (if available)*	Parameter	#					
	Number of doses per vial	Parameter	#		1	1	1	1
	AD syringes required	Parameter	#		Yes	Yes	Yes	Yes
	Reconstitution syringes required	Parameter	#		No	No	No	No
	Safety boxes required	Parameter	#		No	No	No	No
cc	Country co-financing per dose	Parameter	$		0.20	0.20	0.20	0.20
ca	AD syringe price per unit	Parameter	$		0.0448	0.0448	0.0448	0.0448
cr	Reconstitution syringe price per unit	Parameter	$		0	0	0	0
cs	Safety box price per unit	Parameter	$		0.0054	0.0054	0.0054	0.0054
fv	Freight cost as % of vaccines value	Parameter	%		3.80 %	3.80 %	4.60 %	4.10 %

ID		Source		2019	2020	2021	TOTAL
	Number of surviving infants	Parameter	#	364,820	371,803	378,858	2,838,810
	Number of children to be vaccinated with the first dose	Parameter	#	156,365	149,770	149,893	1,241,325
	Number of children to be vaccinated with the third dose	Parameter	#	156,365	149,770	149,893	913,656
	Immunisation coverage with the third dose	Parameter	%	0.00 %	0.00 %	0.00 %	
	Number of doses per child	Parameter	#	3	3	3	
	Estimated vaccine wastage factor	Parameter	#	1.00	1.00	1.00	
	Number of doses per vial	Parameter	#	1	1	1	
	AD syringes required	Parameter	#	Yes	Yes	Yes	
	Reconstitution syringes required	Parameter	#	No	No	No	
	Safety boxes required	Parameter	#	No	No	No	
cc	Country co-financing per dose	Parameter	$	0.20	0.20	0.20	
ca	AD syringe price per unit	Parameter	$	0.0448	0.0448	0.0448	
cr	Reconstitution syringe price per unit	Parameter	$	0	0	0	
cs	Safety box price per unit	Parameter	$	0.0054	0.0054	0.0054	
fv	Freight cost as % of vaccines value	Parameter	%	4.30 %	4.30 %	4.30 %	

* Please describe the method used for stock count in the text box below. We assume the closing stock (Dec 31, 2014) is the same as the opening stock (Jan 1, {1}). If there is a difference, please provide details in the text box below.

N/A; No difference observed between the stock on 31st December 2014 and 1st January 2015.

Co-financing tables for HPV quadrivalent, 1 dose(s) per vial, LIQUID

Co-financing group	Low

	2014	2015	2016	2017	2018
Minimum co-financing	0.20	0.20	0.20	0.20	0.20
Recommended co-financing as per			0.20	0.20	0.20
Your co-financing	0.20	0.20	0.20	0.20	0.20

	2019	2020	2021
Minimum co-financing	0.20	0.20	0.20
Recommended co-financing as per	0.20	0.20	0.20
Your co-financing	0.20	0.20	0.20

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	609,700	296,900	416,300	544,700	556,100
Number of AD syringes	#	673,900	322,900	478,300	631,400	641,300
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	7,500	3,575	0	0	0
Total value to be co-financed by GAVI	$	2,895,500	1,408,000	1,967,500	2,154,000	2,433,500

Table 7.11.2: Estimated GAVI support and country co-financing (**GAVI support**)

		2019	2020	2021
Number of vaccine doses	#	558,200	534,500	534,900
Number of AD syringes	#	645,100	617,900	618,400
Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	0	0	0
Total value to be co-financed by GAVI	$	2,341,500	2,228,500	2,230,000

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2014	2015	2016	2017	2018
Number of vaccine doses	#	27,200	13,300	18,600	29,400	27,000
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	0	0	0	0
Total value to be co-financed by the Country [1]	$	127,500	62,500	88,000	116,500	118,000

Table 7.11.3: Estimated GAVI support and country co-financing (**Country support**)

		2019	2020	2021
Number of vaccine doses	#	28,300	27,300	27,300
Number of AD syringes	#	0	0	0

Number of re-constitution syringes	#	0	0	0
Number of safety boxes	#	0	0	0
Total value to be co-financed by the Country *[1]*	$	119,000	114,000	114,000

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 1)

		Formula	2014	2015		
				Total	Government	GAVI
A	Country co-finance	V				
B	Number of children to be vaccinated with the first dose	Table 4	161,732	165,937		
C	Number of doses per child	Vaccine parameter (schedule)	3	3		
D	Number of doses needed	B x C	485,197	497,811		
E	Estimated vaccine wastage factor	Table 4	1.00	1.00		
F	Number of doses needed including wastage	D x E		497,811		
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25				
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year				
H2	Reported stock on January 1st	Table 7.11.1	0	16,480		
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size		310,200		
J	Number of doses per vial	Vaccine Parameter				
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10				
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10				
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10				
N	Cost of vaccines needed	I x vaccine price per dose (g)				
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)				
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)				
Q	Cost of safety boxes needed	M x safety box price per unit (cs)				
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)				
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)				
T	Total fund needed	(N+O+P+Q+R+S)				
U	Total country co-financing	I x country co-financing per dose (cc)				
V	Country co-financing % of GAVI supported proportion	U / (N + R)				

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 2)

		Formula	2016		
			Total	Government	GAVI
A	Country co-finance	V	4.28 %		
B	Number of children to be vaccinated with the first dose	Table 4	149,122	6,377	142,745
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	447,366	19,130	428,236
E	Estimated vaccine wastage factor	Table 4	1.00		
F	Number of doses needed including wastage	D x E	447,366	19,130	428,236
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	- 12,611	- 539	- 12,072
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year	0	0	0
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	434,800	18,593	416,207
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	478,231	0	478,231
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	1,959,209	83,777	1,875,432
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	21,425	0	21,425
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	74,450	3,184	71,266
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,055,084	87,877	1,967,207
U	Total country co-financing	I x country co-financing per dose (cc)	86,960		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	4.28 %		

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 3)

		Formula	2017		
			Total	Government	GAVI
A	Country co-finance	V	5.12 %		
B	Number of children to be vaccinated with the first dose	Table 4	153,051	7,838	145,213
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	459,153	23,512	435,641
E	Estimated vaccine wastage factor	Table 4	1.00		
F	Number of doses needed including wastage	D x E	459,153	23,512	435,641
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	114,789	5,878	108,911
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	574,000	29,393	544,607
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	631,337	0	631,337
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,143,316	109,752	2,033,564
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	28,284	0	28,284
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	98,593	5,049	93,544
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,270,193	116,249	2,153,944
U	Total country co-financing	I x country co-financing per dose (cc)	114,800		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	5.12 %		

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 5)

		Formula	2019		
			Total	Government	GAVI
A	Country co-finance	V	4.82 %		
B	Number of children to be vaccinated with the first dose	Table 4	156,365	7,544	148,821
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	469,095	22,630	446,465
E	Estimated vaccine wastage factor	Table 4	1.00		
F	Number of doses needed including wastage	D x E	469,095	22,630	446,465
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	117,274	5,658	111,616
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	586,400	28,289	558,111
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	645,006	0	645,006
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,330,940	112,445	2,218,495
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	28,897	0	28,897
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	100,231	4,836	95,395
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,460,068	118,674	2,341,394
U	Total country co-financing	I x country co-financing per dose (cc)	117,280		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	4.82 %		

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 6)

		Formula	2020		
			Total	Government	GAVI
A	Country co-finance	V	4.85 %		
B	Number of children to be vaccinated with the first dose	Table 4	149,770	7,271	142,499
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	449,310	21,812	427,498
E	Estimated vaccine wastage factor	Table 4	1.00		
F	Number of doses needed including wastage	D x E	449,310	21,812	427,498
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	112,328	5,454	106,874
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	561,700	27,268	534,432
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	617,802	0	617,802
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,218,715	107,709	2,111,006
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	27,678	0	27,678
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	95,405	4,632	90,773
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,341,798	113,684	2,228,114
U	Total country co-financing	I x country co-financing per dose (cc)	112,340		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	4.85 %		

Table 7.11.4: Calculation of requirements for HPV quadrivalent, 1 dose(s) per vial, LIQUID (part 7)

		Formula	2021		
			Total	Government	GAVI
A	Country co-finance	V	4.85 %		
B	Number of children to be vaccinated with the first dose	Table 4	149,893	7,277	142,616
C	Number of doses per child	Vaccine parameter (schedule)	3		
D	Number of doses needed	B x C	449,679	21,830	427,849
E	Estimated vaccine wastage factor	Table 4	1.00		
F	Number of doses needed including wastage	D x E	449,679	21,830	427,849
G	Vaccines buffer stock	**Buffer on doses needed + buffer on doses wasted** **Buffer on doses needed** = (D - D of previous year original approved) x 0.25 **Buffer on doses wasted** = (F - D) x [XXX] - ((F - D) of previous year current estimate) x 0.25	112,420	5,458	106,962
H	Stock to be deducted	H2 of previous year - 0.25 x F of previous year			
H2	Reported stock on January 1st	Table 7.11.1			
I	Total vaccine doses needed	Round up((F + G - H) / vaccine package size) x vaccine package size	562,100	27,288	534,812
J	Number of doses per vial	Vaccine Parameter	1		
K	Number of AD syringes (+ 10% wastage) needed	(D + G – H) x 1.10	618,309	0	618,309
L	Reconstitution syringes (+ 10% wastage) needed	(I / J) x 1.10	0	0	0
M	Total of safety boxes (+ 10% of extra need) needed	(I / 100) x 1.10	0	0	0
N	Cost of vaccines needed	I x vaccine price per dose (g)	2,220,295	107,786	2,112,509
O	Cost of AD syringes needed	K x AD syringe price per unit (ca)	27,701	0	27,701
P	Cost of reconstitution syringes needed	L x reconstitution price per unit (cr)	0	0	0
Q	Cost of safety boxes needed	M x safety box price per unit (cs)	0	0	0
R	Freight cost for vaccines needed	N x freight cost as of % of vaccines value (fv)	95,473	4,635	90,838
S	Freight cost for devices needed	(O+P+Q) x freight cost as % of devices value (fd)	0	0	0
T	Total fund needed	(N+O+P+Q+R+S)	2,343,469	113,765	2,229,704
U	Total country co-financing	I x country co-financing per dose (cc)	112,420		
V	Country co-financing % of GAVI supported proportion	U / (N + R)	4.85 %		

8. Health Systems Strengthening Support (HSS)

Please complete and attach the [HSS Reporting Form](#) to report on the implementation of the new HSS grant which was approved in 2012 or 2013.

9. Strengthened Involvement of Civil Society Organisations (CSOs) : Type A and Type B

9.1. TYPE A: Support to strengthen coordination and representation of CSOs

Rwanda **has NOT received GAVI TYPE A CSO support**

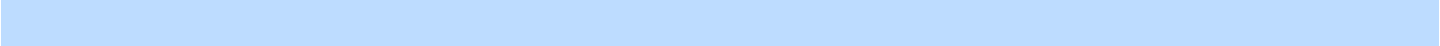Rwanda is not reporting on GAVI TYPE A CSO support for 2014

9.2. TYPE B: Support for CSOs to help implement the GAVI HSS proposal or cMYP

Rwanda **has NOT received GAVI TYPE B CSO support**

Rwanda is not reporting on GAVI TYPE B CSO support for 2014

10. Comments from ICC/HSCC Chairs

Please provide any comments that you may wish to bring to the attention of the monitoring IRC in the course of this review and any information you may wish to share in relation to challenges you have experienced during the year under review. These could be in addition to the approved minutes, which should be included in the attachments

11. Annexes

11.1. Annex 1 – Terms of reference ISS

TERMS OF REFERENCE:

FINANCIAL STATEMENTS **FOR IMMUNISATION SERVICES SUPPORT (ISS)** AND **NEW VACCINE INTRODUCTION GRANTS**

I. All countries that have received ISS /new vaccine introduction grants during the 2014 calendar year, or had balances of funding remaining from previously disbursed ISS/new vaccine introduction grants in 2014, are required to submit financial statements for these programmes as part of their Annual Progress Reports.

II. Financial statements should be compiled based upon countries' own national standards for accounting, thus GAVI will not provide a single template to countries with pre-determined cost categories.

III. **At a minimum**, GAVI requires a simple statement of income and expenditure for activity during the 2014 calendar year, to be comprised of points (a) through (f), below. A sample basic statement of income and expenditure is provided on the next page.

   a. Funds carried forward from the 2013 calendar year (opening balance as of 1 January 2014)

   b. Income received from GAVI during 2014

   c. Other income received during 2014 (interest, fees, etc)

   d. Total expenditure during the calendar year

   e. Closing balance as of 31 December 2014

   f. A detailed analysis of expenditures during 2014, based on *your government's own system of economic classification.* This analysis should summarise total annual expenditure for the year by your government's own system of economic classification, and relevant cost categories, for example: wages & salaries. If possible, please report on the budget for each category at the beginning of the calendar year, actual expenditure during the calendar year, and the balance remaining for each cost category as of 31 December 2014 (referred to as the "variance").

IV. Financial statements should be compiled in local currency, with an indication of the USD exchange rate applied. Countries should provide additional explanation of how and why a particular rate of exchange has been applied, and any supplementary notes that may help the GAVI Alliance in its review of the financial statements.

V. Financial statements need not have been audited/certified prior to their submission to GAVI. However, it is understood that these statements should be subjected to scrutiny during each country's external audit for the 2014 financial year. Audits for ISS are due to the GAVI Secretariat 6 months following the close of each country's financial year.

11.2. Annex 2 – Example income & expenditure ISS

MINIMUM REQUIREMENTS FOR **ISS** AND VACCINE INTRODUCTION GRANT FINANCIAL STATEMENTS
1

An example statement of income & expenditure

Summary of income and expenditure – GAVI ISS		
	Local currency (CFA)	Value in USD *
Balance brought forward from 2013 (balance as of *31Decembre 2013*)	25,392,830	53,000
Summary of income received during 2014		
Income received from GAVI	57,493,200	120,000
Income from interest	7,665,760	16,000
Other income (fees)	179,666	375
Total Income	38,987,576	81,375
Total expenditure during 2014	30,592,132	63,852
Balance as of 31 December 2014 (balance carried forward to 2015)	60,139,325	125,523

* Indicate the exchange rate at opening 01.01.2014, the exchange rate at closing 31.12.2014, and also indicate the exchange rate used for the conversion of local currency to US$ in these financial statements.

Detailed analysis of expenditure by economic classification ** – GAVI ISS						
	Budget in CFA	Budget in USD	Actual in CFA	Actual in USD	Variance in CFA	Variance in USD
Salary expenditure						
Wedges & salaries	2,000,000	4,174	0	0	2,000,000	4,174
Per diem payments	9,000,000	18,785	6,150,000	12,836	2,850,000	5,949
Non-salary expenditure						
Training	13,000,000	27,134	12,650,000	26,403	350,000	731
Fuel	3,000,000	6,262	4,000,000	8,349	-1,000,000	-2,087
Maintenance & overheads	2,500,000	5,218	1,000,000	2,087	1,500,000	3,131
Other expenditures						
Vehicles	12,500,000	26,090	6,792,132	14,177	5,707,868	11,913
TOTALS FOR 2014	42,000,000	87,663	30,592,132	63,852	11,407,868	23,811

** Expenditure categories are indicative and only included for demonstration purpose. Each implementing government should provide statements in accordance with its own system for economic classification.

11.3. Annex 3 – Terms of reference HSS

TERMS OF REFERENCE:

FINANCIAL STATEMENTS FOR **HEALTH SYSTEMS STRENGTHENING (HSS)**

I. All countries that have received HSS grants during the 2014 calendar year, or had balances of funding remaining from previously disbursed HSS grants in 2014, are required to submit financial statements for these programmes as part of their Annual Progress Reports.

II. Financial statements should be compiled based upon countries' own national standards for accounting, thus GAVI will not provide a single template to countries with pre-determined cost categories.

III. At a minimum, GAVI requires a simple statement of income and expenditure for activity during the 2014 calendar year, to be comprised of points (a) through (f), below. A sample basic statement of income and expenditure is provided on the next page.

    a. Funds carried forward from the 2013 calendar year (opening balance as of 1 January 2014)

    b. Income received from GAVI during 2014

    c. Other income received during 2014 (interest, fees, etc)

    d. Total expenditure during the calendar year

    e. Closing balance as of 31 December 2014

    f. A detailed analysis of expenditures during 2014, based on your government's own system of economic classification. This analysis should summarise total annual expenditure for each HSS objective and activity, per your government's originally approved HSS proposal, with further breakdown by cost category (for example: wages & salaries). Cost categories used should be based upon your government's own system for economic classification. Please report the budget for each objective, activity and cost category at the beginning of the calendar year, the actual expenditure during the calendar year, and the balance remaining for each objective, activity and cost category as of 31 December 2014 (referred to as the "variance").

IV. Financial statements should be compiled in local currency, with an indication of the USD exchange rate applied. Countries should provide additional explanation of how and why a particular rate of exchange has been applied, and any supplementary notes that may help the GAVI Alliance in its review of the financial statements.

V. Financial statements need not have been audited/certified prior to their submission to GAVI. However, it is understood that these statements should be subjected to scrutiny during each country's external audit for the 2014 financial year. Audits for HSS are due to the GAVI Secretariat 6 months following the close of each country's financial year.

11.4. Annex 4 – Example income & expenditure HSS

<u>MINIMUM REQUIREMENTS FOR **HSS** FINANCIAL STATEMENTS:</u>

An example statement of income & expenditure

Summary of income and expenditure – GAVI HSS		
	Local currency (CFA)	Value in USD *
Balance brought forward from 2013 (balance as of *31Decembre 2013*)	25,392,830	53,000
Summary of income received during 2014		
Income received from GAVI	57,493,200	120,000
Income from interest	7,665,760	16,000
Other income (fees)	179,666	375
Total Income	38,987,576	81,375
Total expenditure during 2014	30,592,132	63,852
Balance as of 31 December 2014 (balance carried forward to 2015)	60,139,325	125,523

* Indicate the exchange rate at opening 01.01.2014, the exchange rate at closing 31.12.2014, and also indicate the exchange rate used for the conversion of local currency to US$ in these financial statements.

Detailed analysis of expenditure by economic classification ** - GAVI HSS						
	Budget in CFA	Budget in USD	Actual in CFA	Actual in USD	Variance in CFA	Variance in USD
Salary expenditure						
Wedges & salaries	2,000,000	4,174	0	0	2,000,000	4,174
Per diem payments	9,000,000	18,785	6,150,000	12,836	2,850,000	5,949
Non-salary expenditure						
Training	13,000,000	27,134	12,650,000	26,403	350,000	731
Fuel	3,000,000	6,262	4,000,000	8,349	-1,000,000	-2,087
Maintenance & overheads	2,500,000	5,218	1,000,000	2,087	1,500,000	3,131
Other expenditures						
Vehicles	12,500,000	26,090	6,792,132	14,177	5,707,868	11,913
TOTALS FOR 2014	42,000,000	87,663	30,592,132	63,852	11,407,868	23,811

** Expenditure categories are indicative and only included for demonstration purpose. Each implementing government should provide statements in accordance with its own system for economic classification.

11.5. Annex 5 – Terms of reference CSO

TERMS OF REFERENCE:

FINANCIAL STATEMENTS FOR **CIVIL SOCIETY ORGANISATION (CSO)** TYPE B

I. All countries that have received CSO 'Type B' grants during the 2014 calendar year, or had balances of funding remaining from previously disbursed CSO 'Type B' grants in 2014, are required to submit financial statements for these programmes as part of their Annual Progress Reports.

II. Financial statements should be compiled based upon countries' own national standards for accounting, thus GAVI will not provide a single template to countries with pre-determined cost categories.

III. At a minimum, GAVI requires a simple statement of income and expenditure for activity during the 2014 calendar year, to be comprised of points (a) through (f), below. A sample basic statement of income and expenditure is provided on page 3 of this annex.

  a. Funds carried forward from the 2013 calendar year (opening balance as of 1 January 2014)

  b. Income received from GAVI during 2014

  c. Other income received during 2014 (interest, fees, etc)

  d. Total expenditure during the calendar year

  e. Closing balance as of 31 December 2014

  f. A detailed analysis of expenditures during 2014, based on your government's own system of economic classification. This analysis should summarise total annual expenditure by each civil society partner, per your government's originally approved CSO 'Type B' proposal, with further breakdown by cost category (for example: wages & salaries). Cost categories used should be based upon your government's own system for economic classification. Please report the budget for each objective, activity and cost category at the beginning of the calendar year, the actual expenditure during the calendar year, and the balance remaining for each objective, activity and cost category as of 31 December 2014 (referred to as the "variance").

IV. Financial statements should be compiled in local currency, with an indication of the USD exchange rate applied. Countries should provide additional explanation of how and why a particular rate of exchange has been applied, and any supplementary notes that may help the GAVI Alliance in its review of the financial statements.

V. Financial statements need not have been audited/certified prior to their submission to GAVI. However, it is understood that these statements should be subjected to scrutiny during each country's external audit for the 2014 financial year. Audits for CSO 'Type B' are due to the GAVI Secretariat 6 months following the close of each country's financial year.

11.6. Annex 6 – Example income & expenditure CSO

<u>MINIMUM REQUIREMENTS FOR **CSO 'Type B'** FINANCIAL STATEMENTS</u>

An example statement of income & expenditure

Summary of income and expenditure – GAVI CSO		
	Local currency (CFA)	**Value in USD ***
Balance brought forward from 2013 (balance as of *31Decembre 2013*)	25,392,830	53,000
Summary of income received during 2014		
Income received from GAVI	57,493,200	120,000
Income from interest	7,665,760	16,000
Other income (fees)	179,666	375
Total Income	38,987,576	81,375
Total expenditure during 2014	30,592,132	63,852
Balance as of 31 December 2014 (balance carried forward to 2015)	60,139,325	125,523

* Indicate the exchange rate at opening 01.01.2014, the exchange rate at closing 31.12.2014, and also indicate the exchange rate used for the conversion of local currency to US$ in these financial statements.

Detailed analysis of expenditure by economic classification ** - GAVI CSO						
	Budget in CFA	**Budget in USD**	**Actual in CFA**	**Actual in USD**	**Variance in CFA**	**Variance in USD**
Salary expenditure						
Wedges & salaries	2,000,000	4,174	0	0	2,000,000	4,174
Per diem payments	9,000,000	18,785	6,150,000	12,836	2,850,000	5,949
Non-salary expenditure						
Training	13,000,000	27,134	12,650,000	26,403	350,000	731
Fuel	3,000,000	6,262	4,000,000	8,349	-1,000,000	-2,087
Maintenance & overheads	2,500,000	5,218	1,000,000	2,087	1,500,000	3,131
Other expenditures						
Vehicles	12,500,000	26,090	6,792,132	14,177	5,707,868	11,913
TOTALS FOR 2014	42,000,000	87,663	30,592,132	63,852	11,407,868	23,811

** Expenditure categories are indicative and only included for demonstration purpose. Each implementing government should provide statements in accordance with its own system for economic classification.

12. Attachments

Document Number	Document	Section	Mandatory	File
1	Signature of Minister of Health (or delegated authority)	2.1	✔	Minister signature.PDF **File desc:** **Date/time :** 11/05/2015 09:47:08 **Size:** 2 MB
2	Signature of Minister of Finance (or delegated authority)	2.1	✔	MoF signature.pdf **File desc:** **Date/time :** 14/05/2015 10:20:15 **Size:** 255 KB
3	Signatures of members of ICC	2.2	✔	Icc members signatures.pdf **File desc:** **Date/time :** 14/05/2015 10:21:07 **Size:** 250 KB
4	Minutes of ICC meeting in 2015 endorsing the APR 2014	5.4	✔	ICC minutes report endorsing 2014 APR, 5th May 2015.pdf **File desc:** **Date/time :** 11/05/2015 04:46:56 **Size:** 14 MB
5	Signatures of members of HSCC	2.3	✔	HSCC Members signatures.pdf **File desc:** **Date/time :** 14/05/2015 10:23:36 **Size:** 291 KB
6	Minutes of HSCC meeting in 2015 endorsing the APR 2014	8.9.3	✔	ICC minutes report endorsing 2014 APR, 5th May 2015.pdf **File desc:** **Date/time :** 11/05/2015 09:24:42 **Size:** 14 MB
7	Financial statement for ISS grant (Fiscal year 2014) signed by the Chief Accountant or Permanent Secretary in the Ministry of Health	6.2.1	✕	No file loaded
8	External audit report for ISS grant (Fiscal Year 2014)	6.2.3	✕	No file loaded
9	Post Introduction Evaluation Report	7.2.1	✕	PIE (MR).pdf **File desc:** **Date/time :** 30/04/2015 07:59:26

			✔	**Size:** 341 KB
10	Financial statement for NVS introduction grant (Fiscal year 2014) signed by the Chief Accountant or Permanent Secretary in the Ministry of Health	7.3.1	✔	Financial statement report July 2013_June 2014.pdf **File desc:** **Date/time :** 11/05/2015 09:56:39 **Size:** 10 MB
11	External audit report for NVS introduction grant (Fiscal year 2014) if total expenditures in 2014 is greater than US$ 250,000	7.3.1	✔	Audit.pdf **File desc:** Financial audit has been conducted from 20th April to 8th May 2015, we are still waiting for the report. **Date/time :** 11/05/2015 10:35:42 **Size:** 234 KB
12	Latest EVSM/VMA/EVM report	7.5	✔	Rwanda_CVS_Report_Jan30_2015.pdf **File desc:** **Date/time :** 30/04/2015 08:47:50 **Size:** 771 KB
13	Latest EVSM/VMA/EVM improvement plan	7.5	✔	2015 Improvement plan Rwanda_UNICEF_Gavi_BP_2015 NC.xlsx **File desc:** **Date/time :** 30/04/2015 09:08:59 **Size:** 18 KB
14	EVSM/VMA/EVM improvement plan implementation status	7.5	✔	2015 EVM_improvement_plan_Rwanda HF.xls **File desc:** **Date/time :** 30/04/2015 09:09:43 **Size:** 203 KB
16	Valid cMYP if requesting extension of support	7.8	✔	Revised_cMYP_08.12.doc **File desc:** **Date/time :** 11/05/2015 09:43:51 **Size:** 13 MB
17	Valid cMYP costing tool if requesting extension of support	7.8	✔	Revised_cMYP_Costing_Tool_Vs 2.5.form_March 2012.xls **File desc:** **Date/time :** 11/05/2015 09:43:51 **Size:** 3 MB
18	Minutes of ICC meeting endorsing extension of vaccine support if applicable	7.8	✔	ICC minutes report, 5th May 2015.pdf **File desc:** **Date/time :** 11/05/2015 04:23:40 **Size:** 14 MB

19	Financial statement for HSS grant (Fiscal year 2014) signed by the Chief Accountant or Permanent Secretary in the Ministry of Health	8.1.3	✔	Annual report and Financial statement July 2013_June 2014.pdf **File desc:** **Date/time :** 04/05/2015 03:09:40 **Size:** 10 MB
20	Financial statement for HSS grant for January-April 2015 signed by the Chief Accountant or Permanent Secretary in the Ministry of Health	8.1.3	✔	Financial Statement Jan-March 2015.pdf **File desc:** **Date/time :** 27/05/2015 04:27:45 **Size:** 22 MB
21	External audit report for HSS grant (Fiscal Year 2014)	8.1.3	✔	Audit.pdf **File desc:** **Date/time :** 14/05/2015 10:31:05 **Size:** 234 KB
22	HSS Health Sector review report	8.9.3	✔	Health Sector Review Report_2014.pdf **File desc:** **Date/time :** 11/05/2015 09:34:51 **Size:** 1 MB
23	Report for Mapping Exercise CSO Type A	9.1.1	✕	No file loaded
24	Financial statement for CSO Type B grant (Fiscal year 2014)	9.2.4	✕	No file loaded
25	External audit report for CSO Type B (Fiscal Year 2014)	9.2.4	✕	No file loaded
26	Bank statements for each cash programme or consolidated bank statements for all existing cash programmes if funds are comingled in the same bank account, showing the opening and closing balance for year 2014 on (i) 1st January 2014 and (ii) 31st December 2014	0	✔	Annual report and Financial statement 2014.zip **File desc:** **Date/time :** 14/05/2015 10:47:27 **Size:** 51 MB
27	Minutes ICC meeting endorsing change of vaccine prensentation	7.7	✕	No file loaded

28	Justification for changes in target population	5.1	✕	No file loaded
	Other		✕	Rwanda Rota June 2013 PIE report Final.pdf **File desc:** **Date/time :** 30/04/2015 08:00:25 **Size:** 825 KB