

# Memorandum on Republic of Zambia

## Programme Audit report

The attached Gavi Audit report sets out the conclusions on the programme audit of Gavi's support to the Government of the Republic of Zambia's Expanded Programme of Immunisation. The audit, conducted by Gavi's Programme Audit team in June 2017 with an additional review in July 2017, covered programme activities during the period 1 January 2014 to 31 December 2016. During this time, Gavi supported New Vaccine Support as well as the Measles Rubella (MR) Campaign that took place in the second half of 2016. The final audit report was issued to the Zambia Ministry of Health (MOH) on 24 November 2017.

The report Executive Summary (pages 2 to 4) sets out the key conclusions, the details of which are set out in the body of the report:

1. There was an overall rating of partially satisfactory (page 2) 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".
2. Ten issues were identified relating to: (a) Programme Management; (b) Financial Management, and (c) Vaccine supply management.
3. The key findings were that:
  - a) Although micro plans were prepared by districts health officials for the MR Campaign, these plans were not consolidated into a national macro-plan and budget. In consequence, cash transfers from the centre to districts were not in line with the micro-plans and no other detailed activity plan was provided for guidance. In addition, the MOH did not maintain documentation on pre-campaign readiness assessments and intra-campaign activities to evidence of quality implementation.
  - b) The audit also noted control lapses on various expenditures reviewed which were inadequately supported. The MOH also did not follow national accounting regulations for imprest (advances) accounting. The audit questioned US\$ 81,416 of expenditure as it lacked adequate supporting documentation.
  - c) A web-based vaccine management tool had been partially rolled-out in Zambia. However contractual arrangements determining proprietary rights of the Government's primary data were not yet secured.
4. The results of the programme audit have been discussed and agreed with the Minister of Health, with a commitment to remediate the identified issues. Specifically in a letter of 3 January 2018, the FMoH committed to reimburse within 12 months the full amount of US\$ 81,416 requested by Gavi.

Geneva, April 2018

# **REPUBLIC OF ZAMBIA**

## **Programme audit of Gavi Support's to the Ministry of Health**

Gavi Secretariat, Geneva, Switzerland

Final Audit Report – 22 November 2017



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## 1. Abbreviations

DHS	Demographic Health Survey
DSA	Daily Subsistence Allowance
EPI	Expanded Programme of Immunisation
EPI – TWG	Expanded Programme of Immunisation - Technical Working Group
EVM	Effective Vaccines Management
EVMA	Effective Vaccines Management Assessment
HRH	Human Resources for Health
HSS	Health Systems Strengthening
KVA	1,000 volt amps
LMIS	Logistics Management Information System
MOH	Ministry of Health
MOH-TWG	Ministry of Health - Technical Working Group
MR	Measles Rubella
PFA	Partnership Framework Agreement
VSM	Vaccine Supply Management
SIAs	Supplementary Immunisation Activities
SOP	Standard Operating Procedures
USD	United States Dollar
WHO AFRO	World Health Organisation Regional Office for Africa
ZMW	Zambian Kwacha

## 2. Executive Summary

Between 15 May 2017 and 22 June 2017, the Audit and Investigations team (the Audit Team) conducted a programme audit of Gavi contributions to support the Republic of Zambia's Expanded Programme of Immunisation (EPI). A supplementary visit was carried out in July 2017 to validate additional documents provided by the Ministry of Health.

From 2014 to 2016, the total support provided by Gavi to Zambia totalled USD 40,936,700. Approximately USD 4.5 million (11%) of this support was in cash for this period, the remaining balance totalling USD 36.5 million (89%) was provided in-kind in the form of the provision of vaccines and immunisation supplies.

Table 1 below shows a summary of the Zambia Ministry of Health (MOH) expenditure reported as well as amounts reviewed for the Measles Rubella (MR) campaign in 2016. The Programme Audit achieved a total overall coverage of 52% of the Zambia MOH's expenditure reported for the period of audit, i.e. between August 2016 and May 2017:

*Table 1: Summary of total disbursements and corresponding expenditure reviewed during the audit.*

Gavi cash grant	Amounts disbursed to the MOH (USD)	Expenditure during period (USD)	Expenditure reviewed (USD)
Measles Rubella (MR) Campaign	4,501,608	3,890,608	2,018,522

### Audit rating

The Audit Team assessed the Zambia Ministry of Health's management of Gavi 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". Although the overall rating was "partially satisfactory", the financial management area was found to be unsatisfactory.

The table below summarises the Audit Team's ratings for each of the areas reviewed:

*Table 2: Summary of audit focus areas rated by programme audit*

Area	Audit Rating
Programme Management	Partially satisfactory
Financial Management	Unsatisfactory
Vaccine Supply management	Partially satisfactory
<b>Overall rating</b>	<b>Partially satisfactory</b>

### Key issues

The Audit Team raised 10 issues from the programme audit, most of the issues related to non-compliance with Government public financial management regulations, MOH standard procedures for Effective Vaccine Management, and the Partnership Framework Agreement, jointly signed by the Zambian government and Gavi on 22 October 2014.

To address these issues, the Audit Team made 10 recommendations, of which six (or 60%) 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 high priority issues in this report are presented below:

- |                           |  |
|---------------------------|--|
| Programme Management      | <p>Although micro plans were prepared by district health officials, these plans were not consolidated into an overall national-level plan and budget. Moreover, the cash disbursements to the districts were not in line with their respective micro-plans. Even though MOH at the centre had changes to micro-plans, these were not provided to districts as guidance for implementation. Also there was no criteria for selecting participants for the pre-campaign training, and training attendance lists were either missing or incomplete. As such the Audit Team had no documentation on file to validate that the same individuals who were trained, were the same as those who took part in the campaign.</p> <p>There was no documentation to show how or whether pre-campaign assessments and intra-campaign supervision were conducted. WHO guidance recommends the use of readiness assessment tools and supervision checklists and reports, and the training of supervisors.</p>                   |
| Financial Management      | <p>From its review, the Audit Team questioned amounts totalling USD 81,416 equivalent to 4% of expenditures sampled, half of which related to transactions with no supporting documentation, and half to activities which could not be directly linked to the MR campaign. The audit also noted control lapses on USD 830,111 of expenditures reviewed (and 41% of what was sampled) which were inadequately supported. The MOH did not follow national accounting regulations for imprest (advances) accounting and did not monitor outstanding balances, as a consequence several advances remained unretired for periods of several months after the activity. For example, there was a significant balance of about USD 80,000 with an individual which was outstanding for nine months, and which was only refunded upon inquiry by the Audit Team. The MOH also failed to comply with the reporting requirements as agreed with Gavi and there was no internal audit oversight during the MR campaign.</p> |
| Vaccine Supply Management | <p>MOH introduced a vaccine supply management system, Logistimo, first as a pilot across the central level, two provinces and selected districts. Subsequently, Logistimo was rolled out in January 2017 to all of the provinces and districts. However, the system was implemented without proper due process (including no approval by the relevant MOH Technical Working Group) and there was no contractual arrangements in place determining proprietary rights, resulting in the Government's primary data not being secured.</p> <p>The staff responsible for vaccines did not keep up to date records. Also several data fields in the vaccine management system were not filled in, such as the vaccine vial monitoring (VVM), batch numbers and expiry dates. The Audit Team visited 18 vaccine stores and noted other weaknesses, including unexplained stock</p>   |

adjustments, and stock counts not conducted regularly. Temperature and VVM monitoring were also not done consistently.

The recommendations raised by this audit were prioritised as either critical, essential or desirable, and definitions of the prioritisation levels are shown on Annex 8.

The table below summarises amounts questioned by the Audit Team and amounts where control lapses were identified:

*Table 3: Summary of questioned amounts (all amounts in US Dollars)*

<i>A: Expenditure questioned in absence of evidence that funds were used for programme purposes</i>							
	Provinces						
Location	National	Western	Southern	Central	Lusaka	Northern	Total
Supporting documentation not provided	9,245	1,906	2,063	2,749	19,661	7,987	<b>43,611</b>
Expenses outside approved work plan	1,322	2,967	9,024	5,469	10,255	8,768	<b>37,805</b>
<b>Total – A</b>	<b>10,567</b>	<b>4,873</b>	<b>11,087</b>	<b>8,218</b>	<b>29,916</b>	<b>16,755</b>	<b>81,416</b>
<i>References in Annex 2</i>	<i>Table 9</i>	<i>Table 10</i>	<i>Table 11</i>	<i>Table 12</i>	<i>Table 13</i>	<i>Table 14</i>	<i>Table 15</i>
<i>B: Expenditure questioned because of internal control lapses:</i>							
Location	National	Western	Southern	Central	Lusaka	Northern	Total
Inadequately supported expenses	322,485	61,145	38,755	152,883	176,220	78,623	<b>830,111</b>
<b>Total – B</b>	<b>322,485</b>	<b>61,145</b>	<b>38,755</b>	<b>152,883</b>	<b>176,220</b>	<b>78,623</b>	<b>830,111</b>
<i>Reference in Annex 3</i>	<i>Table 15</i>	<i>Table 16</i>					
<b>Grand Total C = A+B</b>	<b>333,052</b>	<b>66,018</b>	<b>49,842</b>	<b>161,101</b>	<b>206,136</b>	<b>95,378</b>	<b>911,527</b>

The MOH has also made significant efforts to follow up on VAT exemption after the audit. As per communication from the Zambia Revenue Authority, approximately USD 25,000 of VAT paid during the campaign will be refunded to the grant. These amounts are not included in the questioned costs above.

### 3. Objectives and scope of the Audit

#### 3.1 Objectives

In line with the Partnership Framework Agreement and Gavi's Transparency and Accountability Policy, the main objective of a programme audit is to provide assurance on whether the funds were spent in accordance with the agreed terms and conditions, and that resources were used for the intended purposes.

In addition, the programme audit also assessed the adequacy of the control processes regarding the reliability and integrity of financial, managerial and operational information, the effectiveness of operations, the safeguarding of assets, and compliance with respective national policies and procedures.

#### 3.2 Scope

Although the scope of review under this audit was the period 1 January 2014 until 31 December 2016, the only disbursement to MOH related to the MR operational campaign carried out in 2016. The audit covered income received, expenditures incurred for the MR campaign operational costs and vaccine supply management at national, provincial and district level.

As part of its financial review, the Audit Team visited five provinces and 30 districts, as well as supply chain review included visits to the national store, three provincial stores, eight districts and six health facilities.

The total cash and vaccine support provided by Gavi to Zambia (HSS, ISS, MR operational costs, Vaccine Introduction Grants) totalled USD 131,578,314 from 2001 to 2016.

Gavi disbursed cash grants totalling USD 4,501,608 and vaccines totalling USD 36,435,092 to Zambia over the past three years within the period of audit scope i.e. 1 January 2014 to 31 December 2016.

The table below illustrates Gavi's cash disbursements to the Zambia over the past three years, as well as cumulative disbursements since the beginning of Gavi funding.

Table 4: Gavi disbursements to Zambia (all amounts in US Dollars)

Grant type/Year disbursed	2001 to 2013	2014	2015	2016	Grand Total
Cash Grants	6,686,713	-	-169,655 <sup>1</sup>	4,501,608	11,018,666
Vaccine Support	84,124,556	4,755,067	17,430,716	14,249,309	120,559,648
<b>Total</b>	<b>90,811,269</b>	<b>4,755,067</b>	<b>17,263,076</b>	<b>18,752,933</b>	<b>131,578,314</b>

#### 3.3 Exchange rates

For the purposes of this report, all amounts denominated in the Zambian Kwacha (ZMW) were converted using an average exchange rate of USD 1 = ZMW 10.06. The Audit Team selected this rate because it was the average mid-rate<sup>2</sup> for the months of August and September 2016, when the majority of the MR Campaign activities, which were predominantly transacted in cash, took place.

<sup>1</sup> Unused HSS funds refunded by MOH on 15 May 2015.

<sup>2</sup> Mid-rate as published by the Bank of Zambia: [www.boz.zm/monetary-and-financial-statistics.htm](http://www.boz.zm/monetary-and-financial-statistics.htm)

## 4. Background

### 4.1 Introduction

Zambia is a landlocked country and shares borders with eight countries. The country is divided into 10 provinces namely Northern, Muchinga, Luapula, Eastern, Lusaka, Central, and Copperbelt, North-Western, Western and Southern provinces which incorporate 103 districts.

The population is concentrated mainly around Lusaka (the capital), Copperbelt and the main highway south-west to Livingstone. Zambia encompasses a total land area of 752,612 square km. In 2010, Zambia's population was estimated at 13.1 million and 49.3% were males and 50.7% were females.

The country has continued to record a significant decline in morbidity and mortality among children in the last three demographic and health surveys although the overall childhood statistics remain relatively high. The Demographic Health Surveys have revealed a declining trend in Infant Mortality Rate (IMR) from 109 in 1996 to 95 in 2002 and further to 70 in 2007 and 45 in 2013 DHS.

The Gavi grants are managed by the EPI programme which sits under the Child Health Unit within the Public Health Department.

### 4.2 Achievements

The Government of Zambia through the MOH developed a vaccine cold chain expansion strategy to address cold chain gaps identified following the 2011 EVMA. At national level, the vaccine storage warehouse was rehabilitated to accommodate the capacity expansion for new walk-in cold rooms and dry stores for storing injection safety materials. This was completed with the installation of five 40m<sup>3</sup> state of the art equipment for vaccine storage and the installation of a 63 KVA stand by generator.

Similarly, at provincial level, eight of the 10 provincial vaccine stores were each expanded with the capacity of 30m<sup>3</sup> accompanied by the rehabilitation of existing buildings and installation of new standby generators. At facility level, a total of 716 solar fridges were procured and installed. In addition, 250 x 24 litre capacity electric fridges and 550 vaccine carriers for health facilities have been procured over the last six years.

### 4.3 Key challenges

The country still faces several challenges in executing immunisation programmes and healthcare including:

- Shortage of Human Resources for Health (HRH): The 2014 EPI Review acknowledges that there is limited skilled health facility staff responsible for EPI and surveillance. The National Health Strategic Plan (NHSP) and HRH Strategic Plan also identify the inequitable distribution of health workers in Zambia as a problem as most of them are located in urban areas. The shortage of health workers in rural and remote areas of Zambia affects the delivery of immunisation and other health services;
- Inadequate outreaches: The 2014 EPI review found that out of the planned 4,531 outreach immunisation clinics, only 13% actually took place. The failure to conduct outreach clinics has negatively impacted immunisation coverage.
- Inadequate transport: The inefficient and insufficient transport system in Zambia's health system is acknowledged in the NHSP and the 2014 EPI review. This affects, among other things, the conduct of outreach, referrals and supportive supervision services.

- Inadequate supervision: Both the NHSP and the 2014 EPI review acknowledge that there is limited supervision of staff at all levels.
- Inadequate information, education and Communication for Immunisation (C4I) for routine immunisation programmes;

#### **4.4 MOH's stated priorities for 2017 to 2021**

Based on Zambia's Comprehensive Multi-Year Plan, the national goals and priorities are as follows:

- Achieve 90% Diphtheria-tetanus-pertussis (DTP3) coverage in every district by 2021
- To reduce Measles Containing Vaccine 1st dose (MCV1) - MCV2 drop out from 43% to less than 10% by 2021
- To increase the fully immunised coverage from 47% to 90% by 2021
- To achieve 90% awareness the benefits of full immunisation among care giver by 2021.
- To introduce Inactivated Polio Vaccine (IPV) Vaccination into the NIP in 2018
- To sustain polio free status through 2021 and beyond
- To sustain non-polio Acute Flaccid Paralysis (AFP) rate of > 2 per 100,000 population under 15 years and stool adequacy rate of > 80% in every province in 2021
- Meet the Sustainable Development Goal (SDG) number 3, target 3.2 (which aim at ending vaccine preventable deaths in children under five years of age).
- To achieve 100% government funding for vaccines used in routine immunisation programme by 2021
- To lobby for amendment of the law on immunisation taking into consideration status by 2018

## 5. Detailed Findings

### 5.1 Programme Management

	Audit Rating
<p>Although micro plans were prepared by districts health officials, these plans were not consolidated into a national macro-plan and budget. In consequence, cash transfers from the centre to districts were not in line with the micro-plans and no other detailed activity plan was provided as guidance. The MOH did not document a criteria for selecting participants for pre-campaign trainings, and so the Audit Team was unable to validate that the appropriate persons with the requisite training took part in the campaign, as the training attendance lists were either missing or partially completed.</p> <p>There was no documentation at the MOH to show how or whether pre-campaign assessments and intra-campaign supervision were conducted.</p>	<p><b>Partially satisfactory</b></p>

The “WHO AFRO Measles SIAs Planning and Implementation Field Guide”<sup>3</sup> recommends the following:

- i) Micro-planning workshops at the sub national level are conducted four to five months prior to the SIA, in addition to the national level macro planning. District level micro plans are then supposed to be reviewed at the national level to generate a budget. The guide recommends, as a pre-requisite to successful training, identification of qualified and committed trainers as well as appropriate participants who will both cascade the training as well as conduct the campaign activities.
- ii) A pre-campaign assessment to assess campaign readiness at health facilities and sub-districts. For uniformity and consistency, a standard checklist is supposed to be filled.
- iii) Various campaign activities including supervision and monitoring. The Field Guide recommends that supervisors are designated at each level to guide and support operative personnel, and ensure that the campaign is properly implemented. Equally, the supervisors should be given training in order to re-orient them on key skills and activities required to conduct effective and supportive supervision for the measles SIAs.
- iv) Monitoring and supervision for the Measles Rubella SIA was supposed to take place on the following three levels: Provincial, District and Health facility/ community. Supervision was also to have been conducted in three phases, namely planning, campaign supervision and reporting phases. During the planning phase every supervisor should develop a plan of activities to be undertaken including details on: the teams, sites to be covered, the hard-to-reach populations and/or special groups. During the campaign supervision phase, the supervisor should visit service delivery posts and vaccination teams. At the end of each day, the supervisor was required to summarize vaccination outcomes for the day into tally sheets, review the sheets for accuracy, participate in daily review meetings, and debrief teams on observations are the assigned sites.
- v) Supervisory visits to be duly documented using the structured campaign supervision checklists. Thus, supervisors are expected to document the findings and actions taken, as well as any managerial issues, and use this documentation to discuss with the SIA coordinators at the respective levels. The issues to be discussed may include logistical, social mobilisation or operational issues related to the vaccination efforts. In addition to

<sup>3</sup> WHO Field Guide issued in April 2011 – <http://www.measlesrubellainitiative.org/wp-content/uploads/2013/06/WHO-AFRO-Measles-Fieldguide-April-2011.pdf>

opportunities should be sought to follow-up troubleshoot, as well as take managerial measures and corrective actions. The supervisory checklists should also be reviewed by the SIAs coordinators to identify any lessons to be applied in future SIAs.

### 5.1.1 Pre-campaign activities

#### Shortcoming in the Micro Planning Process

Zambia started preliminary campaign planning, including drafting of the budget, in 2014 although this was then postponed to 2015 as the country decided to introduce Rubella in addition to Measles. In September 2015 the country submitted the application to Gavi for support to introduce Measles Rubella Vaccine through campaign. The application was approved by the Independent Review Committee (IRC) in November 2015. The EPI TWG set in motion preparatory activities for the campaign including development of activity timelines in early 2016. In August 2016, the MOH requested district medical offices to prepare micro-plans which would be collated into a single plan during a central level meeting that took place from 29<sup>th</sup> August to 11<sup>th</sup> September 2016. Although the districts submitted their micro plans to the MOH, these were not collated into a single plan or budget, nor discussed in detail at the planning meeting.

Consequently, the MOH transferred funds to districts in September 2016 based on a budget that was developed in 2014 (as the country had initially planned to carry out the campaign in 2014), and was not based on the micro plans that districts submitted in 2016. In addition, when sending funds to districts, the MOH did not provide details of work plans or the budgets.

In June 2017, at the time that the Audit Team visited the districts, the Team noted that health/campaign/administrative /medical/responsible officers had not followed the information that MOH sent with the disbursement notification. This information was not sufficiently detailed. Instead, each district used their best judgement to allocate funds to activities. In consequence, the pre-campaign activities undertaken by the district were not consistent, bringing into question the effectiveness of these efforts.

#### Lack of guidelines

In addition, the MOH did not provide written programmatic and financial guidelines for the campaign activities to provincial and district teams. In the absence of these guidelines, there were inconsistent practices as evidenced by the different supporting documents observed at the provinces and districts.

#### Absence of criteria for training participants

Training of provincial and district staff was conducted one week (29<sup>th</sup> August to 11<sup>th</sup> September 2016) prior to the campaign. This training targeted personnel who would take part in campaign activities at Health Centres and within communities. At district level, persons targeted to be trained were the medical officer, nursing officer – in charge of MCH, cold chain officer and the pharmacist. However it was not possible for the Audit Team to validate that the appropriate individuals with the requisite training took part in the campaign. This was because the criteria for the selection of participants for training was not documented, neither at national nor sub-national levels. Also, there were no lists of pre-selected training participants to attend making it difficult to ascertain whether only appropriate individuals were trained, and that this same group was actively engaged in the campaign thereafter.

Furthermore, training attendance registers were either inappropriately filled (i.e. not indicating the activity or funding source), missing or incomplete.

### **Cause**

The MOH allocated funds to the districts differently from the budgets that the districts developed by the microplanning process. The MOH management indicated that the assumptions contained in the micro-plans resulted in excessive budgets and since funds were not sufficient, they opted to send the initial approved budget (without costing and assumptions) to the districts and provinces. Limited time also hampered the approval, cascading of micro-plans and detailed budgets to provinces and districts with accompanying guidelines. Due to the decision by the MOH to go ahead, the lead time required for funds to reach the provincial and district accounts from initiation of the process was not long enough to accommodate microplanning.

### **Risk**

As the amount of funds provided to provinces and districts was less than the indicative funds per the district micro plans, and in the absence of other detailed guidance, officers at the subnational levels had to decide on an ad-hoc basis which activities to retain and which to forgo. By not applying WHO best practice, and because activities and budgets were not aligned, campaign activities may not have been implemented as designed. Furthermore, the MOH was unable to ensure that funds were only used for the designated activities in the approved work plan.

### **Recommendation 1 (Critical)**

In future, the MOH should:

- Develop micro plans through the nationwide stakeholder consultative process and harmonise them into a nationwide budget. This budget should form the basis of disbursements to districts and provinces. In addition, there should be a formal process for review and approval of any material changes to the approved micro-plans and budgets.
- Cascade the approved micro-plans and detailed budgets to provinces and districts and guidelines within a reasonable timeframe before the campaign as they form the basis for programme implementation.
- Ensure that the criteria for identifying training participants, as well as qualified, competent trainers is documented and followed. Also the identification and designation of the individuals who are to be trained should be determined using defined, documented criteria and suitable pre-prepared lists of these participants should be completed at the time of each activity and filed.

### **Management comments**

*As per the actions proposed, MOH accepts the recommendation.*

*The MOH will ensure that detailed activity reports are produced and filed to support the expenditure incurred. Decisions like the one made to go ahead with the campaign in view of the above would have to be better communicated to avoid such queries. Attendance sheets will strictly be obtained for all meetings by the EPI team supervised by the EPI manager.*

*The MOH has strengthened the oversight and autonomy of the EPI Manager for increased accountability towards the programme. The EPI manager's position is no longer an administrative*

*position but a gazetted position officially noticeable on the MOH organogram. The campaign could not be moved forward as the country was holding general elections and backwards as that would have been too close to examination time for most pupils.*

*While acknowledging the uniqueness of campaign interventions in terms of the intensity of work, the MOH will ensure that future campaigns have dedicated and increased administrative support to ensure effective communication and oversight from central to peripheral level. The MOH will be encouraging increased collaboration between the Accounts Team and the various Programme Teams including EPI to ensure improved record keeping and the implementation and roll-out of activities fully aligned to agreed budgets. The EPI Manager will have the oversight and responsibility across the programme to safeguard effective document keeping including attendance registers for all meetings, workshops and training, supervision checklists etc.*

### 5.1.2 Intra-Campaign

#### Pre-campaign assessment

The MOH planned to send central level supervisors to conduct pre-campaign supervisory visits in all ten provinces approximately two to five days prior to the main campaign activity. However, the pre-assessment checklists were not maintained on file.

#### Intra-campaign Supervision

The Audit Team observed lapses in the way the MR campaign was conducted, as seen by deviations from processes described in the WHO “Measles Planning and Implementation Field Guide”. In particular, the team noted that:

- (i) The criteria for selecting supervisors at both the national and sub-national levels were not documented;
- (ii) There was no documentation on file to evidence that supervisors underwent orientation on key skills and activities required to conduct supportive supervision;
- (iii) Pre-campaign and intra-campaign supervision checklists for both national and sub-national levels were not maintained or kept on file;
- (iv) Activity reports were not always prepared by the various teams implementing the supervision activities;
- (v) Where the supervisory activity reports covering the campaign were prepared, they were often incomplete with regards to information such as issues observed relating to: logistical, social mobilisation and operational considerations;
- (vi) There was no evidence that these activity reports mentioned above were reviewed by the SIAs coordinators, as recommended.

The EPI team commented that pre-campaign and intra-campaign supervision checklists were in fact completed, but indicated that these checklists were later discarded on preparation of the various activity reports. The Audit Team however noted that activity reports seen were missing details on the sites supervised, as well as information on discussions of issues observed during the campaign and how these were resolved.

**Cause**

Sub-national levels were not provided with guidance on the selection procedures for supervisors and the need for these supervisors to complete suitable documentation, including various supervisory reports and checklists.

The MOH management informed the Audit Team that the EPI secretariat held discussions with the subnational levels on the roles of the supervisors as well as a walk through the supervision tools during orientation of the different levels. However, the Audit Team observed that these instructions to sub national levels were not documented.

**Risk**

Unless suitable pre-assessment checklists are completed, systemic gaps that form the basis for corrective action may not be identified. In the absence of the suggested documentation and supervisory reports, it is not possible to substantiate that an effective MR campaign was conducted and that shortcomings were timely identified and addressed.

**Recommendation 2 (Critical)**

In future, as recommended by the WHO Field guide, the MOH should:

- Develop and clearly document criteria for selecting supervisors at each level.
- Give guidance on the selection of supervisors at sub-national levels and provide appropriate training.
- Prepare and store, for future reference, all completed supervisory checklists and reports.

**Management comments**

*Management agrees with the recommendation.*

*The following corrective actions are being implemented moving forward.*

- *The office of the EPI manager will from now on maintain third copies of all relevant programme reports that are submitted through the Office of the Permanent Secretary. These documents will be maintained for a minimum of 10 years. The MOH is also working with the National Archives Authority on document storage.*
- *The Office of the Permanent Secretary in the MOH will now have oversight and review documentation on selection criteria for participation in all workshops/meetings related across all disease programmes.*
- *The EPI Manager will be responsible for overseeing effective record keeping aligned to MOH policies and guidance, the team will also be responsible for ensuring that documentation is submitted for approval to the PS Office and for maintaining records for the legal period.*

*The MR Post Introduction Evaluation is being undertaken in October 2017 and the updated record keeping and sign-off process will be initiated during this activity. This will provide a good litmus test on the programme's ability to effectively manage documentation in accordance with the policies and procedures.*

## 5.2 Financial Management

	Audit Rating
<p>From the sample of documentation reviewed by the Audit Team, expenditure totalling USD 43,611 was not supported by appropriate documentation to enable validation of how funds were used. In addition, expenditures totalling USD 37,805 were spent on activities which could not be linked to the MR campaign. The Audit Team is questioning USD 81,416 equivalent to 2% of expenditures sampled. The audit also noted significant control lapses where USD 830,111 of expenditure reviewed was inadequately supported as evidenced by missing or incomplete: checklists, signed attendance lists, activity reports or where the basis for allocating fuel allowances was not documented.</p> <p>The MOH did not follow the Government of Zambia’s regulations with respect to the clearance/justification and reporting of imprests (advances) where in some cases, advances remained unretired for months after completion of activity. As a result, there was a significant balance of about USD 80,000 with a single individual which was only refunded upon inquiry by the Audit Team. The MOH also failed to comply with the reporting requirements as agreed with Gavi, where financial and audit reports were delayed.</p>	<p><b>Unsatisfactory</b></p>

### 5.2.1 Expenses relating to the use of funds not properly evidenced

Section 20.1(c), Annex 2 of the PFA states that, “the Government shall ensure that all expenses relating to the use or application of funds are properly evidenced with supporting documentation sufficient to permit Gavi to verify such expenses.” In addition, section 20.1(a) states that, “the Government shall use the funds and vaccines and related supplies received from Gavi under a Programme for the sole purpose of carrying out the Programme Activities of such Programme.” The MOH failed to comply with these provisions on expenditures, and in particular for transactions relating to fuel, overheads and Daily Subsistence Allowances (DSA).

The MOH incurred central level expenditures totalling ZMW 7,196,917 (USD 715,395) with respect to the Measles-Rubella activities funded by Gavi. ZMW 27,497,862 (USD 2,733,386) was disbursed by the centre to provinces and districts for campaign activities. The Audit Team reviewed all expenditure incurred at national level (USD 715,395) and expenditures totalling ZMW 12,952,446 (USD 1,287,512) from five provinces and 30 districts.

Government policy provides a formula for calculating fuel allowances, and it takes into account: distance travelled, price of fuel and a 10% contingency factor. However, the Audit Team observed that fuel payments at central level amounting to ZMW 527,326 (USD 52,418) were paid based on a list identifying recipients by name and amount due, but without the required details on distance travelled and the price of fuel. Thus the supporting documentation did not include complete information on how fuel allowances were computed. In the absence of this information, the Audit Team was not able to verify the validity of respective fuel payments, as these were not in line with Government policy. These amounts have been included in table 5.1 among expenditure with unsatisfactory supporting documentation.

The MOH paid ZMW 628,249 (USD 62,450) towards overheads, including: servicing motor vehicles and backup generators, and purchasing batteries, tyres and inner tubes. From the Audit Team's sample review of the documentation provided, all such expenditures were indirect and could not be traced to the MR Campaign for which Gavi's funding was provided. Specifically, all documentation relating to these expenditures did not include details on the respective activities, instead broadly generic expenditure descriptions such as fuel, vehicle spare parts, servicing and repairs were used. The Audit Team could not ascertain the activities which related to the expenses incurred. These amounts have been included in the expenditure where supporting documentation was not satisfactory in table 5.1 below.

The justification of DSA expenditures related to monitoring and supervision activities were not supported by adequate, complete documentation. The documentation missing entirely or in part included: attendance lists and activity reports. In some cases the activity reports did not include information on the activity to which they related. In addition, the pre-assessment and supervision activities to which the activity reports purported to support were not evidenced by checklists at both national and provincial levels.

The Audit Team was not able to corroborate that monitoring and supervision activities were undertaken as intended, as the necessary supporting documents were not on file to substantiate the validity of activities undertaken and persons paid. From documentation provided, it was not possible to validate that the individuals who received payments (e.g. fuel and DSA) were the same as those who participated in the training.

As a consequence of the incomplete supporting documentation for fuel, overhead and DSA expenses, the Audit Team identified control lapses with 45% of the expenditures examined at central level totalling ZMW 3,244,210 (USD 322,484), and 39% of the expenditure reviewed at the provinces and districts totalling ZMW 5,106,753 (USD 507,626) as indicated in table 5.1 below. These mainly related to missing or incomplete: checklists, signed attendance lists, activity reports or basis of fuel computation. Annex 3 provides details of these transactions where were identified.

### 5.1 Expenditure where control lapses were identified (all amounts in US Dollars)

Location	National	Provinces					Total
		Western	Southern	Central	Lusaka	Northern	
Supporting documentation not satisfactory	322,484	61,145	38,755	152,883	176,220	78,623	<b>830,110</b>
<i>Reference in Annex 3</i>	<i>Table 15</i>	<i>Table 16</i>					

In addition to the control lapses, the Audit Team questioned the following items at national and sub national level, as there was insufficient evidence that funds were used for programme purposes:

#### MOH National level

From the Audit Team's sample review of the respective documentation, expenditures totalling **ZMW 93,009 (USD 9,245)** were identified for which there was no supporting documentation on file and expenditures totalling **ZMW 13,296 (USD 1,322)** was spent on indirect activities which could not be linked to the MR campaign budget. Annex 2 provides a breakdown of the questioned transactions.

Sub-national level

From the Team's examination of the respective documentation, expenditures totalling **ZMW 345,731 (USD 34,367)** were identified for which there was no supporting documentation on file and expenditures totalling **ZMW 367,016 (USD 36,483)** was spent on indirect activities which could not be linked to the MR campaign budget. See **Annex 2** for detailed expenses breakdown.

Table 5.2 and 5.3 below presents a summary of questioned expenses at both the national and sub-national levels.

## 5.2 National Level (Details in Table 9 in Annex 2)

Categories:	Questioned	
	ZMW	USD
Supporting documentation not provided	93,009	9,245
Payments for items/activities that were not in approved workplan	13,296	1,322
<b>Total questioned</b>	<b>106,305</b>	<b>10,567</b>

## 5.3 Sub-national level - (all amounts in US Dollars)

Categories:	Questioned amount per province					Total
	Western	Southern	Central	Lusaka	Northern	
Expenditure tested (USD)	206,804	265,647	306,639	265,474	242,948	<b>1,287,512</b>
<i>Questioned expenditure</i>						
Supporting documentation not provided	1,906	2,063	2,749	19,661	7,987	<b>34,367</b>
Payments for items/activities that were not in approved workplan	2,967	9,024	5,469	10,255	8,768	<b>36,483</b>
<b>Total questioned</b>	<b>4,873</b>	<b>11,087</b>	<b>8,218</b>	<b>29,916</b>	<b>16,755</b>	<b>70,849</b>
<i>References in Annex 2</i>	<i>Table 10</i>	<i>Table 11</i>	<i>Table 12</i>	<i>Table 13</i>	<i>Table 14</i>	

**Cause**

At the central level the MOH did not strictly follow national expenditure and reporting guidelines, in the use of Gavi support, with regards to the management of advances for programme activities. No specific finance guidelines were put in place for the campaign.

In addition, management explained that the errors noted in the accounting records were attributed to the manual consolidation of individual reports from 114 grant beneficiaries as this was not uploaded on the Integrated Financial Management Information System (IFMIS) due to the short duration between receipt of funds and actual implementation.

The MOH did not provide suitable guidance to the designated/selected officers located at the sub-national level, who were responsible for overseeing the financial management aspects of the campaign. Moreover, campaign operational funds from the central to the sub-national level were disbursed without budgets with sufficient detail in place to direct the provinces and districts on relevant activity spending. Also, the finance teams at both national and subnational levels were not involved in the planning for the campaign.

**Risks/ Effect**

The Audit Team could not obtain assurance that the use of Gavi funds and the reported expenditures associated was in accordance with the terms of the Partnership Framework Agreement. Hence, the Audit Team questioned expenditures totalling **USD 911,527**, of which **USD 81,416** lacked evidence that funds were used for programme purposes, and **USD 830,111** had control lapses.

**Recommendation 3 (Critical)**

To ensure proper transparency and accountability, and in line with existing government accounting guidelines the MOH should:

- Manage Gavi grants, which are disbursed to the provinces and districts in compliance with defined provincial guidelines as appropriate, and in line with the Partnership Framework Agreement with Gavi.
- Ensure that complete and accurate accounting records, including cash books are maintained, and clearly referenced to relevant supporting documents and justifications.
- Ensure that expenditures related to allowances (e.g. DSA) are supported by signed lists of recipients showing the amount of funds received. Payments to respective recipients must be supported by details including their identity card reference, designation, duty station and contact details, e.g. mobile number.
- Ensure that the expenditures related to Gavi grants are subject to periodic and timely review by the MOH's Internal Audit function.

**Management comments**

*Management agrees with the recommendations.*

**Fuel management**

*In future management is amenable to modifying the acquittal sheets supporting the payment of fuel allowances to include details such as; distance, formula and price of fuel are indicated on the face of the accountable form. Management will also ensure that the details such as distance and formula are included before approval of the imprest.*

*Management will ensure that expenditure on fuel is managed as per government guidance and Partnership Framework Agreement. To this effect, management has instituted measures to ensure that vehicle log books are maintained for all activities undertaken by the MOH.*

**Overhead Expenditure**

*Management has linked the expenditure incurred on overheads to the measles rubella campaign and supported it in line with public financial management that regulations and the Partnership Framework Agreement. Management will also ensure budgets for overheads are provided for all future Gavi activities.*

**Inadequately /Unsupported Expenditure**

*Management has taken note of the observation that some payments at both central and sub-national levels were inadequately documented and unsupported at the time of the audit. However, management has made effort to support the expenditure in line with government public financial management regulations and the Partnership Framework Agreement.*

*Management has redesigned the acquittal sheets and attendance lists to include missing features as identified by the auditor to ease identification and possible confirmation. Management will also ensure effective document management is maintained for ease of retrieval.*

#### **Lack of Review of Expenditure by Internal Audit**

*Management will ensure that adequate budget provision for the internal audit functions are included for all donor funded activities to support the review of expenditure by the internal audit function.*

#### **Accounting records**

*Management will provide the sub-national level with templates and detailed budgets to ensure as guidance in the implementation of donor funded activities. Management will also avail reporting templates to promote uniformity in the capturing of expenditure.*

*Furthermore, the Microsoft Dynamics Navision Financial Management which has been rolled at the central level will replace most of the functions which previously performed manually and the process of consolidation will become less complex and less error prone. However, management wishes to reiterate that it maintains accurate and complete cashbooks and will endeavour to do so in the future.*

#### **Audit Team's additional comments**

The audit team acknowledges the efforts made by management to provide additional information. Management provided additional annexes with comments on all the questioned expenditure and a sample of additional documents which had been retrieved. The audit team noted some discrepancies in the documents submitted and questioned whether they were prepared at the time of the activity taking place (and not because of audit queries). The audit team therefore maintains its findings and conclusions.

#### **5.2.2 Weaknesses in management of advances**

Part VII Clause 96 of the Public Finance Act (Act No. 15 of 2004), in the Financial Regulations, 2006 states that:

- 1) "Special and accountable imprests shall be retired immediately the purpose for which they are issued has been fulfilled.
- 2) Any unspent balance shall be surrendered to the accounting officer immediately on the officer's return to the station and a receipt shall be issued to that effect.
- 3) Where an imprest is not retired within two working days of the officer's return to the station, the issuing officer shall notify the controlling officer of the imprest holder's failure to retire the imprest within the specified period.
- 4) The controlling officer shall on receipt of the notice referred to in sub regulation (3) require the imprest holder to immediately retire the imprest. Where the imprest holder fails to retire the imprest the controlling officer shall institute disciplinary action against the imprest holder in accordance with the Public Service Terms and Conditions of Service.
- 5) Accounting officers shall submit to controlling officers a schedule of outstanding imprests every month and controlling officers shall take action against any officer who has not retired the imprest in accordance with sub regulation (4)."

Financial Regulations not complied with – training activity in Ndola (USD 325,111)

In August 2016, the MOH carried out a training in Ndola district. Four cash withdrawals totalling ZMW 3,270,612 (USD 325,111) were made from the bank and handed out as an advance to one of the central level senior accountants. Thereafter the accountant was responsible for paying each participant their respective DSA and transport campaign entitlements. The accountant's advance was withdrawn from the bank in Ndola, the city where the training took place. Details of drawings in Ndola are here below:

Table 6: Schedule of Ndola training funds withdrawals

Date	Reference	Amount (ZMW)	Amount (USD)	Location
29-Aug-16	054CHWL162420050	1,087,796	108,131	Ndola Branch
01-Sep-16	054CHWL162450048	632,944	62,917	Ndola Branch
06-Sep-16	054CHWL162500050	732,060	72,769	Ndola Branch
08-Sep-16	054CHWL162520022	817,812	81,293	Ndola Branch
	<b>Total</b>	<b>3,270,612</b>	<b>325,111</b>	

Amounts totalling ZMW 1,596,968 (USD 158,744), equivalent to 49% of the withdrawn cash, were paid out in allowances to the participants over a period of two weeks, with the remaining balance of ZMW 1,673,644 (USD 166,366) being unused. However, this balance was not immediately deposited at the local bank, nor was it returned to the MOH cashier at central level as required by Financial Regulations.

Instead, the accountant deposited to the Gavi account ZMW 877,010 on 22 October 2016 – 44 days after the activity, and the final balance of ZMW 796,634 on 10 June 2017 – 275 days after the activity, respectively. Moreover, the final deposit was only paid into the MOH's bank account after the Audit Team identified the incomplete repayment and challenged the accountant on his non-refund of the fund balance.

From the schedules of training fund withdrawals (above, Table 6), the Audit Team noted that the last two cash withdrawals in September 2017 were superfluous, as all of these monies were later redeposited as unspent funds.

The necessary segregation of duties of key roles as described in the Financial Regulations were not followed, as the same accountant: (i) handled Ndola's training funds; (ii) paid participants; (iii) supervised the imprest account reconciliation; and (iv) prepared the financial report. Moreover, the imprest justification was never reviewed or checked by a more senior officer, so the fact there was a significant outstanding advance balance was not identified by the MOH officials responsible, suggesting a deficiency in the underlying internal controls.

Other advances (imprests) unaccounted for

In two other instances, advances paid to two individuals in August 2016, remained unjustified more than 10 months later at the time of the audit in June 2017. Table 7 below, refers. These amounts were classified as unsupported expenditure in section 4.2.1.

Table 7: Summary of unaccounted for funds-Central Level

Date	Reference	Amount (ZMW)	Amount (USD)	Period Outstanding
19-Aug-2016	CHQ 00001	73,500	7,306	10 months, 4 days
26-Aug-2016	CHQ 00003	19,509	1,939	10 months
	<b>TOTAL</b>	<b>93,009</b>	<b>9,245</b>	

### Cause

Staff did not comply with the Financial Regulations requirements governing the justification of advances (imprest). For instance, the MOH has designated offices for imprest control and cash payments, but these mechanisms were not put into effect for the MR campaign.

The MOH did not enforce the respective requirements and ensure that staff complied with all relevant provisions, including those which enforce segregation of duties.

### Risks/ Effect

There is a risk that once programmatic activities are complete, that significant outstanding advances may not be timely justified, or that staff may misappropriate amounts or spent funds on activities that are not in accordance with approved grant activities.

### Recommendation 4 (Critical)

The MOH should follow up the management of advances (imprest) by staff to conform to the Finance Act provisions. Specifically:

- Imprests should be retired promptly after the activity is completed;
- Any unspent balance should be surrendered to the accounting officer two working days of the officer's return to the station and a receipt issued to that effect; and
- Accounting officers should submit to their controlling officers a schedule of all outstanding imprests monthly, and the controlling officer should take action against officers with outstanding advances (imprest).

### Management Comments

*Management agrees with the recommendation. Management has taken disciplinary action against the concerned staff against non-compliance in line with Public Service Terms and Conditions of Service. Management has identified lapses in the handling of imprests especially for donor funds which were previously independently managed and has instituted measures to strengthen the internal controls. To this effect, the finance unit will be submitting monthly imprest status reports to the Ministerial Finance Committee Chaired by the Controlling Officer.*

*In addition, the Accounting Unit has re-allocated the various aspects related to transaction processing and financial reporting which were not adequately segregated among the various officers within its hierarchy, and senior officers will perform regular and periodic review of underlying records maintained for all donor funds.*

### 5.2.3 Financial Reporting

#### Financial Reports not accurate and submitted late

Gavi required the MOH to submit a certified financial report and an external audit report, three and six months after the campaign, respectively.

The MOH submitted its consolidated certified financial report to Gavi in May 2017, 7 months after the campaign. However, the certified report provided was inaccurate as it accounted for advances disbursed to provinces, districts and staff, as actual expenditure. This contradicted the certified financial report template which clearly stated that “advances should not be simply regarded as expenditure as soon as fund are disbursed.”

Although the financial report included an analysis of actual expenditure against the budget heads, no supporting workings and calculations were on file showing how these figures were derived, resulting in the Audit Team not being able to validate or corroborate the accuracy of these figures.

After the campaign, the provinces and districts submitted financial acquittals to the MOH, however there was no documentation maintained on file demonstrating that the staff at the central level reviewed and checked these acquittals. The Audit Team sampled a selection of acquittal documentation, including the respective certified report, and noted that for three out of five districts the supporting documentation was incomplete.

Similarly at the time of the audit in June 2017, the MOH had not submitted its external audit report more than eight months after the campaign. On enquiry, the Audit Team noted that it was later, in May 2017, that the MOH requested the Office of the Auditor (OAG) to conduct the audit.

The Audit Team held discussions with the Internal Audit department of MOH and noted that this office did not provide oversight for the MR campaign as the activity had not been included in its annual plan. In our opinion, a well-conducted internal audit would have identified many of the shortcomings raised in this report.

Management indicated that the lack of review of expenditures related to the MR Grant was in part caused by omission of the budget for internal audit from the approved MR campaign budget. In addition, the requirement for audit was not communicated to the Ministry’s Internal Audit unit and therefore not included in its 2016 plan. From communication between Gavi and MoH, MoH indicated that an external audit was already ongoing at the time the request for IA was made. In Gavi’s view a post-event internal audit taking place at the same time as the external audit would have been a duplication of effort. As such Gavi did not approve the Internal Audit activity.

#### **Cause**

The process of preparing and consolidating financial donor reports was not supervised and errors were not promptly detected. This resulted in inaccurate reporting. Also, MOH management did not promptly request the respective internal and external auditors to provide independent assurance services, such as undertaking an objective review of the use of MR campaign funds.

For external audit, this was partly due to late submission of financial reports from the provinces and districts which had to be manually consolidated before draft financial statements were submitted to Auditor General’s office for review and certification.

**Risk/Effect**

The MOH's report provided to Gavi overstated the actual MR campaign expenditures, by representing unjustified advances as finalized expenditures. In addition, with an incorrect analysis of the budget vs actual figures in the report, the MOH misrepresented the manner in which grant funds were used i.e. as funds were not used as reported.

**Recommendation 5 (Essential)**

Managers within the Finance Department, such as the Principal and Chief Accountants, should check and review financial reports for accuracy before they provided to donors. Reports should be completed and submitted according to the required reporting schedule.

**Management comments**

*Management agrees with the recommendation.*

*Management will ensure that senior managers appropriately review financial reports before they are submitted to Cooperating Partners. Furthermore, the MOH has already commenced the rollout of the Microsoft Navision Dynamics financial management system intended to improve the integrity of financial information and reporting systems. Management will ensure that financial reports for all donor funded activities are submitted as per timelines stipulated in the grant approval documents.*

**Recommendation 6 (Critical)**

Management should:

- Ensure that the external audit for the MR campaign is completed and report submitted to Gavi. For future grants, external audits should be executed and reports submitted to Gavi in line with grant requirements.
- Budget for and utilise the MOH internal audit to provide assurance on programme activities.

**Management comments**

*Management agrees with the recommendation.*

*Management wishes to report that the processes for the release of the audit report and audited financial statements are advanced and submission to Gavi will be made as soon as they are released by the Office of the Auditor General.*

**5.2.4 Exemption from duties and taxes**

The Partnership Framework Agreement signed by the Government of Zambia and Gavi states that, "funds provided under this Agreement shall not be used to pay any taxes, customs, duties, toll or other charges imposed on the importation of vaccines and related supplies. The Government shall use its reasonable efforts to set up appropriate mechanisms to exempt from duties and taxes all purchases made locally and internationally with Gavi funds."

Further, prior to the campaign in a letter dated 15 June 2016, Gavi charged the MOH to "confirm the understanding that all Gavi funding is tax exempt with Zambia and that best efforts were taken to obtain the requisite certification". However, notwithstanding Gavi's request that the MOH ensures all

such expenditures were exempt, the campaign activities incurred Value Added Tax (VAT) charges totalling **USD 25,927**, as summarised on Annex 4.

The application for VAT reimbursement to Ministry of Finance was presented to the Audit Team in July during the follow up review.

### **Cause**

The MOH did not follow up and satisfy Gavi's request that its funds be exempted from duties and taxes in accordance with the jointly signed Partnership Framework Agreement.

### **Risk/Effect**

Taxes were unnecessarily paid on a range of services and products. As a consequence, significant savings were foregone and less programme resources were available to fund immunisation activities.

### **Recommendation 7 (Essential)**

The MOH should submit a request to the Ministry of Finance so that programmes funded by Gavi grants receive exemption from taxes.

### **Management comments**

*Management agrees with the recommendation.*

*The matter was subsequently referred to the Zambia Revenue Authority (ZRA) for final approval. ZRA has since approved the issuance of Zero-rated local purchase orders that will exempt duties and taxes on local and international purchases on all future Gavi activities as agreed in the Partnership Framework Agreement.*

### **Audit Team's Comment**

The Audit Team has reviewed a letter from Zambia Revenue Authority (Ref no: ZRA/CG/TA/1901/17) dated 28 September 2017, by which the head of Zambia's tax authority approved the refund of taxes paid with Gavi grants. The MOH is supposed to provide documentation to Zambia Revenue Authority to process a refund of ZMW 259,829 to the programme bank account.

### 5.3 Vaccine Supply Management

	Audit Rating
<p>MOH introduced a vaccine supply management system, Logistimo, first as a pilot at central level, two provinces and selected districts. Logistimo was subsequently rolled out in January 2017 to all provinces and districts. However, the system was implemented without proper due process. As such there was no contractual arrangements in place determining ownership or rights, in particular to secure the Government’s vaccine data. Instead the system was scaled up and rolled out in all provinces and districts without any authorised approval by the relevant MOH Technical Working Group (TWG).</p> <p>Responsible staff did not keep up to date vaccine records. In addition, fields in Logistimo for vaccine vial monitoring (VVM), batch number and expiry dates were not filled. From the 18 vaccine stores visited, there were weaknesses in management of stock records such as records not updated, unexplained stock adjustments, and irregular stock counts. Temperature and VVM monitoring was also not done consistently.</p>	<p><b>Partially satisfactory</b></p>

The Audit Team visited 18 vaccine stores (see Table 23 Annex 11) and noted certain omissions which have been summarised in Annex 5, 6 and 7. These findings have been grouped into provincial and health facility store findings. We set out the critical findings below.

#### 5.3.1 Gaps in vaccine management

In 2015, a web based Vaccines Logistics Management Information System (VLMIS), Logistimo, was sourced from India. The Audit Team noted that there was no formal process carried out to adopt the new IT system. Such a process might have included: business justification, sourcing the product, and project management for the implementation. To minimise potential risks, key stakeholders such as MOH ICT department and eHealth TWG should have been involved in the system’s procurement and implementation.

Recognising this ad-hoc implementation approach, at its meeting in March 2017 the ICC noted with concern that the piecemeal approach to IT development had resulted in a range of logistics management information systems being used across various national health programmes.

The Audit Team determined that there was no licence or documentation in place validating the Zambian MOH’s rights to using the tool. In addition there was no clarity or documentation in place setting out the system’s security features, including, for example: (i) data access ownership and rights; (ii) the location of key data; and (iii) back-up mechanisms and procedures.

In January 2016, the MOH piloted Logistimo in the provinces of Lusaka and Copperbelt including their respective districts. Thereafter, in December 2016, the MOH implemented the full system installing it across stores at both the central and provincial level, as well as in districts. At the central level, the system’s functionality provided an overall view of the stock status across the country.

Although initially planned, a review of the pilot to identify successes and learn lessons before the nation-wide roll-out was not conducted. Furthermore as at June 2017, the MOH, via its eHealth Technical Working Group (TWG), had not yet reviewed and formally approved the system as the national vaccine logistics management information system.

This means that the manual stock cards were still the official vaccine record. However in at least four of eight districts visited by the Audit Team, it was noted that the store keepers had discarded and no longer used these manual stock cards, instead relying exclusively on Logistimo.

### **Cause**

The MOH did not put in place a formal process to adopt these systems. In addition, the information in the Logistimo system could not be relied upon as the data therein had multiple errors and was incomplete.

### **Risk/Effect**

In the absence of a formal contract and/or licence, MOH's rights and ownership over its data stored within Logistimo is not known. In addition, the MOH had not formally assessed the requirements for operating Logistimo prior to national roll-out such as access to reliable internet and this may contribute to sub-optimal usage.

### **Recommendation 8 (Critical)**

The MOH should:

- Carry out an evaluation of the current status of implementation of the VLMIS, Logistimo, including successes, challenges and requirements for using this system nation-wide. The report should be presented to the MOH eHealth TWG to consider before the formal approval.
- Require provinces and districts to maintain its primary stock records in a duplicate manual format until the VLMIS is fully anchored/embedded.
- Ensure consistent use of the approved VLMIS both at lower levels and also at national level for decision making.

### **Recommendation 9 (Critical)**

The MOH should contact Logistimo India Private Limited and negotiate a formal contract and/or license for the software and clarify such aspects as: (i) data access ownership and rights; (ii) the location of key data; and (iii) back-up arrangements.

### **Management comments**

*Management agrees with the recommendation.*

*The MOH has engaged in further discussions with WHO as they supported the initial roll-out of Logistimo. There are now on-going negotiations to broker an agreement formalising the contract between Logistimo and the Government of the Republic of Zambia. This agreement will also govern the license of the software. The MOH will also be exploring options so that the data generated by Logistimo can be hosted nationally as such there are on-going discussions with the Zambia Data Centre who may be able to support this endeavour.*

*An evaluation of the utilisation and effectiveness of Logistimo is being planned for Q4 of 2017. This evaluation will play a pivotal role in determining how best to expand the roll-out of Logistimo to the facility level and also ensure that we are building on lessons learned to date.*

### 5.3.2 Weaknesses in vaccine management

The national Standard Operating Procedures (SOP) for effective vaccine management stipulate that movements in supplies should be timely recorded in the Logistics Management Information System (LMIS). The SOPs also set out the fundamental data that the vaccine logistics system should maintain including: stock on hand, consumption data and wastage due to expiry, change of status of Vaccine Vial Monitor (VVM) and other losses.

The SOPs also require warehouse or store managers: to conduct monthly physical counts of vaccines and immunisation supplies; to document count results; and when a discrepancy is suspected, to investigate differences between the records and the physical stock.

In accordance with the SOPs, primary records in support of the stock registers should include:

- Stock Control Card - to account for the quantity of vaccines and supplies in a storeroom;
- Vaccine Return Form - to provide logistics data to the next higher level of reporting and to provide a report on the stock status of vaccines at that level (Provincial Medical Office (PMO), District (DMO) and Health Facilities); and
- Supply Voucher - to account for the receipt of products from National Vaccine Store (NVS).

#### Inadequate recording

From the Audit Team's reviews of 18 vaccine stores, stock records for certain periods of time were missing, and similarly some vaccine movements and balances recorded Logistimo/stock cards were incomplete or inaccurate. Specifically, 14 of 18 stores visited had at least one stock card missing and in most cases, records for an entire year of the three year period examined were unavailable; see Table 17, Annex 7 for details. Many of the primary records in support of the stock registers were also not available. Furthermore in 16 out of 18 stores visited, the vaccine records on file did not include all of the required information, namely the VVM status, expiry date and batch numbers.

The Audit Team performed a physical stock count at the stores it visited and identified unexplained variances of PCV, Rotavirus and Penta at 10 out of 18 stores selected; see Table 18, Annex 7 for details.

There were also various other unexplained stock adjustments noted in the manual stock cards (Table 19, Annex 7) with the most significant variance being in Lusaka province where there were 47,106 doses of Rotavirus vaccine unaccounted for between 28 and 31 October 2016. Stock counts were not always performed monthly at 13 of the 18 stores visited as required and where they were carried out, the discrepancies between the physical stocks and records were not investigated (and therefore the purpose of undertaking the stock count was largely lost).

Issuance and receipt of the vaccines were either incorrectly captured or were not timely updated in the records. The Audit Team observed material variances between the actual stocks and the running balances of the stock records. Material discrepancies were noted in the issued and received doses of vaccine movements at all levels, i.e. national to province, province to district, and district to health centre. The variances mainly arose because at the time of receipt, the person receiving the vaccines did not physically count the quantities received leading to differences in what was signed for on the goods issue voucher and what was actually received in stores; see Table 20, Annex 7.

In addition, the Audit Team noted that at 6 of 18 stores visited (including at least two provincial stores), that there were delays in updating Logistimo with the issuance and receipt of vaccines. The

officers in charge at the stores informed the Audit Team that delays were due to intermittent internet connectivity.

#### Irregular reporting

The MOH's EVM SOPs require that every health facility reports on a monthly basis to the District Medical Officer (DMO) who in turn aggregates a District Vaccine Returns Form and sends it to the Provincial Medical Officer (PMO). The PMO is required to then submit an aggregated Provincial Vaccine Returns Form Report to the EPI Logistics Team at the National Vaccine Store. Of the 18 sites visited, 17 did not submit the reports on a monthly basis as required and when submitted, there was no evidence that these reports were reviewed (noted in 15 of the 18 sites visited).

#### Weaknesses in VVM and temperature monitoring

The MOH's EVM SOPs require that vaccines be stored within a standard temperature range of +2C to +8C and that the storekeepers pro-actively monitor all cold chain equipment temperature range, including twice daily temperature readings.

The Audit Team noted inconsistencies in temperature recordings, including at weekends and during public holidays when temperature recordings were not recorded, suggesting that the required monitoring did not take place. From the 18 stores selected by the Audit Team, in more than 40% of the districts vaccine stores and 70% of the health facilities visited, the required temperature monitoring activity was not recorded on weekends and public holidays. There were no temperature monitoring records at Chipata district for a 22 day period in May 2017, and Katete district had no temperature recordings during a four-month period, from the start of 2017.

In addition, VVM status was not consistently tracked in 14 of the 18 stores visited. The Audit Team also noted instances of vaccine stock-outs for 9 out of 18 vaccine stores visited; see Table 21, Annex 7.

#### **Cause**

Stores visited did not comply with the standard operating procedures.

Limited personnel capacity at the sub national level, together with infrequent monitoring supervision by more senior staff meant that weaknesses were not identified on a timely basis and action taken to remediate them.

#### **Risks/ Effects**

In the absence of regular physical stock counts, errors in the primary stock records may remain undetected. Unless the storekeepers identify and promptly address any differences in stock counts and records, the reconciliation of any variances will be time-consuming and vaccine losses may not be detected.

Inconsistent temperature and VVM monitoring increases the likelihood that vaccines which are exposed to environment conditions outside their tolerance level and affecting their potency, and shelf-expiry wastages, may not be identified.

#### **Recommendation 10 (Critical)**

The MOH should ensure that the SOPs on effective vaccine management are enforced by:

- Ensuring that all staff responsible for vaccines update and maintain the stock records timely including necessary information on expiry dates, VVM status, batch numbers, product description, product quantities, and manufacturer.
- Making sure stock counts are undertaken periodically and that the storekeepers validate and approve the physical count worksheets. All documents related to the periodic stock counts should be placed on file. The supervision Terms of Reference should include the requirement to investigate any differences between stock count figures and vaccine records and staff should be trained accordingly.
- Ensuring that reports are submitted from all levels on a monthly basis and that these are used to support decision-making.
- Ensuring that temperature monitoring is carried out systematically at all vaccine stores on a routine basis, twice daily as a minimum.

### Management comments

*Management agrees with the recommendation.*

*The MOH acknowledges the vaccine logistic management challenges highlighted in the report. These challenges have persisted for a long time and the introduction of the electronic vaccine logistics management system was meant to address many of these bottlenecks. The full roll-out of Logistimo and the move from paper to an electronic system however has been slower than anticipated.*

*The EPI Programme is actively looking to address the logistics and vaccine management weaknesses in the following ways:*

- *The National Vaccines Logistics Standard Operating Procedures Manual and The Cold Chain Standard Operating Procedures Manual have been recently developed and finalised. The former has been completed and is in use; while the latter is in print.*
- *Piloting the remote temperature monitoring (RTM) devices which would supplement the physical checks done by staff.*
- *Developed MOH a detailed supervision plan that aims to reinforce the guidance provided in the EPI Manual with a specific focus on service delivery, cold chain management and vaccine management. The supervision plan will be introduced to the Provincial 'Core Teams'. These are teams of at least 10 senior public health officials from the Provincial and District Offices, as well as partners and some retired health staff who are called in for supplemental activities. The supervision provided by these teams will reinforce the guidance provided in the various manuals. These teams have been designed to support and enhance the immunisation programme at the lower levels and will be supervised and guided by the EPI team at the national level.*
- *A new Effective Vaccine Management Assessment is being planned for 2018. In addition to this the team is actively working in conjunction with the partners to advance on some of the recommendations that were identified in the 2015 EVMA. A number of these recommendations will be supported through the new Gavi HSS grant.*

## Annex 1: Summary of Questioned Expenditure

Table 8: Summary of questioned expenditure (all amounts in US Dollars)

<i>A: Expenditure questioned in absence of evidence that funds were used for programme purposes</i>							
	Provinces						
Location	National	Western	Southern	Central	Lusaka	Northern	Total
Supporting documentation not provided	9,245	1,906	2,063	2,749	19,661	7,987	<b>43,611</b>
Expenses outside approved work plan	1,322	2,967	9,024	5,469	10,255	8,768	<b>37,805</b>
<b>Total – A</b>	<b>10,567</b>	<b>4,873</b>	<b>11,087</b>	<b>8,218</b>	<b>29,916</b>	<b>16,755</b>	<b>81,416</b>
<i>References in Annex 2</i>	<i>Table 9</i>	<i>Table 10</i>	<i>Table 11</i>	<i>Table 12</i>	<i>Table 13</i>	<i>Table 14</i>	<i>Table 15</i>
<i>B: Expenditure questioned because of internal control lapses:</i>							
Location	National	Western	Southern	Central	Lusaka	Northern	Total
Inadequately supported expenses	322,485	61,145	38,755	152,883	176,220	78,623	<b>830,111</b>
<b>Total – B</b>	<b>322,485</b>	<b>61,145</b>	<b>38,755</b>	<b>152,883</b>	<b>176,220</b>	<b>78,623</b>	<b>830,111</b>
<i>Reference in Annex 3</i>	<i>Table 15</i>	<i>Table 16</i>					
<b>Grand Total C = A+B</b>	<b>333,052</b>	<b>66,018</b>	<b>49,842</b>	<b>161,101</b>	<b>206,136</b>	<b>95,378</b>	<b>911,527</b>

## Annex 2: Questioned costs (National and Sub National level)

Table 9: Questioned expenditure at national level (Break down of table 5.2)

Category of questioned expenditure	Date	Cheque/E FTA	Expenditure (ZMW)	Amount (ZMW)	Amount (USD)
Payments without supporting documentation	19.08.16	000001	73,500	73,500	7,306
	26.08.16	000002	19,509	19,509	1,939
	<b>Total</b>			<b>93,009</b>	<b>9,245</b>
Payments for items that were not in approved budget and workplan, and not used for the MR Campaign	Date	Cheque/E FTA	Expenditure (ZMW)	Amount (ZMW)	Amount (USD)
	03.10.16	000025	13,296	13,296	1,322
	<b>Total</b>			<b>13,296</b>	<b>1,322</b>
<b>Total</b>				<b>106,305</b>	<b>10,567</b>

Table 10: Western Province Questioned costs

Province/ or associated districts	Unsupported (ZMW)	Ineligible (ZMW)	Total (ZMW)
Western Province	-	3,675	3,675
Kalabo	2,255	-	2,255
Kaoma	150	12,720	12,870
Lukulu	9,121	9,950	19,071
Mongu	-	150	150
Senanga	-	3,352	3,352
Sesheke	7,650	-	7,650
<b>Total</b>	<b>19,176</b>	<b>29,847</b>	<b>49,023</b>
<b>Total in USD</b>	<b>1,906</b>	<b>2,967</b>	<b>4,873</b>

Table 11: Southern Province Questioned costs

Province/ or associated districts	Unsupported (ZMW)	Ineligible (ZMW)	Total (ZMW)
Southern Province	11,682	3,000	14,682
Choma	0	1,575	1,575
Kalomo	1,690	72,455	74,145
Kazungula	0	0	-
Mazbuka	0	0	-
Monze	7,383	13,666	21,049
Namwala	0	85	85
<b>Total</b>	<b>20,755</b>	<b>90,781</b>	<b>111,536</b>
<b>Total in USD</b>	<b>2,063</b>	<b>9,024</b>	<b>11,087</b>

Table 12: Central Province Questioned costs

costs

Province/ or associated districts	Unsupported (ZMW)	Ineligible (ZMW)	Total (ZMW)
Central Province	870	38,166	39,036
Mkushi	0	0	-
Kabwe	1,400	475	1,875
Kapiri Mposhi	25,388	15,029	40,417
Chibombo	0	0	-
Mumbwa	0	0	-
Serenje	0	1,350	1,350
<b>Total</b>	<b>27,658</b>	<b>55,020</b>	<b>82,678</b>
<b>Total in USD</b>	<b>2,749</b>	<b>5,469</b>	<b>8,218</b>

Table 13: Lusaka Province Questioned costs

Province/ or associated districts	Unsupported (ZMW)	Ineligible (ZMW)	Total (ZMW)
Lusaka Province	-	2,300	252,960
Chongwe	29,400	1,350	92,111
Rufunsa	-	370	53,392
Kafue	144,429	5,831	381,915
Chilanga	825	90,415	1,201,768
Lusaka District	122	2,896	32,153
Shibuyunji	23,013	-	59,438
<b>Total</b>	<b>197,789</b>	<b>103,162</b>	<b>2,073,737</b>
<b>Total in USD</b>	<b>19,661</b>	<b>10,255</b>	<b>206,136</b>

Table 14: Northern Province Questioned costs

Province/ or associated districts	Unsupported (ZMW)	Ineligible (ZMW)	Total (ZMW)
Northern Province	16,136	58,794	<b>105,198</b>
Kasama	3,922	-	<b>18,047</b>
Mporokoso	37,445	650	<b>40,015</b>
Mungwe	7,195	3,715	<b>10,910</b>
Mbala	3,420	19,760	<b>470,745</b>
Luwingu	140	5,287	<b>94,679</b>
Chilubi	12,096	-	<b>219,919</b>
<b>Total</b>	<b>80,354</b>	<b>88,206</b>	<b>959,512</b>
<b>Total in USD</b>	<b>7,987</b>	<b>8,768</b>	<b>95,378</b>

### Annex 3: Expenditure where control lapses were noted (inadequately supported expenditure)

Table 15: National level – Inadequately Supported

Inadequately supported documentation	Date	Cheque/E FTA	Expenditure (ZMW)	Amount (ZMW)	Amount (USD)
Payments with inadequately supported documentation (missing or incomplete: checklists, signed attendance lists, activity reports or basis of fuel computation)	Date	Cheque/E FTA	Expenditure (ZMW)	Amount (ZMW)	Amount (USD)
	17.08.16	0002804	182,500	182,500	18,141
	26.08.16	0002808	1,596,968	310,718	30,886
	28.08.16	0002810	227,798	227,798	22,644
	02.09.16	000005	8,000	8,000	795
	12.09.16	000006	6,809	6,809	677
	12.09.16	000007	10,158	10,158	1,010
	12.09.16	000008	10,158	10,158	1,010
	12.09.16	000009	6,263	6,263	623
	12.09.16	000010	6,263	6,263	623
	12.09.16	000011	35,600	35,600	3,539
	12.09.16	000012	3,265	3,265	325
	12.09.16	000014	15,788	15,788	1,569
	12.09.16	000015	6,607	6,607	657
	12.09.16	000016	9,367	9,367	931
	12.09.16	000018	24,782	24,782	2,463
	12.09.16	000020	5,843	5,843	581
	12.09.16	000021	32,716	32,716	3,252
	12.09.16	002821	205,980	205,980	20,475
	16.09.16	000022	216,529	216,529	21,524
	21.10.16	0002829	848,367	848,367	84,330
	16.11.16	000028	204,200	204,200	20,298
	16.11.16	000029	204,200	204,200	20,298
23.11.16	000031	285,600	285,600	28,389	
23.11.16	0002832	376,699	376,699	37,445	
	<b>Total</b>			<b>3,244,210</b>	<b>322,485</b>

Table 16: Sub National level – Inadequately Supported

	Province (ZMW)	Districts (ZMW)						Total	
Location	Western	Kalabo	Kaoma	Lukulu	Mongu	Senanga	Sesheke	Total (ZMW)	Total (USD)
Amount	25,200	192,445	293,075	41,915	-	41,442	21,048	615,125	61,145
Location	Southern	Choma	Kalomo	Kazungula	Mazbuka	Monze	Namwala	Total (ZMW)	Total (USD)
Amount	10,000	0	83,532	59,330	48,805	188,210	0	389,877	38,755
Location	Central	Mkushi	Kabwe	Kapiri Mposhi	Chibombo	Mumbwa	Serenje	Total (ZMW)	Total (USD)
Amount	109,706	78,297	39,850	44,402	549,861	417,444	298,452	1,538,012	152,883
Location	Lusaka Province	Chongwe	Rufunsa	Kafue	Chilanga	Lusaka District	Shibuyunji	Total (ZMW)	Total (USD)
Amount	250,660	61,361	53,022	231,655	1,110,528	29,135	36,425	1,772,786	176,220
Location	Northern Province	Kasama	Mporokoso	Mungwe	Mbala	Luwingu	Chilubi	Total (ZMW)	Total (USD)
Amount	30,268	14,125	1,920	-	447,565	89,252	207,823	790,953	78,623
<b>Total</b>								<b>5,106,753</b>	<b>507,626</b>

**Annex 4: Taxable transactions including VAT payments<sup>4</sup>.**

Date	Cheque/EFTA	Expenditure (ZMW)	VAT paid (ZMW)
12.09.16	000006	6,809	939
12.09.16	000007	10,158	1,401
12.09.16	000008	10,158	1,401
12.09.16	000009	6,263	864
12.09.16	000010	6,263	864
12.09.16	000011	35,600	4,910
12.09.16	000012	3,265	450
12.09.16	000013	17,420	2,403
12.09.16	000014	15,788	2,178
12.09.16	000015	6,607	911
12.09.16	000016	9,367	1,292
12.09.16	000017	49,165	6,781
12.09.16	000018	24,782	3,418
12.09.16	000019	10,111	1,395
12.09.16	000020	5,843	806
12.09.16	000021	32,716	4,513
12.09.16	002819	489,520	67,520
12.09.16	002821	205,980	28,411
12.09.16	002822	120,356	16,601
30.09.16	0002826	490,050	67,593
11.10.16	0002827	128,579	17,735
21.10.16	000027	7,239	998
16.11.16	00002830	160,150	22,090
28.12.16	000033	38,808	5,353
<b>Total (KMW)</b>		<b>1,890,997</b>	<b>260,827</b>
<b>Total equivalent (in USD)</b>		<b>187,971</b>	<b>25,927</b>

<sup>4</sup> VAT incurred mainly for motor vehicle repairs and purchase of motor vehicle accessories, fuel and other procurement of materials such as aprons.

**Annex 5: Provincial and District Vaccine Stores Review Results by the Audit Team**

Issue noted	Lusaka Province	Copperbelt Province	Ndola district	Kitwe district	Kalulushi district	Chingola district	Eastern province	Chipata district	Katete district	Chadiza district	Lundazi district
Unavailability of some stock cards for review	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Use of Logistimo	XX	XX	XX	XX	XX	XX	XX		XX	XX	XX
Late reporting due to:											
<i>Unavailability of the internet</i>						XX	XX	XX	XX	XX	XX
<i>Stock records not updated</i>		XX	XX				XX	XX			
<i>Transport limitations</i>					XX	XX	XX			XX	XX
Unexplained stock adjustments/variances		XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
Stock-outs		XX		XX		XX			XX	XX	XX
Irregular updates of stock records						XX	XX	XX	XX	XX	XX
Inadequate filing of documentation	XX	XX	XX			XX	XX	XX	XX	XX	XX
No evidence of review of vaccine return reports				XX	XX	XX	XX	XX	XX	XX	XX
Irregular stock counts			XX	XX		XX	XX	XX		XX	
Irregular reporting				XX		XX	XX	XX	XX	XX	
Inconsistent tracking of VVM	XX	XX		XX		XX	XX	XX	XX	XX	XX

## Annex 6: Health Facility Vaccine Stores Review Results by the Audit Team

Issue noted	Chipukulusu	Chimwemwe	Kalulushi Township	Kabundi	Nyembe	Taferansoni	Mwaselundazi
Unavailability of some stock cards for review	XX	XX	XX	XX	XX	XX	XX
Implausible results between no. of children vaccinated and issues out of stock	XX		XX	XX			
Late reporting caused by:							
<i>Stock records not updated</i>	XX	XX	XX	XX			XX
<i>Transport limitations</i>	XX	XX	XX	XX	XX	XX	XX
Unexplained stock adjustments/variances	XX	XX	XX	XX	XX	XX	XX
Stock outs		XX	XX	XX		XX	
Arithmetical errors on stock cards	XX	XX	XX	XX			
Inadequate filing of documentation	XX	XX	XX	XX			XX
Operational challenges	XX	XX	XX	XX	XX	XX	XX
No evidence of review of vaccine return reports by DMO	XX	XX	XX	XX	XX	XX	XX
Irregular stock counts	XX	XX	XX	XX	XX	XX	XX
Irregular reporting	XX	XX	XX	XX	XX	XX	XX
Inconsistent tracking of VVM	XX	XX	XX	XX	XX	XX	XX



Table 19: Unexplained stock adjustments from reviewed manual stock cards.

Facility	Closing balance	Opening balance	Unexplained variance
Chipukulusu Health Centre	Closing balance on 21/1/2017 540 doses of BCG	Opening balance on 3/2/2017 460 doses of BCG	80 doses unaccounted for.
Lusaka Province	Closing balance on 19/1/2016 25,522 doses of PCV	Physical count on 22/1/2016 24,285 doses of PCV	1,237 doses are unaccounted for.
Lusaka Province	Closing balance on 28/10/2016 55,850 doses of Rota	Physical count on 31/10/2016 8,744 doses of Rota	47,106 doses are unaccounted for.
Chimwemwe Health Center	Closing balance on 20/3/2017 92 doses of PCV	Physical count on 3/4/2017 68 doses of PCV	24 doses are unaccounted for.
Kabundi Health Centre	Closing balance on 30/11/2015 175 doses of Penta	Physical count on 30/11/2015 125 doses of Penta	50 doses unaccounted for.
Kalulushi District Health Office	Closing balance on 29/12/2015 2,095 doses of Penta	Physical count on 30/12/2015 1,595 doses of Penta	500 doses unaccounted for
Kalulushi District Health Office	Closing balance on 29/12/2015 3,004 doses of PCV	Physical count on 30/12/2015 1,247 doses of PCV	1,757 doses of PCV unaccounted for.
Taferansoni Health Center	Closing balance on 18/4/2016. 109 doses of Rota	Physical count on 9/5/2016 69 doses of Rota	40 doses of Rota are unaccounted for.
Taferansoni Health Center	Closing balance on 18/4/2016 232 doses of Penta	Physical count on 9/5/2016 61 doses of Penta	171 doses of Penta are unaccounted for.

Table 20: Discrepancies in quantities of vaccines issued vs. those received

Issuing facility	Date	Vaccine	Issued	Received (GRN/Stock card)
Eastern Province to Chadiza district	03/06/2016	Penta	2,330	1,500
	30/12/2016	Penta	2,000	1,971
	03/06/2016	Rota	2,610	2,250
Eastern Province to Chipata district	29/09/2015	PCV	8,000	9,600
	12/10/2016	PCV	3,700	3,800
	29/09/2015	Rota	12,000	9,000
	12/10/2016	Rota	5,600	3,000
Eastern Province to Katete district	16/12/2016	Penta	3,000	1,500
Eastern Province to Lundazi district	17/01/2014	Penta	3,900	3,649
	07/11/2014	Penta	4,000	2,400
	19/03/2015	Penta	8,000	4,000
	17/01/2014	Rota	3,000	3,050
	06/03/2014	Rota	2,000	300
	24/04/2014	Rota	2,000	100
Copperbelt Province to Chingola district	16/03/2015	Rota	2,000	150
	02/04/2015	Rota	2,000	800
	08/01/2014	Rota	2,000	1,000
	02/06/2015	Rota	4,000	200
Chadiza district to Taferansoni HC	20/03/2016	Penta	70	150
	18/04/2016	Penta	100	150
	16/08/2016	Penta	50	200
	22/02/2016	PCV	150	200
	18/04/2016	PCV	50	400
	20/03/2016	ROTA	90	70
	13/10/2016	ROTA	50	300

Table 21: Stock outs in district and Health facilities

Facility	Vaccine	Stock out date	Replenish date	Days of stock out
Copperbelt	PCV	30/5/2017	Not replenished as at 6/6/2017	7
Chingola district	PCV	5/6/2017	9/6/2017	4
Katete district	Penta	11/2/2014	18/3/2014	36
	Penta	7/2/2017	10/2/2017	3
	Penta	8/5/2017	16/5/2017	8
	PCV	20/3/2017	22/3/2017	2
	PCV	8/5/2017	16/5/2017	8
	PCV	8/6/2017	12/6/2017	4
	Rota	27/3/2014	4/4/2014	8
	Rota	11/5/2017	16/5/2017	5
Kitwe district	PCV	18/5/2017	8/6/2017	21

Facility	Vaccine	Stock out date	Replenish date	Days of stock out
	Rota	23/1/2017	10/2/2017	18
Lundazi district	Penta	7/2/2017	17/2/2017	10
	Penta	23/2/2017	28/2/2017	5
	Penta	5/5/2017	15/5/2017	10
	PCV	27/1/2015	3/2/2015	7
	PCV	7/5/2015	13/5/2015	6
	PCV	7/10/2015	15/10/2015	8
	PCV	7/4/2016	14/4/2016	7
	PCV	26/4/2017	15/5/2017	19
	Rota	3/3/2017	15/5/2017	74
Ndola district	Rota	18/3/2014	24/3/2014	6
	Rota	16/6/2014	26/6/2014	10
	Rota	12/8/2014	1/9/2014	20
Chimwemwe HC	PCV	26/5/2017	7/6/2017	12
Taferansoni HC	PCV	12/12/2015	15/12/2015	3
Taferansoni HC	Rota	12/12/2015	19/1/2016	38

## Annex 8: Definitions of ratings and recommendation priorities

### 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 MOH, and an indication of how soon the recommendation should be implemented. The urgency and priority for addressing recommendations is rated using the following three-point scale, as follows: Critical – Essential – Desirable.

## Annex 9: Classification of expenditure

**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 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 10: Audit procedures and reporting**

### ***Audit procedures***

Using risk-based audit procedures, the audit included an analysis of reported expenditure (in the Annual Progress Reports or any other periodical financial reports), inquiry/ discussions, computation, accuracy checks, reconciliation and inspection of records/ accounting documents and the physical inspection of assets purchased and works performed using grant funds.

The procedures included:

- Review of stock management systems, procedures and practices at national, district and health facility level.
- Review the processes of disbursement, accounting and reporting on advances at district and national level.
- Review of sampled expenditure at national and district level to ensure that funds were spent in line with the intended purpose.
- Review budget management processes and how budget monitoring is carried out.
- Review of the programme and coordination mechanisms before, during and after the campaign.

### ***Reporting***

At the end of the audit, key findings were discussed with the senior management team at the Zambia MOH on 22 June 2017 and a presentation, which contained a summary of these findings, was shared.

## Annex 11: Provinces, Districts and Health Facilities reviewed

Table 22: Scope of Financial Review

Province	District	Province	District	Province	District
<b>Northern</b>	Kasama	<b>Western</b>	Kaoma	<b>Southern</b>	Kalomo
	Mbala		Kalabo		Mazabuka
	Mungwi		Sesheke		Monze
	Luwingu		Mongu		Choma
	Chilubi		Senanga		Kazungula
	Mporokoso		Lukulu		Namwala
<b>Central</b>	Chibombo	<b>Lusaka</b>	Lusaka		
	Kapirimposhi		Kafue		
	Mumbwa		Chongwe		
	Mkushi		Rufunsa		
	Serenje		Shibuyunji		
	Kabwe		Chilanga		

Table 23: Scope of Vaccine Supply Management review

Provinces	Districts	Health Centres
Lusaka		
Copperbelt	Ndola	Chipukulusu
	Kitwe	Chimwemwe
	Kalulushi	Kalulushi Town Council
	Chingola	Kabundi
Eastern	Chipata	
	Katete	Nyembe
	Chadiza	Taferansoni
	Lundazi	Mwaselundazi