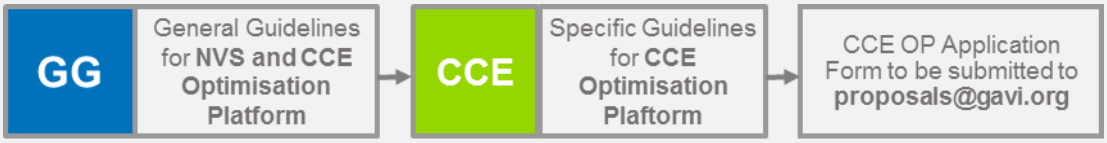
Application Form for
Cold Chain Equipment Optimisation Platform support in May-June 2017 only

Document Dated: April 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.

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PART A: APPLICANT INFORMATION

1. Applicant information		
Country	The Gambia	
Date	5th September 2017	
Contact name	Mr. Dawda Sowe, EPI Programme Manager	
Email address	dmsowe@yahoo.co.uk	
Phone number	(+220) 2423001 (+220) 9722539	
Total funding requested from CCE Optimisation Platform **(US $)**	USD 1,278,281.00	
Does your country have an approved Gavi HSS support on-going?	Yes	(2017- 2021)
	*Indicate the anticipated **final year** of the HSS:* **2021**	
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:* **November 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:* **November 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: Mrs Saffie Lowe Ceesay Signature: Date:	**Minister of Finance (or delegated authority)** Name: Mr Amadou Sanneh 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	October 2017		
2	Minutes of the Coordination Forum meeting (ICC, HSCC or equivalent) endorsing the proposal[1]	Yes	October 2017		
3	National Health Sector Development Plan	Yes	January 2014	2014 – 2020	
4	cMYP	Yes	2017	2017 - 2021	
5	EVM Assessment	Yes	December 2014		
6	EVM Improvement Plan	Yes	2015	2015 - 2017	
7	EVM Annual Workplan **and** Progress Report on EVM Improvement Plan[2]	Yes	January – December 2017	2017	
8	WHO CCEI Tool/UNICEF IMT/PATH CCEM Tool/CHAI tool[3,4]	Yes	September 2017		
9	Inventory Report and Facilities segmentation	Yes	September 2017		
10	Single document: Chapter 1: Cold Chain Rehabilitation and Expansion Plan Chapter 2: Projected Coverage and Equity Improvements Chapter 3: Strategic Deployment Plan Chapter 4: Equipment Selection	Yes	October 2017		

[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**
11	Maintenance Plan with financing and source(s)	Yes	September 2017		
12	Proof of status for CCE tariff exemptions waiver	Yes	October 2017		
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	2016		
14	Minutes of the Coordination Forum meetings from the past 12 months before the proposal	Yes			Minutes of previous 4 ICC meetings
15	Other relevant documents	Yes			HSS application, EPI forecasting tool, Health Policy, HRH

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)*

The Gambia with a population of 1.9 million and approximately 88,900 live births per year (GBOS, 2013 census) has maintained high immunisation coverage (Penta 3 coverage; 88% (DHS, 2013) and 95% (Admin data, 2016). To sustain and consolidate these gains; the National Health Policy (2012 – 2020, pg 20) targets to increase immunization coverage to at least 90% for all antigens at national and regional levels in line with GVAP. In addition, the National Health Strategic Plan (NHSP) (2014 – 2020), with the goal of reducing morbidity and mortality provides the framework and direction for different stakeholders in the sector to respond to the identified challenges in the health sector and key strategies to address them.

The Gambia has developed a new comprehensive multi-year plan 2017-2021 with the goal of reducing morbidity and mortality of infants and children from vaccine preventable diseases. This could be achieved through improved quality and coverage of immunization services with strengthening the cold chain system being one of the key strategies.

The latest EVM Assessment (2014) indicated that while the cold chain capacity at central and regional stores (LDs) were 84% and 92% respectively, the score for the service delivery level was 76%. With the introduction of new antigens into the routine immunization (IPV, MR and anticipated MenAfricVac and HPV) the requirement for cold chain capacity at the service delivery level will increase and the capacity gaps will further increase. Other key challenges identified include training gaps, and inadequate human resources. An improvement plan was developed from the recommendations of the assessment to improve cold chain and vaccine management practices. The EVMA recommendations are currently

being implemented (See EVM IP report Pg 5-6).

The country conducted a comprehensive assessment of its cold chain inventory in 2016 and was updated in 2017 using the WHO Inventory Tool. Based on the analysis of the inventory, and the cold chain gaps identified a single document with a Cold Chain Rehabilitation and Expansion Plan, Projected Coverage and Equity Improvements, Strategic Deployment Plan and Equipment Selection was developed.

The country has a strong maintenance system for cold chain equipment, with cold chain technicians conducting quarterly preventative maintenance of all cold chain equipment in order to keep the aging equipment running and prevent breakdown (Ref: Mandatory document 11, Maintenance Plan). Consequently, 80% of the current CCE are in functioning order as a result of the maintenance system in place (Ref: Inventory report, Figure 7, pg12). Corrective maintenance is normally carried out within 48 hours of a CCE failure reported. Complex repairs are outsourced to private technicians and sometimes to international experts with support from UNICEF.

The DHS 2013 showed variations in immunization coverage between rural and urban areas. The percentage of children fully immunized was significantly higher in rural (83.9%) compared to urban (67.1%) areas. Accordingly, 2 LDs and 13 of the 19 planned extension sites (SP) on the CCEOP will be in the underserved urban areas to enhance increased access to immunization services and reduce inequities. In response to address CCE capacity needs due to population increase and the need to avoid risk of CC failure due to obsolete and aging equipment, 56 sites (SPs and LDs) will have their equipment replaced and/or capacity expanded with the CCEOP.

The country is applying for the CCEOP with a budget of US $1,278,281.00 for the initial support phase only. Twenty percent of total (US $255,656.00) will be the country's joint investment to the Gavi CCEOP which will be financed using the ongoing Gavi HSS grant. The country plans to secure 114 units of CCEs and their spare parts for the 3 years duration which will be deployed to the 7 LDs and 74 SPs during the initial phase of the project. An approved CCEOP proposal would strengthen the cold chain system to provide potent and uninterrupted vaccine supplies to realize optimal immunization coverages.

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

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)*

The process of the CCEOP proposal development started from discussions at the Inter-Agency Coordinating Committee (ICC) for the Expanded Programme on Immunization (EPI) which was conducted in April 2017. The ICC agreed that there was a need for the country to apply and a technical team was assigned to develop a timeline for the development of the application and co-coordinate the proposal development. This technical team was spearheaded by the Expanded Programme on Immunization (EPI) and comprised of other units under the MoH&SW from both central and regional level, civil society organisations and representatives of the National Logistics Working Group and supported by development partners (WHO and UNICEF).

An initial 5 day workshop with all partners was conducted in April 2017 to begin the development of the proposal. A sub team comprising of MoHSW and UNICEF also attended a 2 week joint UNICEF/WHO/Gavi technical workshop in Benin in July 2017 where additional support and guidance was provided to countries for the proposal development. Feedback on the Benin meeting on the updated guidelines and IRC requirements for the proposal were presented to the ICC during the August 2017 meeting.

A national workshop with relevant stakeholders to finalise and validate the proposal was also conducted from the 21st to 25th August 2017. The proposal was shared with WHO, UNICEF and ICC members for review and submitted to Gavi on 7th September 2017 for WHO pre-review. The comments received from partners and the WHO pre-review were incorporated and the final proposal shared with ICC for endorsement during the October 2017 ICC meeting. The table below shows the timeline of the application process.

Table 1: Timeline of the CCEOP application process

Activities Undertaken	Dates	Responsible Party
ICC meeting where CEEOP was discussed	April 2017	ICC Chair
Technical Working Group meetings	April – October 2017	TWG
Initial proposal development workshop	April 2017	TWG

National cold chain inventory exercise	May 2017	Logistician
Development of supporting documents	April–September 2017	TWG
CCEOP peer review workshop	July – August 2017	WHO, UNICEF, Gavi
Benin feedback meeting to ICC	11th August 2017	EPI
Finalisation and validation workshop	21-25th August 2017	TWG
Submission to ICC and partners	29th August 2017	EPI Manager
Proposal submission to Gavi for WHO pre-review	September 2017	EPI Manager
Incorporation of comments received	October 2017	TWG
Proposal endorsement by ICC	October 6, 2017	ICC Chair
Final Submission to Gavi	October 12, 2017	EPI Manager

A National Logistics Working Group (NLWG) was recently established by the Ministry of Health and Social Welfare in 2016 for the Health Sector Emergency Preparedness. The committee is Chaired by the Director of the National Pharmaceutical Services. The NLWG operates at central level and provides support to regional subcommittees on logistics. Representatives are drawn from MOH&SW and UN agencies. There are plans by the Government to expand the role of this NWLG to include all supply chain stakeholders in the country and strengthen the capacity of the NLWG.

Terms of Reference have been developed for the NLWG and they are currently working on developing the Standard Operating Procedures to strengthen the national supply chains. The NWLG will be engaged to provide general oversight of the distribution, installation and commissioning of the new cold chain equipment and support in monitoring the performance of CCE.

A participatory approach was taken in the proposal development process, as the ICC and other relevant stakeholders were fully engaged throughout the application process to ensure that Gavi requirements were fully met.

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

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

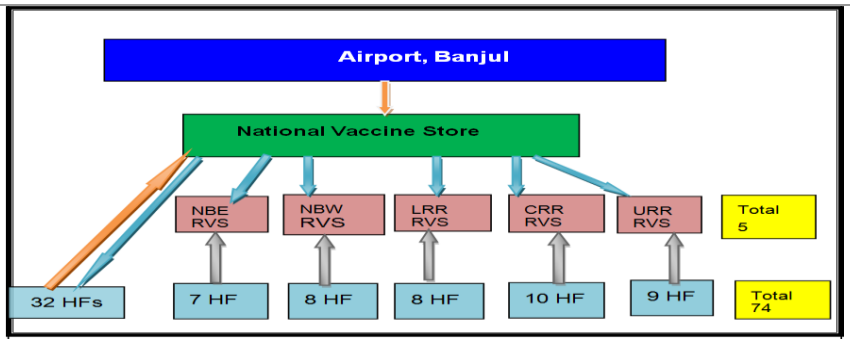
i) Describe any other supply chain challenges that CCE Optimisation Platform support will assist in mitigating?

j) What are the overall CCE needs?

Situation Analysis of Country's Supply Chain

The country's immunisation supply chain is administered from three levels; national, regional and health facility levels. The regions are the lowest distribution (LD) points in The Gambia. The figure below illustrates the country's immunisation supply chain.

Figure 1: National immunisation supply chain



The supply chain consists of the National Vaccine Store that houses a 25m3 walk-in cold room (WICR), 15m3 walk-in freezer room and a dry store for other consumables which is based at the Central Medical Stores complex in Kotu and is about 30 kilometres from the airport.

The country receives supplies through UNICEF Supply Division twice yearly based on an annual forecast and shipment plan. The country mainly uses the 'push system' and delivers supplies to the regional vaccine stores on a quarterly basis using a refrigerated vehicle. A full time National Logistician supported by a senior storekeeper is at the forefront for the management of vaccines and supplies, and are also active members of the National Logistics Working Group.

At the regional level (LD), EPI Regional Operation Officers (ROOs) who are members of the Regional Health Directorates (RHDs) manage the regional supply chain hub, monitor cold chain equipment, temperature monitoring, vaccine distribution, supply chain data collation and analysis and regularly liaise with the central level. Supplies from central level are received at the regions on quarterly basis.

Two of the seven health regions (WHR1 and WHR2) do not have regional cold stores and rely on the 'pull-system'. Health facilities under these two regions collect vaccines and supplies directly from the national store. The remaining health facilities collect vaccines and supplies from their regional vaccine stores on a monthly basis. Vaccines are transported to outreach sites using vaccine carriers and cold boxes.

The last Effective Vaccine Management Assessment (EVMA) for The Gambia was conducted in November 2014 with the country receiving an overall score of 68% (Ref: EVM report, mandatory document 5). One of the major weaknesses identified was the lack of cold stores in two of the seven health regions (WHR1 and WHR2). These regions are the most densely populated and yet have no regional vaccine store in place. Storage capacity gaps were also highlighted at facility levels especially in major health facilities within WHR1 and WHR2 which are unable to accommodate their monthly vaccine needs. These health facilities are therefore obliged to make weekly requisition as opposed to the country's standard monthly supply practice (Ref: EVM report, pg 27). Other weaknesses included the absence of SOPs for vaccine management and other vaccine procedures. In addition to this, the national walk -in cold room (WICR) and walk-in

freezer room are aging (15 years old) and need urgent replacement.

Following the 2014 EVMA, an improvement plan was developed with recommendations to address weaknesses highlighted in the assessment. Most of the recommendations have been addressed or ongoing (Ref: EVM Improvement Plan progress report). There are also plans to increase capacity of the existing national cold room with a 30m3 cold room and construct and equip the regional stores(LD) with no cold chain storage capacity (WHR1 and WHR2) through the approved Gavi HSS grant (2017 - 2021) . It is envisaged that part of the amount allocated in the HSS for cold chain equipment will be used for the country's joint investment contribution for the CCEOP.

At service point, the majority of health facilities are equipped with RCW 50 solar refrigerators that have passed their 10 year life span and are now obsolete (Ref: Inventory report, pg 10). There are also 19 SPs offering immunisation services that do not have cold chain storage capacity (Ref: Single Document, table 5, pg 9). These are currently outreach sites that depend on supplies from other health facilities to provide immunization services. These sites will now be equipped with CCEs by extension from the CCEOP support.

High attrition continuous to impact on effective cold chain management practices as staff trained on EVM are frequently redeployed to other units under the MoHSW or the private sector. More than 50% of public health officers that have qualified in the past ten years are no longer in the service (Ref: HRH Profile Pg23). Furthermore, new public health graduates are not sufficiently trained on EVM before being deployed to health facilities. Other supply chain challenges highlighted in the cMYP 2017-2021(Ref: Mandatory document 4, cMYP pg 30) include irregular training of middle level managers and weak supportive supervision.

An EVM training of all EPI central and regional staff and some health facility staff offering immunization services was conducted in April 2015 as part of the recommendations of the EVMA. This has contributed to the capacity building of health facility and regional level staff on vaccine management practices to improve stock management practices, reduce wastage, stockouts and improving temperature monitoring for the availability of potent vaccines for delivery. The EPI programme also conducts an annual orientation for the new public health graduates on EPI service delivery including EVM practices. However this is not comprehensive and there is need for intensive periodic trainings on EVM. The GAVI HSS grant plans to address knowledge gaps of immunization service providers through trainings of public health officers providing immunisations and mid-level managers and provide incentives to staff providing immunization services. Trainings on the use of cold chain inventory tool in order to identify the CCE needs of the country and make sound management decisions are also planned.

Finally, the country has a strong maintenance system for cold chain equipment, with cold chain technicians conducting quarterly preventative maintenance of all cold chain equipment in order to keep the aging equipment running and prevent breakdown (Ref: Mandatory document 11, Maintenance Plan). This is evident by the fact that 80% of the country's CCE are functioning well (Ref: Inventory report, Figure 7, pg12). However, there still remain major capacity gaps in under taking corrective maintenance. There is also inadequate funding from government for

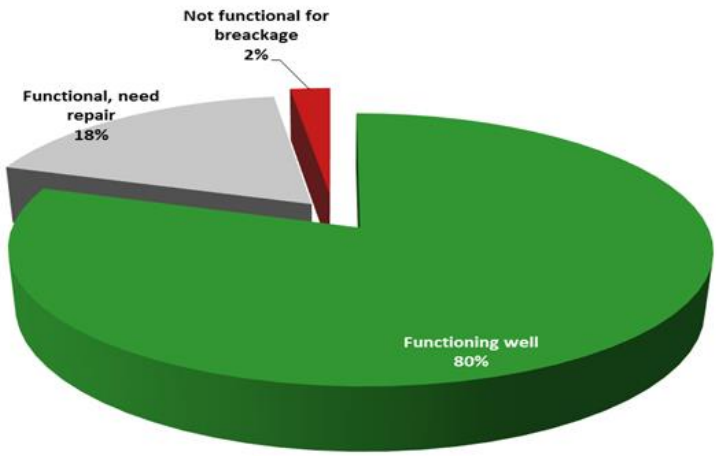
immunization services (National Budget 2017), with government currently having no budget line for the procurement of CCE, with all cold chain equipment procured by partners. Additional replacement, extension and expansion is planned through the CCEOP platform.

Cold chain equipment status

There is limited availability of electricity in all regions of the country, with only 3% of the 74 service points having access to electricity for more than 8hrs per day. This has resulted in the country relying heavily on solar powered CCE. 82% of the country's CCE are solar powered (Ref Mandatory document 9, Inventory Report, pg 9). However, at national level and in few health facilities, electricity is used to run the cold chain system. Overall, CCE using electricity accounts for 18% in the country. However this is quite expensive to run due to extremely high fuel and maintenance costs of generators that the EPI has to endure.

80% (70) of the 88 CCE in the country are functional. A routine quarterly preventative maintenance policy has been key in maintaining the functional status of the equipment. However, CCE working status is directly related to their age as older equipment are more likely to be non-functional. As a result, most of the non-functional equipment were found to be those older than 10 years. From the CCE equipment inventory, a total of 18% (16) of CCE were functional but needed repair, whilst only 2% (2) were found to be non-functional as illustrated in Figure 2 below (Ref: Mandatory document 9, Inventory Report, pg 12).

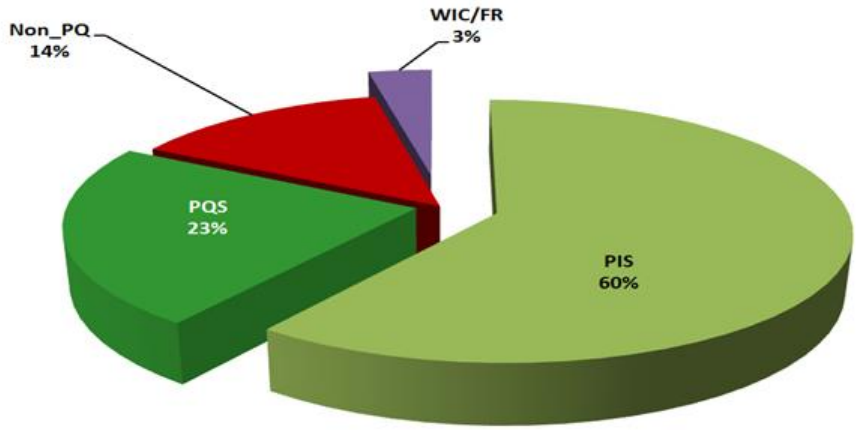
Figure 2: Distribution of CCE per functional status



The country adheres to strict guidelines for cold chain equipment, with all procured through UNICEF. Figure 3 below shows that 83% (23% PQS and 60% PIS) meet WHO pre-qualified standards for vaccine storage. However only 23% (20) meet the CCEOP PQS eligibility criteria. The remaining 14% (14) of non PQ CCE are located in private and NGO facilities. In total, 65 (74%) of all CCE in the country are obsolete.

Out of the 20 CCE available country wide that are PQS, only 4 are located at SPs (Bansang, Kuntaur, Kaur, Basse). These SPs serve about 9% of the total birth cohort in the country, highlighted a clear inequity of CCE distribution.

Figure 3: Distribution of CCE per PQ norms



Based on the status of cold chain equipment currently in country, solar energy is preferred to electricity due to inadequate hours of electricity supply (<8hrs) from the national grid. TCW 2000 SDD have become the preferred a choice because of its bigger capacity, reliability, ability to generate ice packs for base and outreach sessions. However as the TCW 2000 SDD is not CCEOP eligible, the country would prefer CCE from the same manufacturer B Medical (Dometic) as cold chain technicians are experienced in installation and preventative maintenance of the current TCW2000SDD. In addition, health facility staffs are also experienced in conducting basic maintenance of the equipment such as defrosting which further increasing performance. The TCW 2043 SDD and TCW 3043 SDD are therefore the preferred refrigerators.

Since the country currently has equipment that is not of PQS standard, the CCEOP will provide Grade A PQS equipment that would prevent freezing. The equipment is also bundled with 30DTR for continuous temperature monitoring.

Overall CCE needs

The equipping of regional stores in 2 regions that currently do not have cold chain storage capacity will improve vaccine supply and consequently an optimal increase in immunisation coverage. The regions will be in charge of distribution to their facilities and will be able to monitor the service points. This will reduce the current burden on the national store and minimise the frequency of supply distribution and travel distance for vaccines and supplies from central level.

There are currently 19 service points without CCE and 22 with inadequate storage capacity (Ref Mandatory document 10, Single document, pg9). Equipping the 19 SPs with adequate CCE storage would increase the geographic reach of immunisation service points in the country. Expanding the cold chain capacities of the 22 SPs will enhance increased storage capacity at SP level and ensure vaccines are available at all times.

The extension and expansion will increase storage capacity at SP level, minimise artificial stock out and bridge the inequity gap thereby increasing access and ultimately improving immunisation coverage. It will also reduce the frequency of supply requisitions, which would reduce transportation costs for facilities furthest from the collection, and missed opportunities.

With the continuous introduction of new and underused vaccines in the country's immunisation schedule (Men A in 2018 and HPV in 2019), increasing cold chain storage capacity is needed at all levels.

The remaining 33 SPs that have adequate storage capacity are equipped with obsolete and aging CCE aging which are in need of replacement.

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?*

The DHS 2013 highlighted variations in the immunization coverage between rural and urban areas. The percentage of children who were fully immunized was significantly higher in rural (83.9%) compared to urban (67.1%). See Table 13 below. Although the reasons for these variances were not detailed, the variations in the fully immunized coverage and the drop out rates between urban and rural areas highlights the equity challenges that the immunization programme is faced with.

Table 2: Immunisation coverages from DHS, 2013

Background characteristic	BCG	DPT-HIB1/PENTA 1	DPT-HIB2/PENTA 2	DPT-HIB3/PENTA 3	Polio 0	Polio 1	Polio 2	Polio 3	Measles	All basic vaccina-tions	No vaccinations
Sex											
Male	99.4	98.2	95.5	89.1	98.0	98.7	96.3	91.8	87.6	78.0	0.5
Female	98.3	97.9	95.0	86.2	96.4	96.7	94.8	88.1	88.1	73.9	1.5
Residence											
Urban	98.1	97.5	93.4	84.0	96.4	96.2	94.2	87.1	82.0	67.1	1.7
Rural	99.5	98.5	96.9	90.9	98.0	99.1	96.8	92.5	92.9	83.9	0.4
Region											
Banjul	93.7	92.7	91.1	76.1	91.7	91.3	87.6	76.2	81.8	58.8	5.5
Kanifing	95.1	94.7	89.3	82.7	91.9	91.9	88.9	83.4	84.3	70.9	4.9
Brikama	99.5	98.8	95.8	85.7	98.3	98.6	96.6	90.5	82.9	69.5	0.2
Mansakonko	99.2	98.0	97.4	94.5	98.8	98.0	96.8	92.2	92.4	85.5	0.8
Kerewan	99.4	98.5	96.0	88.3	97.5	98.0	95.6	89.2	93.3	78.9	0.6
Kuntaur	99.0	98.7	96.2	89.3	96.6	99.3	98.0	90.2	94.5	81.0	0.3
Janjanbureh	100.0	97.5	93.0	84.1	99.0	99.7	95.3	87.3	86.8	71.8	0.0
Basse	100.0	99.6	99.6	96.5	98.8	99.6	99.1	97.4	95.1	92.2	0.0
Education											
No education	99.0	98.5	95.7	89.6	98.1	97.8	95.9	90.5	89.1	78.3	0.7
Primary	99.0	96.2	91.7	85.6	96.0	97.0	92.3	89.5	92.5	81.8	0.9
Secondary or higher	98.4	98.1	96.3	84.9	96.3	98.0	96.7	89.1	82.9	68.2	1.6
Total	98.9	98.1	95.3	87.7	97.3	97.8	95.6	90.0	87.8	76.0	1.0

There has been rapid population increase in many parts of the country, particularly urban areas. Despite this population increase, the number of health service delivery points remain unchanged leading to health facilities becoming increasingly overcrowded. The health facility density is higher in urban areas than in rural areas. As the health worker per population density and other service inputs has not correspondingly increased, the availability, access and quality of reproductive health services is inadvertently affected.

The 3 areas with the lowest immunisations coverages (Banjul, Kanifing and Brikama) fall within Western 1 (Banjul and Kanifing) and Western 2 (Brikama). From the table below, it is evident that these 2 regions have the highest number of live births 32,496 and 13,820 respectively. This accounts for 60% of the country's live births. Yet, there are only 33 service points in these 2 regions, of which only 20 have cold chain equipment. Furthermore, in WHR2 there are 13802 live births with only 10 SPs, whereas in LRR with a population of 3301 live births has 8 SPs. This indicates that LRR and WHR2 has live births per SP ratio 413/SP to 1382/SP respectively. This is illustrated in Figure 2.

The current immunization service delivery in the urban areas is mostly administered in

crowded fixed sessions at health facilities (SP). This results to mothers and caregivers spending long waiting hours in clinics. Economically engaged and working class mothers find it difficult to bear the long waiting hours thereby affecting their utilization of immunization services which has a direct bearing on immunization coverages.

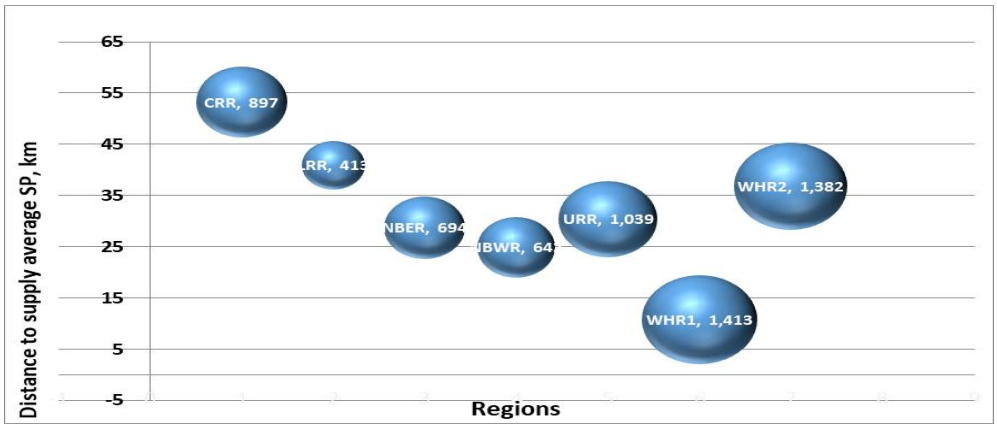
Based on this, there is need to extend service points across the country with cold chain equipment. Increasing access through the number of equipped service points, will reduce the inequities highlighted above and optimally increase immunization coverages in these regions.

In a bid to address this, the country has plans to construct and refurbish outreach sites through the Gavi HSS 2017 – 2021. This will extend service points, which can be equipped through the CCEOP platform. Furthermore, the existence of some public and community owned health facilities which can be equipped with CCE, thus improving access and utilization to immunization services.

Table 3: Segmentation of SPs and their CCE needs

Regions	Live births	Total number of service points	Segmentation of service points (Health centers)				
			SPs with CCE	SPs with functional CCE	SPs with non functional CCE	SPs without CCE	vaccine volume < 7
B	D	E	AB	AC	AD	AE	AF
CRR	8,974	10	9	9	-	1	5
LRR	3,301	8	6	6	-	2	6
NBER	4,855	7	7	1	6	-	3
NBWR	4,495	7	6	1	5	1	4
URR	9,355	9	7	7	-	2	1
WHR1	32,496	23	12	12	1	11	9
WHR2	13,820	10	8	8	-	2	5

Figure 4: Number of live births per service points



The table below shows the baseline and targeted DTP 3 coverages based on the cMYP (2017 – 2021) which the CCEOP will contribute towards. Western Health Region 1 and Western Health Region 2 account for nearly 60% of the country's population. It is envisaged that equipping these regions with cold chain equipment will increase access and coverages which will contribute significantly to overall coverages in the country.

Table 4: Targeted DTP 3 coverages from cMYP (2017 – 2021)

	Past and Future DTP3 Coverage						
		Baseline	Future Years				
	DTP3 Or DTP3-Containing Immunization	2015	2017	2018	2019	2020	2021
		%	%	%	%	%	%
	DTP3 Or DTP3 Containing Vaccine Coverage	97.0%	97.0%	97.0%	98.0%	98.0%	98.0%

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?

The Ministry of Health and Social Welfare is committed to ensure that all aspects of the cold chain are fully addressed including equipment maintenance. The EPI programme has two full-time technicians on government payroll responsible for monitoring cold chain equipment, undertaking preventive and corrective maintenance and providing hands-on training to staff in the field. Despite this, there are still challenges that need to be addressed such as securing government funding allocation for routine CCE maintenance, sustaining a maintenance structure and meeting the human resource requirements. With only two technicians for the entire country, coupled with limited staff expertise in the face of emerging new CCE technologies, effective maintenance remains a challenge. Subsequently, the country relies on support from UNICEF for the recruitment of technical expertise for maintenance and the procurement of spare parts when needed. Recruitment of additional cold chain technicians is ongoing to facilitate a quick response to cold chain maintenance demands.

The country has fully committed to two types maintenance schedules, namely:

Preventive maintenance: Planned cold chain preventive maintenance is conducted quarterly with support from UNICEF. EPI national level cold chain technicians undertake

quarterly preventive maintenance visits to all the regional vaccine stores, public health facilities and the central level. During these visits, CCE equipment are assessed, problems identified and documented and maintenance undertaken. These include topping of batteries with distilled water, cleaning battery poles, inspection of solar panels and tying-up loose and/or replacing wire connections. In addition, the team provides on the job training to service providers in-charge of cold chain systems on temperature monitoring, defrosting amongst others. Health facility and regional level staff are responsible for conducting routine tasks such as defrosting and cleaning of the solar panels. A signed register is maintained for each facility detailing actions carried out by the technicians.

Corrective maintenance: This type of maintenance is normally carried out after a cold chain failure has been reported. Upon receiving reports, technicians are able to respond within 48 hours or less depending on availability of funds, distance and nature of the problem. The frequently reported problems are compressor failure, faulty charge regulators, damaged batteries and in some cases total breakdown of a particular cold chain equipment. However, they are not always capable of conducting complex repairs and in those instances when major damages occur, maintenance services and installations are outsourced to private technicians and sometimes to international experts.The Effective Vaccine Management Assessment report 2014 revealed a lack of SOPs to guide cold chain maintenance. Urgent technical support will be needed to help in the development of SOPs to be implemented across all levels of the cold chain. Specialised training for technicians will be needed especially in installation and maintenance of new generation cold chain technologies.

The National M&E plan 2015-2020 of the Ministry of Health and Social Welfare has established a nationally harmonized mechanism for performance monitoring and impact evaluation. However, there is no specific indicator to track both preventive and corrective cold chain maintenance activities in the M& E plan. The Gavi HSS grant which the country has started implementing has an integrated monitoring plan which will be extended to monitor the completion of preventive and corrective maintenance carried out by the technicians. In addition, a comprehensive checklist with verifiable indicators that is aligned with the National M& E Plan will be developed to monitor the completion of preventive and corrective maintenance.

A detailed checklist will be developed for use by technicians during quarterly maintenance visits. Reports from these visits will be filed and transferred into an electronic database for easy monitoring. Regional and central level officers will be expected to verify and validate the work done by the technicians through their log books during supervisory visits.

The approved Gavi HSS grant, 2017-2021 has provisions to support cold chain expansion and maintenance. This grant will also be utilised to support an integrated monitoring system in line with the National M& E Plan 2015-2020 of the Ministry of Health and Social Welfare. In addition UNICEF has been a reliable traditional partner in supporting cold chain equipment monitoring and maintenance. It is expected that such funding support will continue for the foreseeable future. The EPI programme will undertake vigorous advocacy for increased government budgetary allocation to sustain immunisation service delivery including cold chain monitoring and maintenance.

Currently, the Ministry of Health and Social Welfare does not have any proper disposal plan for obsolete and irreparable cold chain equipment. The current practice is that obsolete equipment are transported from health facilities to the regions for onward transmission to the central level. The National Environmental Agency has been engaged for advice and technical guidance on proper disposal of these equipment.

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.*

Traditionally, UNICEF is responsible for the procurement of WHO pre-qualified cold chain equipment on behalf of the National EPI programme. Requirements for cold chain equipment and logistics are detailed in the annual EPI forecast plan which is shared with UNICEF. Government submits a supply request to UNICEF for cost estimates. Once approval is given, equipment are procured and delivered. Prior to arrival at the sea port, the Ministry of Health and Social Welfare is notified to make necessary arrangements for clearance and transportation. Distribution to the peripheral level is undertaken based on a predetermined distribution and installation plan.

UNICEF CO will take the lead in facilitating the equipment purchase. Once the proposal is approved, a detailed operational deployment plan will be developed detailing the distribution and installation of the equipment. This will be done in consultation with the National Logistics Working Group.

The country secured a five year (2017-2021) Gavi HSS grant. Part of the grant meant for the procurement of cold chain equipment will be used to meet the 20% CCEOP co-financing obligation. It is a government policy to exempt tax on all government procured and donated items. Tariff exemptions are applied on all MoHSW goods including all immunisation supplies. The import tariff exemption for the equipment procured under the CCE will fall under this policy and a waiver has been secured.

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	Expansion and Extension of cold chain equipment at lowest distribution and service points with 64 refrigerators and 12 freezers
Justification	Equipping stores in 2 regions that currently do not have cold chain storage capacity will improve vaccine management. This will reduce the current burden on the national store and minimise the frequency of supply distribution and travel distance for vaccines and supplies from central level. Equipping the 19 SPs with adequate CCE storage would increase the geographic reach of immunisation service points in the country. Expanding the cold chain capacities of the 22 SPs will enhance

	increased storage capacity at SP level and ensure vaccines are available at all times (Ref: Mandatory document 9, Single document Chapter 2 pg US9).
Expected outcome	Increasing storage capacity at SP and LD levels will minimise artificial stock out and bridge the inequity gap thereby increasing access and ultimately improve immunisation coverage. Additionally, extending CCE equipment in the country will ensure safe and adequate storage of vaccines in the country.
Total CCE budget	**USD 826,566.00**
Prioritised (Urgent) CCE Need #2	
The need	Replacement of 38 obsolete and/or aging refrigerators at lowest distribution and service points
Justification	Of the 38 CCEs at SP and LD levels, 29 are obsolete and 9 are aging and both must be replaced to ensure continuity and expansion of services.
Expected outcome	Adequate capacity and reliable cold chain across the country
Total CCE budget	**USD 451,715.00**
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 (Years 1 and 2)	**USD 1,278,281.00**

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*
29	29	9	5	27	25	49	21
29	***29***	***9***	***5***	***27***	***25***	***49***	***21***

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.	There is a national logistician supported by a store keeper. The Logistician is responsible for the overall coordination of the supply chain management including forecasting, shipment planning and in country distribution. At regional level, the EPI Operation Officer coordinates all supply chain management issues whilst at SPs, Public Health Officers are responsible for all supply chain management issues. Ongoing activities include training and retraining of health workers on EPI service delivery. These training sessions touch on all aspects of the EPI programme, including supply chain management. With support from UNICEF and other partners, a special training targeting supply managers for improved supply management (EVM Improvement Plan 2014) was conducted both at national and regional level. Furthermore there is a budget line in the ongoing HSS grant to provide training and re-training on effective vaccine management and EPI service delivery In general, 200 health worker will be trained annually.
Data for supply chain management Describe all planned or ongoing activities related to data for management, their sources of funding,	The electronic Stock Management Tool (SMT) has been Institutionalized at central and regional levels. The use of

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.	the SMT will help in monitoring vaccine and supply stock-outs, expiration among others. In this regard, 21 regional and 5 central level staff were trained on the use of the SMT with support from UNICEF. There are plans to conduct regular retraining on stock management. Currently, Vaccine Visibility System (VVS) is being piloted to support vaccine stock management. Furthermore, electronic immunisation registry using the DHIS2 and SHIFO platforms are being piloted in 4 health facilities. The results will guide possible national rollout. These 3 pilots are supported by Pfizer, SHIFO foundation and BLN respectively. The use of vaccine ledgers at SPs to monitor stock management is ongoing with support from partners (WHO, UNICEF & Gavi).
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.	The country receives supplies through UNICEF Supply Division twice yearly based on an annual forecast and shipment plan. The country mainly uses the 'push system' and delivers supplies to the regional vaccine stores on a quarterly basis using a refrigerated vehicle. At the regional level (LD), supplies are distributed to SP on monthly basis or on demand. However, two of the seven health regions (WHR1 and WHR2) do not have regional cold stores and rely on the 'pull-system'. Health facilities under these two regions collect vaccines and supplies directly from the national store. Vaccines are transported to outreach sites using vaccine carriers and cold boxes. All these activities are supported by the government.

	It is planned through the CCEOP to equip WHR1 and WHR2 with vaccine stores. However there are currently no plans to change the distribution system design.
Continuous improvement process Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.	The national EPI programme is committed to continuously improve on the quality of immunization services. This is manifested in its annual work plans that have costed approved activities. For instance, UNICEF is supporting quarterly supervision activities that allow national programme staff at the central level to visits regions and health facilities. During such visits, issues related to immunisation service delivery are discussed and solutions proposed to improve service delivery. These visits also provide opportunity for hands-on training for staff in the field. Similarly UNICEF, through the same annual work plan is supporting quarterly visits of the EPI technicians that undertake preventive maintenance, installation of new equipment and replacement of old ones. UNICEF and the MoHSW are also supporting the training and retraining of field staff; such as: annual training of health workers in the modules of the EVM and on how to use the 30DTR fridge tags to name a few. There are further plans to strengthen immunisation delivery countrywide through the Gavi HSS. These include staff training, supportive supervision and other logistics support to strengthen quality immunization service delivery.

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.	30 DTRs devices are used for temperature monitoring of cold chain equipment at all levels. There is a multilog device for continuous temperature monitoring at the regional cold room and there are ongoing plans to equip the national cold room with a continuous monitoring device. During vaccine transportation, freeze tags are used to monitor temperature and staff are trained in the use of 'shake tests'. The temperature monitoring charts have been updated to allow for the recording of alarm episodes from the 30DTRs. The duration of exposure of vaccines to either high or low temperature is taken into account before any further action is taken. Whereas the duration of the low temperature alarm exceeds one hour, a shake test is conducted on freeze sensitive vaccines. On the other hand if the duration of high temperature alarm exceeds ten hours, reference is made to the VVM. Maximum and minimum monthly temperature data are fed into to the SMT for analysis by the EPI team and shared with UNICEF

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 optimising 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	
The need	
Justification	
Expected outcome	
Total CCE budget	
Prioritised (Additional) CCE Need #2	
The need	
Justification	
Expected outcome	
Total CCE budget	
Prioritised (Additional) CCE Need #3	
The need	
Justification	
Expected outcome	
Total CCE budget	

Prioritised (Additional) CCE Need #4	
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*
Total	***Total***	***Total***	***Total***	***Total***	***Total***	***Total***	***Total***

14. Ongoing or planned activities around other supply chain fundamentals <u>in the scale-up support phase</u>	
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..*

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,[5] 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)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2 (2019)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 3 (If 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)*	*WHO Cold chain inventory tool and EPI forecast tool*	*Quarterly*	*Numerator = 0* *Denominator= 34* *Percentage= 0%*	*Numerator = 33* *Denominator= 34* *Percentage= 97%*	*Numerator = 0* *Denominator= 0* *Percentage= 0%*	*Numerator = 0* *Denominator= 0* *Percentage= 0%*
2. ***CCE expansion in existing***	*Percentage of existing sites being equipped with ADDITIONAL pieces of*	*WHO Cold chain inventory tool and EPU*	*Quarterly*	*Numerator = 0* *Denominator= 22*	*Numerator = 22* *Denominator= 22*	*Numerator = 0* *Denominator= 0*	*Numerator = 0* *Denominator= 0*

[5] **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.

equipped sites:	*equipment for new vaccine introduction and/or to serve an increasing population;*	*forecast tool*		*Percentage= 0%*	*Percentage= 100%*	*Percentage= 0%*	*Percentage= 0%*
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.*	*WHO Cold chain inventory tool and EPI forecast tool*	*Quarterly*	*Numerator = 0* *Denominator= 21* *Percentage= 0%*	*Numerator = 21* *Denominator= 21* *Percentage= 100%*	*Numerator = 0* *Denominator= 0* *Percentage= 0%*	*Numerator = 0* *Denominator= 0* *Percentage= 0%*
4. ***CCE maintenance***	*Percentage of planned cold chain maintenance visits conducted*	*Cold chain maintenance reports*	*Quarterly*	*Numerator = 4* *Denominator= 4* *Percentage= 100%*	*Numerator = 4* *Denominator= 4* *Percentage= 100%*	*Numerator = 4* *Denominator= 4* *Percentage= 100%*	*Numerator = 4* *Denominator= 4* *Percentage= 100%*
. ***Freeze-free to non-freeze-free carrier ratio***	*Ratio of freeze-free cold boxes/carriers to non-freeze-free cold boxes/carriers in-country*	*Cold chain inventory*	*Quarterly*	*Freeze free: 0* *Non freeze free: 100*	*Freeze free: 40* *Non freeze free: 60*	*Freeze free: 40* *Non freeze free: 60*	*Freeze free: 60* *Non freeze free: 40*

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 (Year)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 1*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 3 (If applicable)*** *(Provide numerator and denominator for calculating percentage)*
Functional status of cold chain equipment	*90% of cold chain equipment functional*	*Cold chain inventory*	*Quarterly*	*Numerator = 70* *Denominator= 88* *Percentage= 80%*	*Numerator = 111* *Denominator= 117* *Percentage= 95%*	*Numerator = 111* *Denominator= 117* *Percentage=95%*	*Numerator = 109* *Denominator= 117* *Percentage= 93%*