Memorandum on the Republic of Liberia Programme Audit report

The attached Gavi audit report sets out the conclusions of the programme audit of Gavi's support to the Government of the Republic of Liberia's Expanded Programme of Immunisation. The audit, conducted by Gavi's Programme Audit Team in June 2017 with an additional review in September 2017, covered programme activities during the period 1 January 2014 to December 2016. The final audit report was issued to the Liberian Ministry of Health and Social Welfare (MOH) on 21 April 2018.

The report's executive summary (page 1 - 3) sets out the key conclusions, the details of which are set out in the body of the report:

- There was an overall rating of Partially Satisfactory (page 1) which means that "Internal controls and risk management practices were generally established and functioning, but needed improvement. One or more high- and medium-risk areas were identified that may impact on the achievement of the entity's objectives".
- Twenty-five issues were identified, mainly caused by non-compliance with the Ministry of Health's guidelines, Gavi's Transparency and Accountability Policy and the Partnership Framework Agreement, dated August 2013, signed between Gavi and the Government of Liberia, represented by its ministries of Health and Finance.
- The MOH accepted all of the audit recommendations and developed an action plan to address the shortcomings identified by the audit.
- Key issues were identified on (a) Vaccine and Supply Chain Management and (b) Financial Management and Reporting, as follows:
    a. The MOH's vaccine and supply chain management was unsatisfactory. There was no evidence that temperature was properly monitored across the cold chain because records were unavailable or incomplete. The vaccine records were unreliable and incomplete. Stock running balances were frequently incorrect and stock recording tools were either unavailable or used inappropriately. The planning and execution of vaccine distribution was also inadequate.
    b. The MOH's financial management controls were inadequate. There was no process to track and report expenditure against budgets. Fund utilisation rates were low, and most of the workplan activities were not completed. There were no adequate controls in place to ensure that subnational advances were promptly justified, with historic advances still being extant after more than 18 months. Some of the old outstanding advances involved Gavi-funding disbursed via UNICEF.
    c. Procurements frequently did not comply with Liberia's national procurement regulations. In general, since local market conditions were not mature many suppliers did not meet the national regulations. As a result the MOH regularly waived certain procurement requirements and accepted suppliers which partly complied. However all such procurement exceptions were not formally documented.

d. Expenditures totalling US$ 181,880 were questioned by the Audit Team. Of this amount, US$ 76,813 was categorized as ineligible, US$ 54,545 as inadequately supported, US$ 31,630 as unsupported, and US$ 18,892 as irregular expenditures.

The MOH accepted the audit findings and agreed to reimburse the questioned expenditures by October 2019. Subsequent to the audit, the MOH indicated that it has recruited a dedicated accountant to manage Gavi's funding; and is similarly recruiting against an HSS Programme Coordinator position. These two new positions will help to strengthen the MOH's financial management capabilities and enhance the implementation of the Gavi-provided HSS grant.

Geneva, July 2018

REPUBLIC OF LIBERIA

Programme Audit of Gavi Support to the Ministry of Health

Gavi Secretariat, Geneva, Switzerland

Final Audit Report – 20 April 2018

Table of Contents

1 Executive Summary

Between June and September 2017, the Audit and Investigations team (the Audit Team) conducted a programme audit of Gavi's contributions to the Republic of Liberia's Ministry of Health and Social Welfare (hereinafter referred to as MOH). Gavi grants contributed towards the MOH's Expanded Programme on Immunisation (EPI). The audit fieldwork and debrief meeting was held in August 2017. Thereafter and at the request of the MOH, the Audit Team exceptionally returned to Liberia in September 2017 to review additional supporting documents which had not been available in August 2017.

The audit scope covered the three-year period 2014 – 2016, with the Team reviewing MOH programme expenditures totalling USD 2,122,571.

Audit rating

The Audit Team assessed the Ministry of Health's management of Gavi provided funds as **partially satisfactory**, which means, "Internal controls and risk management practices were generally established and functioning, but needed improvement. One or more high- and medium-risk areas were identified that may impact on the achievement of the entity's objectives".

Table 1: Summary of audit focus areas rated by programme audit.

Area	Audit Rating
Vaccine Supply Management	Unsatisfactory
Financial Management and Reporting	Partially satisfactory
Procurement	Partially satisfactory
Overall rating	**Partially satisfactory**

Key issues

The Audit Team raised 25 issues. Most of the issues related to non-compliance with the Ministry of Health's guidelines, Gavi's Transparency and Accountability Policy and the Partnership Framework Agreement, dated August 2013, signed between Gavi and the government of Liberia, represented by the Ministry of Health and Ministry of Finance.

To address these issues, the Team made 15 recommendations, of which 7 (or 47%) were rated as of critical priority, which means "action is required to ensure that the programme is not exposed to significant or material incidents. Failure to take action could potentially result in major consequences, affecting the programme's overall activities and output."

The most significant issues in this report are presented below:

Vaccine Supply Management	There were no vaccine management guidelines and standard operating procedures in place. This contributed to: incomplete or missing temperature monitoring records; an absence of maintenance records; and the failure to promptly repair or replace cold chain equipment. Weak staff proficiency compromised MOH's ability to optimise and effectively manage the cold chain. The vaccine stock records were poorly maintained and managed, including missing or incomplete entries or the use

	of inappropriate records. At some sites the tools to capture immunisation data were not available.
Financial Management and Reporting	The MOH's budgetary management was ineffective because it failed to ensure that the funds were spent in accordance with the approved budget and workplan. As a result, expenditures were: erroneously attributed to the programme; either unsupported or not supported with key documents; and supported with documents that did not demonstrate that the payments were made to the intended recipients. From the expenditures reviewed, **USD 181,880** was questioned by the Audit Team, for details see Table 2 below. The MOH's Office of Financial Management was unable to generate accurate fund balances for each grant. The programme implementation underperformed, with a cumulative fund absorption rate that increased from 24% to 47% over the 3-year period 2014 and 2016. Several activities were not undertaken even though the funds were available. Over the three-year period, the MOH failed to prepare and submit to the Gavi Secretariat its quarterly interim unaudited Financial Reports and annual audited financial statements, as required. The Aide Memoire signed by the Government of Liberia and Gavi in May 2013 directed the MOH to maintain ring-fenced bank accounts. However the MOH co-mingled Gavi-provided funds with non-Gavi funds in a local bank account.
Procurement	The MOH failed to comply with Liberia's national procurement regulations, as well as the additional safeguards prescribed in Gavi's Aide Memoire. According to the MOH, the local market conditions were not sufficiently mature to ensure competition, and in general most suppliers did not meet the national regulation standards. Therefore, for its supplier selection process, the MOH regularly waived requirements, accepting suppliers which only partly complied. There was no formal documentation on file to justify such exceptions. Procurement planning was not done, resulting in insufficient time being allowed for due process to review bid submissions. Bid specifications for the purchase of motorcycles and laptops were overly restrictive. In addition and contrary to national regulations, the MOH accepted bids from vendors who had not been shortlisted during prequalification. There were also instances when the MOH awarded contracts to bidders that did not meet the minimum requirements, as specified in the bid documents. Finally, there was no consistency across the bidding documents used for the same procurement methods.

The recommendations raised by this audit were prioritised as either critical, essential or desirable, and definitions of the three-levels of prioritisations are summarised in Annex 1.

Table 2: Summary of amounts questioned by the Audit Team.

Issue	Amount (USD)	Reference
Ineligible expenditure: Measles Campaign expenditures wrongly charged to a Gavi funded programme	76,813	Section 5.1.1
Inadequately supported expenditure: Key supporting documents such as payment vouchers, invoices, and receipts not on file.	54,545	Section 5.2.1
Irregular expenditure: Payments made to individuals whose names did not appear on the attendance registers.	18,892	Section 5.2.1
Unsupported expenditure: Overdue advances to counties, not liquidated after more than one year.	31,630	Section 5.2.2
Total questioned expenditures	**181,880**	

See Annex 2 for breakdown of questioned expenditures by grant.

The MOH in its management responses reiterated its commitment to implement all the audit recommendations and asserted that it had already undertaken some actions in various areas covered by the audit. See Annex 7 for management comments and action plan as of 18 February 2018.

2 Objectives and Scope

In line with the Partnership Framework Agreement and Gavi's Transparency and Accountability Policy, the primary objective of a programme audit is to review internal controls and risk management practices. The programme audit also sought to obtain assurance that funds were used for intended purposes in accordance with the agreed terms and conditions, as well as to identify opportunities to enhance programme processes.

In addition the Audit Team assessed: the reliability and integrity of managerial and operational information; the effectiveness of operations; the safeguard of assets; oversight arrangements; and compliance with relevant national policies and procedures.

The period under review was from January 2014 to December 2016. During this period the total value of the vaccine and cash support provided to the MOH was USD 15,198,681 of which, USD 6,113,515 consisted of cash grants. An amount totalling USD 2,868,694 (47%) of the overall cash was disbursed directly to the MOH with the balance USD 3,244,821 (53%) being disbursed to UNICEF and WHO, as two in-country Gavi Alliance partners.

At the time of the audit fieldwork in August 2017, the external audit of the programme's financial statements as at 31 December 2016 had not been undertaken. However the OFM extracted data on Gavi-supported 2016 expenditures which it provided to the Audit Team.

For the 3-year period, the MOH's net expenditure was USD 2,917,801, including USD 610,888 (21%) which was disbursed via UNICEF as part of the Ebola EPI Recovery grant. Any expenditures incurred directly by the partners was considered out of audit scope.

The Audit Team reviewed transactions totalling USD 2,122,571, equivalent to an effective audit coverage of 73% of the net expenditure. The Audit Team visited one Regional Vaccine Store, and stores in three Counties, two districts and six health facilities within the country.

Table 3: Breakdown of Gavi cash disbursements during the period 2014 -2016 in United States Dollars. (Gavi did not disburse any funds to the programme throughout 2016).

Programme	2014	2015	Total
Cash grants disbursed to MOH (in USD):			
Ebola EPI recovery plan	-	400,254	400,254
Human Papillomavirus Vaccine (Demo) - cash	198,500	-	198,500
Health System Strengthening	1,105,194	1,039,746	2,144,940
Vaccine Introduction Grant (IPV)	125,000	-	125,000
Subtotal	**1,428,694**	**1,440,000**	**2,868,694**
Cash grants disbursed to Partners (in USD):			
Vaccine Introduction Grant (Rotavirus)- WHO	-	139,000	139,000
Ebola EPI recovery plan - UNICEF	-	2,411,015	2,411,015
Health System Strengthening - UNICEF	694,806	-	694,806
Subtotal	**694,806**	**2,550,015**	**3,244,821**
Grand Total	**2,123,500**	**3,990,015**	**6,113,515**

Table 4: Breakdown of expenditures by grant that were reviewed by the Audit Team.

Grant type	Reviewed by the Audit team (USD)	Expenditure for this period (USD)	% coverage
Health Systems Strengthening (HSS) and Ebola Recovery[1]	1,519,406	2,166,675	70%
Human Papillomavirus Vaccine (HPV)	14,405	139,426	10%
Ebola EPI Recovery (UNICEF)	588,760	610,888	96%
Total	**2,122,571**	**2,916,989**	**73%**

[1] HSS and Ebola Recovery grants disbursed to the MOH were comingled in a same bank account.

3 Background

Liberia is a country in West Africa with an estimated population of 4.7 million and birth cohort of 160,474. The country is divided into 15 administrative Counties, responsible for delivering health services. The counties, districts and health facilities play a key role in the delivery and management of the health services.

Over the past 20 years, the country experienced two major events which significantly affected its ability to deliver on health services. Firstly the 14-year civil war between 1989 and 2003 hurt the country's economy and damaged about 80% of the country's health infrastructure. Similarly, during this period many qualified health personnel were either killed or fled the country.

More recently beginning June 2014, the outbreak of the Ebola Virus Disease (EVD) exposed major weaknesses of health systems in three countries in the region – namely Liberia, Sierra Leone and Guinea, particularly as these were also recovering from recent conflicts. In Liberia, the EVD crisis nearly overwhelmed the health system due to the exodus of basic health workers, the closedown of many health facilities and the loss of public confidence in the National Health Service. Deaths and displacements as a result of the crisis also left thousands of children orphaned and disrupted economic progress. In November 2015 the World Health Organisation declared Liberia "Ebola Free".

The EVD outbreak created a major set-back to the national immunisation coverage. The 'no touch' policy and restriction of invasive procedures, plus the suspension of routine immunisations in some counties during the outbreak, resulted in significant vaccination opportunities being missed. All planned national immunisation campaigns were suspended during the outbreak of 2014 - 2015. The health system was short-staffed and health workers were not in a position to provide outreach immunisation services. Likewise, communities' perceptions of there being a risk of contracting EVD at health facilities reduced the demand for immunisation services.[2]

In 2015 Gavi invested more than US$ 50 million to strengthen health systems in the region affected by the EVD outbreak. This includes USD 2,811,269 which Gavi provided to Liberia in 2015 as part of the Ebola recovery plan. In addition, due to the nature of the exigency, Gavi allowed additional flexibility for the reprogramming of existing grants, so as to target any urgent needs arising.

3.1 Good practices

In 2015 after the EVD outbreak, according to WHO/UNICEF, the national DTP3 coverage dropped from 76% to 50%.[3] On a more positive note, in 2016 the DTP3 coverage returned back up to 79%. The Global Vaccine Action Plan (GVAP) recommends a minimum DTP3 coverage of 90% including individual district coverage of no less than 80%.[4]

In July 2016, the MOH implemented NetSuite, its ERP financial system. Based on discussions with the OFM, the Audit Team determined that when fully implemented, this system will offer the potential to significantly improve the management and reporting on the use of donor funds.

The Audit Team identified several good practices in the management of and documentation on programme assets. For example, asset documentation included: motorcycle registration, insurance

[2] Accessed https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5515569/ on 14 Nov 2017.
[3] WHO/UNICEF estimates: WHO/UNICEF estimates differ from the country's official estimates which is usually higher.
[4] Accessed http://apps.who.int/gho/cabinet/gvap.jsp on 14 November 2017.

and distribution by the EPI to the counties. When assets were distributed the MOH signed a memorandum of understanding with the Health Facilities receiving the items and individuals and focal points at each Facility were required to present their identification and credentials, which was placed on file at the MOH head office.

3.2 Key challenges

The health sector in Liberia is challenged at multiple levels, impeding the delivery of quality health care and desired health outcomes. Challenges include: (i) poor quality roads which hinder referrals as well as distribution of drugs and medical supplies; (ii) low salaries of health workers leading to a demotivated work force;; (iii) shortages of trained staff; (iv) inadequate funds for the construction of new health facilities; (v) insecurity due to a dependency on incentive payments by donor funded projects as opposed to regular government salaries; and (vi) delays in health workers receiving their incentive payments.

In general, the demand and frequency of access of health facilities by the population is extremely low, with approximately only one outpatient visit per person per year, a result significantly lower than the WHO recommended target of five visits per person per year. With an insufficient health workforce and weak health management information systems, obtaining reliable data on immunisation coverage and vaccine balances, is a significant challenge.

These limitations have affected the national immunisation programmes including difficulties of:

- Complying with effective vaccine management policies –due to inadequately trained health workers, the unavailability of national vaccine management guidelines, and the standard operating procedures for vaccine management not being made available to staff involved in vaccine management;
- Maintaining reliable and timely data on vaccine stocks and cold chain temperature monitoring to ensure effective management of the immunisation supply chain;
- Maintaining sufficient cold chain capacity and infrastructure associated, including a pro-active schedule of equipment maintenance and suitable preventative practices;
- Ensuring reliable transport and planning and implementing an efficient distribution system; and
- Sustaining staff motivation while enforcing increased accountability for assets and consumables.

Detailed Findings

4 Vaccine and Supply Chain Management

Introduction

The National Vaccine Store (NVS), managed by the central-level EPI, is responsible for customs clearance, receiving, inspection, storage and distribution of vaccines. The NVS is hosted by the National Drug Services which is located in Monrovia at the JFK Memorial hospital. The NVS is managed by a team headed by the EPI Cold Chain Manager.

The NVS distributes vaccines and immunisation supplies primarily to county-level depots. These depots are responsible for the onward distribution to districts and occasionally also to the health facilities. The EPI Cold Chain Manager consolidates each individual counties' vaccine requirements which they reported monthly into a distribution schedule which was then forwarded to the NVS to initiate distribution.

The NVS uses vaccine arrival forms to record receipts of the vaccine consignments from UNICEF, and the Stock Management Tool (SMT) to record the movements of the vaccine to subnational level. The county and health facility use a manual vaccines control book. Request, issue and receipt of the vaccines are to be supported by vouchers for requisition and issue which are also the source documents for the records maintained in the SMT and the control books.

The Audit Team visited select vaccine stores and depots (collectively referred to as "sites" hereafter) as follows:

- NVS in Montserrado – central level (1);
- Bong Regional Vaccine Store (RVS) – regional level (1) ;
- Bong county depot; Grand Bassa county depot; Montserrado county depot – country level (2);
- Somalia drive district; Careysburg district – district level (2);
- Palala health centre; C.B. Dunbar health centre; Liberia Government hospital; Well Baby clinic; Jaw Community clinic and Benson Ville hospital – primary health centres (6).

Remarks on the country's vaccine and supply chain management are based upon the Team's observations from these 12 sites.

At the time of the audit fieldwork, the MOH did not have a finalised version of the Vaccine Management Guidelines/Manual. Therefore, the vaccine and supply chain management practices were assessed in accordance with the WHO/UNICEF guidelines[5]. The Audit Team also assessed the progress made in implementing the recommendation of Effective Vaccine Management Assessment of 2015 (EVM assessment).

The Team determined that one of the key factors attributed to the unsatisfactory vaccine management practices, was the unavailability of vaccine management guidelines and the lack of vaccine management knowledge amongst the health workers across the supply chain.

[5] WHO- Immunisation in Practice Guide 2015 and WHO-UNICEF Effective Vaccine Store Management Initiatives 2005.

According to the MOH and in-country partners, an EVM assessment is planned for 2018 to assess the vaccine management practices throughout the supply chain. In the interim, the Audit Team suggests that there is an immediate need to address several known and prevalent weaknesses.

4.1 Infrastructure and storage capacity risks

4.1.1 Insufficient storage capacity and inadequate infrastructure – NVS

The National Vaccine (cold) Store (NVS) store was temporarily housed in a semi-temporary structure close to the National Drug Store's main building. The Audit Team noted that this structure was not all-season and weather-proof, and that its limited footprint did not afford adequate space for the maintenance of equipment or packing/unloading vaccines. The equipment was not physically protected from adverse weather. Furthermore, the limited capacity of the cold room resulted in surplus vaccines being closely stacked on pallets, as all of the available surrounding shelves were used to maximum capacity.

The dry-goods were housed in a warehouse next to the NVS cold store, including immunisation supplies such as auto-disabled syringes, safety boxes and recording tools. The warehouse was overcrowded as it also stored materials such as cement, not associated with the immunisation programme.

The Audit Team determined that the store's capacity and environment were not in accordance with WHO's recommended practices for the storage of immunisation materials. Items were stacked in a disorderly manner, or on the floor, and the room was filled beyond capacity. Materials were not labelled, items were grouped together, with many items not easily accessible. As such, it was not possible to comply with First-in-First-Out principles, inventory management principles, or to conduct periodic stock counts.

The EVM assessment finalised in August 2015, concluded that the NVS structures were temporary in nature and were not fit for purpose. The EVM assessment therefore recommended temporary expansion of storage capacity at the existing NVS, and also proposed construction of permanent cold and dry stores.

To implement the recommendations made in the 2015 EVM assessment, an implementation plan was developed. However two years on, the MOH had not implemented most of the activities to address storage capacity and the structural weaknesses at the NVS.

In addition in May 2017, a fire destroyed the external toilets block. As at August 2017, there was still no toilet facility available to NVS and National Drug Store staff.

The MOH plans to relocate the NVS cold store and incorporate it into the newly constructed National Drug Store site in Montserrado County, thirty kilometres away from the current location. It will store both medical equipment and pharmaceutical products as well as vaccines. As at August 2017, the new structure was complete, with only interior works and exterior landscaping remaining. In preparation for the site to receive vaccines, the MOH recently initiated a process to procure two new walk-in cold rooms.

4.1.2 Insufficient relocation planning - NVS

The Audit Team reviewed the MOH's plan to relocate the NVS cold store to the new National Drug Store site. It was noted that a range of important matters were not given the consideration they

required, including: the installation of cold chain equipment, firefighting equipment, an estimate of what resource will be needed, and consideration of insurance arrangements. The MOH had not established a timeframe to accomplish the activities that are critical for the move. At the time of the Audit fieldwork in August2017, delivery of two cold room was imminent.

4.1.3 Failure to optimise upon investments – RVS

In an effort to expand the nationwide storage capacity, relive NVS' storage capacity constraints and to facilitate better distribution of the vaccines across the counties, the MOH planned to construct five Regional Vaccine Stores (RVS) each of which will serve five counties. Funded by Gavi HSS grant, in December 2014, the MOH began the construction of two of these RVS, in Bong and Grand Gedeh County. Out of the two RVS, only the Bong RVS was completed, but it was not yet operational as it had not begun to distribute vaccines to the counties. Due to poor coordination and communication, between the NVS and the newly constructed RVS', the RVS remained underutilised.

At the time of the audit fieldwork in August 2017, the MOH had neither begun civil works for the remaining three RVS nor developed a time bound plan for the same.

Given that the existing NVS storage facilities for vaccines and immunisation supplies are not fit for purpose, and the new vaccine store is not yet ready, there is an increased need for the RVS sites to be promptly functional and operational so as to reduce reliance on the cold chain at the central level and to ensure proper vaccine storage.

4.1.4 No dedicated storage facility

<u>County Depot</u>

The vaccine management practices at the Montserrado vaccine depot[6] did not comply with WHO recommended practices. The county depot which was located within the existing NVS, did not have an appropriate storage space. The building had insufficient space to host both NVS and the county depot. The fridges and freezers belonging to Montserrado Country depot were tightly arranged along the sides of the NVS's walk-in cold room. Access to the vaccines was partly obstructed by other goods, including construction materials and iron rods which were haphazardly placed around the fridges and freezers. For details, see photos in Annex 3.

Similarly, storage of the dry-goods was unsatisfactory. Some of the materials were stored on the outside wall of the building under iron sheet roofing exposed to rain, humidity and pests.

The depot was not a viable fully-fledged/resourced facility able to service Montserrado county's needs, as it did not: have sufficient storage facility; maintain separate stock records; have the logistical resources to undertake distribution of the vaccines to the district depots.

As described above, both the central and the county storage of vaccines shared the same contiguous space, and there was no separation of their vaccine apportionment. Instead the county's allocation of vaccines was commingled with the NVS stocks and some were kept in the NVS walk-in cold-room. In addition, both the county depot and the NVS were managed by the same staff, without recognising

[6] Montserrado county depot and the site for the new NVS at Montserrado are two separate entities in separate locations. The county depot is located within the existing NVS at Monrovia. The new NVS will be located at a site in Montserrado County but away from the Montserrado county depot.

the potential conflict of responsibility, nor the need for suitable segregation between respective staff roles for the separate stores.

Given that the NVS is the process of relocating to the new facility, it is important for the Montserrado county depot to develop the necessary capacity to operate as an independent facility, since after the NVS relocates, the county depot will no longer be able to rely on the NVS staff for on-hand support.

District Depots and Health Facilities

Montserrado County which includes the principal capital of Liberia encompasses approximately 30% of the national population. In order to meet the vaccine needs of the county's high population, in 2015 the MOH introduced the concept of district level depots across all seven districts within the county. However, as of August 2017, only two of these district level depots in "Somalia drive" and "Careysburg" districts were operational. The Audit Team visited these depots and observed that although both depots were assigned personnel with office space, each depot lacked the necessary equipment including cold storage for vaccines and vehicles for transport. As a result, to date both the storage and distribution of vaccines remained the responsibility of the county depot, making the supposed role of the district depots redundant.

At **Grand Bassa County** the Liberia Government hospital, where the locals take their children for vaccination, did not have sufficient space to house a fridge to store the vaccines. Therefore, it kept all of its vaccines, except for its daily use, at the county depot which was in the immediate vicinity. This "consignment" arrangement created confusion regarding who was responsible for managing the vaccines, as neither the county nor the hospital accepted the responsibility for maintaining suitable vaccine records for the hospital's allocation. Similarly the hospital's dry goods were stored in an outpatient treatment room.

4.1.5 No fire prevention equipment throughout the cold chain

The WHO-UNICEF "Effective Vaccine Store Management Initiative" requires that stores be in an acceptable structural condition that is maintained and adequately secured against fire (and theft).

The Audit Team observed from the 12 select facilities it visited, that for all of the vaccine storage rooms, there were no fire safety measures in place. In addition the storage rooms visited were often structurally unsound due to the corrosive/eroding effect of the rain, the overall cleanliness of the immediate vicinity was poor, and the vaccines and supplies were not always physically secured.

In May 2017, a fire damaged a store adjacent to the National Vaccine Store. The fire destroyed immunisation supplies and equipment including: syringes, safety boxes, solar panels for solar-powered refrigerators and freezers. As at August 2017, an estimate of total the financial loss was under determination, and the national authority's criminal inquiry was ongoing.

Notwithstanding this recent incident, NVS staff stated that they did not know what protocols they should follow in the event that a similar such fire should occur in the store, which had no measures in place against fire incidents, no fire extinguisher, nor any standard operating procedures. The Audit Team also observed that an open fire pit next to the NVS was routinely used to burn rubbish, which demonstrated that the NVS staff were not sensitised to the risk of fire.

At all of other subnational sites visited, the Audit Team noted that suitable fire safety tools and protocols were similarly absent. The store manager at the Bong county depot stated that although

fire extinguishers were requested in May 2017, the central EPI had not yet responded as at the time of the Gavi Audit, i.e., three months after the request.

Cause

- 2015 EVM assessment recommendation remained unimplemented as of September 2017.
- Poor planning or provision for adequate infrastructure.
- Underutilisation of two new RVS warehouses.

Risk/ Effect

- Absence of a suitable building infrastructure and sufficient capacity for vaccine storage, undermines the agility of the cold chain and its ability to ensure that the right quality and quantity of vaccines reaches beneficiaries at the right time.
- Managing the logistics of a vaccine stores requires organisation of the various inputs including infrastructure, equipment, maintenance, transportation, security, and data management, as well as operational resources, and staff capacity and availability. Without a suitably detailed NVS relocation plan being in place, the sustainability of the national vaccine supply chain may be impeded.

Recommendation 1 (Critical)

The Ministry of Health should:

i. Prepare a suitable detailed plan to manage the transition of the NVS to the newly prepared site. The plan as minimum, should include clear timelines and milestones for: the installation of key tools and equipment such as temperature monitoring, stock management tools, cold rooms, computers, firefighting equipment, etc.; clear, written communication to all warehouse staff regarding their new duty station; suitable NVS insurance arrangement; identification of the required operational resources to sustain the new site (e.g. vehicles, additional manpower, security); and management engagement and oversight over the project.
ii. Bring online and operationalise the two newly constructed RVS and complete the construction of any remaining RVS. Adjust the relative vaccine stocks holdings across the RVS to reduce demands upon the NVS' existing capacity.
iii. Procure additional infrastructure and cold chain equipment particularly for county depot, district depots and health facilities in Montserrado County.
iv. Implement appropriate firefighting and safety measures and tools – e.g. relocate the NVS waste pit away from the vaccine store.
v. Declutter the NVS' existing premise and remove any materials which compromise the environment safety of the vaccines and staff.
vi. Construct suitable toilet facilities at the existing NVS site.

See Annex 7 for management comment and action plan.

4.2 Suboptimal cold chain monitoring practices

4.2.1 Temperature monitoring records either absent or incomplete

The WHO/UNICEF Effective Vaccine Store Management Initiative[7] requires vaccines to be stored within the correct temperature range and the recording of vaccine temperature on a continuous basis. In addition, vaccine temperature records should be maintained for a minimum of three years.

As a consequence, at the NVS and RVS' suitable temperature monitoring multi log systems were installed. Equally, the county depots and health facilities were provided with fridge tags and temperature charts.

At all 12 sites visited by the Audit Team at the sub national level, the Team observed suboptimal temperature monitoring practices. The fridge tags were either non-functional, out-of-order or with low battery power, and there was no evidence on file that the temperature monitoring charts were maintained or used. At Liberia Government Hospital and Well Baby Clinic vaccine temperature readings were out of range for longer than 17 and 10 days respectively, and yet the in-charge at the facility had not taken action. The Audit Team also observed such absent or incomplete temperature records at the following sites: Bong County store, Palala health facility and C.B. Dunbar Hospital, see Annex 5 for details.

In addition, the 2015 EVM assessment recommended that the MOH, distributes revised manual temperature charts with a column for twice daily temperature recordings to all vaccine storage points, and institutionalises monthly review of temperature charts for necessary action. However as at August 2017, neither of these recommendations had been implemented.

Supervision of EPI's subnational activity is carried out by the MOH's Joint Integrated Supervision (JIS) team which is responsible for supervision of all MOH programmes including the EPI activities. The JIS team comprises one representative from each unit within the MOH. The frequency and resource allocated to the JIS activity is limited and therefore was unable to provide sufficient coverage on EPI activities. Although the JIS was scheduled to take place quarterly, only one supervision was carried out in 2014 and 2015. There was no supervision in 2016. It was also unclear how the recommendation from the JIS were followed up.

4.2.2 No schedules for maintenance, repair and replacement of cold chain equipment

The WHO/UNICEF "Effective Vaccine Store Management Initiative" recommends that Ministries of Health undertake regular preventive maintenance of cold chain equipment.

However, the Audit Team did not see any such maintenance schedules on file for the equipment at any of the 12 vaccine stores it visited. Staff at these stores mentioned that cold chain technicians did undertake curative maintenance, however there were no records on file documenting the maintenance done. In the context of 'planned preventive maintenance', the manufacturer service manual is expected to be followed. It appeared that no such preventative maintenance occurred at any of the 12 sites visited by the Audit Team.

For example, C.B. Dunbar Hospital in Bong County had two fridges, one powered by solar and the other by electricity, both of which were not functioning. According to the staff, the solar fridge had

[7] http://apps.who.int/iris/handle/10665/68993 accessed 18 December 2017

been out of service for over six months and the electric fridge for more two years. As a result, the hospital's vaccines had to be stored offsite at the county depot, which required staff to make frequent trips to the depot to fetch their daily quota of vaccines, as well as to return any unused vaccines at the end of the day.

Cause

- Ineffective supervision and monitoring by the EPI of the temperature and vaccine stock recording practices at the subnational level.
- Absence of standardised vaccine management guidelines on maintenance.
- Lack of skills and ability of the health workers to use the temperature tools and charts.
- No arrangement for a reliable power supply at the level of health facilities.
- Absence of a preventive maintenance plan for cold chain equipment
- Per the subnational health workers, there was insufficient operational funds to finance maintenance and employ enough technicians.

Risk/ Effect

Failure to store vaccines within the recommended temperature range could reduce the vaccines' potency, undermining the effectiveness of immunisation programmes.

Unless adequate monitoring and recording of vaccine temperature occurs along the supply chain, it is difficult to determine if the vaccines are properly secured throughout their time in storage and transport. Similarly, the monitoring of temperatures can help to anticipate future problems with the functioning of cold chain equipment.

Recommendation 2 (Critical)

In accordance with recent decisions by the MOH, EPI and UNICEF and so as to strengthen both the EPI's supervision of vaccine management as well as ensure accountability thereon, the MOH is recommended to:

i. Develop a comprehensive Vaccine Management Guidelines in consultation with the partners. See **Recommendation 3** for details.
ii. Develop an operational guideline for routine EPI supervisory visits. These guidelines should as a minimum define the: frequency; composition of team members; target coverage checklist/tools to be used; suggestions and proposals to address any weaknesses identified; and mechanism the follow-up- of proposed actions.
iii. Task the existing EPI Technical Working Group – which consists of representatives from the EPI, MOH and partners – to oversee the implementation of supervisory activities. The Working Group should also identify and co-opt resources that will be required for it to perform its supervisory activities.

See Annex 7 for management comment and action plan.

4.3 Unreliable vaccine stock data

Section 20 and 21 of the National Policy on Immunisation specifies the requirements for vaccine recording and reporting. In addition, Section 6.1 of the WHO-UNICEF "Effective Vaccine Store Management Initiative" provides the minimum requirements for recording and reporting vaccine transactions. To comply with these requirements, the EPI distributed suitable manual templates to record vaccine movements, including: vaccines requisition forms, vaccines issues voucher, vaccines stock ledger and SMT excel sheets.

However, the Audit Team observed that these tools were not always available, or were not used correctly or at all. Some of the tool templates contained errors.

At the central level, the 2015 EVM assessment identified shortcomings in NVS' stock management system including: insufficient training; non-compliance with EEFO principles; VVM status not recorded; lack of information on wasted/expired vaccines; and undocumented periodic physical stock counts . More than two years later, these same shortcomings had still not been addressed as at August 2017.

4.3.1 Incomplete vaccine stock records

The Audit Team attempted to trace a sample of vaccines issued from the National Vaccine Store (NVS) to select health facilities. The Team observed that some of the vaccine movements were either missing or erroneously posted at both central and subnational level. For instance:

- All vaccines issued by NVS to Montserrado county depot were not recorded in the SMT for the period July – September 2017.
- At the Bong county RVS, the physical quantity of vaccines issued did not match the entry recorded in the store's vaccine records. For other transactions, the quantities of vaccines issued by the RVS did not match to the quantities of vaccines received by the corresponding Health facilities. See Annex 4.
- At Grand Bassa county store, between the period January and July 2017 excessive receipts of pentavalent vaccines totalling 191,200 doses were recorded in the vaccine ledger. However only a smaller volume of vaccines was identified as having been issued by the NVS stores which supplied the store.
- At the Grand Bassa county's "Well Baby Clinic", the clinic failed to record several receipts from its corresponding county depot which supplied it with vaccine. In addition, the clinic did not have any stock records on file prior to March 2017 for the Rotavirus vaccine which it managed.
- At Palala Health Facility in Bong County, the facility did not maintain proper daily records of its consumption of vaccines. Instead, the vaccine ledger only documented the monthly opening and closing balance. Also, the facility had lost its vaccine records for its consumption of Pentavalent and PCV during the year 2014.
- At C.B. Dunbar hospital, in Bong County, the hospital did not maintain any records for its consumption of PCV vaccine for the 5 month period August to December 2014.
- None of the 12 sites visited by the Audit Team maintained any records of the movements and balances of their dry goods immunisation supplies.

In May-2016 one batch of Rotavirus, which had reached Vaccine Vial Monitoring (VVM) stage 2 at the airport in Monrovia, was accelerated and issued directly to the nearest health facilities to prioritise consumption, effectively bypassing the NVS stores. However, the MOH did not maintain any stock

records to capture the movement of the VVM2 vaccines throughout the supply chain. Given that the county depots and the health facilities did not maintain batch number and VVM status which compromised their ability to prioritise the use of this vaccine which had a short shelf life.

4.3.2 Discrepancies in physical stocks and stock records

The Audit Team observed that the stores and depots did not perform regular stock counts to ensure that their stock records and physical stocks reconciled, and that any differences were corrected timely.

The Audit Team counted several vaccines at those stores whose stock records were fairly maintained and largely complete. The stock counts identified differences between the records and the physical stock held in store. The staff responsible were unable to promptly reconcile and explain the differences, and it was noted that the required order forms, goods issued and goods delivery notes to support the incoming and outgoing vaccines were not all on file.

Table 5: Differences of more than 100 doses as identified by the Team are shown below:

Name of facility/ entity	Vaccine	SMT balance/ Ledger	Stock count	Variance	Variance (%)
National Vaccine Store	Pentavalent	417,768	200,050	(217,718)	-52%
	Rotavirus	267,400	141,900	(125,500)	-47%
Bong county depot	Pentavalent	861	600	(261)	-30%
	Pneumococcal	1,389	30	(1,359)	-98%
	Rotavirus	2,791	586	(2,205)	-79%
C.B. Dunbar hospital Health Facility	Pentavalent	238	55	(183)	-77%
	PCV	238	105	(133)	-56%

4.3.3 Design errors, unavailability and improper use of stock recording tools

The Audit Team noted the use of vaccine stock ledger templates which contained design errors and did not conform to the template recommended by the WHO[8].

For example, standard pre-printed vaccine ledgers did not have a column for vaccine issues, which was required to record complete movements at depots/stores. These ledgers also did not include a field to record the VVM status when vaccines were issued or used. According to the EPI, the error was known and the existing ledgers were to be scrapped.

The Team noted that the Bong county depot no longer had the standard vaccine ledger. On enquiry, it was explained that the depot did not have such a ledger since 2016 when the prior ledger was completed and that as at August 2017, the depot's request for a subsequent vaccine ledger was still unfulfilled. In the interim, the depot used its stock of Rotavirus and PCV sub-ledgers. However, these

[8] WHO Guidelines on stock records for immunisation programme and vaccines store managers, 2006.

sub-ledgers contained errors in their design, as the template design did not include suitable data fields to record: expiry dates; batch numbers; and VVM status.

At both the Jaw community clinic and the Benson Ville hospital in Montserrado County, the vaccine records were incomplete, as they only tracked the overall aggregate total quantity of vaccines received and issued during the month. As a result, the records did not track detailed daily vaccine movements including details on: the quantity of product received and used; the daily number of children immunised; batch numbers; and VVM status.

4.3.4 Weaknesses in forecasting and ordering

The Audit Team interviewed select staff in charge of the health facilities and the vaccine stores, and noted that these individuals were unaware of the need to establish suitable buffer stocks or reorder levels. As a result, the actual quantities of vaccines and supplies distributed and re-ordered were based on historical consumption levels, and did not account for buffer stocks and lead times.

Also noted were several instances of vaccines and immunisation supplies being arbitrarily issued from the county depots to facilities without due consideration of the facilities' monthly reports. This was illustrated by examples when the quantity of the vaccines distributed to the health facilities did not match with the quantity they requested, and no explanation of the variance was documented.

According to the latest status update of the EVM implementation plan in August 2017, activities to strengthen the use of the Logistic and Management Information System were either still in-progress or had not started, namely:

- A workshop on logistic reporting system planned for 2016 was not conducted
- Standardised tools to capture data related to vaccine temperature, movement, usage and wastage were not available at the subnational sites visited by the Audit Team.

Cause

Factors contributing to the inaccurate vaccine stock balances:

- Absence of vaccine management guidelines.
- No quality review of templates and tools prior to printing.
- Inadequate supervision and monitoring by the central EPI.
- Manual ledgers not regularly updated.
- No regular stock counts.
- Insufficient training of vaccine store staff regarding the requirements to: record; manage; and use standardised data reporting tools such as SMT and vaccine ledgers.
- Insufficient progress in implementing recommendations from the EVM assessment.

Risk/ Effect

In addition, without complete vaccine records, meaningful analysis of vaccine consumptions patterns cannot be accurately performed.

Recommendation 3 (Essential)

The MOH is recommended to:

i. Develop comprehensive Vaccines Management Guidelines. These guidelines should be supplemented by the following activities:
   - Development of a Standard Operating Procedures (SOP) on the basis of the guideline.

- Develop required forms/tools/checklist/protocols for key areas such as warehouse management, temperature monitoring, health and safety, and warehouse monitoring.
- Train the EPI programme health workers from all levels, on key requirements including maintaining data/ temperature records, reporting and fire-fighting and safety measures.

ii. Include suitable spot checks and inspections of stock records during the supervision visits. These supervisions should aim to identify the root causes of errors and suggest approaches so as to improve the quality of data pertaining to vaccine movements, consumption and wastage. As the primary user of such data, the MOH is recommended to clearly communicate its requirements for accurate and timely data to the individuals responsible for generating such immunisation data.

See Annex 7 for management comment and action plan.

4.4 Ineffective emergency response mechanism, and ineffective coordination and communication

The 2015 EVM assessment recommended that the MOH put in place a cold chain disruption recovery plan with official arrangements for alternative providers of suitable storage in the event of an incident. Such a plan should include suitable training of those health workers and storekeepers responsible for its implementation. Though an EVM implementation plan was created by the MOH with the help from the partners, the plan did not address the risk of cold chain disruption and therefore no provision to that effect was in place at the time of the audit.

The Audit Team noted that in general, there was no robust reactionary system (or plan) in place to monitor the integrity of the cold chain and to rapidly respond in the case of any incidents. There were gaps in the health workers' knowledge of the cold chain operation and maintenance, and they had a poor understanding of their respective roles and responsibilities and how to respond in the case of an emergency, such as a failure in the cold chain.

For example, from discussions the Audit Team noted that the following incidents could potentially have been mitigated had there been better coordination and communication between the EPI team, other MOH departments and the partners:

- In July 2017, Rotavirus vaccines inadvertently remained at the Monrovia international airport for several weeks awaiting clearance. As a result, of the temperature exposure, the vaccines moved to VVM stage 2, indicating that their shelf life was significantly reduced.
- As at August 2017, the two walk-in cold rooms for the new NVS site had been purchased (these were not funded by Gavi) and the equipment was awaiting installation at the future NVS site, to be hosted by the National Drug Services. However, from discussions it was noted that the EPI unit appeared unaware of this purchase and had accidentally included a duplicate procurement of the same equipment in its HSS 3 grant budget proposal. It was unknown how the technical specifications were developed and agreed without engaging the EPI team which, with the support of partners, is responsible for the overall immunisation programme in the country.

Cause

- The EPI staff, processes and tools were not oriented toward building and sustaining the national immunisation programme. The various arrangements that the MOH/EPI had put in place for its day to day operation appeared to be an interim solution.
- EPI's over-reliance on its partners' support, occasionally blurring respective responsibilities.
- Ineffective coordination and communication between the EPI unit, other MOH units and immunisation partners.

Risk

Lack of coordination could result in unclear roles and responsibilities, the duplication of efforts and potential delays in the implementation of the programme.

Inadequately trained personnel and the unavailability of a reliable vaccine records for decision making could compromise the ability of health facility staff to respond to the emergency situations.

Recommendation 4 (Essential)

The MOH, with suitable assistance from the immunisation partners should:

i. Improve information sharing mechanisms between the EPI, MOH units and the immunisation partners, on important issues including vaccine arrivals, emergency situations and construction/renovation of vaccine warehouses.
ii. Clarify the mandate of various existing technical working groups, such that their role and ownership for monitoring such important issues is strengthened.

See Annex 7 for management comment and action plan.

5 Financial Management and Reporting

Introduction

The financial management arrangements for Gavi funds are stipulated in the July/August 2013 Partnership Framework Agreement (PFA) signed between the Government of Liberia and Gavi. This agreement required that the funds were managed using existing government systems and that expenditures were accounted and reported upon, in accordance with the government's accounting regulations.

The management of the Gavi ISS and HSS funded programmes in Liberia is the responsibility of the MOH. The Office of Financial Management (OFM) is responsible for financial management within the MOH. The Public Finance Management (PFM) Act, 2009; and Financial Management Policies and Procedures Manual 2012 describe the national standards and principles of financial management.

At the county level, Gavi obtained assurance on the proper use of funds from the External Auditors and Internal Auditors. Similarly oversight considerations were covered due to the roles' and mandates' of the immunisation partners (including WHO and UNICEF) and the Inter-agency Coordinating Committee. Given the importance of these assurance and oversight arrangements, the Audit Team reviewed various outputs in regards to the use of Gavi provided funds for the expected programme activities.

5.1 Inadequate budgetary management and monitoring mechanisms

The Audit Team noted several inadequate practices, as follows.

The MOH's budgetary management was ineffective as it failed to ensure that Gavi provided funds were spent in accordance with the approved budget and workplan. The pace of programme implementation was slow, and several activities were not undertaken although funds were available. The OFM and EPI teams did not coordinate properly to enable the effective preparation, execution and monitoring of budgets. The Enterprise Resource Planning (ERP) system as used by the MOH/OFM was not yet fully implemented, as it was not configured for budget management, and the MOH was unable to generate accurate donor specific reports including for Gavi provided funds.

5.1.1. Inability to systematically track and report expenditure against budget

The 2013 Aide Memoire sets out the following requirements for budgeting and budget execution when using Gavi funding:

- The EPI and OFM teams were required to prepare an Annual Work Programme and Budget outlining all of the Gavi funded activities at all levels, i.e. central, county and district levels.
- The MOH was required to ensure that the detailed line by line-item budgets were approved by the Health Sector Coordination Committee and Inter-agency Coordinating Committee then entered into the government's (ACCPAC) financial system by approved personnel.
- Changes to be budget were subject to justification and approval, including a formal approbation by the Health Sector Coordination Committee and Inter-agency Coordinating Committee.

- The OFM was to verify that expenditures were in line with original approved programmes of work and the pre-approved budget line item.
- The financial reports to Gavi would include a statement of expenditures classified by programme reporting/ activities, including a budget variance analysis for both the reporting period and the cumulative expenditures from the start of the programme.

The Government of Liberia's national accounting system is an "Integrated Financial Management Information System (IFMIS)". However, as at August 2017, the system was not yet fully functional, in order to be able to process transactions and report on donor funded programmes. As a result, MOH's OFM was using a parallel standalone financial accounting and management information system (NetSuite ERP), while previously ACCPAC ERP was used. This parallel system enabled the processing of donor-funded transactions including Gavi.

The NetSuite ERP includes at least five modules relating to: financial planning; accounting; procurement; inventory; and human resources. To date, the MOH only implemented two of the modules, as follows accounting and procurement.

From its review, the Audit Team identified that none of the approved work plans for Gavi-provided grants had been entered in the ERP. The OFM attempted to monitor expenditure against budget using Microsoft Excel. However, at the time of the audit in August 2017, these Excel spreadsheets were not updated since April 2017 and no budget verification/ analysis had been carried out, so as to ensure that the funds were spent in accordance with the approved budget/ workplan. Thus there was no meaningful and reliable monitoring of expenditure against approved budgets.

Ineligible expenditure - From the sample of expenditures reviewed by the Audit Team, amounts totalling **USD 76,813** for the Measles Campaign was wrongly charged to a Gavi grant. According to the cashbook maintained by the OFM, the expenditure related to the Measles campaign activities in May 2015. However, the campaign was wholly funded by the World Bank for USD 2.87 million. Although Gavi was aware of the campaign, it had provided neither cash nor vaccine support.

In addition, given the limitations of the current ERP system, the MOH was unable to produce donor specific grant reports, including Gavi's Ebola EPI Recovery funding which was channelled via UNICEF or else paid directly by Gavi. The grant was comingled with other grants from UNICEF and hence it was not ear-marked as Gavi funding.

Cause

The OFM did not put in place suitable procedures to ensure that all expenditures are linked to an activity in the donor approved budget. As a consequence, activities funded by World Bank were charged to the Gavi grant.

The finance and programme teams at the MOH did not regularly discuss the Annual Work Programme and Budget for Gavi support and so did not develop a discipline of checking that financial records accurately reflect programmatic implementation. Further, the MOH failed to coordinate and synchronise its activities with UNICEF, so as to ensure sufficient information on the transactions incurred by the partners on behalf of the government and was accurately recorded in the accounts and records.

Risk/ Effect

Without adequate budget management and monitoring, the MOH, regions, and districts cannot effectively track and report expenditure against the work plan as approved by Gavi.

Unless there is clear collaboration between the OFM and the EPI teams on budget management and monitoring, the MOH's Senior Management is unlikely to be able to timely identify and address any under-performance, gaps in implementation or cost overruns.

Recommendation 5 (Essential)

The MOH is recommended to:

i. Develop an Annual Work Programme and Budget jointly between the EPI and the OFM teams, prior to commencing of programme implementation for each grant;
ii. Maintain an up-to-date approved Annual Work Programme and Budget in its NetSuite system; and
iii. Prepare budget execution and budget variance analysis reports at specified intervals and submit them to the Gavi grant coordinator for review.

See Annex 7 for management comment and action plan.

5.1.2. Slow pace of programme implementation

Although the HSS1 grant started in 2007, it was only in November 2013 that Gavi disbursed the final tranche of the grant, effectively four years later than planned. Gavi effectively elected to stagger its disbursements over time so as to match the slower than expected programme implementation rate.

Subsequently, in 2014 an HSS2 grant request was approved totalling US$ 5.4m, with Gavi disbursing the first tranche of this grant in May 2014. In addition, residual in-country cash balances from prior grants were folded into this HSS2 grant and were reprogrammed into two additional Ebola Recovery grants.

These Recovery grants covered the two years period 2015 to 2016, with two groups' activities and the associated workplan being managed by MOH and UNICEF. However, as at December 2016, the fund absorption rate for the overall Ebola Recovery grant at approximately 36%, consisting of 47% and 25% for the MOH and UNICEF components, respectively. The table below summarises the absorption rates across the four current Gavi grants during the three-year period 2014 to 2016.

Table 6: Rate of cumulative absorption, expressed as a percentage of the budget, by Grant

	Gavi grants			
Budget Year	**HSS & Ebola Recovery (MOH)***	**NVS - HPV**	**NVS – IPV****	**Ebola Rec (UNICEF)**
2014	24%	1%	1%	-
2015	25%	1%	1%	-
2016	47%	70%	1%	25%

*Expenditures for HSS and Ebola Recovery grants were comingled by the OFM.
**IPV grant was not implemented due to a global shortage of the vaccines.

Cause

Prior to 2014, the rate of programme implementation lagged largely because the MOH's capacity at the central and sub-national levels was lower than that anticipated when grant proposals were first approved by the Independent Review Committee (IRC). This was seen by the slow pace of sub-national level to implement activities and submit accounting documentation to the central MOH.

As one of the countries affected by the EVD epidemic in 2014, the resultant crisis almost overwhelmed the health system due to the exodus of basic health workers, the closedown of many health facilities and the loss of public confidence in the National Health Service. At the EVD peak, the immunisation programmes were effectively suspended. And thereafter, the pick-up and resumption of immunisation activities had been delayed.

Recommendation 6 (Critical)

The MOH is recommended to:

i. Institute a practice whereby the OFM and EPI teams jointly review progress of implementation every three months, by reviewing the quarterly budget against expenditures incurred.
ii. Consolidate the grant balances of HSS 1 and 2 and with the technical support of Alliance partners revise the HSS workplan which includes activities that accelerate programme implementation.

See Annex 7 for management comment and action plan.

5.2 Weak controls in expenditure management

5.2.1 Limited assurance that the funds were used for intended purposes

The Audit Team reviewed the internal controls governing the review of expenditures and accountabilities and determined that the overall systems and processes were deficient, as follows.

The OFM has a Financial Management Policies and Procedures Manual developed in 2012, however this manual does not make specific provisions for internal control procedures. A process to revise and enhance this manual started in 2015, and had not been finalised during the audit field work in August 2017. From discussions it was clarified that there was not a timeline in place for when this manual should be finalised.

In addition, the MOH did not ensure that regular annual external audit was undertaken, although this was a requirement agreed with Gavi. Similarly, as at August 2017, the external audits for financial years 2015/2016 and 2016/2017 had not yet begun. Moreover from its review, the Audit Team noted that the prior audit reports and management letters for financial years 2013/2014 and 2014/2015 did not identify any issues or areas for improvement in the financial control of expenditures.

As a result, the Audit Team questioned the following expenditures.

Inadequately supported - From sample of transactions reviewed by the Audit team, expenditures totalling **USD 54,545** were inadequately supported, as the accompanying payment vouchers, invoices, and receipts were not on file. The Audit Team questioned these expenditures because:

- There was no evidence that fuel expenditures were incurred in support of the immunisation programme. This included missing information and documentation, such as: recipient vehicle

registration numbers, log books showing the quantity of fuel issued, and the resultant itinerary and associated missions for the vehicles.

- Payments to training participants were not supported with attendance registers, or other associated documentation, such as activity reports which evidencing that the activities took place.
- Payments for vehicle repairs and servicing did not included pertinent details such as: copies of work orders, the spares purchased or the nature of labour costs incurred.
- Photocopied accountabilities were offered as the supporting documentation for microplanning workshops. Moreover these copies lacked detailed suitable information on which individuals participated and their associated fuel consumption.
- Communication allowances were paid to individuals without any supporting documentation showing who was paid. Further, there were no associated attendance registers or activity reports on the work done.

Irregular supporting documents - The Audit team identified irregularities for expenditures totalling **USD 17,945** incurred by three counties: Montserrado, Grand Bassa and Bong. The expenditures included participants' attendance sheets with participants' signatures which significantly differed from the same individuals' signature provided on a separate payment list. In one observed example, in Bong County, payments totalling **USD 947** were made to individuals whose names did not appear on the attendance registers for the same activity. These inconsistencies undermine the credibility of the supporting documentation, creating doubt as to whether actual participants received their entitlements.

Cause

Although the OFM appointed an officer to review supporting documentation for completeness and accuracy, the officer concerned did not exercise sufficient rigour in ensuring that all of the supporting documentation was on file, prior to accounting for the expenditures and then clearing the advances.

Unless regular credible, external audits are undertaken, there is a risk that key control weaknesses may not be timely identified, and associated recommendations for improvement will not be promptly addressed.

Risk/ Effect

Expenditures have been questioned given the doubt as to whether Gavi-provided funds were used to best effect, in accordance with the terms of the Partnership Framework Agreement and the Transparency and Accountability Policy.

Recommendation 7 (Critical)

The MOH is recommended to improve its process of reviewing accountabilities, so as to ensure that supporting documentation submitted by the counties complies with national financial management requirements. Any issues or differences identified by this review should be promptly followed up with the counties. Unresolved issues or suspected anomalies should be referred to the internal audit and MOH management for further consideration.

See Annex 7 for management comment and action plan.

5.2.2 Delays in liquidation of subnational advances

Gavi funds disbursed to the counties are recorded as advances in the OFM's accounting system. At county level, the advances are recognised as income and recorded in ledgers, maintained in a manual format. After the activities are implemented, the corresponding expenditures are recorded by budget category in the same ledger book. The ledger consists of a customised Microsoft Excel-based reporting tool with the capability of generating an income and expenditure report.

Quarterly, each county is required to submit a copy of its ledger together with original supporting documents for the period to the OFM for review. The counties' submissions are reviewed by an OFM Examiner, by the Chief Accountant, and subsequently approved by the Comptroller before being recorded into its accounting system as a programme expenditure.

As at December 2016, the MOH stopped direct disbursement of cash to those counties with a track record of historic, overdue advances. To ensure programme continuity, in January 2017, the MOH started despatching the central-level accountants with funds to the countries. The accountants were responsible for facilitating implementation of programme activities and to assist in preparation of supporting documents justifying the use of advances.

Unsupported expenditure - As of August 2017, **USD 31,630** of advances to both Montserrado and Bong Counties in 2016 had not been liquidated, even though the counties had previously reported that they had fully implemented the activities for which the funds were provided.

The Audit Team also identified other instances where even though counties had submitted their accountabilities, the MOH records were not updated, and at a central level the respective counties continued to show the advance(s) as outstanding. This was due to the fact that the OFM's register of outstanding advances was not timely updated by the OFM Examiner, to reflect the latest situation following a review of the accountabilities.

Cause

- Counties did not comply with the central level MOH instructions regarding timely liquidation of their advances for their respective activities completed every three months. In addition, due to insufficient manpower the MOH was unable to hold the counties accountable for their liquidation responsibilities.
- There was no process in place to escalate cases of overdue advances, or when the quality of the documents submitted to justify the use of the advances were unacceptable to the OFM reviewer. As a consequence there was no follow-up of those counties and offenders identified by the Examiner's review.

Risk/ Effect

In the absence of the counties reciprocating with valid and complete supporting documentation justifying their advances, it is not possible to determine whether the monies disbursed to subnational levels were used for the intended purpose.

Recommendation 8 (Critical)

The MOH is recommended to ensure that the all counties promptly account for their advances by submitting the required supporting documents in a timely manner. The review log and the tracking of advances prepared by the Examiner should be reviewed by his supervisor, and action taken to address any shortcomings identified.

See Annex 7 for management comment and action plan.

5.3 Financial reporting and banking arrangements did not meet Gavi's requirements

5.3.1 Financial reports not prepared

Section 27 of the Aide Memoire between Gavi and the Government of Liberia requires the OFM to submit to Gavi, interim unaudited Financial Reports within 45 days after the end of each three-month period. These quarterly reports were also to be submitted to the Health Sector Coordination Committee and the Inter-agency Coordinating Committee for the HSS and ISS programmes respectively.

However, The OFM did not prepare such interim or end-of-the-year financial reports for the HSS and Ebola Recovery grants that the MOH implemented between 2014 and 2016.

OFM stated that it was uninformed about the Aide Memoire's reporting requirements. The Audit Team observed that without such financial statements being prepared, it was not clear how the annual external audits of Gavi-provided funds were completed for financial years 2013/2014 and 2014/2015.

In addition, overall Annual financial statements for financial years 2014, 2015 and 2016 were prepared for MOH as a single consolidated Ministry. However, as at August 2017, all three of these draft statements were still unaudited by the General Audit Council (the country's supreme audit institution). According to the MOH, the Council lacked sufficient resource to execute audits.

5.3.2 Other donor funds co-mingled with Gavi grants

Section 14 of the Aide Memoire required the MOH to maintain two bank accounts denominated in United States dollars. One was to be maintained at the Central Bank of Liberia (originally for the HSS grant) and the other at Ecobank Liberia[9] (originally for ISS grant). The bank accounts were to be ring-fenced and to be used exclusively for Gavi provided funds, under the oversight of OFM, to ensure that these monies were used for authorised expenditures on behalf of the immunisation programme.

However, other non-Gavi funds were co-mingled in the Ecobank account, which was used to coordinate and disburse monies for other donor programme activities.

Cause

The MOH/OFM did not prepare financial statements because:

- Its staff were not aware of the Aide Memoire requirements requiring: (i) interim reports to be submitted to Gavi; and (ii) for Gavi-provided funds to be kept in a ring-fenced bank account.

[9] Two of the Gavi grants, i.e. HPV and IPV which were approved subsequent to the Aide Memoire were also disbursed to Ecobank.

- The chart of accounts for OFM's accounting system was not adapted to Gavi-specific budget codes and therefore the system could not generate donor-specific reports for Gavi provided funds.

Risk/ Effect

Failure to maintain Gavi specific bank accounts reduces the transparency on how Gavi provided funds were used to best effect by the MOH. Non-compliance with the financial reporting requirements agreed with Gavi resulted in the delay to subsequent disbursements to the programme.

Recommendation 9 (Essential)

The MOH is recommended to:

i. Finalise coding of expenditure for Gavi in NetSuite ERP financial system so that it is possible to generate Gavi-specific grant reports which are then submitted to Gavi every three months, or as agreed;
ii. Prepare interim and annual financial statements within the agreed deadlines as set down in the Aide Memoire and other Gavi agreements; and
iii. Ensure that dedicated, ring-fenced bank account(s) are maintained for Gavi provided funds.

See Annex 7 for management comment and action plan

5.4 External & Internal Audit arrangements did not provide assurance over Gavi grants

5.4.1 Poor quality of external audit reports

For each grant, the 2013 Aide Memoire requires that audited financial statements be submitted annually to Gavi, including a statement of expenditures classified by programme activities, showing a comparison with the budget(s) for the period, as well as the cumulative budget and expenditures over the length of the programme. The Aide Memoire also requires that a listing of fixed assets be annexed to the audited statements.

The Audit Team's review of the programme external audit reports for financial years 2013/2014 and 2014/2015 revealed the following shortcomings:

- The OFM did not prepare draft financial statements for the Gavi grant programmes for these to be audited. As a result, the Audit Team questions the basis on which the external audit was carried out.
- The external audit reports provided to Gavi for financial years (2013/2014 and 2014/2015) did not include sufficient information on expenditures and balances across the different programme activities. Instead the report presented expenditures in a shorthand form under two broad headings, namely: (i) goods and services; and (ii) personnel costs. Hence there was no possibility to compare the actual expenditures with the budget and hence no assurance that the funds were only being used for the approved activities and within the approved budget lines.
- A list of fixed assets purchased using Gavi grants was not annexed to the audited financial statements, as required.
- The audited financial statements were overly brief, as they included a lump sum corresponding to all advances – whether these were disbursements, retired or currently outstanding. For this

amount, no pertinent details were provided such as the date that funds were disbursed, an analysis of amounts liquidated, or a breakdown of outstanding advances by county. The information did not allow for identifications of delays and challenges in timely liquidation of the advances by the counties.

- Although management letters were provided in support of the external audits for financial years 2013/2014 and 2014/2015, these letters did not include any areas for improvements. They were silent on a number of issues which the Audit Team would have expected to be reported, including:
  - The letters did not comment on the MOH's non-compliance with several Gavi's grant requirements, namely, submission of annual financial reports;
  - They did not report that the ISS cash grant was commingled with funds from the other donors, which was not in compliance with the Aide Memoire prescription of a dedicated bank account; and
  - There was no reference to the fact that MOH Management was required to prepare the annual financial statements prior to the commencement of external audit.

5.4.2 Delays in submission of the audit reports

The Partnership Framework Agreement (Section 40) requires that audited financial statements for each programme be submitted to Gavi within six months after the end of the financial year. The Liberian financial year runs from 1 July to 30 June.

The Gavi programme audit report for financial year 2013/2014 was submitted with a delay of eight months. Similarly, as of August 2017 the audit report for 2015/2016 was overdue and not finalised, even though more than 14 months after the year-end had elapsed.

The Audit Team also noted that the MOH had delayed the selection of an audit firm for the externa audit of FY 2015/2016 and therefore the audit work only began in second quarter of 2017.

Cause

- Inadequate planning and preparation for the external audit. Draft financial statements were not presented to the external auditor, as required.
- Poor quality external audit.

Risk/ Effect

- In the absence of audited financial statements being promptly finalised, there is no independent assurance on the use of Gavi-provided funds.
- If the auditors' work and management letter are of poor quality, the MOH may fail to acquire the value add from additional insights into key programmatic risks and how to mitigate them.

Recommendation 10 (Critical)

The MOH is recommended to ensure that in future:

i. The audited financial statements are completed and submitted on time to Gavi, in compliance with the agreed requirements stipulated in the Aide Memoire and Partnership Framework Agreement, This includes that both the external auditor appointment and the conduct of the audit is undertaken on time.
ii. The audit firm selected is capable of conducting audits in compliance with Gavi's guidelines on financial management and audit requirements.

See Annex 7 for management comment and action plan.

5.4.3 Internal Audit arrangements not effective

The role of MOH's internal audit service was largely limited to examining and verifying: (i) supporting documents for funds disbursed to the counties; and (ii) payments to vendors prior to disbursement. By undertaking such verifications, internal audit helped to ensure that both the transfer of funds and payments, were complete and complied with due process.

The Audit Team discussed its concerns with the MOH management, given that the internal audit service's verification was limited to testing the compliance of selected transactions, and did not provide a broader assessment and understanding of the key controls operating and the risks associated with programme activities. Moreover from the Audit Team's perspective, the MOH Internal Audit's role was effectively a financial control, which is usually the mandate of the respective Finance and Accounting services. The Audit Team also suggested that an internal audit activity centred on a risk-based methodology would be better positioned to identify weaknesses and opportunities for improvement related to the programme resources including: fund management, budget compliance, asset verification, expenditures control, and compliance with grant requirements.

Cause

The mandate, expectations and role of the MOH's internal audit function were limited.

Risk/ Effect

The value add from compliance and verification checks is limited. There is a risk that internal control weaknesses may not be identified and corrected timely.

Recommendation 11 (Essential)

It is recommended that:

i. The EPI, OFM and Internal Audit teams should discuss the areas of high risk to be reviewed by Internal Audit with respect to the programme budget, workplan and activities funded by Gavi;
ii. Each year, Internal Audit develops a risk-based internal audit plan identifying the key elements to be audited, matched by the resources required to execute the plan; and
iii. A discussion is held with Gavi's Country Programme team to explore the possibility of Gavi funding specific internal audit activities and components.

See Annex 7 for management comment and action plan.

6 Procurement

Introduction

Terms and conditions for procurement undertaken by the MOH involving Gavi-provided funds is governed by the Aide Memoire. The Aide Memoire requires the MOH to procure goods and services in accordance with the Government of Liberia's procurement rules and guidelines. The relevant framework for procurement in Liberia is stipulated in the Public Procurement and Concessions Act (PPCA) and various regulations issued by Public Procurement and Concession Commission.

The Audit Team carried out a review of procurement of goods and services funded by Gavi. Such procurements took place at both the central and at the counties level, with the majority of goods and services being purchases by the MOH's Procurement Unit.

The Audit Team identified the following weaknesses: (i) non-compliance with national procurement regulations; (ii) suboptimal bid evaluation practices; and (iii) weaknesses in contract management and payment. Also there was no assurance that value for money was achieved. However, based on the supporting documents and field visits, there were no indications that the goods and services were not delivered.

The Team also considered the maturity of the local market and noted conditions which created difficulties in ensuring transparency and competitiveness in the procurement process. For example the vendors often lacked a basic understanding about the need for transparency and competitiveness in the procurement process. When submitting their bids they often did not understand the requirements and, in most instances, submitted only quotations as bids, regardless of the procurement method solicited. In general, except for a few select businesses owned by particular communities, vendors had low financial capacity limiting their ability to fulfil large scale orders. According to the MOH, due to these market conditions, it sometime necessitated the MOH to split the bids for procurement of homogeneous goods so as to spread the procurement across more than one vendor.

Officers at MOH's procurement department explained that it was unlikely that any of local suppliers would meet all of the requirements as stated in the national regulations. As a result it was customary for the MOH procurement department to make concessions with respect to how they applied the national regulations. However, the department also acknowledged that such concessions were not formally documented and/or approved by MOH's procurement committee. Therefore considering the mismatch between typical public tender requirements and the more informal prevailing market conditions, the Audit Team concluded that the MOH's procurement department had decided to follow an approach which put the focus on vendor compliance with the substantive requirements of the national regulations, while the requirements considered less important were often relaxed. .

The Audit Team reviewed USD 661,650 (83%) out of USD 798,851, of the Gavi-funded procurement undertaken by the MOH during the period 2014 - 2016. The major procurements related to the construction of regional vaccine stores, purchase of motor cycles, printing, catering for workshops and the hire of motor vehicles.

6.1 Non-compliance with the national procurement regulations

From the procurement reviewed, the Audit Team noted several instances of non-compliance with the requirements of the Public Procurement and Concessions Act (PPCA)[10], namely:

- Annual procurement plans were not prepared for Gavi-funded activities. The EPI had also not shared the approved work plans for Gavi funded activities with the MOH's Procurement unit. PPCA (section 40) requires all procurement units to prepare annual procurement plan(s) and to forward these to the Procurement Committee for review, and for the plans thereafter to be approved by the National Procurement Commission.
- The PPCA (section 54 (3)) requires the allocation of sufficient time for bid submissions. However this requirement was not complied with. For example:
    - In one instance, in relation to a prequalification process for 2015/2016, the vendors were required to submit bids within eight days.
    - In another instance, vendors were required to submit quotation within the same day, which does not comply with the PPCA requirement.
- The wrong procurement method was used in two separate instances related to catering services. Given the estimated contract values of USD 12,000 and USD 11,940, the national open competitive (NOC) bidding method should have applied. However, in each case the bidders were only requested to submit quotations. For reference, "PPC Regulation three" requires the use of NOC bidding for procurements falling within the threshold range of US$ 10,000 to 500,000.
- The Audit Team noted two instances of restrictive bid specifications. The EPI/MOH's specifications developed by its Procurement unit for the procurement of motorcycles and laptops in January 2016 were overly restrictive. The published bid specification for motorcycles were identical to the exact specification of a particular motorcycle brand found on a public website. Similarly, the specification for laptops restricted competition by including specific brand names, which was not justifiable given that the supporting documents did not set out the need for such a specific product. PPCA (section 34) restricts the use of particular brand or producer specification unless there is no other sufficiently precise or intelligible way of describing the characteristics of the goods, works or services to be procured and unless words such as "or equivalent" are included.
- One instance was noted of a vendor who was not on the prequalified list[11] of vendors but was nevertheless invited to bid in a procurement of a specific good which was reserved for the prequalified vendors. This was not in accordance with PPCA section 51 (2), which requires that all the bidders be selected from the prequalified list.
- Bid evaluation practices did not always comply with the national procurement regulations. In each of the 16 cases reviewed by the Audit Team, the bid page containing the financial offer was not signed by any of the members of the bid opening panel, as required (PPCA section 61). In two instances, the winning bidders for the construction of the regional vaccine stores in Bong and Grand Gedeh counties did not meet all of the minimum requirements specified in

[10] Issued in 2005, amended and reinstated in 2010.

[11] For routine procurements such as vehicle rental, printing, air ticketing, vehicle maintenance, catering services etc., the MOH competitively prequalifies vendors before the beginning of a fiscal year.

the bidding documents, such as including their financial statements with their offer submission.

Cause

- Non-compliance with the preparation of annual procurement plans, as required per the Aide Memoire.
- Non-compliance with the national procurement regulation requirements.
- The MOH Procurement unit's internal processes were not standardised. For example: bidding documents provided to bidders were not consistent; and different templates for bid evaluation were in use.

Risk/ Effect

Gavi-funded procurement activities were not well planned, which may lead to an uncompetitive or non-credible procurement process which is not compliant with the national regulations. As a result, value for money on procurement may not be realised due to inappropriate procurement decisions.

Recommendation 12 (Critical)

The MOH should comply with its national procurement regulations, as guided by the agreed applicable terms and conditions of the Partnership Framework Agreement and Aide-memoire. So as to ensure compliance:

i. The EPI, with help from the MOH's Procurement unit, should prepare and submit to Gavi, its annual procurement plans;

ii. The MOH's Procurement unit should develop suitable working tools and templates based on the national procurement regulations so as to improve transparency, competition and compliance with the requirements of national procurement regulations and Gavi grant agreement(s).

See Annex 7 for management comment and action plan.

6.2 Bid evaluation process did not assure selection of competitive bid

From reviewing the process of contractor selection, the Audit Team noted four instances of contracts erroneously awarded to bidders which failed to meet the minimum requirements. For example, on the construction of two Regional Vaccine Stores, the necessary bidding documents were listed in the requirements, but the winning bidders failed to submit all of this documentation in support of their bids. Considering the importance of the missing documents, these bids should have been disqualified. The Audit Team also identified further internal control weaknesses and anomalies that were not identified during the bid evaluation process.

The Audit Team recognised that the following documents were missing from the bids: certificate of registration issued by the Ministry of Public Works; evidence of having undertaken construction of a similar nature; ownership or lease status vis-à-vis the construction equipment; evidence of possession of liquid assets of prescribed value; financial reports for preceding five years; and details of key personnel, namely the Project Engineer/Site Engineer(s).

In addition, the bidders were required to carry out inspection visits at the sites prior to submitting their bids. However the fact that none of these pre-bid site visits were documented or evidenced, was not remarked upon by the bid evaluation committee. As a result, bidders may have bid without complete knowledge of the site and what effort and resources were required to execute the works.

The Audit Team also noted pricing anomalies in some of the bids, as the bid amount was either an exact match or very close to the budgeted amount. This should have alarmed the bid evaluators and increased their degree of awareness and scrutiny but the bid evaluation process did not to identify such anomalies.

Cause

Bids were not evaluated in accordance with the agreed criteria. Several of the evaluation committee members did not possess the necessary skills and knowledge regarding their role in the evaluation process.

Risk/ Effect

The selection of non-competitive or non-conforming bids could lead to uneconomical use of funds, poor construction quality or to value-for-money not being achieved.

Recommendation 13 (Essential)

For future procurements, the MOH should comply with the national procurement regulations, particularly in regards to ensuring that sufficient time is allowed for bidders to respond in full to: (i) bid request; (ii) bundling of similar goods and services to achieve economies of scale; (iii) signing of financial bids by the members of the 'bids opening panel' immediately after opening; and (iv) ensuring that the bids with missing key documents are disqualified.

See Annex 7 for management comment and action plan.

6.3 Non-standardised bidding documents

There was no consistency in the template, format and requirement of the bidding documents issued for incidences of procurements which applied the same procurement method. The Audit Team noted that bidding documents were not standardised, and that the format differed depending on the preference of the individual initiating the procurement. As a result, the various responsive bids were not consistent in their presentation and were not comparable across similar procurements using the same method.

In addition, the approach and procedure adopted for the opening of bids and the evaluation review and reporting was not standardised. As a result, some key information clarifying whether due process was followed was missing in select bid-opening minutes and bid evaluation reports, because presentation of weak content was not prevented by the evaluation report template.

Cause

Non-standardised tools and formats, including: (i) templates for bidding documents for use in various methods of procurement; and (ii) the report format and content solicited from bid openings and tender evaluations.

Risk/ Effect

Absence of standardisation of procurement tools may lead to omission of certain steps and information which are critical for the bid submission and the evaluation process.

Recommendation 14 (Essential)

For future procurements, the MOH should prescribe and document a consistent approach to be followed for bid evaluation processes; and standardise its templates for bidding documents and tender evaluation reports.

See Annex 7 for management comment and action plan.

6.4 Ineffective contract management practices

The Audit Team observed the following four instances of ineffective contract management:

- Despite the MOH Procurement unit having a suitable automated procurement management system in place, the system's controls were not regularly applied. In some instances purchase orders (PO) were belatedly issued – either prior to receiving the final approval from the procurement committee or after the delivery of goods, undermining the purchase orders' credibility and suggesting that the orders were raised to provide the appearance of legitimacy to the documentation.
- Several of the key annexes referenced in the contracts for construction works were not on file or attached to the contract. For example Annex 3 of the 2016 contract related to construction of RVS was missing. The purpose of Annex 3 was to outline the corresponding milestones which had to be reached for subsequent funding tranches to be paid to the supplier. The MOH was unable to provide the missing Annex 3, even after multiple request by the Audit Team.
- The contractors did not prepare and submit progress reports for the civil works to the MOH as required. As a result, it was difficult to establish progress on the civil works and how to match this to the delivery milestone payments.
- Some of the contract documentation contained errors, such as an erroneous reference to warranty terms, which did not match the type of warranty offered by the vendor in their submission.
- The MOH did not have a mechanism in place to measure supplier performance for the ongoing and completed contracts.

Cause

The automated procurement management system was not routinely used to raise POs. The individuals involved in the procurement process did not fully appreciate the importance of the purchase orders in ensuring the correct delivery and linking contract, delivery, vendor and payments. Purchase orders appear to have been raised retroactively to facilitate the payments. Also, it is likely that local suppliers agreed to deliver their goods and services in absence of purchase orders.

Risk/ Effect

- Inability to link the delivery of goods and service with the contract and purchase orders.
- Risk that the supplier is paid prior to the completion of works/ delivery of services.
- Difficulty in enforcing contractual terms and condition in the case of non-performance or an adverse event occurring.

Recommendation 15 (Essential)

i. The Procurement unit's automated procurement system should be fully integrated into the procurement cycle, including the education of suppliers that delivery of goods and services should only take place after receipt of a signed purchase order. This may encourage the suppliers to request a PO prior to delivery and ultimately obligate the MOH to routinely issue them. The MOH should not accept deliveries in absence of a PO.
ii. The MOH Procurement unit should establish a suitable mechanism to monitor and track the performance of its ongoing contracts to improve delivery timelines, and avoid repeat purchase of suboptimal quality. Suppliers should not be paid until the required progress reports (as stipulated in the contract) are submitted and satisfactorily reviewed by the end user and the Procurement unit.

See Annex 7 for management comment and action plan.

Annex 1: Definitions of audit ratings and prioritisations

A. Audit ratings

The Gavi Programme Audit Team's assessment is limited to the specific audit areas under the purview and control of the primary implementing partner administrating and directing the programme of immunisation. The three audit ratings are as follows:

- **Satisfactory –** Internal controls and risk management practices were adequately established and functioning well. No high-risk areas were identified. Overall, the entity's objectives are likely to be achieved.
- **Partially Satisfactory –** Internal controls and risk management practices were generally established and functioning, but needed improvement. One or more high- and medium-risk areas were identified that may impact on the achievement of the entity's objectives.
- **Unsatisfactory –** Internal controls and risk management practices were either not established or not functioning well. The majority of issues identified were high risk. Hence, the overall entity's objectives are not likely to be achieved.

B. Prioritisation of recommendations

The prioritisation of the recommendations included in this report includes proposed deadlines for completion as discussed with the Ministry of Health, and an indication of how soon the recommendation should implemented. The urgency and priority for addressing recommendations is rated using the following three-point scale, as follows: Critical – Essential – Desirable.

Annex 2: Breakdown of questioned expenditures by grant

Grant type	Inadequately supported expenditure	Irregular expenditure	Unsupported expenditure	Ineligible expenditure	Total
Ebola EPI Recovery	13,225	9,770			**22,995**
Health System Strengthening	36,630	5,180	31,630	35,710	**109,150**
HPV Demo	4,690	2,995	947	41,103	**49,735**
Total	**54,545**	**17,945**	**32,577**	**76,813**	**181,880**

Annex 3: Photos of National Vaccine Store

Photo 1: Construction materials in the National Vaccine Store which also housed refrigerators (seen) for Montserrado county depot.

Photo 2: Construction materials stacked between the refrigerators of the Montserrado county depot and Walk-in-cold-room of NVS.

Annex 4: Discrepancies in quantities of vaccines issues and received

Health facility	Vaccine type	Issued by county depot	Recorded as received by HF	Variance	Variance %
Palala HF	Pentavalent	50	150	(100)	-200%
	Pentavalent	600	500	100	17%
	PCV	250	500	(250)	-100%
C.B. Dunbar HF	PCV	700	600	100	14%
	Pentavalent	100	150	(50)	-50%
		50	100	(50)	-100%
		50	100	(50)	-100%
	PCV	100	50	50	50%
		100	150	(50)	-50%
		150	50	100	67%
Well Baby Clinic	Rotavirus	50	100	(50)	-100%

Annex 5: Results from review of Temperature monitoring

Site	Facility type	VVM Records in place	Temperature
Bong county	County Vaccine Store	No	Records prior to 1 Jan 2017 not available.
Liberia Government Hospital	District Hospital	No	Record only available for 17 days in August 2017 of which temperature readings out of range for seven consecutive days.
C.B. Dunbar Hospital	District Hospital	No	No records over weekends.
Well Baby Clinic	Health Facility	No	In August 2017, temperature readings out of range for 10 consecutive days.
Palala Health facility	Health Facility	No	No records over weekends.

Annex 6: Classification of expenditures questioned by Audit

Adequately supported – Expenditures validated on the basis of convincing evidence (evidence which is sufficient, adequate, relevant and reliable) obtained by the auditors during the carrying out of their mission on the ground.

Inadequately supported – This covers two sub-categories of expenditure:

a. Purchases: This is expenditure for which one or more of the essential items of documentary evidence required by the country's regulations on procurement are missing such as procurement plan, tender committee review, request for quotation, invoice, contract, purchase order, delivery note for goods and equipment, pro-forma invoice, the final invoice, etc.
b. Programme activity: This is expenditure where essential documentation justifying the payment is missing. This includes but is not limited to travel without a travel authorisation, lack of a technical report or an activity report showing completion of the task, signed list by participants. Lack of the same documents to support liquidation of advances/floats given for meetings/trainings/workshops etc.

Irregular Expenditure – This includes any deliberate or unintentional act of commission or omission relating to:

a. The use or presentation of documents which are inaccurate, incomplete/falsified/inconsistent resulting in the undue use or payment of Gavi provided funds for activities, or the undue, withholding of monies from funds granted by Gavi,
b. The embezzlement or misappropriation of funds to purposes other than those for which they were granted.

Ineligible expenditures – Expenditure which does not comply with the country's programme/grant proposal approved by Gavi or with the intended purpose and relevant approved work plans and budgets.

Annex 7: Management comments and action plan

#	Audit Recommendation	Management Comment as at 19 April 2018
	The Ministry of Health should: i. Prepare a suitable detailed plan to manage the transition of the NVS to the newly prepared site. The plan as minimum, should include clear timelines and milestones for: the installation of key tools and equipment such as temperature monitoring, stock management tools, cold rooms, computers, firefighting equipment, etc.; clear, written communication to all warehouse staff regarding their new duty station; suitable NVS insurance arrangement; identification of the required operational resources to sustain the new site (e.g. vehicles, additional manpower, security); and management engagement and oversight over the project. ii. Bring online and operationalise the two newly constructed RVS and complete the construction of any remaining RVS. Adjust the relative vaccine stocks holdings across the RVS to reduce demands upon the NVS' existing capacity. iii. Procure additional infrastructure and cold chain equipment particularly for county depot, district depots and health facilities in Montserrado County. iv. Implement appropriate firefighting and safety measures and tools – e.g. relocate the NVS waste pit away from the vaccine store. v. Declutter the NVS' existing premise and remove any materials which compromise the environment safety of the vaccines and staff. Construct suitable toilet facilities at the existing NVS site.	The Ministry of Health agrees with the recommendations. **Recommendation (i)** The MOH has either undertaken or plans to undertake the following actions: – Amended the existing contract to include procurement and installation of cold chain equipment as well as routine maintenance of equipment for one year. Responsible Units: EPI/ Infrastructure/Procurement/OFM – The National Logistics working group's responsibility will be increased by including the temperature mapping and monitoring of the cold rooms. Responsible Unit: EPI in concert with UNICEF & WHO – Updating and production of stock management tools as well as SOPs. Responsible Unit: EPI – Staff at the EPI vaccine store were trained by UNICEF on basic warehousing skills. In addition, designated staff were informed of their new duty station and will receive written communication once operationalize. Responsible Unit: EPI – Insuring National Vaccine Store – The Ministry of Health is holding ongoing conversation with Insurance Company of Africa for insuring the building and its content as well as for theft. – The Immunization program has procured 5 laptops for project officers to include staff of the National Vaccine Store. Responsible Unit: EPI – Currently, two 25kg fire extinguishers, two 6kgs fire extinguishers and two fire blankets have been procured for both the National vaccine store and Bong regional cold store. Staff at the National vaccine and Bong Regional stores have been trained on basic firefighting skills and the usage of the equipment while Grand Gedeh Regional store is pending. Responsible Unit: EPI – Already available at the EPI National Vaccine Store are 2 refrigerated trucks, 1 truck for dry supplies and 1 pickup for logistics. Once the new vaccine store is made operational, the above logistics will be made readily available for use. Responsible Unit: EPI – Ongoing discussion by the MOH to identify additional manpower and a reputable security firm. Responsible Unit: MoH Administration Department/EPI

		Recommendation (ii) EPI has two Regional Vaccines Stores (RVS) to date. However, the RVS located on Phebe compound, Bong County is operational and is serving Bong, Lofa and Nimba counties. In addition, the RVS located in Grand Gedeh County is expected to be operationalized by July 2018 and is expected to serve the entire South-eastern region (Grand Gedeh, Grand Kru, Maryland, River Gee and Sinoe). Responsible Unit: EPI **Recommendation (iii)** The EPI will work closely with Montserrado County Health Team to ensure smooth relocation of the County Immunization depot to Barnersville Health Centre over the next 180 days as oppose to constructing district depots, a precedent that cannot be sustained in other counties due to financial constraint. The EPI team is working with the county to replace aged cold chain at the county depot and health facilities under the CCEOP. Replacement and installation of new CCE is expected to begin May 2018. Responsible Unit: EPI **Recommendation (iv)** Fire safety measures have been put in place such as stopping the practice of burning the waste in a pit right next to the vaccine store and fire suppressant tools procured and staff trained on the usage of fire suppressant tools. Moving forward, all immunization waste at the national vaccine store will be disposed of through public incinerator at the National waste disposal site. Responsible Unit: EPI **Recommendation (v)** General clean-up exercise has been conducted at the National vaccine store and non-immunization related materials have been removed. In addition, monthly clean-up exercise has been initiated moving forward. Responsible Unit: EPI **Recommendation (vi)** Construction to expand and address challenges associated with toilet facilities and additional storage space have been completed as of February 2018. Responsible Unit: EPI
2	In accordance with recent decisions by the MOH, EPI and UNICEF and so as to strengthen both the EPI's supervision of vaccine management as well as ensure accountability thereon, the MOH is recommended to: i. Develop a comprehensive Vaccine Management Guidelines in consultation with the partners. See Recommendation 3 for details.	The Ministry of Health agrees with the aforementioned recommendation and has instituted the below processes: i. Has developed a draft vaccine management guide along with in country partners and awaiting feedback by end of March 2018. ii. Funding secure for production and distribution of the vaccine management guide by April 2018. See below cover page of the guide:

	ii. Develop an operational guideline for routine EPI supervisory visits. These guidelines should as a minimum define the: frequency; composition of team members; target coverage; checklist/tools to be used; suggestions and proposals to address any weaknesses identified; and mechanism the follow-up- of proposed actions. iii. Task the existing EPI Technical Working Group – which consists of representatives from the EPI, MOH and partners – to oversee the implementation of supervisory activities. The Working Group should also identify and co-opt resources that will be required for it to perform its supervisory activities.	iii. Developed draft operational supportive supervision guideline along with in country partners and awaiting feedback. Funding secure for production and distribution by April 2018. iv. The current EPI Technical working group terms of reference captures the aforementioned recommendation. Responsible Unit: EPI along with WHO & UNICEF.
3	The MOH is recommended to: i. Develop comprehensive Vaccines Management Guidelines. These guidelines should be supplemented by the following activities: a) Development of a Standard Operating Procedures (SOP) on the basis of the guideline. b) Develop required forms/tools/checklist/protocols for key areas such as warehouse management, temperature monitoring, health and safety, and warehouse monitoring. c) Train the EPI programme health workers from all levels, on key requirements including maintaining data/ temperature records, reporting and fire-fighting and safety measures. ii. Include suitable spot checks and inspections of stock records during the supervision visits. These supervisions should aim to identify the root causes of errors and suggest approaches so as to improve the quality of data pertaining to vaccine movements, consumption and wastage. As the primary user of such data, the MOH is recommended to clearly communicate its requirements for accurate and timely data to the individuals responsible for generating such immunisation data.	The Ministry of Health agrees with the recommendations and has already undertaken the following actions: i. Draft SOPs; collection and reporting forms; checklist; and protocol are developed and awaiting inputs from partners as of March 2018. ii. EPI staff at the Central and regional stores have been trained on the use of fridge tag, proper recording or temperature, maintenance of good data quality and firefighting and appropriate safety measures. However, there is ongoing discussion to mobilize resources to rollout said training to lower levels (county and health facilities) by the end of 2018. iii. Funding available under GAVI HSS 3 grant will be used to: a. Conduct quarterly immunization supply chain supportive supervision b. Conduct nationwide vaccine wastage study. Responsible Unit: EPI along with UNICEF and WHO.
4	The MOH, with suitable assistance from the immunisation partners should: i. Improve information sharing mechanisms between the EPI, MOH units and the immunisation partners, on important issues including vaccine arrivals, emergency situations and construction/renovation of vaccine warehouses.	The Ministry of Health agrees with the recommendations and will institute appropriate measures moving forward to improve communication and clearly delineate the roles and responsibilities of all technical working group. This is expected to take place during the EPI quarter review meeting slated for July 2017. Responsible Unit: EPI

	ii. Clarify the mandate of various existing technical working groups, such that their role and ownership for monitoring such important issues is strengthened.	
5	The MOH is recommended to: i. Develop an Annual Work Programme and Budget jointly between the EPI and the OFM teams, prior to commencing of programme implementation for each grant; ii. Maintain an up-to-date approved Annual Work Programme and Budget in its NetSuite system; and iii. Prepare budget execution and budget variance analysis reports at specified intervals and submit them to the Gavi grant coordinator for review.	Ministry of Health agrees with the recommendations. Recommendation i: The annual work programme and budget has been developed and programme implementation has begun. Responsible unit: OFM Recommendation ii: The HSS 3 budget was uploaded into the NetSuite system on January 26, 2018. Responsible unit: OFM Recommendation iii: The Quarterly financial report and the budget execution and budget variance analysis reports for the first quarter will be submitted to GAVI, on May 15, 2018, 45 days after the end of the of the quarter. Responsible Unit: OFM & EPI
6	The MOH is recommended to: i. Institute a practice whereby the OFM and EPI teams jointly review progress of implementation every three months, by reviewing the quarterly budget against expenditures incurred. ii. Consolidate the grant balances of HSS 1 and 2 and with the technical support of Alliance partners revise the HSS workplan which includes activities that accelerate programme implementation.	The Ministry of Health agrees with the recommendations. i. Starting from Q2 of 2018, OFM and EPI have agreed that a joint review progress implementation meeting will be held on the second Friday after end of a quarter. Responsible units: EPI, OFM & Procurement ii. The consolidation of the grant balances for HSS1 & 2 will be done on March 9, 2018. We will also recommend that the balance of the ISS funding in the pool account be transferred to the GAVI HSS account at the Central Bank of Liberia. Responsible Units: EPI, OFM & Procurement.
7	The MOH is recommended to improve its process of reviewing accountabilities, so as to ensure that supporting documentation submitted by the counties complies with national financial management requirements. Any issues or differences identified by this review should be promptly followed up with the counties. Unresolved issues or suspected anomalies should be referred to the internal audit and MOH management for further consideration.	The Ministry of Health agrees with the recommendations. Responsible units: OFM, Internal Audit
8	The MOH is recommended to ensure that the all counties promptly account for their advances by submitting the required supporting documents in a timely manner. The review log and the tracking of advances prepared by	The Ministry of Health agrees with the recommendations. A meeting was held with the counties reiterating the timely submission of liquidation to the OFM which has become a challenge for the MOH. However, as part of the OFM plan in terms of quarterly monitoring and supervision visits to the counties (to

	the Examiner should be reviewed by his supervisor, and action taken to address any shortcomings identified.	review their financial records and give support where necessary) have become irregular due to lack of funding. The financial support from GAVI will assist the OFM with the continuation of our quarterly visits to the counties thereby addressing the issues of liquidation and advances. Responsible Units: EPI, OFM, Internal Audit
9	The MOH is recommended to: i. Finalise coding of expenditure for Gavi in NetSuite ERP financial system so that it is possible to generate Gavi-specific grant reports which are then submitted to Gavi every three months, as agreed; ii. Prepare interim and annual financial statements within the agreed deadlines as set down in the Aide Memoire and other Gavi agreements; and iii. Ensure that dedicated, ring-fenced bank account(s) are maintained for Gavi provided funds.	i. As of March 2018, the MOH has made significant improvement by creating codes in the NetSuite for the 2018 GAVI HSS and Measles grant budgets. With this improvement, reports can be done instantly, including: GAVI specific reports, comparison of detail budget and actual activities; and budget restriction for overspending on budget lines. ii. Recommendation accepted iii. Recommendation accepted, however the OFM wishes to recommend that the balance ISS funding in the pooled account at Ecobank be transferred to the HSS account at CBL thus making the CBL account the sole ring-fenced bank account. Responsible unit: EPI & OFM.
10	The MOH is recommended to ensure that in future: i. The audited financial statements are completed and submitted on time to Gavi, in compliance with the agreed requirements stipulated in the Aide Memoire and Partnership Framework Agreement, This includes that both the external auditor appointment and the conduct of the audit is undertaken on time. ii. The audit firm selected is capable of conducting audits in compliance with Gavi's guidelines on financial management and audit requirements.	i. The Ministry of Health agrees with the recommendation (i). Responsible Units: EPI & OFM. ii. The Ministry of Health agrees with the recommendation (ii). Responsible Units: EPI, OFM, Internal Audit, Compliance, & Procurement
11	It is recommended that: i. The EPI, OFM and Internal Audit teams should discuss the areas of high risk to be reviewed by Internal Audit with respect to the programme budget, workplan and activities funded by Gavi; ii. Each year, Internal Audit develops a risk-based internal audit plan identifying the key elements to be audited matched by the resources required to execute the plan; and iii. A discussion is held with Gavi's Country Programme team to explore the possibility of Gavi funding specific internal audit activities and components.	The Ministry agrees to the recommendation and starting from the second quarter of 2018, will institute quarterly meeting moving forward. Responsible Unit: EP, OFM and Internal Audit

12	The MOH should comply with its national procurement regulations, as guided by the agreed applicable terms and conditions of the Partnership Framework Agreement and Aide-memoire. So as to ensure compliance: i. The EPI, with help from the MOH's Procurement unit, should prepare and submit to Gavi, its annual procurement plans; ii. The MOH's Procurement unit should develop suitable working tools and templates based on the national procurement regulations so as to improve transparency, competition and compliance with the requirements of national procurement regulations and Gavi grant agreement(s).	The Ministry of Health agrees with the recommendations. i. Beginning of fiscal year 2017/18, the MOH will provide GAVI with a copy of annual procurement plans once approved by the National Public Procurement and Concession Commission of Liberia. Responsible unit: MOH/Procurement ii. The recommendation will be implemented in the 2017/2018 fiscal year. The MOH/Procurement Unit has already developed a Standard Operating Procedure (SOP) that is intended to further enhance best practice in accordance with the procurement laws and regulations of Liberia. Responsible unit: MOH/Procurement Responsible Units: Procurement & EPI
13	For future procurements, the MOH should comply with the national procurement regulations, particularly in regards to ensuring that sufficient time is allowed for bidders to respond in full to: (i) bid request; (ii) bundling of similar goods and services to achieve economies of scale; (iii) signing of financial bids by the members of the bids opening panel immediately after opening; and (iv) ensuring that the bids with missing key documents are disqualified.	The Ministry of Health agrees with the recommendations. i. All bidding process will be done within the required time frame as stipulated in the law (PPCA, 2010). Kindly note that for services such as catering, when prequalification excises are conducted and vendors are prequalified in accordance with the requirements, price becomes the ultimate determining factor for selection and contract award. In instances of such we sometime consider it inexpedient to request vendors for price quotation to be submitted in the course of two weeks. We however take note of the recommendation, and improve the quality of the evaluation in the 2017/2018 fiscal year. ii. Agreed. iii. This has not been the practice before this audit commences. Hence, we have since adapted the practice and is currently being implemented. iv. Agreed Responsible Units: Procurement, Procurement Committee, and EPI

14	For future procurements, the MOH should prescribe and document a consistent approach to be followed for bid evaluation processes; and standardise its templates for bidding documents and tender evaluation reports.	The Ministry agrees with the recommendations. The Procurement Unit will ensure the standardization of the templates relative to the goods, works, services and non-consulting services. Even though there is a challenge in the standardization of the templates, where there are gaps we normally use the World Bank template but moving forward we will ensure substantial compliance. The Public Procurement Commission has developed and about to launch an abridge version of the Standard Bidding Documents that are intended to address low value procurement that falls under the threshold for Restrictive Bidding. It is significant to note that even though the bidding document is used, all of the requirements may not be needed for some low scale procurement. However, we have realized that due to the volume of the documents, most potential suppliers create some of these problems of responding to the tender. Responsible Unit: Procurement
15	i. The Procurement unit's automated procurement system should be fully integrated into the procurement cycle, including the education of suppliers that delivery of goods and services should only take place after receipt of a signed purchase order (PO). This may encourage the suppliers to request a PO prior to delivery and ultimately obligate the MOH to routinely issue them. The MOH should not accept deliveries in absence of a PO. ii. The MOH Procurement unit should establish a suitable mechanism to monitor and track the performance of its ongoing contracts to improve delivery timelines, and avoid repeat purchase of suboptimal quality. iii. Suppliers should not be paid until the required progress reports (as stipulated in the contract) are submitted and satisfactorily reviewed by the end user and the Procurement unit.	The Ministry of Health agrees with the recommendations. i. Recommendation (i) is applicable for transactions below the threshold or low value procurement. High value transactions are subject to PPCC approval and the associated contracts are subsequently forwarded to the Ministry of Finance and Justice for review and signatures. In cases of such formal contracts are issued instead of purchase order. ii. Recommendation (ii) - Delivery schedule is one of the selection requirements and are always captured in our solicitation documents. The time and place of delivery are clearly indicated in the contract or purchase order as issued. Moving forward, we will ensure that the Procurement officer assigned to a particular procurement related transaction serves as a liaison between the warehouse and the vendor to ensure that goods are delivered according to the condition of the contract as specified in the issued document (Purchase or Standard Contract). In general, the warehouse is instructed to inform the Procurement Unit when goods are being delivered to avoid poor quality and wrong goods. However, some transactions required advance payment before commencement of the contract, which is inserted into the contract terms. This is mainly applicable to contracts of high value like in the case of those that require external approval and or review (PPCC and Justice). Also note that:

		i. The MOH has ensured the implementation of some of the audit recommendations by preparing a procurement plan for the GAVI grant of procurable items and have sent the Plan to the Public Procurement & Concessions Commission for approval. Henceforth, all procurement activities of GAVI will be conducted with an approved procurement plan. ii. The MOH Procurement Unit will ensure that best practice or competitive procurement process is conducted for any item or ad hoc procurement that is unforeseen and not included in the Procurement Plan for the period. For example, if Supervision lines in the budget has the procurement of fuel, catering services, stationery supplies, communication cards, the Procurement Unit will ensure that these goods or services are hired through a competitive process.