Application Form for
Cold Chain Equipment Optimisation Platform
Support in 2018

Document Dated: January 2019

CONTENTS

PART A: APPLICANT INFORMATION

1. Applicant information		
Country	**Lesotho**	
Date	**January 2018**	
Contact name	Nthatisi Mothisi	
Email address	nthatisimothisi@gmail.com	
Phone number	+266 58864571	
Total funding requested from CCE Optimisation Platform **(US $)**	*Total Budget (Incl. 6% Additional Buffer)*	*810,941.00*
	Total Country Budget (Incl. 6% Additional Buffer)	*405,470.50*
	Total Gavi Budget (Incl. 6% Additional Buffer)	*405,470.50*
	Estimated Country Joint Investment Procurement Fees $US (8.5%)	*34,465.00*
	Total Country Contribution $US for CCE and procurement fees	*439,935.00*
Does your country have an approved Gavi HSS support on going?	**Yes** ☐	**No** √
	No. The last Gavi approved HSS1 ended end 2018 with having left over funds to cover the 50% country co-financing obligation. The country has submitted new PSR/CEF Proposal in Jan 2019.	
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:* ***January 2020***	
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:* ***December 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:* **Note:** As the CCEOP Application is submitted as part of HSS2-CEF proposal on Jan 10, 2019, the signatures of the two Minsters which is in the HSS2 is covers this proposal and hence not need a separate signing. Reference to be made to the submitted HSS2 proposal and the signatures page.	

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** and 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	National Health Sector Development Plan/ Strategy (or similar)	Yes	July 2017	2017 - 2022	
2	cMYP	Yes	Feb. 2018	2018 - 2022	
3	EVM Assessment	Yes	June 2018		
4	EVM Improvement Plan	Yes	July 2018	Continuous	
5	EVM Annual Work plan **and** Progress Report on EVM Improvement Plan[1]	Yes	July 2018	2018-2020	
6	WHO CCEI Tool/UNICEF IMT/PATH CCEM Tool/CHAI tool[2,3]	Yes	June 2018		
7	Inventory Report and Facilities segmentation	Yes	June 2018		
8	Comprehensive document on CCE needs: Chapter 1: Cold Chain Rehabilitation and Expansion Plan Chapter 2: Projected Coverage and Equity Improvements Chapter 3: Operational Deployment Plan, including deviation plan Chapter 4: Equipment Selection	Yes	June 2018	2019 -2023	
9	Maintenance Plan with financing and source(s)	Yes	July 2018		
10	Proof of status for CCE tariff exemptions waiver				CCE will be procured through UNICEF
11	Other relevant documents				
11.1	HSS plan	Yes/No	Dec 2014	2014 - 2018	
11.2	Lesotho Immunization Equity Assessment Report, July 2018		June 2018		

[1] The EVM IP and annual work plan progress report must have been updated within three (3) months before applying for Platform support.
[2] The CCE Inventory must have been updated within no more than one (1) year of applying for Platform support.
[3] Tool should allow reviewers to understand targeting of equipment to locations relative to contribution towards improving coverage and equity of immunisation.

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 health sector derives its focus from the National Development Strategic Plan (NSDP) 2017 – 2022 but specifically driven by the National Health Policy (2011) and strategies outlined in the National Health Strategic Plan (NHSP) 2017-2022 (draft document awaiting finalization). Aligned with the Sustainable Development Goals, the NHP goal is to achieve Universal Health Coverage, including financial risk protection, access to quality essential health care services, safe, effective, quality and affordable essential medicines and vaccines for all people living in Lesotho by 2030. The overarching objectives being:

- To reduce morbidity, mortality and human suffering among the Basotho
- To reduce inequalities in access to health services
- To strengthen the pillars of the health system

In addition, the country has also developed the National Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAH & N) Strategic Plan 2017- 2027, which has the following vision: To improve the wellbeing of individuals, families and communities by ensuring universal access to quality comprehensive Reproductive, Maternal, Neonatal, Child and Adolescent Health & Nutrition (RMNCAH & N). Specific priorities in the RMNCAH & N strategy include:

- Increasing immunization coverage to at least as high as 95 %
- Reducing under-five mortality to at least as low as 35 per 1,000 live births
- Reducing infant mortality to at least as low as 10 per 1000 live births

The country has a 5-year (2018 – 2022) cMYP developed taking into consideration strategies indicated in NHP, the RMNCAH & N strategic plan, and it is well aligned with the Global Vaccine Action Plan (GVAP 2014-2020) and the Africa Regional Immunization Strategic Plan for immunization (RISP) goals and targets (See attachment #2 page 9).

The EPI program conducted EVM assessment in 2011, 2014 with the most recent assessment in June 2018 (See attachment #3). The assessment was followed by a development of an improvement plan (See attachment #4) that suggests activities to facilitate achievement of the overall objective of reducing inequalities in access to health services and increase immunization coverage to 95% in line with the cMYP and NHSP. Other strategies adopted by the country to facilitate achieving NHSP goals are the second GAVI HSS grant and cold chain inventory assessment.

The country is applying for the second HSS grant with a five-year span from 2019 to 2023. The program support rational (PSR) has four objectives. Objective one is “To improve the ISCM Infrastructure capacity and systems to meet EPI program requirements to ensure the availability of quality EPI supplies while addressing efficiency in storage and distribution by 2024” and objective three is “To enhance equitable access to and uptake of quality EPI and other priority MNCH services by target populations, including hard-to-reach populations by 2024”(Extracted from the PSR document under development). The country conducted cold chain inventory assessment in June 2018 during which 216 sites were assessed. The sites comprise the national store, 10 district stores (lowest distribution level) and 205 service delivery health facilities. The assessment identified issues such as inadequacy of storage

capacity, availability of obsolete and non-standard (domestic and absorption) refrigerators. These issues if not addressed will hinder the achievement of the NHSP and the cMYP since only optimal cold chain equipment provides guarantee for availability of good quality vaccines for immunization service delivery.

It is therefore imperative from the assessment findings that the country requires support to replace obsolete and non-standard equipment as well as scale up the storage capacity, through CCEOP support. The CCE provided by the platform will improve 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

Supply Chain activities are coordinated through an interagency team called EPI Technical Working Group (EPI TWG). The group provides leadership and translation of policy into operations through planning, supervision, monitoring and evaluation of the programme. The committee meets monthly to review and endorse key activities of the programme with all proceedings approved through formally written minutes. However, unplanned meetings take place as the need arises.

Under the EPI TWG, immunization Supply Chain Management is created to handle all vaccine logistics and cold chain issues. This subgroup functions as Immunization Logistics Working Group (ILWG). The immunization Logistics Working Group also reports to the Supply Chain Management Directorate (SCMD) which manages the supply chain of all health commodities within the Ministry of health.

Nationwide cold chain inventory and EVM assessments conducted to facilitate the development of this application with the technical and financial support UNICEF and with the involvement of other in country partners (WHO and CHAI). Members of the Logistics Management and Inventory sub-group actively participated in the process and final endorsement.

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.

The Immunization Logistics Working group as part of the SCMD sits in Logistics and Inventory Management, electronic Logistics Information Management and Forecasting and quantification groups having more stakeholder participation due to many health commodities managed. These groups meet quarterly to report, review and update workplans. The ILWG meets monthly and comprises of members from Clinton Health Access Initiative (CHAI), UNICEF and Ministry of health. Limited membership is due to limited numbers of partners involved in immunization logistics. The immunization logistics working groups reports to all three group.

The ILWG is operates with terms of reference of all the three groups but also has its own terms of refence based on its specific tasks. Members of the ILWG are fifteen in number and

include;

- Deputy EPI Manager Ministry of health
- Logistics Officer from Ministry of health
- Cold Chain Technicians from Ministry of health
- Cold Chain Assistants from Ministry of health
- Cold Chain Officer form UNICEF
- Vaccine Associate from CHAI
- Vaccine Supply Chain Officer from CHAI
- Procurement Officer from Ministry of health
- Data Manager from Ministry of health
- Data Clerk from Ministry if health
- EPI Officer from WHO
- Surveillance Officer
- Vaccine Associate from CHAI

The ILWG has been able to conduct the following activities;

- Adaptation of Effective Vaccine Management standard operating procedures
- Conduct EVMS and CCI in preparation for the CCE OP application
- Distributed Fridge tag 2 devices to all health facilities
- Conducted installation of 18 SDD refrigerators
- Developed annual New Vaccine support renewal request

Key strategic areas of the ILWG;

- Reviewing, developing and adopting guidance related to immunization supply chain management
- Developing and monitoring the operational supply chain Improvement Plan and coordinating technical assistance
- Informing decision makers and practitioners about immunization supply chain issues
- Coordinating technical assistance and partners' investments to align it with national priorities
- Planning immunization SC and logistics activities
- Monitoring and evaluating the progress of immunization supply chain activities once implemented

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)*
Gavi requirements were met for basic functionality of coordination committee. The Immunization Logistics Working Group has TORs, which are included in the attachments. The group meets every month and on ad hoc basis when need arises. All proceedings are recorded in formal minutes and at least two-third of the members approves decisions.

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 CCEOP support. It must be filled with correct 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.

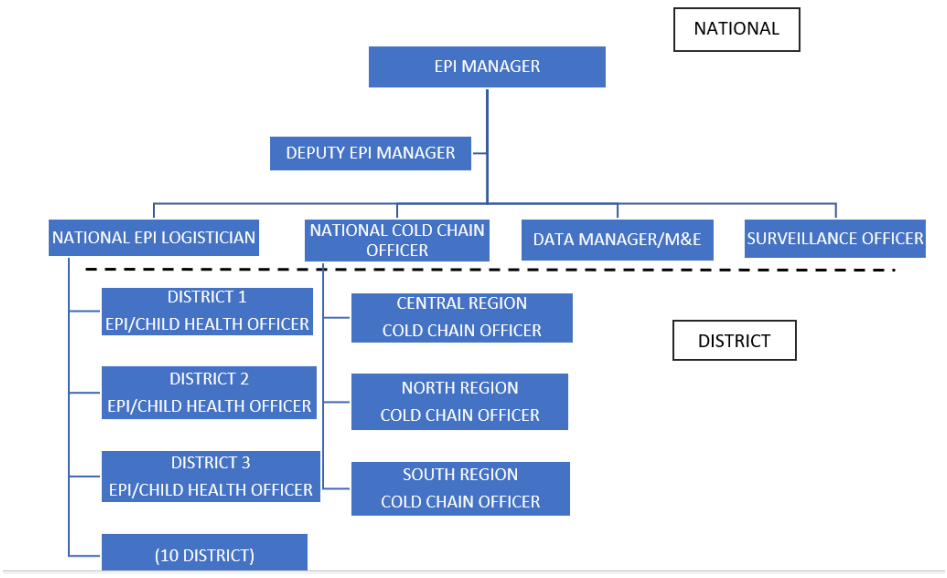
a) *How is the country's immunisation supply chain administered?*

Lesotho operates three levels of immunization supply chain, which are national, district and service delivery. There are 10 district stores and 216 health centres that provide routine immunization. National level operates a push system by which it delivers vaccines to the 10 districts stores on monthly bases. However, between districts and health centres, there is fluctuation between push and pull. This is because districts, which are by standard to deliver to health centres, do not meet up sometimes due to lack of transport thereby leaving health centres to arrange to collect vaccines.

Primary Health Care (PHC) forms one of the eight directorates of the Ministry of Health. The PHC Directorate is composed of Health Education, Environmental Health and Family Health Divisions Family Health houses all child health survival programs including the EPI. The EPI Manager has a Deputy Manager, cold chain technicians and assistants, EPI Logistician, surveillance officer, data officer and data clerk and heads the EPI unit. The Supply Chain Management (SCM) directorate coordinates the Immunization Supply Chain Management (ISCM) functions through having a logistics officer embedded in the EPI program. In-country partners further support ISCM: UNICEF, CHAI and WHO. They provide technical and financial and support and more importantly allocating staff to complement and support the ISCM functions.

Below is the graphic flow of EPI structures in the country.

Figure 1: EPI Organogram



The programme is looking at expanding its staffing structure to meet the increasing demand and programme complexity. The process for approval of the proposed structure is still undergoing discussion at top government management level. At district level, there is EPI/Child Health officer who oversees EPI activities. The officer has double reporting lines to District Health Manager and national EPI manager. However, EPI/Child Health officer position is currently vacant in four districts where the Public Health Nurse covers the function.

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

Lesotho's major weaknesses of the iSC system cut across programme management, cold chain equipment maintenance, vaccine management and service delivery. Currently EVM SOP are undergoing printing. Some health facilities are reporting shortage of gas supply for gas-powered refrigerators, which sometimes caused disruption of service delivery. Not all health workers are trained in basic cold chain maintenance practices such as defrosting of CCE, reading and interpretation of TMDs and vaccine management. There is also lack of contingency plans in situation of power cut in many health facilities. Other weaknesses include poor record keeping, poor wastage monitoring, and lack of vaccine forecasts at district level which sometimes results in over and under-stock situations. There is also inadequacy of funds for transport, low supportive supervisory activities and poor micro plan (Attachment # 5, page 2).

Cold chain inventory exercise conducted in June 2018 reveals about 50% of the CCE existing are absorption refrigerators operated with electricity. This leads to high-energy consumption and costs. Furthermore, the findings show only 37% of the CCE is of PQS standard and 26% is obsolete. *(Reference: CC inventory report – attachment #7, page 17 - 20).* Other challenges include lack of timely transport allocation for vaccine distribution and cold chain maintenance. Scarcity of spare parts for repairs of absorption also forms part of the challenges of iSC in the country. There is also a gap in capacity for storage in some districts and health centres, which is either due to age or due to technology of equipment.

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

A number of efforts are ongoing to address the identified gaps and challenges in the supply chain system in Lesotho. The following are interventions were carried out (See attachment # 3);

- Vaccine management SOPs have been developed for the different supply chain levels and are at the validation stage, follow actions are being taken to ensure final approval by the MoH
- Construction of district vaccines stores with three completed and the fourth one is still under construction and there is a plan to cover the remaining districts
- Planned to procure four 4 X 4 trucks for four remaining districts.
- Development of this application through the Country Engagement Framework (CEF) is also part of the strategic approach by the country to improve areas of weaknesses in the iSC system through upgrade of CCE.

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

Delay in disbursement of the funds from national level to the districts and difficulty in accessing the funds when disbursed due to tedious processes are major challenges of implementation of planned activities in Lesotho. Clear guidelines on the processes program managers need to follow for disbursement and accessing funds especially donor funds directly to district is missing. Due to this, partners support funds directly to districts for most EPI activities. Though districts develop plans, all procurement processes are centralised

causing major delays in conducting them sometimes they end up not happening.

There is also gap in human resource with critical positions such as EPI Logistician vacant mostly because the EPI structure does not exist within the Family Health division. At district level, EPI was the responsibility of the public health nurse who must oversee all public health programs within the districts leaving immunization supply chain neglected.

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

Gavi, UNICEF and government of Lesotho procured 59 CCE comprising of ILRs and SDD refrigerators for health centres located in all ten districts. Looking to the national 2018 Cold Chain Inventory, the country has a very good experience of Solar Direct Drive cold chain equipment beginning 2016 to date through UNICEF support. In total there are 30 Solar Direct Drive Cold Chain Equipment model of MKS044 (13), VLS054 SDD Green Line (3), TCW 15R SDD (11) and TCW40 SDD (3) installed at service delivery level in eight out of 10 districts. Local technicians installed all these 59 CCE. According to the inventory, all are functional except one awaiting for repair. (See reference # 6).

The new equipment operates optimally with fewer maintenance issues and with low energy consumption. They also have longer hold over time, which is a good advantage in the event of power cuts. Replacement of absorption refrigerators with SDD eliminates the burden of cost and transport of gas. The introduction of modern technologies will provide opportunity to enhance further the HR capacity in repair or maintenance of the latest models and types of cold chain equipment.

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

Electricity is available in 156 (72%) out of 216 sites. National and district stores as well as 145 health centers have adequate and stable electricity supply from national grid for operation of cold chain equipment as it is available for more than eight hours per day. On the other hand, 60 (28%) sites do not have electricity supply and all of them are health centers at service level (Attachment #7 pages 6 & 19).

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?*

From the cold chain inventory assessment conducted in June 2018,

- 239 (90%) CCE are in working status while 21 (10%) is reported not working and five were not yet installed.
- In terms of standard 37% (94) of the CCE is PQS, 58% (153) PIS, and 6% (16) are domestic type.
- Twenty-six percent of the equipment are 10 years and above in age, which are obsolete and need withdrawal and disposal (*Attachment #7 page 18).*

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

- Currently 141 health facilities use PIS (non-PQS) cold chain equipment. The cumulative total population of these facilities is 1, 186, 979 and 23,740 children as birth cohort.
- Looking at the country's total population of 2,007,201 with 40,593 birth cohort, it means

that 59% of the country's birth cohort is served by non PQS-approved CCE in the country which translates to only 41% serve with PQS approve CCE.

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

- Replacement of out dated (absorption) equipment
- Filling capacity gaps
- Eliminating costly electric refrigerators
- Procurement of freeze free vaccine carriers will reduce the risk of vaccine damage by freezing during immunization and outreach session. Damage of vaccines by freezing during transportation was one of the findings of the temperature monitoring study.
- Installation of remote temperature monitoring devices in line with EVM improvement plan will ensure use of potent vaccines
- Capacity building of cold chain technicians as part of the service bundle will impart skills and knowledge for the technicians.

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

- Service bundle training package will improve preventive maintenance skills of the health workers in the country which if utilized will minimize frequency of breakdown. It will also add to their understanding of warranty package which will make them avoid actions that temper with the agreement therein. Furthermore, provision of voltage regulators for both new and old CCE will greatly reduce CCE failure due to power surge. Lower energy consumption of the on grid CCE will also translate to reduction in energy bills to the programme. More spare sparts will also be available since the platform provides means of procuring spare parts for both old and new sets of equipment.

k) What are the overall CCE needs?

- To equip national, district and health facilities for them carry out full immunization
- Capacity expansion and up grade
- Replacement of obsolete equipment

Table 1: Overall CCE needs

Description of equipment	Model	Net Storage Capacity		Quantity
		Positive	Negative	
On grid ILR without freezer comp.	VLS 200A	60	0	33
On grid ILR without freezer comp.	VLS 400A	145	0	4
On grid ILR with freezer comp.	VLS 064 RF	52	5	69
On grid freezers	MF 314	0	281	12
Off grid SDD refrigerators with freezer comp.	TCW 15 SDD	15	2.4	71
Freeze free vaccine carriers	AFVC 46	1.5	0	262
Temperature monitoring device_30DTR	Fridge-Tag 2 E			82
Remote Temperature Monitors	Cold Trace 5			15

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)*

To analyse factors influencing coverage discrepancies across districts, a Data Quality Review (DQR) (with WHO lead) and Equity Assessment (with UNICEF lead) was carried out to provide additional information on possible drivers behind the performance variability. The table below provides insight to the results of the exercise.

Table 2: Insight to the coverage of DHS 2009 and 2014

Background Characteristic	Coverage: All Basic Vaccinations (Fully Immunised Children), %	
	DHS 2009	DHS 2014
Residence		
Urban	70.7	70.1
Rural	59.0	67.6
Ecological Zone		
Lowlands	64.0	71.3
Foothills	63.7	65.8
Mountains	58.7	62.5
Senqu River Valley	54.0	69.4
Mother's Education		
Primary Incomplete	54.4	61.8
Primary	60.5	70.4
Secondary and higher	66.1	72.6
Wealth Quintile		
Lowest	52.1	59.7
Second	59.2	62.7
Middle	64.3	81.5
Fourth	62.2	70.4
Highest	72.1	68.4
National Average: Lesotho	61.7	68.3

Generally, immunisation coverage in rural areas has been lower than urban areas as confirmed by the administrative data casting Quthing and Mohale's Hoek as some of the districts with very low immunisation coverage. Despite the observed relative improvement in coverage, the following join rural residence as areas of sustained low coverage: mountainous areas, low education of mothers and households that lie in the lowest wealth quintile. Hence populations that should be targeted with focus for improvement of coverage are those in households: in rural areas; in mountainous areas, with low education of mothers and in the lowest wealth quintile **– Lesotho immunization equity assessment report attachment # 11.2 page16, and 17). 2 pieces**

A review of the survey result indicates large proportion of not-Fully Immunized Children across districts in all the ecological zones (geographic areas) of the country, which comprises mountainous, foothills, lowlands and Senqu River Valleys. In this regard, the country's strategic approach to improve coverage and equity is to direct efforts towards districts that have high concentration of not-fully immunized children, low Penta3 coverage and extension of service delivery to underserved areas – **See attachment #8 page 15.**

From the equity assessment (Attachment 11.2), one of the findings was the frequent vaccine and supply stock outs at the Health Facility level. The frequent stock-out is related to;

- Limited forecasting skills at district and Health Facility levels.
- Non-functional cold chain equipment to store vaccines compounded by limited expertise cold chain maintenance in some districts.
- High vaccine wastage rates due to poor stock management
- In some cases, there are constraints in delivering vaccines and supplies from one level to the other due to transport shortage.

To reduce this gap the Government of Lesotho, with support from Gavi and the Global Fund to Fight AIDS and TB constructed thirty health posts in the remote and underserved areas. The health posts complement the primary health activities conducted by community-based health centres. The thirty health posts will be equipped with human resource and equipment such as cold chain equipment to deliver immunization services. The health posts are constructed in remote health communities where health facilities are beyond 5 km walking distance and some villages are no accessible by road.

Through the CCE OP application, the thirty health posts will be equipped with solar direct refrigerators to ensure that immunization services are accessible to the hard to reach communities in Lesotho. Mohale's Hoek and Quthing are the two districts with the lowest immunization coverage and the new health pots constructed will be equipped as mentioned with solar refrigerators.

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?*

Ministry of health in Lesotho will conduct system design workshop to look on how the immunization supply chain should run between district and service delivery level looking it from the program requirements, distribution network between district and service deliveries, human resources, equipment, planning, monitoring, and data) fit together and interact. The

SCM directorate has integrated distribution of all medical supplies into one system and is considering this initiative further. The outcomes of the assessment will provide direction for decision makers.

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

No, the system design focus is between districts and service delivery levels. It will not affect CCE as the Lesotho has only three level of supply chain and the capacity expansion at district level will not be affected and consideration is made to ensure the capacity will be adequate if supply interval shift is to occur. Besides, the

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

The installation of SDD refrigerator through CCEOP will ensure that immunization services are uninterrupted due to timely supply of energy source. Besides, replacement of absorption refrigerators with optimal CCE will greatly help in reducing the maintenance and running cost of the CCE and result in improved quality and efficiency of the cold chain system. This will ensure availability of quality and potent vaccines to hard to reach populations and increased coverage.

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.)?*

- Perform routine maintenance tasks at regular intervals to avoid/reduce CCE's downtime.
- Reduce the scale and cost of repairs.
- Increase live time of CCE
- Ensure that vaccines are safely stored in functional CCE thereby reducing wastage.
- Ensure that potent vaccines administered to children and women
- Keep an updated inventory database, and plan replacement/expansion of CCE
- Build capacity for CCE maintenance at managerial, user and technical levels.

What is the frequency of preventative and corrective maintenance that the country commits to (supported by partners)?

- Preventive maintenance tasks are carried out as frequently as recommended by equipment manufacturers ranging from daily, weekly, monthly etc while on the other hand corrective maintenance are done after receipt of job request from facilities where CCE are not functioning well. Cold chain technicians and assistants are responsible for maintenance tasks for all cold chain equipment in private, public and faith-based health facilities.

What technical support is anticipated for maintenance?

- UNICEF and Gavi through HSS II are the major source of funds for repair and maintenance activities. The two agencies provide funds for spare parts, tools and transport to enable technicians to move about to attend to maintenance issues. This support is to continue while government on the other hand is planning to add more to the workforce.

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

The country is revising supervisory checklist, developing maintenance request form that will have provision for monitoring and feedback on all maintenance activities carried out through which monthly reports are generated.

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

- Government and partners jointly will provide funding for maintenance. Government officers supported by counterpart budget, GAVI through (HSS II) and UNICEF will deploy to areas requesting for maintenance support. Gavi through HSS is supporting the country in proving funds for movement of technicians and with procurement of tool kits and spare parts while UNICEF is mostly providing technical support. Government will continue to take care of personnel costs accordingly.

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

- All obsolete equipment will be identified, validated and compiled in a list to be verified by technical committee. The list will then be approved for disposal having satisfied all requirements. The program manager submits inventory list of the equipment to be disposed to procurement department. The procurement department will send procurement officer to physically verify the submitted inventory list. During the verification process, equipment is categorized to determine its status which can either be functional or non-functional. Categorization is further broken down to determine if the functional equipment can still be used or even though it is still usable, it might be hazardous to the environment therefore must be removed from the system. For non-functional equipment, decision is made on the best disposal method and other departments are engaged. The process of verification is followed by writing a letter to the Principal Secretary to notify him/her of the intention to dispose equipment. The Principal Secretary will then write to the Procurement Manager to seek advice on the process to follow for the equipment to be disposed. The Procurement Manager advises the PS to establish board of survey which will oversee all processes including the auction. The board of survey is made of members from other departments except legal and finance departments. Once board of survey is established, an advert will be released and it will run for a period of one month after which an auction will take place.
- The procurement department is the secretariat in the whole process while finance oversees payments made during the auction. Legal department is engaged when there are complains during the process. – **Attachment # 9 (maintenance plan) page 7**

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?*

Yearly plan of CCE requirement by specifications and quantities have been made and facilities to deploy them have been identified in the multi-year cold chain expansion and replacement plan. A comprehensive Operational Deployment Plan (**attachment #8.1**) has also been developed. Project management team to facilitate all activities ranging from clearance, distribution and installation of the equipment has been established. If the application is approved the ODP will be reviewed to ensure readiness of the facilities where CCE will be deployed. The project management team will be available to work with manufacturers or their representative to facilitate distribution, installation and commissioning of the CCE. The team will also provide immediate response to any deviation from the plan identified during implementation.

b) *What is the source of the joint investment? Is the country's joint investment secured? GAVI – performance based financing*

- The country joint investment is coming from Gavi HSS I. An official communication will be sent to the Gavi Secretariat following submission of the CCEOP application, requesting from Gavi to utilize unspent funds from HSS1 as the co-financing obligation.

c) *Has the country secured import tariff exemptions for CCE? If yes, attach proof.*

- A letter has been submitted for import tariff exemption to the LRA through the Director Pharmaceuticals. Once it is signed, it will be shared.

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. Ministry of Health or other partners must finance operational costs.
CCE	Further information on CCE rehabilitation and expansion plan, equipment selection and strategic deployment plan requirements is provided in Application Guidelines Section 5, available at http://www.gavi.org/support/process/apply/cceop/

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	Provide CCE to new unequipped health posts and districts with Penta-3 Coverage below 70%. At this point 124 units of equipment are required. This comprises 11 on-grid ILRs without freezer compartment, 44 on-grid ILRs with freezer compartment, 7 on-grid freezers and 62 SDD refrigerators with freezer compartment.
Justification	These facilities are priority in order to bridge the equity gap in areas without CCE and to ensure improved technology in areas with large proportion of unvaccinated children.
Expected outcome	The unequipped and under equipped facilities if provided with efficient CCE will have adequate capacity to store vaccines and provide routine immunization service through which children in the catchment areas will be protected against vaccine preventable diseases. It will also increase immunization coverage, which give rise to block immunity in the county.
Total CCE budget	**US$ 583,571** including 6% service bundle
Prioritised (Urgent) CCE Need #2	
The need	To scale up storage capacity at districts with informal settlements whose populations are not taken into account by the districts and health centres during

	micro plans. A total of 65 units of equipment which comprise 26 on-grid ILRs without freezer compartment, 25 on-grid ILRs with freezer compartment, 5 on-grid freezers and 9 SDD refrigerators with freezer compartment. Other items required include 262 AFVC 46 model of freeze-free vaccine carriers, 82 fridge tag 2E 30DTMDs as well as 15 Cold Trace 5 remote temperature monitoring devices.	
Justification	Municipal districts such as Maseru are discovered to be expanding continuously due to increase in people moving to the centre. Having reviewed the micro plan, it revealed that there is need to scale up storage capacities in these areas to accommodate the expanding population.	
Expected outcome	Optimized and energy efficient on-grid ILRs, SDD refrigerators and freezers selected will have better efficiency. This is due their having less maintenance issues, which will facilitate steady availability of potent vaccines for service delivery. This will also enable the health facilities to store adequate vaccines without stock out thereby reducing cases of missed opportunities due to vaccines stock out, which improves coverage and reduce immunization inequities. Uninterrupted availability of potent vaccines will further facilitate conduct of outreach service, which in turn results in reaching more children.	
Total CCE budget	**US$ 227,370** including 6% service bundle	
GRAND TOTAL CCE BUDGET: Initial support (Years 2020)	Total Budget (Incl. 6% Additional Buffer)	810,941.00
	Total Country Budget (Incl. 6% Additional Buffer)	405,470.50
	Total Gavi Budget (Incl. 6% Additional Buffer)	405,470.50
	Estimated Country Joint Investment Procurement Fees $US (8.5%)	34,465.00
	Total Country Contribution $US for CCE and procurement fees	439,935.00

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 this equipment will serve to meet their replacement/rehabilitation, expansion and extension targets. 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*
143	142	0	0	14	10	32	32
Total= 143	***Total =142***	***Total= 0***	***Total =0***	***Total= 14***	***Total= 10***	***Total 32***	***Total 32***

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 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 country conducted MLM in 2016 and 2018 while cold chain technicians' training was in 2016. It is also planning to conduct vaccine management training and immunization in practice with in-country partner support, namely WHO and UNICEF.
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.*	WHO Stock Management Tool is used at national level. Staff are trained to use the tool to capture all relevant data accordingly. Provision is made in HSS II for procurement of computers for district level to rollout SMT. There is a plan to include vaccine stock reporting and requesting for health facilities in Informed Push in the DHIS2. International shipments are tracked using The UNICEF Vaccine Visibility (ViVa) online tool. Updated The Inventory Management Tool (IMT) is used to track and record CC inventory and functionality of Cold Chain Equipment.
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.*	Ministry of Health will conduct system design which will inform development of an efficient vaccine distribution system between district vaccine stores and all service delivery levels.
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.*	As part of continuous efforts to improve the immunisation supply chain (iSC) system, EVM and cold chain inventory assessments were conducted (with support from UNICEF) in June 2018 to review strengths and weaknesses of the iSC with a view to providing ways of improving it. The country develops HSS II application in which provisions are

	made to address the gaps identified by the assessments. UNICEF also supports development of this CCE OP application to form part of the intervention strategies for implementing the cold chain expansion and replacement plan developed after the EVM assessment.
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.*	The National Vaccine Store uses central level (CTMS), Multilog for the past 4 years. All district stores and health centres are equipped with FT 2, Vax tag 30DTRs. Multilog data is assessable in the computer and monthly update is shared. Records are printed and filed. Technicians are trained on how to check and respond to alarm events accordingly.

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. Ministry of Health or other partners must finance operational costs.

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	Not applicable
Justification	Not applicable
Expected outcome	Not applicable
Total CCE budget	Not applicable
GRAND TOTAL CCE BUDGET: "Scale-up support" (Year 3)	Not applicable

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. 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 in the scale-up 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 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.*	Not applicable
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.*	Not applicable
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.*	Not applicable
Continuous improvement process *Describe all planned or ongoing activities related to continuous improvement processes, their sources of funding, and partner support.*	Not applicable
Temperature monitoring *Describe how the temperature monitoring system will evolve? Which devices will be used?* *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.*	Not applicable

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..*

Breakdown of requirement to fund the CCE OP support for the country is given in the table below:

Total Budget (Incl. 6% Additional Buffer)	**810,941.00**
Total Country Budget (Incl. 6% Additional Buffer)	**405,470.50**
Total Gavi Budget (Incl. 6% Additional Buffer)	**405,470.50**
Estimated Country Joint Investment Procurement Fees $US (8.5%)	**34,465.00**
Total Country Contribution $US for CCE and procurement fees	**439,935.00**

Detail budget using platform's template is contained in attachment #0.2

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.

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 <u>if countries are procuring User independent freeze protected cold boxes and vaccine carriers;</u> 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,[4] 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?*

[4] **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.

USE THE TABLE BELOW TO COMPLETE MANDATORY INDICATORS							
Indicator *(Provide name of the mandatory indicator as above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency***	***Baseline (2019)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 1 (2020)*** *(Provide numerator and denominator for calculating percentage)*	***Target Year 2 (2021)*** *(Provide numerator and denominator for calculating %)*	***Target Year 3 Not applicable)*** *(Provide numerator and denominator for calculating %)*
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)*	*Twice-a-year*	***Numerator*** *= # of sites replacing nonfunctional, obsolete and non PQS CCE =* ***0*** ***Denominator*** *= Total # of sites planned to replace nonfunctional, obsolete and non PQS CCE =****142; Percentage= 0%***	***Numerator*** *= Cumulative # of sites replacing nonfunctional, obsolete and non PQS CCE =****142*** ***Denominator****= Total # of sites planned to replace nonfunctional, obsolete and non PQS CCE =****142; Percentage****= 100%***		
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)*	*Twice-a-year*	***Numerator*** *= # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine &/or increasing population* ***= 0*** ***Denominator*** *= Total # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =* ***10; Percentage=0%***	***Numerator*** *= Cumulative # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine &/or increasing population =* ***10*** ***Denominator*** *= Total # of existing sites being equipped with ADDITIONAL pieces of equipment for new vaccine and/or increasing population =****10;Percentage= 100%***		
3.. CCE extension in unequipped existing and/or new sites:	*Percentage of previously unequipped sites (providing immunization services or not, including existing sites without active devices) and new service sites being equipped with Platform eligible equipment.*	*Inventory Management Tool (IMT)*	*Twice-a-year*	***Numerator:*** *# of previously unequipped sites provided with CCE = 0* ***Denominator:*** *Total # of previously unequipped sites to be provided with CCE =* ***32*** ***Percentage =0%***	***Numerator:*** *# of previously unequipped sites provided with CCE =* ***32*** ***Denominator:*** *Total # of previously unequipped sites to be provided with CCE =* ***32; Percentage =100%***		

*4. **CCE maintenance***	*Percentage of planned maintenance visits carried out*	*Maintenance reports*	*Twice-a-year*	***Numerator** = # of planned maintenance conducted.* ***Denominator** = Total # of maintenance visit planned* ***Percentage = 50%***	***Numerator** = # of planned maintenance conducted.* ***Denominator** = Total # of maintenance visit planned* ***Percentage = 80%***	***Numerator** = # of planned maintenance conducted.* ***Denominator** = Total # of maintenance visit planned* ***Percentage = 90%***	
*. **Freeze-free to non-freeze-free carrier ratio***	*Ratio of freeze-free cold boxes/carriers to non-freeze-free cold boxes/carriers in-country*	*Inventory Management Tool (IMT)*	*Twice-a-year*	***Numerator** = # of Freeze-free vaccine carriers procured and in use. = 0* ***Denominator** = Total # of Freeze-free vaccine carriers to procured use. = 262* ***Percentage = 0%***	***Numerator** = # of Freeze-free vaccine carriers procured and in use. = 262* ***Denominator** = Total # of Freeze-free vaccine carriers to procured use. = 262* ***Percentage = 100%***		

***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 *(A**dditional** indicators as above)*	***Definition*** *(Provide definition if not already specified)*	***Data Source*** *(identify data source)*	***Reporting frequency***	***Baseline (2019)*** *(Provide numerator and denominator for calculating percentage)*	***Target 2020*** *(Provide numerator and denominator for calculating %)*	***Target 2021*** *(numerator and denominator for calculating %)*	***Target 2022*** *(Provide numerator and denominator for calculating percentage)*
1.Full stock availability	*Proportion of district vaccine stores without stock out*	*DHIS tool*	*Twice-a-year*	***Numerator:*** *# of district vaccine stores without stock out* ***Denominator:*** *Total # district vaccine stores* ***Percentage = No data*** ***Note: Baseline to be defined in 2019***	***Numerator:*** *# of district vaccine stores without stock out* ***Denominator:*** *# of district vaccine stores* ***Percentage = 90%***	***Numerator:*** *# of district vaccine stores without stock out* ***Denominator:*** *# of district vaccine stores;* ***Percentage = 95%***	***Numerator:*** *# of district vaccine stores without stock out* ***Denominator:*** *# of district vaccine stores* ***Percentage = 100%***
2.Temperature alarm	*Proportion of health (all levels) facilities timely reporting monthly on the temperature alarm without temperature alarm*	*Monthly MCH report*	*Twice-a-year*	***Numerator:*** *# of health facilities without temperature alarm* ***Denominator:*** *Total # of health facilities* ***Percentage = No data***	***Numerator:*** *# of health facilities without temperature alarm* ***Denominator:*** *Total # of health facilities* ***Percentage = 90%***	***Numerator:****# of health facilities without temperature alarm* ***Denominator:*** *Total # of health facilities* ***Percentage = 95%***	***Numerator:*** *# of health facilities without temperature alarm* ***Denominator:*** *Total # of health facilities* ***Percentage = 100%***