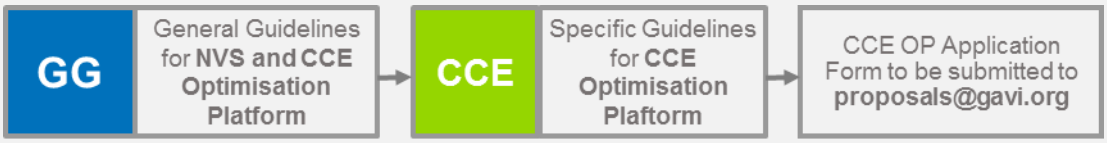
Application Form for Cold Chain Equipment Optimisation Platform support in September 2017

Document Dated: September 2017

Application documents for 2017:

Countries applying for Gavi Cold Chain Equipment (CCE) Optimisation Platform support in 2017 are advised to refer to the following documents in the order presented below:



CCE Application Form

Purpose of this document:

This application form must be completed in order to apply for support related to the CCE Optimisation Platform.

Applicants are required to first read the General Guidelines for all types of support, followed by the CCE Optimisation Platform guidelines. Thereafter, applicants should complete this CCE Application Form and submit by email to proposals@gavi.org.

CCE TG

Resources to support completing this application form:

Technology guide for equipment selection for counties wishing to request CCE Optimisation Platform support is available here: www.gavi.org/support/hss/cold-chain-equipment-optimisation-platform/

Extensive technical resources relating to vaccine cold chain equipment management are available on TechNet-21: www.technet-21.org/en/resources/cold-chain-equipment-management

Weblinks and contact information:

All application documents are available on the Gavi Apply for Support webpage: www.gavi.org/support/apply. For any questions regarding the application guidelines please contact countryportal@gavi.org or your Gavi Senior Country Manager (SCM).

Countries are informed that based on post IRC recommendations, **final approved amounts may be different** from what countries have requested.

This final approved amount will be dependent on the availability of funding.

Gavi will respect countries' equipment selection. However, countries could also receive their 2nd or 3rd preference based on their selection in the budget.

CONTENTS

PART A: APPLICANT INFORMATION

1. Applicant information		
Country	Rwanda	
Date	08/09/2017	
Contact name	HASSAN SIBOMANA	
Email address	hassan.sibomana@rbc.gov.rw	
Phone number	+250738484811/+250788484811	
Total funding requested from CCE Optimisation Platform **(US $)**	*This should correspond exactly to the budget requested in the embedded template.* ***1,928,172 (80% Total Gavi Budget request)***	
Does your country have an approved Gavi HSS support on-going?	Yes √	No ☐
	Indicate the anticipated ***final year*** *of the HSS: 2018*	
Proposed CCE Optimisation Platform **support start date** *(please be informed the actual start date should be at least 8-10 months from application date):*	*Indicate the month and year of the planned start date of the support, based on the strategic deployment plan:* ***July 2018***	
Proposed CCE Optimisation Platform support end date:	*Indicate the month and year of the planned end date of the support, based on the strategic deployment plan:* ***July 2020***	
Signatures *Include signed (and official) CCE Optimisation Platform application endorsement by:* *a) Minister of Health and Minister of Finance (or delegated authorities)* *b) Members of the Coordination Forum (HSCC/ICC or equivalent body)*	*We the undersigned, affirm the objectives and activities of the Gavi CCE Optimisation Platform proposal are fully aligned with the national health strategic plan (or equivalent) and that the funds for implementing all activities, including domestic funds and any needed joint investment, will be included in the annual budget of the Ministry of Health:* **Minister of Health (or delegated authority)** Name: Signature: Date: **Minister of Finance (or delegated authority)** Name: Signature: Date:	

PART B: MANDATORY ATTACHMENTS: NATIONAL STRATEGIES AND PLANS

This section provides a list of national strategies, plans and documents relevant to supply chain and requested support, which must be attached as part of the application.

☆	All documents listed in the table below are **mandatory**, must be **attached** to your application, and they must be **final** and **dated**. Only **complete applications** will be assessed.

2. Mandatory attachments					
No.	**Strategy / Plan / Document**	**Attached Yes/No**	**Final version (dated)**	**Duration**	**Comments**
1	Signature sheet for the Minister of Health and Minister of Finance, or their delegates	Yes	NA	NA	
2	Minutes of the Coordination Forum meeting (ICC, HSCC or equivalent) endorsing the proposal[1]	Yes	06/09/2017	NA	
3	National Health Sector Development Plan	Yes	2012	2012-2018	
4	cMYP	Yes	June 2017	2017-2021	
5	EVM Assessment	Yes	May/June 2014	NA	National level was also assessed in January 2015
6	EVM Improvement Plan	Yes	2014 & 2015	2018	
7	EVM Annual Workplan **and** Progress Report on EVM Improvement Plan[2]	Yes	2017	NA	
8	WHO CCEI Tool/UNICEF IMT/PATH CCEM Tool/CHAI tool[3,4]	Yes	July, 2017		
9	Inventory Report and Facilities segmentation	Yes	August 2017	NA	
10	Single document: Chapter 1: Cold Chain	Yes	August 2017	NA	

[1] In the case of HSS and CCE Optimisation Platform requests, minutes must reflect that both were discussed and endorsed.
[2] The EVM IP and annual work plan progress report must have been updated within three (3) months before applying for Platform support.
[3] The CCE Inventory must have been updated within no more than one (1) year of applying for Platform support.
[4] Tool should allow reviewers to understand targeting of equipment to locations relative to contribution towards improving coverage and equity of immunisation.

2. Mandatory attachments					
No.	**Strategy / Plan / Document**	**Attached Yes/No**	**Final version (dated)**	**Duration**	**Comments**
	Rehabilitation and Expansion Plan Chapter 2: Projected Coverage and Equity Improvements Chapter 3: Strategic Deployment Plan Chapter 4: Equipment Selection				
11	Maintenance Plan with financing and source(s)	Yes	September 2017	2018-2021	
12	Proof of status for CCE tariff exemptions waiver	Yes	2004	Continuous	
13	Terms of Reference for the relevant Coordination Forum (such as ICC) including all sections outlined in Section 5.2 of the General Application Guidelines	Yes		NA	
14	Minutes of the Coordination Forum meetings from the past 12 months before the proposal	Yes		NA	
15	Other relevant documents				
15.1	HSS application	Yes	July 2013	2013 - 2018	
15.2	DHS 2014-2015	Yes	2015	2015-2020	

3. How do the above strategies, plans and documents inform the CCE Optimisation Platform support request (initial support and scale-up support)? *(Maximum 1 page)*

Countries are encouraged to reference relevant sections of the above documents as much as possible.

Rwanda is a country in central and eastern Africa with a population of 10,515,973 (Census, 2012). It is located a few degrees south of the equator, it shares its borders with Uganda to the north, Tanzania to the east, Burundi to the south, and the Democratic Republic of the Congo to the west. Rwanda is at high altitude, with a geography dominated by mountains in the west and north, savannah in the east, and numerous lakes throughout the country. – cMYP page 4.

There are three levels of Immunization Supply Chain (ISC) in Rwanda, namely the national, district and service levels. Ministry of Health (MoH) is responsible for developing and setting all health (including EPI) policies, standards and guidelines. However implementation of the standards is handled by an agency called Rwanda Biomedical Centre (RBC) which is headed by a Director General. The centre is composed of 2 departments, namely Biomedical services department and Institute of HIV, Diseases Prevention and Control (IHDPC) department. Under each department, there are different divisions. One the division under IHDPC is the Maternal, Child and Community Health (MCCH) division under which

Vaccine Preventable Diseases Program (VPDP) falls as a unit. – Rwanda cMYP attachment #4 Page 6

EPI in Rwanda became operational in 1980. It comprises three principal components namely routine vaccination, supplemental immunization activities, and surveillance for target diseases. Since 1996, the programme has had a functioning Interagency Coordinating Committee (ICC) made of senior officials from the Ministry of Health, representatives from different funding partners (WHO, UNICEF, USAID, etc.), and other parties interested in participating in this committee. – 2014 EVMA report page 15.

Rwanda has third Health Sector Strategic Development Plan (HSSDP III) in operation spanning from 2012 to 2018.The plan has seven major priorities with one of them having its objective #2 aiming to "*improve accessibility to health services (financial, geographical, community health)".*

The plan also has five major objectives of health policy which include ***"expanding geographical access to health services"*** as priority #3. (*See pages 6 and 13 of the HSSDP III, attachment # 3.)*

The tasks of improving and expanding access to health services include providing access to equitable immunization service to all areas including those with low income population and geographic challenges. In this regard, achievement of the objectives and priorities of the HSSDP III will be facilitated if CCE OP support is given to Rwanda because the objectives of the platform are fully in agreement with those of the country's HSSDP III.

Other strategies that share similar objectives of improving health system in the country cMYP, HSS plan, EVM and CCE inventory assessment. All these strategies have in one way or the other improvement of health system through enhanced cold chain as one of their objectives which makes CCEOP a good opportunity to achieve their set objectives.

The Rwanda 2017-2021 cMYP vision is to support EPI programme with accessible, available and equitable immunization services to all children and women in reproductive age group. One of its major goals is to reduce morbidity, disability and mortality of children due to vaccine preventable diseases as well as to increase immunization coverage of all antigens by improving access to and utilization of routine immunization services. Objective # 1 of the cMYP is "***to strengthen the logistics and supply chain management capacity of the national EPI to effectively sustain optimal stock levels of vaccines and vaccine commodities at all levels of the health system***". Strategy 1.2 of the plan is to expand vaccines and other related storage capacities at national, district and health facility levels. This strategy includes provision refrigerators (electricity or solar) to hospitals and health centres according to existing replacement plan" (activity no 1.2.3) - Reference Rwanda cMYP 2017 to 2021, pages 30 – 31 attachment #4.

The country also has an active GAVI HSS plan which covers period of 2013 to 2018. The document has improving vaccine storage capacity to accommodate the traditional and new vaccines in order to ensure no stock out at all levels as one of its expected outcome under its strategic objective #1 which is "***To strengthen the supply chain management capacity of the National Immunization Program (NIP) so as to effectively sustain optimal stock levels of EPI/VPD commodities at all levels of the health system"*.** The document (HSS

plan) further identifies capacity for storing traditional, new vaccines and injection safety materials as one of the logistic & supply chain management challenges that contributes to compromising quality of EPI service delivery in the country. ***Reference:*** *See page 4 of Rwanda HSS proposal 2013 – 2018 attachment #15.1*

These objectives and strategies are in line with what CCE OP primarily wants to achieve i.e. ensuring availability of potent vaccines in adequate quantity and good quality through provision of better performing equipment to address storage capacity issues.

As part of strategies to ascertain the strengths and otherwise of the immunization supply chain system in the country, Rwanda conducted first nationwide EVM assessment in 2011 and a follow up one in 2014. After the 2014 assessment, major findings included faulty and obsolete cold chain equipment, inadequacy of spare parts for repairs and maintenance of CCE as well as storage capacity gap at some district hospitals (LD stores). – ***Reference:*** *2014 EVM report pages 21 and 24 attachment #5.*

The assessment made recommendations for replacement of the obsolete equipment, provision of spare parts, repair of faulty equipment and storage capacity expansion in order to strengthen the cold chain system. However, most of the improvement efforts happened at national store and some district hospitals (LD stores) where new cold rooms and icelined refrigerators were installed respectively. Therefore in order to fully satisfy the recommendations of the 2014 EVM assessment which are aim at improving the cold chain system in the country, there is need to extend the cold chain improvement efforts to service level and other district stores. Since CCEOP supports provision of equipment for these levels this opportunity will go a long way in assisting Rwanda to implement the outstanding recommendations of the EVM assessment which are in line with the objectives of CCE OP.

Furthermore, cold chain inventory assessment was conducted in July 2017 and data was collected on refrigerators, freezers, cold boxes and vaccine carriers by trained assessors.

A total of 546 facilities were visited and assessed which comprise 1 national store, 42 district hospitals which serve as lowest distribution level and 503 service delivery health facilities. Among the facilities 71% are public[5] while 29% belong to private[6] faith-based and other non-governmental organizations.

In terms of energy availability for operation of cold chain equipment in the country, 482 sites (88.3%) have electricity supply while the remaining 64 sites (11.7%) operate equipment using Kerosene due to lack of electricity.

Major findings of the assessment reveal that 86.9% of the equipment complies with old standard (PIS) while 11.4% are of new standard (PQS). In terms of age, 28.2% of the equipment are less than 5 years old, 26.5 % obsolete – ten years and above and the rest between 5 and 9 years. Classification of equipment by types shows that 50% of refrigerators

[5] All health facilities owned by government

[6] All facilities owned by non-governmental organizations

are compression while 48% are absorption type. Cold rooms and freezer rooms are used at national level. ***Reference:*** Rwanda cold chain inventory report July 201, Pages 7 and 31 – attachment #8.

From the findings of this assessment, it is clear that the country requires support to bridge the gaps identified in the system such as replacement of obsolete and non standard equipment as well as scale up storage capacity. With CCE OP support these gaps can be optimally reduced which will go a long way in improving the quality and efficiency of the cold chain system.

4. Describe how supply chain stakeholders (including Coordination Forum (ICC/HSCC or equivalent), government, NLWG, NITAG, key donors, partners, CSOs and key implementers) have been involved in the application development including if the quorum at the endorsing meeting was met

Since 1996, EPI programme in Rwanda has a functioning Interagency Coordinating Committee (ICC). This group includes senior officials from the ministry of health and representatives from different local and international partners. The committee plays a technical and advocacy role in support of the program. It also holds regular meetings to review and endorse key activities of the programme with all proceedings approved through formally written minutes.

The program also maintains partnerships with different line ministries, seeking their engagement in their specialized areas such as social mobilization for vaccination campaigns, budgeting etc. At the community level, the program supports a network of community health workers whose assistance is increasingly relied upon, particularly in the areas of community sensitization and reduction of immunization drop-out rates.

Cold chain equipment optimization application for Rwanda was developed by the Vaccine Preventable Diseases Program (VPDP) team in the Rwanda Biomedical Centre (RBC) under the Ministry of Health with consultation, technical support and participation of members of this coordination committee.

To further support the development of the CCEOP application, UNICEF recruited an external consultant who works closely with the country's EPI management team at RBC and other partners to prepare all required documents and reference materials for the application. In the process, WHO and UNICEF EPI focal persons worked closely and jointly to ensure that the application meets the required standards and timeline. At the end of the process the final application was presented to national Inter Agency Coordinating Committee for ratification. The application has been endorsed by the committee on September 6, 2017 as evidence in mandatory attachment # 2.

Does the country have a permanent and functioning National Logistics Working Group (NWLG)? If No, does the country plan to establish one and when?

Gavi and its Alliance partners encourage the establishment of such group that coordinates Government and non-Government partners 'activities and investments related to the health supply chain including immunization.

Were any of Gavi's requirements to ensure basic functionality of Coordination Forums not met? Then please describe the reasons and the approach to address this (refer to section 5.2 of the General Guidelines for the requirements) *(Maximum 1 page)*

Currently there is no national logistic working group in the country. However there is a committee that advise the country on vaccine related issues. Membership of the committee is drawn from maternal, child and community health, section, Single project implementation unit (SPIU), Rwanda Biomedical centre logistic unit and vaccine programme officer. The country is working to establish a National Logistics Working Group to which the team attended the 3rd Regional ISCM Capcity building workshop which took place from 04 to 08 Sep 2017 in Kigali.

Basic functionality of the coordination forums in the development process of the proposal were all met in accordance with Gavi requirements.The proposal development team met regularly to share updates on status of various tasks during the development of the application. Updates were also shared with ICC members, UNICEF Rwanda country office and UNICEF regional office for necessary guidance.

PART C: SITUATION ANALYSIS AND REQUESTED SUPPORT

This section gives an overview of the types of information the IRC will anticipate from countries in their application for CCE Optimisation Platform support. This section must be filled with appropriate reference to the country documents listed in Part B. Countries are required to provide a narrative in response to the following questions.

5. Situation analysis of country's supply chain and CCE (number, distribution, functionalities etc.) *(Maximum 3 pages) Please respond to all questions*

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) How is the country's immunisation supply chain administered?

b) What weaknesses have been identified in the country's supply chain?

c) Through what interventions are these weaknesses currently being addressed?

d) Describe challenges that are hindering the implementation of these interventions.

e) Describe lessons learnt from recent supply chain related support that inform the current request for CCE Optimisation Platform support.

f) What percentages of facilities have reliable access to grid electricity for up to or more than 8 hours per day?

g) Please give the quantity and percent of current CCE that is: a) functional; b) PQS-approved; c) non-PQS-approved; and/or d) obsolete?

h) What percent of the birth cohort is served by effectively functioning, PQS-approved CCE currently?

i) What are the bottlenecks that CCE can address in the current supply chain set-up (for example, capacity and technology constraints)?

j) Describe any other supply chain challenges that CCE Optimisation Platform support will assist in mitigating?

k) What are the overall CCE needs?

How is the country's immunisation supply chain administered?

Rwanda operates on three levels of immunization supply chain namely national, district and service points. At national level, there is Vaccine Preventable unit (VPDP) unit which

handles immunization. It is headed by a director who is supported by officers taking charge of supply chain management activities.

The VPDP director in addition to the coordination of VPDP activities works closely with other development partners through the national Interagency Coordinating Committee (ICC), which supports immunization activities.

There are thirty administrative districts within which there are 42 district hospitals which serve as lowest distribution level of the ISC in the country. In each of the district hospitals, there is an EPI focal person (officially called EPI supervisor) who is in charge of all EPI matters and VPDP at national level through district hospital director. The EPI focal persons are also responsible for overseeing EPI activities at service delivery level.

*What weaknesses have been identified in the country's supply chain**?***

The cold chain assessment conducted in July 2017 indicated that 86.9% of the equipment is PIS, including 48% absorption type (obsolete). In addition to this, 26.5% of the cold chain equipment in the country are ten years old and more. – Attachment #8 page 22. This leads to high frequency of breakdown of equipment due to their age. Insufficient capacity for storage of vaccines at some district stores and health facilities is another weakness.

The current practice of forty two LD stores collecting vaccines from the central vaccine store every month increases workloads at central store in terms processing requests, packing and distribution efficiency while increasing the budget of individual districts. On the other hand, the system operates a rented dry store with capacity of 1,848.42M^3 for storage of syringes and needles for immunization. Other weaknesses of the system include

- Non implementation of SMT at district level
- Irregular transport for vaccine collection
- Inadequate skills for preventive maintenance

Through what interventions are these weaknesses currently being addressed?

Training and retraining of technicians is being conducted every year. 42 biomedical technicians from the district hospitals were trained on refrigerator repair and maintenance which improves the quality and frequency of maintenance activities. Regular preventive maintenance on cold rooms at national level is being done through the use of an external agency supervised by Medical Technologies and Infrastructure (MTI) a division under RBC which is responsible for maintenance of medical equipment and health infrastructure including EPI CCE. Furthermore, the government procured 129 units of refrigerators which were distributed to reduce storage capacity gap. The country also has taken initiative with the support Gavi PBF to construct a new EPI complex which will include standard store building that will accommodate vaccines, syringes and other immunization supplies.

Describe challenges that are hindering the implementation of these interventions

Limited funding source hinders the initiative addressing the replacement of obsolete CCE and expansion requirements. Lack of adequate finances for supportive supervision is another challenge for the system coupled with high cost of spare parts.

Describe lessons learnt from recent supply chain related support that inform the current request for CCE Optimisation Platform support.

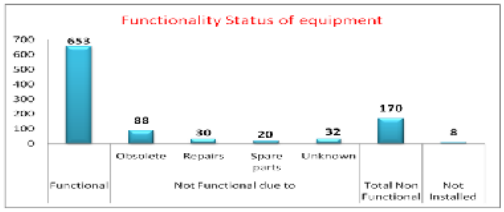
In 2015/2016, government of Rwanda procured 129 various models of refrigerators including SDDs. Distribution and installation of the refrigerators was carried out by MoH and supported by UNICEF Rwanda country office. Technicians from district hospitals participated in the exercise supervised by national officers. The new equipment are discovered to have less maintenance issues. They also operate at lower energy costs due to their less energy consumption. Similarly temperature monitoring data from the newly installed CCE show less incidences of temperature excursions. Furthermore, installation of new CCE in health facilities increased their storage capacity which in turn improved availability of quality vaccines for service delivery including outreach sessions

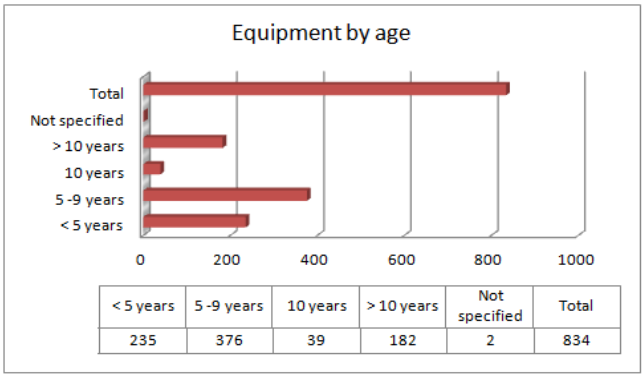
What percentages of facilities have reliable access to grid electricity for up to or more than 8 hours per day?

In Rwanda 482 (88.3%) out of the 546 health facilities that operate CCE for immunization have stable supply of electricity from the national grid system. Electricity is available at national store and the 42 district hospitals as well as 439 out 503 service delivery health facilities. Only 64 (11.7%) service delivery health facilities do not have electricity supply from the national grid. Therefore electricity is widely used energy source for operation of cold chain equipment in the country. ***Reference:*** Rwanda cold chain inventory report July 2017, attachment # 9, Page21

Please give the quantity and percent of current CCE that is: a) functional; b) PQS-approved; c) non-PQS-approved; and/or d) obsolete?

Review of cold chain equipment data in the country shows that out of 834 equipment, 653 (78.3%) is found to be in working status while 170 (20.4%) are not working and 3 uninstalled. In terms of standard, 86.9% (725) of the equipment in Rwanda are PIS compliance, 12.6% (95) are PQS compliance while only 4 are domestic type. Further review of the equipment inventory revealed that 221 (26.5%) equipment in the country are either ten years old or more while 235 (28.2%) of the equipment are less than five years old and 376 (45.1%) are of age between 5 and 9 years.





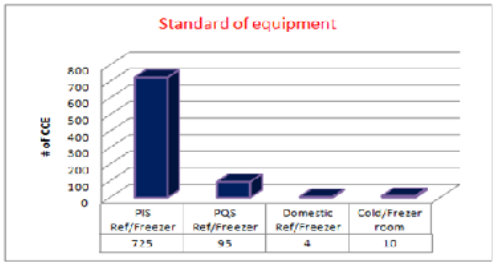


Figure 1: Standard (PQS), functionality and age of equipment

Reference: *cold chain inventory report attachment # 9 pages 20, 22 and 23*

What percent of the birth cohort is served by effectively functioning, PQS-approved CCE currently?

Overall only 12.6% of the CCE are of PQS standard. They are found to be located in 73 health facilities across all levels. At national level all CCE are PQS hence 100% of population at that level is served by PQS compliant CCE.

What are the bottlenecks that CCE can address in the current supply chain set-up (for example, capacity and technology constraints)?

Major bottle necks identified by the cold chain equipment inventory conducted in July 2017 are:

a) 89.6% of existing CCE are PIS compliance (obsolete technology) out which 48% are absorption types.

b) 26.5% of existing CCE are ten years old and more.

c) High electricity bills due to operation of absorption refrigeration with electicity

d) Difficulty in getting spare parts for aborption refrigerators

All forty two district hospitals do not have adequate storage capacity in order to accommodate three months' supply intervals.

Describe any other supply chain challenges that CCE Optimisation Platform support will assist in mitigating?

In addition to mitigating issues of inadeqaute storage capacity, replacement of all obsolete and non-PQS compliance equipment the platform support will enable the country to build user level capacity through the service bundle agreement provided by the platform.

Lower energy consumption of the on grid CCE will also translate to cost savings in energy bills to the programme. Additional spare sparts will also be available since the platform

provides means of procuring spare parts for both old and new sets of equipment. Equipment will also have protection from the voltage regulators to be provided by the platform.

Reduction of distrbution frequency of district (shift from every month to quarterly) will result in cost and time reduction for all districts and the NVS staff. The new TMDs (Fridge Tag 2E) will enhance monitoring of temoeratures and will serve for longer preiod than the exisiting one (Fridge Tag 2) thata will expire in 2018.

What are the overall CCE needs?

The purpose of this application is to get the needed equipment for replacement of absorption refrigerators operating using high energy consumption with better performing equipment types. The equipment will also be used to scale up storage capacity in areas with such gaps. Critical review of the operating procedures, initial cost of purchase, operating cost, storage capacity and total cost of ownership was done in order to select appropriate equipment with optimum output and value for money. Details of the selected CC equipment can be found on page 16 of attachment #10 which deals with cold chain rehabilitation and expansion plan, equipment selection and deployment plan. Summary of needed equipment suitable for the country is given in the tables below.

Table 1: Total CCE need by model and level

Models	SP	DH	National	Total by type
TCW 2000 AC	377	0	0	377
TCW 15 SDD	15	0	0	15
TCW 40 SDD	42	0	0	42
TCW 2043 SDD	7	0	0	7
VLS 300A	11	0	0	11
VLS 350A	3	0	0	3
VLS 400A	0	177	0	177
MF 114	13	22	0	35
MF 214	0	14	0	14
MF 314	0	11	4	15
Total equipment	**468**	**224**	**4**	**696**

Table 2: Total CCE need by model and year

	TCW 2000 AC	VLS 300A	VLS 350A	VLS 400A	MF 114	MF 214	MF 314	TCW 15 SDD	TCW 40 SDD	TCW 2043 SDD	Total by year
2018	236	3	2	111	17	11	10	7	33	7	437
2019	141	8	1	66	18	3	5	8	9	0	259
	377	**11**	**3**	**177**	**35**	**14**	**15**	**15**	**42**	**7**	**696**

In addition to this 201 Fridge tag 2E, 137 voltage regulators and 90 sets of spare parts are required.

6. Expected immunisation coverage, equity and sustainability results *(Maximum 2 pages)*
Please respond to all questions

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) *How will the requested Platform support concretely contribute to addressing identified geographic and socio-economic inequities and gender barriers to sustainable improvements in coverage and equity of immunisation? Examples may include (not exhaustive):*
   - *Geographically remote districts or those with low coverage*
   - *Poorer communities (e.g. in the poorest 10% of the population)*
   - *Communities where gender barriers are significant and/or where low levels of female education is common (as this is often associated with lower coverage)*

b) *What analyses have been made, or what plans are underway, to optimise the design of the supply chain distribution system in order to improve the efficiency of the supply chain and contribute to achieving coverage and equity goals?*

c) *How have these system design considerations impacted the choice of CCE to be supported by the Platform?*

d) *Concretely, how will Platform support help improve the sustainability of the supply chain system?*

How will the requested Platform support concretely contribute to addressing identified geographic and socio-economic inequities and gender barriers to sustainable improvements in coverage and equity of immunisation? Examples may include (not exhaustive):

- *Geographically remote districts or those with low coverage*
- *Poorer communities (e.g. in the poorest 10% of the population)*
- *Communities where gender barriers are significant and/or where low levels of female education is common (as this is often associated with lower coverage)*

In general, vaccination in Rwanda does not face gender issues and other geographic or socio-economic barriers. The DHS 2014-15 shows that MCV coverage in male reached 95.7% against 94.7% in female. Equity analyses show no socioeconomic, geographic, gender or other barriers to access, utilization and delivery of vaccination services. Coverage of DPT3 is 95.7% in the lowest wealth quintile against 98.9% in the highest wealth quintile making a difference of only 3.2% between the lowest and highest wealth quintile. (5% is considered a difference between highest health quintile and lowest health quintile to represent equity). The coverage of DPT3 in the rural and urban population is 98.7% and 98 respectively.

According to the last DHS (2014/2015), the current immunization coverage is the best ever Rwanda has recorded in history. The coverage of fully immunization children increased from 90% in 2010 to 92.6% in 2015. The coverage of DPT3 was maintained higher at 98% and this is the same to all antigens because all of them the coverage exceed 90%. High immunization coverage continues to be a priority and it will continue to move forward as far as elimination and eradication of Vaccine Preventable Diseases are concerned. The objective of VPDP is to increase the immunization coverage of all antigens and in all Districts and maintain the coverage above 95% for all antigens and for all Districts by 2020.

The priority for deployment is to equip health facilities in districts that are geographically far to reach and with scattered populations. These facilities will be equipped with low energy consuming ILR and SDD refrigerators (as applicable) that have adequate storage capacity and freezing compartment to enable them store vaccines and produce ice packs needed for continuous immunization service at static and their distant outreach centres. This will enhance reaching more population, increasing immunization coverage and reducing dropout thereby reducing the equity gap. Twenty five (25) district hospitals have been identified under this group and will be addressed along with 290 service health facilities under them in 2018. The district hospitals are Bushenge, Butaro, Byumba, Gakoma, Gihundwe, Gisenyi,Gitwe, Kabaya, Kabgayi, Kabutare, Kaduha, Kibilizi, Kibogora, Kibungo, Kigeme, Kirehe, Mibilizi, Muhuroro,Munini, Murunda, Nyagatare, Nyanza, Ruhango, Ruhengeri and Shyira. In 2018, 437 equipment of various models and sizes will be deployed to these facilities as detailed in ***facility segmentation attachment #10.1***

What analyses have been made, or what plans are underway, to optimise the design of the supply chain distribution system in order to improve the efficiency of the supply chain and contribute to achieving coverage and equity goals?

In Rwanda distribution system is made up of pull system. District hospitals collect vaccines from national store on monthly basis and health facilities collect from the district stores every month. However, the country has concluded arrangement to redesign the distribution system where vaccines will be push from national store to district hospitals on quarterly basis. To affect this, the country is planning to procure refrigerated trucks for distribution of vaccines. Furthermore the stock level of district hospitals has been reviewed to enable them store vaccines for three months instead of current practice of storing for one month. Under this arrangement distribution of vaccines from national to district stores will be quarterly instead of every month as it is being done currently. This is expected to reduce the travel time and reduce uncertainty of pull system and vaccine availability and distribution schedules for district and national stores respectively. The improved distribution system will enhance timely availability of vaccines in more areas including those with geographic disadvantage.

How have these system design considerations impacted the choice of CCE to be supported by the Platform?

Larger size of CCE is as a result of shift in supply interval form monthly to quarterly distribution from NVS to district level. 177 ILRs have been proposed for district stores to enable them store vaccines for three months

Concretely, how will Platform support help improve the sustainability of the supply chain system?

The platform support will go a long way in enhancing the efficiency and quality of vaccine supply through ensuring uninterrupted supply to all levels of the supply chain including geographically disadvantaged areas. Since equipment provided by the platform are better performing in terms of technology and quality, less maintenance issues are expected to arise, hence sustainability of the system improves. The low maintenance demand of the platform equipment such as SDD refrigerators is strength especially for remote areas where deployment of technicians is difficult. Furthermore training that will be provided to the user level through the service bundle agreement will enhance their skills for carrying out

maintenance tasks coupled with availability of spare parts.

7. Maintenance plan (and its source of funding) and equipment disposal *(Maximum 2 pages)*
Please respond to all questions

Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) How will the country ensure that aspects of maintaining the cold chain are addressed (e.g. preventive and corrective maintenance, monitoring functionality, technicians, financing for maintenance, etc.)?

- *What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)?*
- *What technical support is anticipated for maintenance?*

b) How will the country monitor the completion of preventive and corrective maintenance?

- *Which source(s) of funding will be used for maintenance, and to what extent are they assured?*

c) How will the country dispose of obsolete and irreparable equipment replaced by CCE Optimisation Platform equipment?

How will the country ensure that aspects of maintaining the cold chain are addressed (e.g. preventive and corrective maintenance, monitoring functionality, technicians, financing for maintenance, etc.)?

- *What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)?*
- *What technical support is anticipated for maintenance?*

Periodic preventive maintenance tasks for CCE have been identified and documented in EPI hand book. These tasks are classified to be carried out on daily, weekly monthly and yearly bases. Service providers that operate the CCE have been trained on these tasks and are carrying them out as scheduled. The EPI hand book which is in French is added as attachment 15.3, however the section that deals with the tasks is extracted, translated and attached as no 15.4. The tasks are further incorporated in EVM SOPs manual that is used as guidance document for cold chain management. The SOP manual which is also used for training is being updated periodically. Copy of the SOP hand books for national and districts and service levels are attached as no 15.5 (Refer to SOP pages 71 to 92) and 15.6 (pages 12 to 33). Cold chain technicians at district level conduct monthly visits to service points to carry out repairs and maintenance tasks and to give further on the job training to service providers. Funding for their activities is planned and is being derived from the existing HSS plan and government budget.

How will the country monitor the completion of preventive and corrective maintenance?

- *Which source(s) of funding will be used for maintenance, and to what extent are they assured?*

Supervision of EPI activities is conducted in integrated manner from central level to district hospitals and district to health centres using an integrated supervisory checklist which includes immunization and VPD surveillance component. For special EPI events like new

vaccine introduction or maternal health weeks, EPI staff conducts specific supervisions. During the supervisory visits officers monitor how preventive maintenance activities are carried out by operators of equipment and technicians. Each technician at district level has a motorcycle to facilitate his movement for maintenance activities. Each technician prepares report of his activities every month and share with district administration and VPDP at national level. Government pays all allowances to technicians and supervisors in addition to provision of the needed spare parts for repair and maintenance.

How will the country dispose of obsolete and irreparable equipment replaced by CCE Optimisation Platform equipment?

All obsolete equipment will be handed over to Rwanda Environmental Management Agency (REMA) which is saddled with the responsibility of disposal of all pharmaceutical and other products in line with environmental safety protocols.

8. Other implementation details *(Maximum 1 page) Please respond to all questions*
Countries are encouraged to cross reference (document title, page number) attached mandatory documents.

Information is required to cover the following areas:

a) *How will the country facilitate the manufacturer's or representative's role in equipment purchase, distribution and installation?*
b) *What is the source of the joint investment? Is the country's joint investment secured?*
c) *Has the country secured import tariff exemptions for CCE? If yes, attach proof.*

How will the country facilitate the manufacturer's or representative's role in equipment purchase, distribution and installation?

In order to facilitate quick flow of activities, yearly forecast of CCE requirement by their specifications and quantities have been made and facilities to deploy them have been identified. The plan will be reviewed before deployment of the equipment to the country and a comprehensive operational deployment plan will be shared with procuring agency and the manufacturer to ensure that facilities where CCE will be deployed are ready in terms of quality of physical structures, skilled personnel and general security.

Rwanda procures all its cold chain equipment through UNICEF supply division which relates directly with the manufacturers to ensure compliance with standards. Therefore all equipment to be procured under this platform will be procured through UNICEF.

The Ministry of Health through VPD/EPI programme in collaboration with other EPI partners in the country will ensure distribution of equipment as planned and will facilitate logistics activities for deployment and installation of the equipment with manufacturers or their representatives. In-country technicians will be available to benefit from the service bundle agreement of the CCEOP by fully participating in training and installation.

What is the source of the joint investment? Is the country's joint investment secured?

Deployment of equipment coming from the platform is planned for two years. The country currently has $US 300,000 from its HSS plan that ends in 2018. This amount will be used to fund the 2018 country joint investment. Plan for the balance of the joint investment will be finalized in 2018 to be included in either HSS II plan that will be developed form 2019 or country national budget.

Total budget for CCE OP requirement for Rwanda is the sum of $US 2,410,215. From this amount, $US 1,928,172 is expected to be contributed by Gavi while Rwanda will provide the sum of $US 482,043 as part of 20% country joint investment.

Has the country secured import tariff exemptions for CCE? If yes, attach proof

In Rwanda there is Memorandum of Understanding (MoU) for procurement services signed between UNICEF and Government of Rwanda (Ministry of Health) in October 2004 which covers all goods including cold chain equipment. According to the MoU, "**Government will be responsible for reception at the port of entry, customs clearance and distribution of all supplies"** procured by UNICEF. This provision clearly exempt UNICEF from payment of all taxes on all goods procured including vaccines and cold chain equipment. Previous procurements through UNICEF were all tariff free. This provision is contained in *item 18, on page 7 of the MoU under a section that deals with custom clearance.*

The full MoU is attached as attachment #12.

PART D: INITIAL SUPPORT PHASE

This **initial support phase** (through years 1 and 2) is designed to address urgent CCE needs contributing to improvements in coverage and equity, to protect vaccine stocks, complement investments in other supply chain 'fundamentals' and contribute to full scale-up of optimised, sustainable supply chains.

☆	Budgets are **not inclusive** of operational cost. Operational costs must be financed by Ministry of Health or other partners.

CCE	Further information on CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements is provided in Annex 3 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

9. Prioritised (Urgent) CCE needs *(Maximum 3 pages)*

*Provide information on **2 to 4 prioritised (urgent) CCE needs** as identified in the 'CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements'.*

For each prioritised (urgent) CCE need, please provide the following information:

1. ***The need:*** *Type of activity (e.g. replace obsolete CCE, extend CCE to unequipped facilities, etc.); specific CCE site (facility); type of equipment required; quantity of equipment items.*
2. ***Justification:*** *Reasons for urgent need (e.g. low CCE and/or immunisation (Penta3) coverage area, gender barriers, mobile population, etc.); current CCE and immunisation (Penta3) coverage in the population area.*
3. ***Expected outcome:*** *Anticipated increase in CCE and immunisation coverage (Penta3); anticipated progress against identified inequity (describe, in alignment with country Performance framework).*
4. ***Total CCE budget:*** *includes Gavi and country joint investment share*

Prioritised (Urgent) CCE Need #1	
The need	A total of 437 (47 SDD and 390 ILRs) various models of CCE is required in 2018 to be deployed to district hospitals (and their SPs) that are geographically far to reach from national level as priority one. 25 district

	hospitals and 290 service points will be covered. 201 Fridge tag 2E, 137 voltage regulators and 64 sets of spare parts are needed under this priority.
Justification	This is to ensure availability of better performing equipment that have less maintenance issues in areas that are more difficult to reach when any support is required. With this arrangement, deployment of technicians, spare parts and any other support will be minimized in these areas. It will also equip them with better equipment for immunization service with less demand for maintenance.
Expected outcome	It is expected that new equipment will work more efficiently due to their age and improved technology which will eliminate a lot of risks that compromise vaccine potency. It will also reduce the repair and maintenance issues due to age and technology. Furthermore, on-grid ice lined refrigerators and freezers will be replaced with new version that have less energy consumption which in turn will reduce the burden of energy cost and stress on standby generators. Frequency of travel to the centres for support due to equipment failure issues will also reduce.
Total CCE budget	**Total $US 1,580,864. Gavi 80% budget $US 1,264,691**
Prioritised (Urgent) CCE Need #2	
The need	259 CCE (17 SDD and 242 ILRs) needed to equip 17 near district hospitals and 173 service points. 26 sets of spare parts are also needed.
Justification	These areas are considered as second priority due to their nearness to the national level from where major support emanates. They can easily be accessed for any intervention due to CCE issues hence considered as second priority.
Expected outcome	New equipment is expected to boost storage capacity, replace old and failed equipment and reduce frequency of equipment down time. With more efficient equipment there will be higher probability of uninterrupted supply of vaccines at the facilities.
Total CCE budget	**Total $US 832,760. Gavi 80% budget $US 666,208**
Prioritised (Urgent) CCE Need #3	
The need	
Justification	
Expected outcome	
Total CCE budget	
Prioritised (Urgent) CCE Need #4	
The need	
Justification	
Expected outcome	
Total CCE budget	
GRAND TOTAL CCE BUDGET: Initial support	**$US 2,410,215; Gavi 80% budget $1,928,172**

(Years 1 and 2)	

10. Summary of INITIAL SUPPORT PHASE replacement/rehabilitation, expansion and extension plan

All countries must fill this section to highlight the number of equipment and corresponding number of sites these equipment will serve to meet their replacement/rehabilitation, expansion and extension targets. See Section 6.2 of the CCE optimisation Platform Guidelines for the definitions of replacement/rehabilitation, expansion and extension. The values entered below must align with those in Section 9 above and in other parts of the application form.

Replacement/Rehabilitation				**Expansion**		**Extension**	
Existing sites with (non)functional and/or obsolete non-PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Existing sites with (non)functional and/or obsolete PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Equipping existing sites with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population		Equipping previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and add new service sites	
No of Equipment	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*
4	4	464	459	228	43	0	0
Total	***Total***	***Total***	***Total***	***Total 43***	***Total***	***Total***	***Total***

11. Ongoing or planned activities around other supply chain fundamentals in the initial support phase	
In this section, linkages must be drawn between requested CCE Optimisation Platform support, on-going Gavi investments (especially through the Health Systems Strengthening support) and other partner supply chain support. *Describe planned or ongoing activities related to other supply chain fundamentals (see section 3.1 of the CCE Optimisation Platform Guidelines) during the initial support phase, including their sources of funding. Responses to this section should be linked to the EVM Improvement Plan.*	
Supply chain managers *Describe all planned or ongoing activities related to improving the availability and performance of supply chain managers, their sources of funding, and partner support.*	The program has full time staff working on management of immunization supply chain. The officers take care of areas such as logistics, data, cold chain, equipment maintenance etc. These officers undergo series of capacity building to improve their skills. In 2012, VPDP in collaboration with UNICEF conducted training on Reach Every District (RED) strategy which is recommended to emphasize micro planning at health facility level and VPDP is planning to conduct refresher training. Orientation and refresher training is also planned for EPI focal persons to improve their skills. Another 4,500 health workers are targeted for polio surveillance training. - cMYP page 39 Country logician participate in annual ISC regional workshops organized by UNICE. Refresher training is organized for the technicians every two years with the last one being in 2016. Training was also given to the 42 district technicians on maintenance user manual to improve their efficiency. Checklist for preventive maintenance that spelt out daily, weekly and monthly preventive maintenance tasks have been developed and users trained accordingly as recommended by the EVM
Data for supply chain management *Describe all planned or ongoing activities related to data for management, their sources of funding, and partner support. In particular, provide information explaining how improvements to the functionality of*	At national level, vaccine forecast is done every year jointly by the MOH and UNICEF. Stock management tool is used at national level to record data on availability and status of vaccines and to

logistics management systems will improve the visibility of up-to-date and accurate vaccine stock records at each level of the vaccine supply chain.	monitor on expiry date, VVM and vaccine stock level based on the target population for immunization. The data is compiled and shared every month with partners including UNICEF regional office. There is plan to establish the use of SMT at district level. Computers and printers have been distributed to district for data collection and compilation. At service level, stock cards are used to track the availability and usage of vaccines, the data generated at this level is reported to the districts which in turn transmit it to the national level for further analysis. National cold chain inventory has been conducted and is being used to monitor the distribution and functionality of cold chain equipment at all levels.
Optimised, efficient design of distribution system *Describe all planned or ongoing activities related to distribution system design optimisation, their sources of funding, and partner support.*	Rwanda is considering redesigning the supply chain system to enable district stores keep vaccines for three months instead of the current practice of keeping for only one month. If implemented, this will reduce the frequency of travel and distribution schedules for district and national officers respectively which will save time and money. In other words, the national store will be distributing quarterly as against the present system of monthly distribution while district store officers will be traveling for vaccine collection four times per year instead of every month as is the current practice. Equipment for storage of vaccines are expected to be funded through the CCE OP application support while refrigerated trucks for distribution are to be procured from HSS plan
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.*	The country is working on improvement of the cold chain system through collaboration with local and international partners to identify and replace non standard and obsolete CCE. Between 2015 and 2016 government Rwanda procured 129 refrigerators that are

	installed at health facilities to scale up vaccine storage capacity. SDD refrigerators were also piloted in different regions on order to learn some lessons before full implementation. Refresher training was conducted for 42 district technicians. Furthermore leadership workshop was organized for ISC managers to improve their managerial skills
Temperature monitoring *Describe the temperature monitoring devices that are currently available in the country? E.g. central level (CTMS), sub-national, lowest distribution and service delivery levels (30 DTRs and RTM devices), and during transportation (freeze tags).* *Furthermore, describe which measures are in place to* *a) obtain temperature data from the various devices;* *b) act following temperature alarms (curative maintenance);* *c) in case of RTM devices, please elaborate on SOPs for each responder in the temperature monitoring system; and* *d) countries wishing to purchase such devices are required to demonstrate how the recurrent costs, such as HR, data transmission, analysis etc., will be covered in this section.*	At national level, beyond wireless continuous temperature monitoring device, is installed in 2015 and is functional. It is used o monitor temperature in the cold rooms at national level. The data is accessed by approved officers/responders online at any time. The system also alerts the officers from time to time which serve as direct link with the responders who react to intervene in case of any excursion. Fridge tag 2 has been introduced at district and service levels since 2015 and is the major tool for monitoring of temperature. Training of personnel on the device has been conducted to strengthen their capacity. The personnel read the devices twice daily and record the data in manual sheet which serve as reference for intervention and supervision. Furthermore, health workers have been trained and are being monitored on proper conditioning of ice packs and loading of cold boxes to ensure prevention of vaccine freezing on transit. SOPs which include aspects of temperature monitoring have been developed. The country has conducted temperature monitoring study and mapping on seven of the nine cold rooms and plan is under way to map the remaining two.

PART E: SCALE-UP SUPPORT PHASE

This second phase of Gavi CCE Optimisation Platform support (provided from approximately year 3 onwards) is designed to address additional CCE needs as part of optimizing design and increasing the sustainability of the supply chain.

☆	Budgets are **not inclusive** of operational cost. Operational costs must be financed by Ministry of Health or other partners.

CCE	Further information on CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements is provided in Annex 3 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

12. Prioritised (Additional) CCE needs *(Maximum 3 pages)*	
*Provide information on **2 to 4 prioritised (additional) CCE needs** as identified in the 'CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements'.* *For each prioritised (additional) CCE need, please provide the following information:* *1. **The need:** Type of activity (e.g. replace obsolete CCE, extend CCE to unequipped facilities, etc.); specific CCE site (facility); type of equipment required; quantity of equipment items.* *2. **Justification:** Reasons for urgent need (e.g. low CCE and/or immunisation (Penta3) coverage area, gender barriers, mobile population, etc.); current CCE and immunisation (Penta3) coverage in the population area.* *3. **Expected outcome:** Anticipated increase in CCE and immunisation coverage (Penta3); anticipated progress against identified inequity (describe, in alignment with country Performance framework).* *4. **Total CCE budget:** includes Gavi and country joint investment share*	
Prioritised (Additional) CCE Need #1(2019)	
The need	
Justification	
Expected outcome	
Total CCE budget	
Prioritised (Additional) CCE Need #2 (2020)	
The need	
Justification	
Expected outcome	
Total CCE budget	
GRAND TOTAL CCE BUDGET: "Scale-up support" (Years 3, 4 & 5)	

13. Summary of SCALE-UP SUPPORT PHASE replacement/rehabilitation, expansion and extension plan

All countries must fill this section to highlight the number of equipment and corresponding number of sites these equipment will serve to meet their replacement/rehabilitation, expansion and extension targets. See Section 6.2 of the CCE optimisation Platform Guidelines for the definitions of replacement/rehabilitation, expansion and extension. The values entered below must align with those in Section 9 above and in other parts of the application form.

Replacement/Rehabilitation				Expansion		Extension	
Existing sites with (non)functional and/or obsolete non-PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Existing sites with (non)functional and/or obsolete PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)		Equipping existing sites with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population		Equipping previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and add new service sites	
No of Equipment	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*	*No of Equipment*	*No of sites*

In this section, linkages must be drawn between requested CCE Optimisation Platform support, on-going Gavi investments (especially through the Health Systems Strengthening support) and other partner supply chain support.

Describe planned or ongoing activities related to other supply chain fundamentals (see section 3.1 of the CCE Optimisation Platform Guidelines) during the scale-up support phase, including their sources of funding. Responses to this section should be linked to the EVM Improvement Plan.

Supply chain managers *Describe all planned or ongoing activities related to improving the availability and performance of supply chain managers, their sources of funding, and partner support.*	
Data for supply chain management *Describe all planned or ongoing activities related to data for management, their sources of funding, and partner support. In particular, provide information explaining how improvements to the functionality of logistics management systems will improve the visibility of up-to-date and accurate vaccine stock records at each level of the vaccine supply chain.*	
Optimised, efficient design of distribution system *Describe all planned or ongoing activities related to distribution system design optimisation, their sources of funding, and partner support.*	
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources*	

of funding, and partner support.	
Temperature monitoring *Describe how the temperature monitoring system will evolve? Which devices will be used?* *<u>Furthermore, describe which measures are in place to</u>* *a) obtain temperature data from the various devices;* *b) act following temperature alarms (curative maintenance);* *c) in case of RTM devices, please elaborate on SOPs for each responder in the temperature monitoring system; and* *d) countries wishing to purchase such devices are required to demonstrate how the recurrent costs, such as HR, data transmission, analysis etc., will be covered in this section.*	

PART F: BUDGET TEMPLATES

This section details the number of requested equipment items and equivalent budget. A maximum investment amount (and indicative number of equipment items) corresponding to the phased support request will be considered for recommendation of approval by the IRC and subsequent decision by Gavi.

However, in consultation with the Secretariat and in-country partners, the number of equipment items may be modified when the detailed operational plan is developed subsequent to the Platform proposal and the support may vary within the limit of the approved maximum amount.

Budgets must be completed in the attached budget template, and with reference to the ***CCE Optimisation Platform Guidelines, Gavi CCE Optimisation Platform Technology Guide and CCE planning prices and Total Cost of Ownership (TCO) analysis tool.***

15. CCE Optimisation Platform - Budget Template

*To be filled by **ALL** countries after selection of equipment that best suit their CCE needs (e.g. specific model and make).*
Countries will plan with indicative PQS prices and corresponding service bundle estimates (depending on equipment being on/off-grid and estimated costs of service bundle).

Planning price ranges are provided in this template.

How to fill the attached budget template: Countries should:

- *Select appropriate 'Equipment Model' against the listed equipment types*
- *Fill out the 'Estimated service bundle cost' and 'Number of equipment' requested*
- *(In the last 'Total CCE OP Request' table), fill out second and third preference for each model selected. The second and third preference should be comparable products in the same capacity segment.* **Countries are informed that Gavi, and its Alliance partners principally UNICEF, will try as much as possible to respond to countries' first preference, but manufacturers' lead time could also lead to countries receiving cost estimates for either their second or third preference.**

Completed budget template should be sent as an attachment along with application form.

Budgeting for Buffer and Procurement fees

- *Buffer fees: A 7% buffer on **total equipment cost** is built into country yearly budgets. This will cover currency variations, demurrage and associated costs and will be returned to country, if unused.*
- *Procurement fees: Countries will also need to **pay UNICEF's procurement costs for the country joint investment portion**, estimated to be up to 8.5%. Please obtain actual amounts from the UNICEF country office..*

Standard budget template provided by the platform is used to prepare the budget for the requested support. The link below leads to details of the budget.

#0.2 Rwanda CCE OP application_ Sep.

PART G: PERFORMANCE FRAMEWORK

Countries must include **CCE Optimisation Platform indicators** in the application. The indicators need to be included in the Performance Framework for the current and/or proposed Gavi HSS support, after Platform proposal approval.

According to their specific context, countries are required to consider the most appropriate data sources to report on programme implementation and progress against the targets set. This should be discussed with partners (which may provide technical assistance) and the Gavi Secretariat.

Programmatic reporting updates, as well as targets and indicator updates, will be made as part of the Gavi performance framework and annual Joint Appraisal process. Countries are expected to consider relevant smart indicators to be monitored and reported against, in terms of intermediate results or outcomes/impact.

CCE	Further information on developing relevant indicators, including a list of possible data sources, is provided in Section 7.2 of the CCE Optimisation Platform Guidelines, available at www.gavi.org/support/apply/

16. Indicator monitoring and reporting requirements
*As a **minimum**, countries need to monitor and report on:* • ***5 MANDATORY intermediate results indicators;*** • ***1 MANDATORY intermediate result indicators if countries are procuring User independent freeze protected cold boxes and vaccine carriers; and*** • ***1 to 3 ADDITIONAL intermediate results indicator(s).***
1) ***CCE Replacement/Rehabilitation in existing equipped sites**: Percentage of existing sites with (non)functional and/or obsolete non-PQS and PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)* *2)* ***CCE Expansion in existing sites:** Percentage of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population;* ***3. CCE Extension in unequipped existing and in new sites:** Percentage of previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and new service sites being equipped with Platform eligible equipment.* ***4. CCE maintenance :** Well-defined indicator proposed by country to reflect appropriate maintenance of equipment; for example percentage of*

equipped facilities with functioning cold chain,[7] such as demonstrated by remote temperature monitoring; ***and***

3) ***5. Freeze-free to non-freeze-free carrier ratio:*** *Ratio of freeze-free cold boxes/carriers to non-freeze-free cold boxes/carriers in-country?*

USE THE TABLE BELOW TO COMPLETE MANDATORY INDICATORS

Indicator *(Provide name of the mandatory indicator as shown above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency*** *(annual, semi-annual, quarterly etc.)*	***Baseline (2017)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 1 (2018) 63%*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2(2019) 100%*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 3 (Not applicable)*** *(Provide numerator and denominator for calculating percentage)*
1. ***CCE Replacement/rehabilitation in existing Equipped sites***	*Percentage of existing sites with (non)functional and/or obsolete non-PQS and PQS equipment to be replaced with platform-eligible ILR, SDD or long-term passive devices (including equipping sites with a larger equipment)*	*Inventory Management Tool (IMT)*	*semi-annual,*	***Baseline 0%*** *Numerator =* ***# of sites replacing non functional, obsolete and non PQS CCE = 0*** *Denominator=* ***Total # of sites planned to replace non functional, obsolete and non PQS CCE =463*** *Percentage= 0%*	***Target 63%*** *Numerator =* ***Cumulative # of sites replacing non functional, obsolete and non PQS CCE =290*** *Denominator=* ***Total # of sites planned to replace non functional, obsolete and non PQS CCE =463*** *Percentage= 63%*	***Target 100%*** *Numerator =* ***Cumulative # of sites replacing non functional, obsolete and non PQS CCE =463*** *Denominator=* ***Total # of sites planned to replace non functional, obsolete and non PQS CCE =463*** *Percentage= 100%*	

[7] **Indicator definition**: *% CCE functioning = (# functioning CCE devices) / (total # of CCE devices designated for use)*. CCE devices considered for this indicator include all refrigerators, fixed passive storage devices, walk-in cold rooms and freezers designated for string vaccines. Both the numerator and denominator should be collected from the same geographical area / period in time and should not include decommissioned equipment. Functionality of CCE is broadly defined to mean that the device is operable at a particular point in time for storing vaccine.

2. ***CCE expansion in existing equipped sites:***	*Percentage of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine introduction and/or to serve an increasing population;*	*Inventory Management Tool (IMT)*	*Quarterly*	***Baseline 0%*** *Numerator* ***= # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =0*** *Denominator=* ***Total # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population = 43*** ***Percentage=0%***	***Target 63%*** *Numerator* ***= Cumulative # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population = 26*** *Denominator=* ***Total # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =43*** ***Percentage= 60%***	***Target 100%*** *Numerator* ***= Cumulative # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =43*** *Denominator=* ***Total # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =43*** ***Percentage= 100%***	
3.. CCE extension in unequipped existing and/or new sites:	*Percentage of previously unequipped sites (providing immunisation services or not, including existing sites without active devices) and new service sites being equipped with Platform eligible equipment.*	*Deployment plan*	*Not applicable*	*Not applicable*	*Not applicable*	*Not applicable*	
4. ***CCE maintenance***	***Percentage of CCE maintenance requests timely responded to***	*Maintenance reports*		***Baseline 0*** *Numerator =* ***No of maintenance request***	***Target 75%*** *Numerator =* ***No of maintenance request responded***	***Target 90%*** *Numerator =* ***No of maintenance request***	***Target 100%*** *Numerator =* ***No of maintenance request***

				responded to within two weeks. *Denominator=* ***Total no of maintenance request received*** *Percentage= NA*	***to within two weeks*** *Denominator= Total* ***No of maintenance request received*** *Percentage=*	***responded to within two week*** *Denominator= Total* ***No of maintenance request received*** *Percentage=*	***responded to within two week*** *Denominator= Total* ***No of maintenance request received*** *Percentage=*

ADDITIONAL intermediate results indicator(s): *Countries are required to suggest 1 to 3 intermediate results indicators to track performance of rehabilitation, expansion, maintenance and/or other supply chain fundamentals (include baseline, data source, targets and frequency of reporting).*

Examples *of additional intermediate results indicators options are:*

1. ***Functional status of cold chain equipment****: Ratio of functional CCE and ratio of districts with at least 90% functional equipment;*
2. ***Closed vial wastage****: Rate at a national, district and facility level;*
3. ***Forecasted demand ratio****: Ratio of actual usage compared to forecast (vaccines);*
4. ***Full stock availability:*** *Ratio of facilities/districts without any stock out;*
    a. *Stocked according to plan: Percentage of facilities/stores/districts that have stocks levels between set minimum and maximum stock levels;*
5. ***Temperature alarms:*** *Frequency and magnitude of heat and cold alarms per monitoring period (i.e., temperature excursion) and number of CCE devices with more than a certain level of temperature excursion;*
6. *Rate of health facilities dashboard use, timely analysis and use for decision making;*
7. ***On-time and in-full (OTIF) delivery****: Ratio of order completely delivered on time;* ***or***
8. *Number of health managers trained and despatched for supply chain oversight function and rate of reported monitoring activities.*

USE THE TABLE BELOW TO COMPLETE ADDITIONAL INDICATORS

Indicator *(Provide name of the* ***additional*** *indicators as shown above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency*** *(annual, semi-annual, quarterly etc.)*	***Baseline (2017)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2018*** *(Provide numerator and denominator for calculating percentage)* *80%*	***Target Year 2*** *(Provide numerator and denominator for calculating percentage)* *95%*	***Target Year 3 (If applicable)*** *(Provide numerator and denominator for calculating percentage)*
CCE functionality	% of districts with at least 90% functional CCE	*IMT*	*biannually*	***Baseline 27%*** *Numerator: # of districts with at least 90%*	***Target 90%*** *Numerator = # of districts with at least 90%*	***Target 100%*** *Numerator = # of districts with at least 90%*	

				functional CCE = *Denominator =42* *Percentage = 12/42 =*	*functional CCE* *Denominator = 42* *Percentage=*	*functional CCE* *Denominator = 42* *Percentage =*	
Availability of vaccines for service delivery	*% of district reporting no stock of vaccines*	*R I reporting system*	*biannually*	***Baseline*** *Numerator = # of district reporting no stock out of any vaccine* *Denominator = 42* *Percentage =*	***Target 100%*** *Numerator = # of district reporting no stock out of any vaccine* *Denominator = 42* *Percentage =*	***Target 100%*** *Numerator = # of district reporting no stock out of any vaccine* *Denominator = 42* *Percentage =*	
Forecast demand ratio	*% of district hospitals utilizing at least 95% of their forecasted pentavalent vaccines*	*Monthly report*	*biannually*	*Numerator: # of district hospitals that utilize at least 95% of their forecasted pentavalent vaccines* *Denominator = 42*	*Numerator: # of district hospitals that utilize at least 95% of their forecasted pentavalent vaccines* *Denominator = 42*	*Numerator: # of district hospitals that utilize at least 95% of their forecasted pentavalent vaccines* *Denominator = 42*	