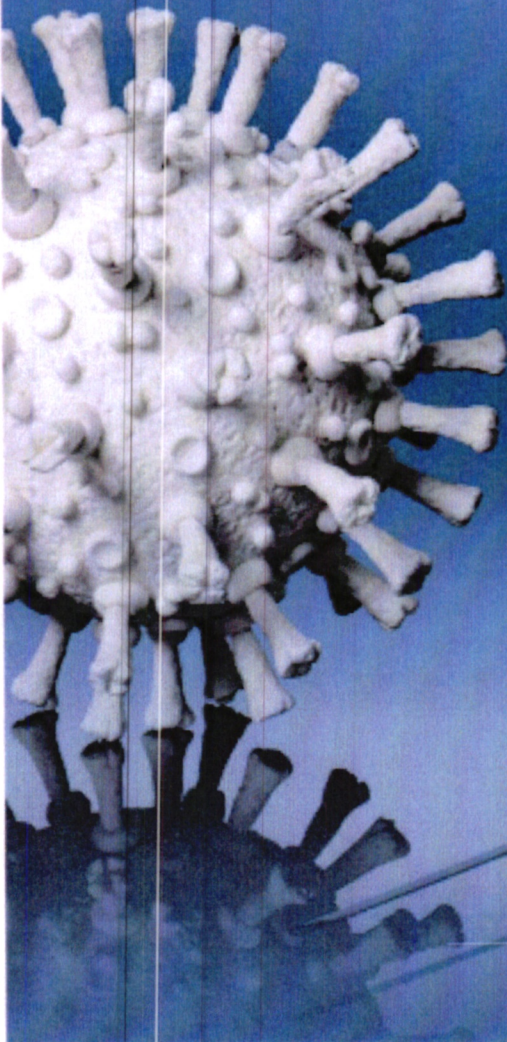


SPECIAL AUDIT REPORT OF THE AUDITOR-GENERAL
ON
COVID 19 VACCINE ROLL OUT
FOR
NANDI COUNTY
AS AT 31 MARCH 2022

PAPERS LAID	
DATE	11 TH OCT 2022
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LIST OF ABBREVIATIONS

The following abbreviations are used in this Report

Abbreviation	Full Name
eLMIS	Electronic Logistics Management Information System
FIFO	First In, First Out
GOK	Government of Kenya
HR	Human Resource
IFMIS	Integrated Financial Management Information System
LRO	Legislative and Relations Office
NVIP	National Vaccines and Immunization program
UNICEF	United Nations International Children's Emergency Fund
WHO	World Health Organization

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1.0 EXECUTIVE SUMMARY

1.1 Background and Introduction

The Auditor-General carried out a special audit on the Efficiency and Effectiveness of Covid-19 vaccines roll-out in Kenya. The Audit was to cover the period from inception of the vaccination exercise in March 2021 to 31 March, 2022. The primary objective of the audit was to determine the efficiency and effectiveness of the Covid-19 vaccines rollout in all the Forty-Seven (47) Counties. This report however specifically covers the audit performed for the vaccine rollout in Nandi County. The audit involved the review of budget, sources of the vaccines, storage, distribution, utilization and disposal of the vaccines, human resource, coordination of players and monitoring and supervision.

The Government of Kenya commissioned use of the Chanjo System to manage the vaccines rollout and utilized the existing structures of immunization to roll out the Covid-19 Vaccines.

1.2 Audit Scope, Limitations and Mitigation

The audit reviewed all processes relating to Covid-19 vaccines immunization which included budgeting, administration, disposal of the expired stocks, the governance, and the monitoring structures.

Challenges experienced during the audit included the vast terrain of Nandi County and lack of adequate personnel in the vaccinating facilities. The Audit Team devised several ways to mitigate the challenges, which resulted in 100% coverage of the vaccinating facilities.

1.3 Audit Approach and Methodology

The Audit exercise entailed planning, piloting of the vaccine rollout audit in one of the counties, before rolling out execution in all the 47 counties. Meetings were held with the auditee and evidence was collected through interviews, document reviews, Data Analytics, analysis of audit evidence, among others. The audit was performed using International Standards of Supreme Auditing Institutions (ISSAIs).

1.4 Report Summary

1.4.1 Doses Received and Administered

Nandi County received in total 285,465 doses of various types of vaccines during the period under review. Out of the total of 285,465 Covid-19 Vaccine Doses received in the County, a total of 218,802 doses were administered, 38,393 were still in stock at the time of the audit cutoff date 31 March, 2022. The balance of 32,749 was either expired, damaged- or wasted and an unexplained absolute variance of 31,019 doses as at 31 March, 2022.

1.4.2 Budget

A review of the County's health services budget for the 2021/2022 financial year revealed that the County Government of Nandi did not budget for the Covid-19 vaccination exercise but used the budget for routine immunization to cater for the rollout exercise.

1.4.3 Sources and Distribution of Vaccines

The Source of vaccines was from the Government of Kenya (GOK) and the vaccines were received in Nandi County through Eldoret Regional Vaccines Store.

The distribution flow was from regional stores, to the Sub County stores and to facilities administering the vaccines.

1.4.4 Storage of Vaccines

The Nandi Sub County Stores complied to some extent with the storages conditions set out by MOH for Covid-19 Vaccines. However, weaknesses were noted in the storage facilities including inadequate storage equipment and faulty temperature monitoring tools, failure to have written procedures for sanitation program indicating the frequency of cleaning and the methods used to clean the storage areas and failure to have written procedures for the clean-up of any spillage to ensure the complete removal of any risk of contamination.

1.4.5 Disposal of Vaccines

The special audit noted that a total of 6,364 doses had expired, damaged or wasted. Out of the ,6364 doses, a total of 3,312 vaccine doses had been disposed together with other hospital waste while 3,052 doses have been returned to the Sub County Stores having expired.

1.4.6 Human Resource Matters

The health care training was to be funded by the Government of Kenya and Donors/development partners. Nandi county management explained that trainings in the county were undertaken through the assistance of partners. However, no proper records or documentation were maintained or provided for audit on the trainings undertaken.

1.4.7 Coordination of Players

The coordination of the exercise was done by the Nandi County Covid-19 Vaccine Deployment and Vaccination Taskforce. However, appointment letters and minutes of the task force were not availed for audit review.

1.4.8 Monitoring and Supervision

The Audit established that COVID –19 Vaccines roll out was monitored and supervised by a Committee to ensure smooth implementation of policies and guidelines issued from time to time by the National Government. However, the Committee did not maintain minutes and attendance schedules to evidence their activities.

1.4.9 Conclusions and Recommendation

The audit concluded that the roll-out of the Covid-19 Vaccines was effective. However, weaknesses were noted in the processes such as failure to Budget for the rollout activities, failure to fully adhere to waste disposal regulations, inadequate training, inadequate staff, inadequate tablets to access the Chanjo System and failure to provide data bundles to the staff updating data in the system. This resulted in failure to update the Chanjo System Real-

time, which was exacerbated by reported occasional downtime of the system. This impacted on the real time recording of information in the Chanjo System leading to an unexplained absolute variance of 31,019(deficit) of vaccine doses valued at Kshs.15,635,105 based on the average Vaccine cost during the period.

The existing immunization structures for routine vaccines were functional but require scale up to handle unforeseen pandemics. Owing to the weaknesses noted it is recommended that the Nandi County Government should work closely with the National Government to strengthen the existing immunization structures and staffing to meet international standards.

BACKGROUND AND INTRODUCTION

Kenya received its first consignment of Astra Zeneca-Oxford Covid-19 vaccine in March 2021 as part of the COVAX facility. This was followed by more vaccines such as Moderna, Johnson & Johnson, Pfizer and Sinopharm from other development partners. The Ministry of Health launched a campaign and kicked off the deployment plan for the vaccines on 5 March 2021 with priority given to frontline health workers and essential staff including security personnel. According to the National Covid-19 vaccine deployment plan, the first vaccine deployment plan was developed in March 2021 and was subsequently revised by the MOH in August 2021 in an effort to cover the entire adult population in the country. Nandi County received its first consignment of 6,600 doses of Astra Zeneca-Oxford Covid-19 vaccines in March 2021 through Eldoret Regional Vaccines Store. The vaccine doses were first administered at Emgwen and Tinderet sub counties before being rolled out to the other Sub County Stores and administering facilities. The County subsequently received more vaccine doses of Moderna, Johnson & Johnson, Pfizer and AstraZeneca all totaling 285,465 as tabulated below:

Type of Vaccine	Number of Doses
Moderna	27,476
Janssen (Ad26.COVS2_S)	96,900
Oxford/AstraZeneca	135,349
Pfizer	25,740
Total	285,465

2.1 Objective of the Audit

The primary objective of the audit was to determine the efficiency and effectiveness of the Covid-19 vaccine rollout in Nandi County. This was achieved through; review of budget, sources of the vaccines, storage, distribution, utilization and disposal of the vaccines, human resource, coordination of players, monitoring and supervision.

2.2 Terms of Reference

The following Terms of Reference (TORs) guided the special audit;

Table 1 Terms of Reference

TOR	Detailed Procedures
1. Budget	<ul style="list-style-type: none">• How much was set aside for vaccines and related activities and how the figures were arrived at.• Budget approval process• Allocation of the funds i.e. specific budget items• Source of funds i.e. GOK and Donors

2. Sources of Vaccines	<ul style="list-style-type: none"> • GOK Procured vaccines, development partners donations and COVAX etc. • Procurement process for GOK procured vaccines • Local and international approval of vaccines and syringes • Types and quantities from the different sources as well as shelf life of vaccines and prices where applicable • Consider whether vaccines came with syringes or not and the effect • Shelf life of vaccines (expiry) • Batch Numbers • Storage of defective vaccines/ expired • Recording of vaccines • Government clearance process for vaccines from outside the country • WHO rating of effectiveness of various vaccines • Cost vs budget
3. Storage of Vaccines	<ul style="list-style-type: none"> • Manufacturer's requirements for storage of vaccines • Local storage capacity • Local storage conditions • Handling requirements • Transportation requirements • Recording including batch numbers • Stocking levels, process of issuing of vaccines as well as duration • Recording and accountability • Duration in store • Storage of defective vaccines/Syringes • Cost Vs Budget
4. Distribution	<ul style="list-style-type: none"> • How vaccines were distributed/logistics • Quantities of vaccines distributed • Proportion of vaccines distributed per region • Basis of quantities and proportions distributed eg population • Storage issues • Recording and accountability • Cost vs budget
5. Utilization	<ul style="list-style-type: none"> • Awareness creation • Intended/ target population • Uptake per type of vaccine • Rate of transition from first to second dose

	<ul style="list-style-type: none"> • Possibility of delayed administration of second dose • Matters relating to booster doses • Numbers expired • Recording and Accountability i.e vaccines received, utilized and balance and expired • Cost vs budget
6. Disposal	<ul style="list-style-type: none"> • Number of vaccines disposed • Criteria for disposal • Recording and accountability • Reports and feedback • Reconciliation of what was procured, utilized and unused and disposal • Costs vs budgets
7. Human Resource Matters (National and County Staff)	<ul style="list-style-type: none"> • Number of persons involved • Roles and responsibilities • Expertise (capacity/skills) • Duplication of roles is any • Selection and appointment criteria • Training Plans and Roll Out • Costs vs budgets
8. Coordination of players	<ul style="list-style-type: none"> • Who are the key players? • Are the roles and responsibilities of the players clear? • Is there a framework for coordination and communication of players? • Approval and appointment of taskforce and committees • Costs vs budgets
9. Monitoring and supervision	<ul style="list-style-type: none"> • Is there a framework for coordination and communication of players? • Approval and appointment of taskforce and committees • Costs vs budgets

2.3 Scope of the Audit and Limitations

2.3.1 Scope

The audit reviewed all processes from the inception of Covid-19 vaccines roll out, through budgeting to administration and disposal including the governance and monitoring structures. The period covered was from inception in March 2021 to 31 March, 2022.

2.3.2 Limitations

The special audit experienced challenges and limitations, which were mitigated in several ways in order not to negatively affect the quality and results of our findings. Some of the challenges and measures taken included:

- i) Accuracy and completeness of inventory records was a challenge. This was mitigated by corroboration of information in the physical records such as order sheets and vaccine stock ledgers with information in the Chanjo System.
- ii) Venturing into unknown places required us to use google maps which were at times misleading, to locate the health facilities. This was mitigated by asking the locals for directions or being accompanied with the Expanded Programme on Immunization (EPI) Logisticians.
- iii) Some Facilities had very poor mobile network connectivity. This was mitigated by requesting the in charge of facilities to travel to areas with accessibility. e.g. Tinderet Sub County
- iv) Harsh weather made roads inaccessible hence taking a lot of time to arrive at the facilities. This was mitigated by extension of working hours by the audit staff.
- v) Vaccine wastages and damages were not recorded by the vaccinating facilities. This was mitigated by referring to the vaccine wastages uploaded in the Chanjo System.

2.4 Audit Approach and Methodology

The Special Audit Team held entry and exit meetings with the County Health Management team on 9 May 2022 and 2 June 2022 respectively. During the entry meeting uniform and detailed work plans were developed and adopted which were then applied in the execution of the audit. The following were the main evidence gathering methods applied during the audit execution:

2.4.1 Document Review

To effectively plan for the audit and as a source of audit evidence, the Audit Team reviewed various documents including but not limited to; Vaccine stock ledgers, order sheets, order invoices, bank statements, Donor transfer of funds, seizure forms, NEMA inspection report, temperature monitoring sheets, adverse effect following immunization booklet (AEFI), Issue report from Eldoret Regional Vaccines Stores.

2.4.2 Analytical Review

The Audit Team extracted the vaccine data from the Chanjo System and carried a comparative analysis with physical records at the regional store, Sub County and vaccinating facilities.

2.4.3 Physical Verification

The Audit Team carried out physical verifications in Sub County stores and fifty-eight (58) vaccinating facilities in Nandi County as detailed in **Appendix I**.

2.4.4 Interviews

The Audit Team interviewed senior officers from Nandi County Government Department of Health to clarify the various issues to assist in making an informed report as detailed below: -

Table 2 Interviewees

	Name	Organization	Designation
1.	Ruth Koech	Nandi county	County Executive Committee Member-Health
2.	Dr. Paul Lagat	Nandi county	Chief Officer-Health (Medical services)
2.	Sally Kemboi	Nandi county	Chief Officer-Public Health
3.	Fredrick Kemboi	Nandi county	County Health Accountant
4.	Rachel Rop	Nandi county	County EPI Logistician
5.	Peter Too	Nandi county	Emgwen subcounty EPI
6.	Erick Rotich	Nandi county	Chesumei subcounty EPI
7.	Josephine	Nandi county	Aldai subcounty EPI
8.	Neddy Metto	Nandi county	Nandi Hills subcounty EPI
9.	Rhoda	Nandi county	Tinderet subcounty EPI
10.	Julia	Nandi county	Mosop subcounty EPI

2.5 Audit Phases

The audit was divided into Two Phases; Phase One involved review of processes at The National Treasury, Office of the Controller of Budget and Ministry of Health. It also involved analysis of data maintained in eMIS, Chanjo System and Kenya Health Information System. The information was then shared with the Audit Teams to inform the next audit phase.

Phase Two involved review of processes, data and verifications at Sub County Stores and the vaccinating facilities in the County. This Phase also involved interview of staff involved in vaccines rollout process.

2.6 Report Structure

This report is presented in the following format:

- i. Executive Summary,
- ii. Background
- iii. Detailed Findings,
- iv. Irregularities and weaknesses in management and institutions controls of Vaccines
- v. Recommendations
- vi. Appendices

The report should be read in its entirety in order to comprehend fully the approach to and findings of our work. The report has covered analysis and facts as understood with the aim of informing The National Treasury of the status of the Vaccines Roll Out in the County bearing in mind the challenges and limitations experienced.

2.0 DETAILED FINDINGS

2.1 Budget

2.1.1 Unconfirmed Funding of Covid-19 Vaccination Activities

A review of the County's health services budget for the 2021/2022 financial year revealed that the county did not budget for the Covid-19 vaccination activities. Covid-19 vaccination costs, including transportation, training and capacity building and procurement of auxiliary services such as syringes and safety boxes, could not be traced in the said budget, an indication they were not budgeted for. This was contrary to Regulations 29. (1) of the Public Finance Management (County Governments) Regulations, 2015 which states that the accounting officer shall ensure that the draft estimates relating to her or his department are prepared in conformity with the Constitution, the Act and these Regulations.

Management, stated that the expenditures were met by partners, but this was not supported by any documentary evidence including agreements with the partners if any. It was observed that the County did not have a budget for training of staff on Covid 19 vaccination.

The County Government received a grant of Kshs.5,935,000 from Danish International Development Agency (DANIDA) in June 2020 to enable facilities cater for Covid-19 emergencies but not for vaccination related activities. It was explained that staff received allowances directly from UNICEF. However, the grant agreement was not provided for audit verification.

2.1.2 Sources of Vaccines

The County received 285,465 vaccines from the National Government through Eldoret Regional Vaccines Store between 1 March 2021 and 31 March 2022. Discussions with management revealed that no vaccine roll out budget was provided for. Further, detailed review of the documents provided for audit revealed the following anomalies and as detailed in **Appendix II**.

Table 3 Budget

Observation/Findings	Number of non-Compliant Sub Counties	Number of non-Compliant Sub Counties
Failure to budget for associated Covid-19 vaccination costs, including transportation, training and procurement of auxiliary services such as syringes and safety boxes.	6	0
Lack of budgetary support for COVID 19 from donors/National government	6	0
Failure to spent budgetary support on COVID 19 vaccination.	6	0
Failure by the subcounty/Facility to finance Distribution of Vaccines, Outreaches, Trainings costs related to COVID- 19 vaccination;	6	0

2.2 Storage of Vaccines

According to World Health Organization (WHO) Guidelines (**COVID-19 vaccination: supply and logistics guidance, 12 February 2021**) the COVID-19 vaccines should be stored as follows:

- Pfizer should be maintained at -80 °C to -60 °C in Ultra Low Temperatures (ULT) freezer, and for Undiluted thawed vaccine at +2 °C to +8 °C
- Moderna should be maintained at -25 °C to -15 °C in ULT freezer, and Unopened vials can be stored refrigerated between 2 °C to 8 °C for up to 30 days prior to first use.
- Oxford/AstraZeneca should be maintained at 2 °C to 8 °C
- Further, Centre for Disease Control (CDC) clinical guidance for Janssen COVID-19 Vaccine recommend storing of the vaccine at temperatures between 2°C and 8°C.

The storage conditions applied to all vaccines stores including Sub Counties and vaccinating facilities. However, Special Audit revealed that Nandi County did not have a store at the County Level. Instead, vaccines were collected by the Sub Counties from Kapsabet County Referral Hospital or directly from Eldoret Regional Vaccines Store. It was also noted that, vaccines would be transported and stored in vaccine carriers with reconditioned ice-packs without thermometers to monitor compliance with the required temperature range.

2.2.1 Storage at the Counties and Sub Counties Stores

A review of documents provided for audit and physical verification carried out at the six (6) Sub County Stores revealed issues as summarized below in Table 4 and detailed in Appendix III.

Table 4 Storage at the Sub County Stores

Observations/Findings	Number of Compliant Sub- Counties	Number of Non-compliant Sub- Counties
There were appropriate written procedures for the clean-up of any spillage to ensure the complete removal of any risk of contamination	6	0
There were continuous temperature monitoring devices. In addition, there were written procedures describing the action in case of temperature deviating outside of the set standards and conditions.	6	0
All COVID 19 vaccines stored off the floor	6	0
Refrigerated and freezing storage environments fitted with signals to indicate that refrigeration has failed. The signal permitted resetting only by the authorized person.	6	0
Broken or damaged items are withdrawn from usable stock and stored separately	6	0
The COVID 19 vaccines were stored in such a way as to prevent contamination or cross-contamination.	6	0
The storage conditions were compatible with the storage conditions specified on their labels. (Storage facilities protected goods from deterioration.)	6	0
The storage conditions of the refrigerators are as per the vaccine manufacturer's recommendations (Refrigerated (2°C to 8°C))	6	0
The vaccines issued on a FIFO method and guided by the expiry date	6	0
The warehouse was maintained at a temperature not exceeding 30 °C, and relative humidity not exceeding 75% Relative humidity (WHO zone IVb requirements) at all times.	6	0
There were Secure measures to ensure that rejected vaccines cannot be used. Rejected vaccines are stored	6	0

Observations/Findings	Number of Compliant Sub- Counties	Number of Non-compliant Sub- Counties
separately from other products while awaiting destruction or return to the supplier		
There are written procedures and a sanitation program indicating the frequency of cleaning and the methods used to clean the premises and storage areas.	3	3
Store has sufficient security to prevent loss of Covid vaccines as well as prevent unauthorized access	6	0
The store had stock in the Cold Room and were physical counted and grouped per vaccine and Batch Numbers	6	0
Has the COVID 19 Special Audit team Populated vaccine tracker template for County and Sub county Store Grouped per Batch No.?	6	0
There was a cleaning log that must be completed, signed, and checked by the appropriately designated person.	0	6
There was a contingency plan in case of power failure, equipment breakdown, or cold chain breach	3	3
There was a written procedure and a program for pest control. The pest control agents used did not pose any risk of contaminating the vaccines. There was a site flow plan indicating where the bait stations are situated.	0	6
There was sufficient lighting necessary to enable all operations to be carried out accurately and safely.	6	0
Store has sufficient space for orderly receipt, warehousing, and dispatch of vaccines including a quarantine area for isolation when necessary, isolation of faulty packs and recalled goods. The vaccines and areas concerned were appropriately identified.	2	4

From the foregoing, the Special Audit Team confirmed that the Nandi County Sub-Counties Stores did not fully comply with the prescribed storage conditions for Covid-19 vaccines.

2.2.2 Storage at the Facilities Level

A review of documents provided for audit and physical verification carried out at the fifty-eight (58) facilities revealed issues as summarized Table 5 below and detailed in **Appendix IV**.

Table 5 Storage Compliance Level at the Facilities

Observations/Findings	Number of Compliant Facilities	Number of Non-Compliant Facilities
General Storage Areas		
There were appropriate written procedures for the clean-up of any spillage to ensure the complete removal of any risk of contamination	24	34
All COVID 19 vaccines stored off the floor	50	8
The storage conditions of the refrigerators are as per the vaccine manufacturer's recommendations (Refrigerated (2°C to 8°C))	50	8
The vaccines issued on a FIFO method and guided by the expiry date	58	0
There were Secure measures to ensure that rejected vaccines cannot be used. Rejected vaccines are stored separately from other products while awaiting destruction or return to the supplier	58	0
There are written procedures and a sanitation program indicating the frequency of cleaning and the methods used to clean the premises and storage areas.	24	34
The store had stock in the Cold Room and were physical counted and grouped per vaccine and Batch Numbers	58	0
Has the special audit team populated the vaccine tracker template (Grouped per Batch No.)	58	0
Refrigerated and freezing storage environments fitted with signals to indicate that refrigeration has failed. The signal permitted resetting only by the authorized person.	34	24
Refrigerators have sufficient security to prevent loss of Covid vaccines as well as prevent unauthorized access	55	3

Observations/Findings	Number of Compliant Facilities	Number of Non-Compliant Facilities
There was a contingency plan in case of power failure, equipment breakdown, or cold chain breach	39	19
There were continuous temperature monitoring devices. In addition, there were written procedures describing the action in case of temperature deviating outside of the set standards and conditions.	50	8
There was sufficient lighting necessary to enable all operations to be carried out accurately and safely.	52	6
Broken or damaged items are withdrawn from usable stock and stored separately	58	0

From the foregoing, administering facilities in Nandi County did not fully comply with the Ministry of Health Policy Guidelines on vaccine storage and management.

2.3 Distribution of Vaccines

2.3.1 Distribution at Sub County Level

According to Storage and transportation of vaccines & diluents section of National Policy Guidelines on Immunization, 2013, vaccines distribution and transportation of vaccines ought to be done as stated below;

- a) At all stages of vaccine transportation, a cold chain monitor must always accompany all vaccines whether in cold boxes, vaccine carriers or portable fridges and the temperature reading must be maintained between +2°C and +8°C at all times using conditioned ice packs.

Documents provided for audit revealed that Covid-19 Vaccines on arrival in the Country ideally should be transferred to the Central Stores which in turn distributes to Regional Vaccines Stores (RVS). The regional stores were then to distribute to the County Stores, which in turn distributes to Sub- County Stores and to Facilities. However, this was not the case for Nandi County. The County does not have a County Vaccines Store and vaccines are dispatched directly from RVS in the Chanjo System to the six Sub Counties. Physically however, the vaccines were received both at the Sub County stores and sometimes directly to the administering facilities. In addition, Sub County stores, though defined in Chanjo, did not receive vaccines in their own name, but received them in the name of the parent facility at the Sub County.

The 285,465 vaccines received in Nandi County as at 31 March, 2022 were distributed as summarized below in Table 6.

Table 6 Distribution of Vaccines at County Level

Vaccine Type	Distributed to County Stores	Distributed to Nandi Sub County Stores	Distributed to Facilities in Nandi County	Variance between Sub County and Facilities Distribution	Explanation for the Variance
Moderna	N/A	28,420	27,476	944	The variance is as a result of the distribution being done directly to the facilities, bypassing sub county stores or distribution among facilities.
Janssen		119,600	96,900	22,700	
Oxford/AZ		139,800	135,349	4,451	
Pfizer		29,250	25,740	3,510	
Total		317,070	285,465	31,605	

Documents provided for audit revealed the following anomalies as summarized below and detailed in **Appendix V**.

Table 7 Distribution at Sub County Level

Observation/Findings	Number of Compliant Sub Counties	Number of Non-Compliant Sub Counties
Are incidental costs arising from distribution/collection financed separately?	3	3
Does the Sub County/County collect vaccines from the regional store?	6	0
Was the mode of transport used to collect/distribute vaccines in line with the Covid- 19 Vaccines Guidelines	6	0

Further, the Special Audit Team observed the following:

- i) The mode of transport used in the county was use of the county ambulances and use of personal means like use of motor bikes and Public Service Vehicles
- ii) The distribution conditions of Vaccines were not being monitored during the transportation. The vaccine carrier boxes did not have temperature monitoring devices

- iii) There was no centralized coordination to collect and distribute the vaccines. Some facilities received vaccines from nearby Sub County offices instead of the Sub County store they fall under.
- iv) Under recording and accountability, accuracy of information in ordering sheets was a challenge

From the foregoing, the Special Audit Team confirmed that Nandi County financed vaccine distribution cost without a budget provision. Further, the County Government of Nandi did not fully comply with the National Policy Guidelines on vaccines distribution and transportation of vaccines.

2.4 Utilization of Vaccines

2.4.1 Accounting for the Vaccines

Ordinarily, Covid-19 vaccines flow through four levels before being administered; National Vaccine Store (NVS), Regional Vaccine Stores (RVS), Sub County Vaccine Stores and Health Facilities.

Examination of records maintained at the Sub County stores in Nandi County and data maintained in the Chanjo System revealed that as at 31 March 2022, a total of 285,465 doses of Covid-19 vaccines had been received in the county.

Utilization of vaccines including Covid-19 vaccines takes place at vaccinating facility. Documents provided for audit revealed that there were 20 facilities that were mapped in the Chanjo System. In addition, there were 6 Sub County health facilities that in addition to being stores functioned as vaccinating facilities. Analysis of data maintained by the Chanjo System and physical verification revealed that there were 39 vaccinating facilities that were not mapped in the Chanjo System and were using credentials for other facilities. Out of the total 285,465 doses received, a total of 218,802 doses were administered, 38,393 doses were still in stock while the balance was either expired, damaged or wasted as at 31 March 2022 as summarized below in Table 5 and detailed in **Appendix VI**. There was however an unexplained variance (deficit) of 31,019 doses.

Table 8 Accounting for the Vaccines

Vaccine	Doses Received	Vaccinations Administered	In stock	Expired and Disposed	Damaged	Wastage and Disposed	Unexplained Variance Doses	Average Price Per Unit	Total Estimated Cost
Janssen	96,900	67,566	34,934	-	-	(1,121)	(4,479)*	753.02	(3,372,777)
Moderna	27,476	22,471	114	-	-	(396)	5287	505.05	2,670,199
Oxford/	35,349	118,312	49	650	-	(2,773)	19,111	446.22	8,527,710

AstraZeneca									
Pfizer	5,740	10,453	3,296	5,714	-	(344)	6,621	670.17	4,437,196
TOTAL	285,465	218,802	38,393	6,364	-	(4,634)	31,019		15,635,105

* -Denotes positive variances attributed to vaccine gains during administration.

2.4.2 Administered Doses

The Chanjo System indicates that a total of 219,856 doses had been administered in the County between 1 March, 2021 and 31 March, 2022. The vaccine doses administered are as summarised below:

Table 9 Analysis of administered doses

s/n	Vaccine Type	First Doses	Second Doses	Booster Doses	Total Doses
1	Jansen	68,540	1	5	68,547
2	AstraZeneca	71,081	46,386	895	118,362
3	Moderna	13,306	8,613	550	22,469
4	Pfizer	8,376	1,392	710	10,478
5	Sinopharm	0	0	0	0
6	Sputnik -V	0	0	0	0
TOTAL		161,290	56,390	2,159	219,856

However, the Special Audit Team confirmed administered doses of 218,802 leading to a variance of 1,054 doses.

3.4.1 Expired Doses

These are doses that had not been administered by the manufacturers' use by date amounting to 6,364 doses out of which 3,052 doses had not been disposed by the time of the special audit in May 2022.

Table 10 Expired/Undisposed doses

Batch	Batch Expiry Date	Sum of Expired
ACB3580 - Oxford/AstraZeneca	28 th Feb 2022	130
ACB3796 - Oxford/AstraZeneca	28 th Feb 2022	70
FJ8759 - Pfizer	30 th June 2022	2,562
NH0296 - Oxford/AstraZeneca	31 st Oct 2021	30
NL0251 - Oxford/AstraZeneca	28 th Feb 2022	180
NN0195 - Oxford/AstraZeneca	31 st March 2022	80
	Total	3,052

3.4.2 Wasted/Damaged Doses

The special audit revealed that no records were maintained in the Sub County stores and facilities to record wastages and or damaged vials. However, the Chanjo System reflected nil damaged doses and 4634(negative) wasted doses as at 31 March, 2022.

Further, the Special Audit Team noted the following:

Section KEN-iSC-E6-04 of Health facility and Sub County SoPs, revised July 2019, on Safe disposal of expired /damaged vaccine and diluents SoPs require health facility officer responsible for immunization services to keep record of broken vials in the stock control system. This was not the case with all vaccinating facilities.

3.4.3 Unexplained Vaccine Variances

Reconciliation of vaccines received, administered, in stock as at 31st March, 2022 expired, damaged and wasted revealed an unexplained variance (deficit) of 31,019 doses valued at Kshs.15,635,105. Further, Janssens vaccine indicated a positive variance of 4,479 doses mainly attributed to gains during the vaccine administration. The special audit noted that the variance may have been as a result of failure to update the system data and poor manual record keeping resulting to inaccurate data used to update the system.

The following weakness/Challenges that could hamper utilization were noted:

- 1) Not uploading the administered doses in the system
- 2) Sharing of credentials by several facilities
- 3) Low uptake of the vaccine
- 4) Inadequate training of the health care workers.
- 5) Delay in uploading administered doses resulting to unavailable batches in the system once the batches reach their expiry date.

3.5 Disposal of Vaccines

A review of documents provided for audit revealed non- compliance with the disposal requirement as per the Pharmacy and Poisons Board, Guidelines for Safe Management of Pharmaceutical Waste PPB/INSP/GDP/GUD/020 , Section 3 of Environmental Management and Coordination Act (EMCA), 1999 (Revised 2015), Regulation 2 of Environmental Management and Coordination (Waste Management) Regulations of 2006 and World Health Organization (WHO) Standard Operating Procedure (SOP) on Waste management of used COVID-19 vaccines vials and ancillary supply .

The special audit noted that out of the 6,364 expired doses, a total of 3,052 doses had not been disposed by the time of the special audit in May 2022. Further, it was noted that a majority of the facilities disposed off expired vaccine vials through the burning chambers contrary to the regulations which requires them to fill seizure forms and return the same to the Sub County offices.

The findings on disposal of vaccines are as summarized below and detailed in **Appendix VII and VIII**.

Table 11 Facilities Compliance to Disposal of Vaccine Requirements

Observation/Findings	Number of compliant Sub County Stores	Number of Non-compliant Sub County Stores	Number of Compliant Facilities	Number of Non-Compliant Facilities
Failure to dispose in a NEMA approved pharmaceutical disposal site in compliance with the Guidelines for safe management of pharmaceutical waste	5	1	33	25
Lack of NEMA clearance when transporting COVID 19 waste from one county to another or from one region to another for stores without NEMA approved Waste Disposal Site.	0	6	2	56
Failure by the County/Store to fill any application form for disposal of pharmaceutical waste issued by the Pharmacy and Poisons Board in compliance with the Guidelines for safe management of pharmaceutical waste.	6	0	0	1
Disposal of pharmaceutical waste without supervision by a Pharmacy and Poisons Board inspector OR Public Health Officer in compliance with the Guidelines for safe management of pharmaceutical waste.	6	0	0	1
Lack of budget for disposal of COVID 19 waste	0	6	0	57
Lack of waste management plan developed	3	3	2	56
Failure to record or to account vaccine vials in the vaccine inventory report	4	2	8	50

Observation/Findings	Number of compliant Sub County Stores	Number of Non-compliant Sub County Stores	Number of Compliant Facilities	Number of Non-Compliant Facilities
Disposing pharmaceutical waste without separating from the sharp waste and other healthcare wastes and the different wastes not securely packaged in plastic bags or rigid containers which are clearly labelled as per the the Guidelines for safe management of pharmaceutical waste and WHO Waste management of used COVID-19 vaccines vials and ancillary supply	N/A	N/A	58	0
Failure to have a pharmaceutical waste stored in designated quarantine stores and away from usable pharmaceutical	N/A	N/A	34	24
Failure to involve public health officer during disposal of COVID 9 Waste?	N/A	N/A	40	17
Facility transports Pharmaceutical Waste	N/A	N/A	40	18
Lack of an incinerator, burning chamber or burning pit.	N/A	N/A	58	0
Method used to dispose of sharp waste (syringes and needles) by the Healthcare facility complies with the Guidelines for safe management of pharmaceutical waste and WHO Waste management of used COVID-9 vaccines vials and ancillary supply	N/A	N/A	32	26

Observation/Findings	Number of compliant Sub County Stores	Number of Non-compliant Sub County Stores	Number of Compliant Facilities	Number of Non-Compliant Facilities
Quantity and the method used in the disposal of any vaccine vials (both wasted and expired) by the Healthcare facility complied with the Guidelines for safe management of pharmaceutical waste and WHO Waste management of used COVID-9 vaccines vials and ancillary supply	N/A	N/A	25	33
Failure to have a certificate of safe disposal of pharmaceutical waste in compliance with the Guidelines for secure management of pharmaceutical waste	N/A	N/A	0	1

In the circumstances, the undisposed expired, damaged and wasted vaccine may pose a health risk to the general public and the health officers. In addition, failure to follow the disposal protocols may also pose a worse health risk to the general public and the health officers.

3.6 Human Resource Matters (County Staff)

The health care workers were to be trained and competent on; knowledge on Covid-19 disease; knowledge and skills in Covid-19 Vaccine demand creation, health facility preparation, safe vaccine administration, infection control practices, patient data management, adverse event reporting and management, documentation and monitoring of vaccine utilization and logistics, communication, waste management, mental health and multi-disciplinary team work. The health care training was to be funded by the Government of Kenya and Donors/ development partners.

Immediately after the Covid-19 vaccines were introduced, trainings for different levels of personnel in the National and County Governments were conducted. Nandi county management explained that trainings in the county were undertaken through the assistance of partners. However, no correspondence or documentation regarding donor facilitation and support was provided for audit review. In addition, the training plan, training timetable, venue, the attendance list, the cost to the donor, number of trainees

per county, trainee selection criteria, training timetable, venue and training reports were not provided for audit review.

A review of the documents provided for audit revealed anomalies as summarized below and detailed in **Appendix IX and X**.

Table 12 Compliance to Human Resource Requirements

Observation/Findings	Number of Compliant Counties and Sub Counties	Number of non-Compliant Counties and Sub Counties	Number of Compliant Facilities	Number of non-Compliant Facilities
County and Sub- Counties were not represented in National training for ToT.	6	0	N/A	N/A
Counties and Sub- Counties health management team not trained on COVID 19 immunization	6	0	58	0
Trainings not well spread to all necessary cadres	6	0	N/A	N/A
Lack of a training plan and trainings not done as per training plan	0	6	N/A	N/A
Lack of a specific training budget for COVID -19 immunization	0	6	N/A	N/A
Variance between budget and actual expenditure for training on COVID 19 vaccination.	0	6	N/A	N/A
Lack of details including designation, attendance dates, financier of staff at national/county/subcounty /facility	6	0	58	0
Lack of adequate staff to carry out the COVID 19 vaccination	N/A	N/A	55	3
Lack of separation of roles and duties	N/A	N/A	54	4

Lack of prior training on COVID - 19 including vaccine administration	N/A	N/A	55	3
Failure to use trained staff to train other staff	N/A	N/A	13	45

In the circumstances, the Human Resources engaged in the vaccines roll out program may not have been adequately trained.

3.7 Coordination of Players

3.7.1 Coordination at County Level

The county received a total of eighty-six (86) tablets that were distributed to various vaccinating centers. However, breakdown of gadgets in some facilities and failure to repair or replace the broken gadgets resulted to manual recording of vaccination details. The data was not recorded in the Chanjo System on a timely basis resulting to a gap in reporting and ultimately monitoring.

Further, despite the Chanjo System being web based, there was no sound plan on provision of data bundles to support continuous data capture. This affected the information on the quantity of doses recorded in the Chanjo System and is indicative of inadequacy in coordination between the National and the County Governments.

3.7.2 Coordination at Sub County Level

According to the National COVID-19 Vaccine Deployment Plan 2021, the County Emergency COVID-19 Response Committee were to be adopted to form the Steering Committee.

A review of documents provided for audit at the Sub Counties and Facilities revealed anomalies as summarized below and detailed in **Appendix XI and XII**.

Table 13 Coordination at Sub County and Facilities Level

Observation/Findings	Number of Compliant sub counties	Number of non-Compliant Counties and Sub - Counties	Number of compliant Facilities	Number of non-Compliant Facilities
Failure to form coordination taskforce/committee	6	0	N/A	N/A
Task force /committee without terms of reference (TOR)	6	0	N/A	N/A
Failure to comply with the TORS	6	0	N/A	N/A
Lack of directives/advisory/instruction	6	0	58	0

from higher levels in the COVID – 19 Vaccine management				
Lack of upward/downward communication in COVID – 19 Vaccine Roll out	6	0	58	0
Failure to carry out advocacy	6	0	58	0
Failure to carry out mobilization	6	0	58	0
Failure to carry out mobilization outreaches	6	0	57	1

From the foregoing, the coordination of various players in Covid-19 Vaccine roll out may not have complied with in Nandi County.

3.8 Monitoring and Supervision

3.8.1 Monitoring and Supervision at the County and Facilities Level

The Covid-19 Vaccination should be monitored and supervised to ensure smooth implementation of policy and guidelines issued from time to time by the National Government. Review of records in support of monitoring and supervision activities in Sub Counties stores and administering facilities revealed anomalies as summarized below and detailed in **Appendix XIII and XIV**.

Table 14 Monitoring and Supervision at the Sub County and Facilities Level

Observation/Findings	Number of compliant sub counties	Number of non-Compliant Counties and Sub Counties	Number of compliant facilities	Number of non-Compliant Facilities
Lack of a designated officer as an in charge for monitoring COVID- 19 vaccine roll out.	6	0	N/A	N/A
Lack of reference for M & E Committee	0	6	N/A	N/A
Lack of reports of the M & E Committee	0	6	N/A	N/A
Failure to implement recommendations of M& E team	0	6	N/A	N/A
Lack tablets from the Ministry	6	0	40	18

Observation/Findings	Number of compliant sub counties	Number of non-Compliant Counties and Sub Counties	Number of compliant facilities	Number of non-Compliant Facilities
Tablet not in good working conditions	4	2	32	26
Personnel involved in the rollout not facilitated by airtime	4	2	26	32
Lack of mechanism/measures where patients could report adverse effect after vaccination.	6	0	58	0
Lack of Adverse effect booklet etc that are required to report adverse effects	6	0	48	10
Failure to monitor temperature during transportation of vaccines	6	0	44	14
Failure to record temperature every morning and evening in the temperature monitoring chart/tool	6	0	57	1
Failure to monitor for the expiry of the vaccines?	6	0	58	0
Failure to monitored the Pfizer and Moderna vaccines for the 30 days expiry period after thawing	6	0	44	14
Failure to make use of temperature monitoring tools.	N/A	N/A	55	3

From the foregoing, the Special Audit Team confirmed that the Nandi Sub Counties stores and vaccinating facilities did not receive monthly airtime consistently and hence uploading of data using the tablets was a challenge. A total of 18 facilities did not receive tablets from the ministry and were therefore forced to submit hard copy details of the administered persons to the Sub County offices for data input.

In the circumstances, monitoring and supervision at the Sub County stores and facilities may not have been effectively carried out which impacted negatively on the County's vaccines roll-out.

4 IRREGULARITIES AND WEAKNESSES IN MANAGEMENT AND CONTROLS OF VACCINES IN INSTITUTIONS

4.4 Irregularities and Weaknesses at the Sub County and Facilities Level

The following irregularities, weaknesses and recommendations were observed by the special audit at the County level.

Table 15 Irregularities and Weaknesses at the Sub County and Facilities Level

	Irregularities and Weaknesses	Recommendations
1	Lack of maintenance of vaccine stock ledger in some facilities	Facilities should maintain Vaccine stock ledgers
2	Inconsistent use and delays in updating of the Chanjo System.	Proper accountability of vaccines receipts, issues and utilization should be done through consistent use and updating in Chanjo System
3	Incomplete recording of information in the vaccine stock ledgers in some facilities	Nurses /Vaccinators should be trained on filling of the vaccine stock ledger Supervision should be carried out periodically to ensure compliance
4	Lack of control in the selection vaccine batch number during administration in the Chanjo System.	Controls should be put on the Chanjo System to eliminate cases of negative balances. Nurses should be trained on the use of the Chanjo System.
5	Some facilities did not have a power back up option to enable continuous operation of the fridges	All facilities to have a power back up option to ensure continuous refrigeration
6	Lack of enough airtime to support access the Chanjo System	The county to provide facilitation to facilities to enable efficient use of the Chanjo System
7	Inadequate personnel at the vaccinating centers	Enhance human capital resource in the facilities.

5 Conclusion

The objective of the special audit was to determine the efficiency and effectiveness of the Covid-19 vaccine roll out in Nandi County. Following the findings, the County should ensure that all vaccinating facilities are defined in the Chanjo System and effective supervision of

the activities at the County, Sub County and facilities on all matters relating to receipts, issues and administering of vaccines. Special Audit revealed weaknesses throughout the process of covid-19 vaccines rollout and inadequacies in record keeping. The above weaknesses resulted in an unexplained variance (deficit) of 31,019 of vaccine doses valued at Kshs. 15,635,105 based on the average Vaccine cost during the period.

The County should adhere to the cold chain and supply logistics guidelines as issued by WHO and MOH. In order to meet the increasing service demands, there is need to continuously assess demand for health workers and build their capacity for effective service delivery to the citizens of Nandi County.



CPA Nancy Gathungu, CBS
AUDITOR-GENERAL

24 June 2022

Nairobi

6 APPENDICES

Appendix I: Facilities Audited

Sub County	Sub County Store	Facilities	In Chanjo
Aldai	Kaptumo Subcounty hospital	Kaptumo Subcounty hospital	Yes
		Kaboi dispensary	No
		Kapkolei dispensary	No
		Kemeloi dispensary	No
		Kibwareng health centre	No
		Kobujoi dispensary	No
		Koyo Health Centre	No
		Serem health centre	No
Nandi Hills	Nandi Hills County Hospital	Nandi Hills County Hospital	Yes
		Chemomi dispensary	No
		Chepkunuk dispensary	No
		Cheptabach dispensary	No
		Khartoum dispensary	No
		Koilot health centre	No
		OLessos health centre	No
		Savani dispensary	No
		Seret dispensary	No
		Sirua dispensary	No
Tinderet	Meteitei Sub County Hospital	Meteitei Sub County Hospital	Yes
		Chemili dispensary	No
		Cheptilil dispensary	No
		Chesem health centre	No
		Kabunyaeria health centre	No
		Setek subcounty hospital	No
		Sobariver tea dispensary	No
		Tinderet tea dispensary	No
Emgwen	Kapsabet county referral hospital	Kapsabet county referral hospital	Yes
		Koibem dispensary	Yes
		St Boniface/Tindinyo mission health center	Yes
		Kilibwoni health center	No
		Kapkangani health center	No
		Kabirirsang dispensary	No

			Kipsigak dispensary	No
			Kiropket dispensary	No
			Ndumbeneti	No
			Ngeny Bukorio dispensary	No
			Chepkumia dispensary	No
Mosop	Kabiyet hospital	subcounty	Kabiyet subcounty hospital	Yes
			Chepterwai subcounty hospital	Yes
			Kabisaga dispensary	No
			Kimong dispensary	No
			Kaptich dispensary	No
			Kaiboi mission health center	No
			Kabiemit health center	No
			Sangalo dispensary	No
			Kipsamoite dispensary	No
			Cheptil dispensary	No
Chesumei	Mosoriot hospital	subcounty	Mosoriot subcounty hospital	Yes
			Mother Fransiscan/Kimondi Forest dispensary	Yes
			Sironoi/Kapkimbir dispensary	Yes
			Masan/Chemundu dispensary	Yes
			Cheplengu dispensary	Yes
			Kapchepkok/Kombe dispensary	Yes
			Kingwal/Kaptel dispensary	Yes
			Kapsisiywa health center	Yes
			Lelmokwo dispensary	Yes
			Chemuswo dispensary	Yes
			Mogoget/Ngechek dispensary	Yes

Appendix II: Sub-counties without Covid-19 vaccine rollout budget

Row Labels	BUDG1	BUDG2	BUDG3	BUDG4
Aldai	Yes	Yes	No	No
Chesumei	Yes	Yes	No	No
Emgwen	Yes	Yes	No	No
Mosop	Yes	Yes	No	No
Nandi Hills	Yes	Yes	No	No
Tinderet	Yes	Yes	No	No
Compliant	6	6	0	0
Non-compliant	0	0	6	6

KEY

BUDG1

Did the Sub county receive any Covid 19 related budgetary support from donors/National government?

BUDG2

Did the Sub county spend on Covid 19 vaccination?

BUDG3

Did the sub county/Facility finance the following costs related to Covid 19 vaccination;
Were the associated Covid 19 vaccination costs, including transportation, training and procurement of auxiliary services

BUDG4

such as syringes and safety boxes, budgeted for?

Appendix iii: Storage at Sub County

Row Labels	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	ST9	ST10	ST11	ST12	ST13	ST14	ST15	ST16	ST17	ST18	ST19	ST20
Aldai	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no	yes	no
Chesumei	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	no	yes	yes
Emgwen	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	no	yes	no
Mosop	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	yes	yes	yes	no	yes	no	yes	no
Nandi Hills	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no	yes	no
Tinderet	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no	yes	yes
Compliant	6	6	6	6	6	6	6	6	6	6	6	3	6	6	6	0	3	0	6	2
Non-compliant	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	6	3	6	0	4

KEY

- Are there appropriate written procedures for the clean-up of any spillage to ensure the complete removal of any risk of contamination?
- ST1**
- Are there continuous temperature monitoring devices? If yes, are there Written procedures describing the action in case of temperature deviating outside of the set standards and conditions?
- ST2**
- Are all COVID 9 vaccines stored off the floor?
- ST3**

- ST4 Are Refrigerated and freezing storage environments fitted with signals to indicate that refrigeration has failed? (The signal should permit resetting only by the authorized person.)
- ST5 Are the Broken or damaged items withdrawn from usable stock and stored separately?
- ST6 Are the COVID 9 vaccines stored in such a way as to prevent contamination or cross-contamination?
Are the storage conditions compatible with the storage conditions specified on their labels? (Storage facilities should protect goods from deterioration.)
- ST7 Are the storage conditions of the refrigerators per the vaccine manufacturer's recommendations?
(Refrigerated (2°C to 8°C))
- ST8 Are the vaccines issued on a FIFE method and guided by the expiry date?
- ST9 Are the warehouse maintained at a temperature not exceeding 30 °C, and relative humidity not exceeding 75% Relative humidity (WHO zone IVb requirements) at all times?
- ST10 Are there Secure measures to ensure that rejected vaccines cannot be used? Are they stored separately from other products while awaiting destruction or return to the supplier?
- ST11 Are there Written procedures and a sanitation program indicating the frequency of cleaning and the methods used to clean the premises and storage areas?
- ST12 Does the building have sufficient security to prevent loss of Covid vaccines as well as prevent unauthorized access?
- ST13 Does the county have any stock in the Cold Room? If yes perform Physical count of dozes in the cold room (Grouped per vaccine and Batch No.) and populate the remarks and hyperlink in the remarks column a paper tabulating the results of the count.
- ST14

	Has the COVID 9 Special Audit Team Populated vaccine tracker template for County and Subcounty Store Grouped per Batch
ST15	No.?
ST16	Is there a cleaning log that must be completed, signed, and checked by the appropriately designated person?
ST17	Is there a contingency plan put in place in case of power failure, equipment breakdown, or cold chain breach?
ST18	Is there a written procedure and a program for pest control? Do the pest control agents used pose any risk of contaminating the vaccines? (A site flow plan indicating where the bait stations are situated must be available.)
ST19	Is there sufficient lighting necessary to enable all operations to be carried out accurately and safely?
ST20	Is there sufficient space for orderly receipt, warehousing, and dispatch of vaccines? In particular, a quarantine area for isolation when necessary, including isolation of faulty packs and recalled goods? (The vaccines and areas concerned should be appropriately identified.)

Appendix IV: Storage at Facility Level

Row Labels	ST1	ST2	ST3	ST4	ST5	ST6	ST7	ST8	ST9	ST10	ST11	ST12	ST13	ST14
Kaboi Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Kapkoloi Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Kaptumo subcounty hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Kemeloi health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Kibwareng Health Centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Kobujoi Forest Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Koyo health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Serem health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Chemundu dispensary	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Chemuswa dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Cheplengu dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Kapkimbir dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Kapsiswo health center	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Kaptei dispensary	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes
Kimondi forest dispensary	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes

Kombe dispensary	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Leimokwo dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Mosoriot subcounty hospital	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Chepkumia dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kabiriang Dispensary	No	No	No	Yes	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kap कांगani Health Center	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kapsabet county referral hospital	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kilibwoni Health Center	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kipsigak Dispensary	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kiroket Dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Koibem dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Ndumbeneti dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Ngeny Bokurio Dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
St Boniface dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Chepterwai Sub County hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cheptil dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kabiemit Health Center	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kabisaga dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Kabiyet subcounty hospital	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes

Kaiboi Mission Health Center	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kaptich dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kimong dispensary	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Kipsamoite dispensary	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Sangalo dispensary	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Chemomi Dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chepkunyuk Dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cheptabach	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Khartoum dispensary	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Koilot Health Centre	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nandi Hills subcounty hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Oll'essos health centre	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Savani Dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Siret Dispensary	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Sirua dispensary	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Chemase Health Centre	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chemelli Dispensary	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cheptilli Dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Kabunyaeria Health Centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Meteitei subcounty hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Setek Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Soba river health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes	Yes	Yes
Tinderet Tea Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Ngechek dispensary	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Compliant	24	50	50	58	58	24	58	58	34	55	39	50	52	58	
Non-compliant	34	8	8	0	0	34	0	0	24	3	19	8	6	0	

KEY

- ST1** Are there appropriate written procedures for the clean-up of any spillage to ensure the complete removal of any risk of contamination?
- ST2** Are all COVID 9 vaccines (Fridge) stored off the floor?
Are the storage conditions of the refrigerators per the vaccine manufacturer's recommendations?
- ST3** (Refrigerated (2°C to °C))
- ST4** Are the vaccines issued on a FIFO method and guided by the expiry date?
Are there measures to ensure that rejected vaccines cannot be used? (They should be stored separately from other products while awaiting destruction or return to the supplier)
- ST5**

- ST6 Are there Written procedures and a sanitation program indicating the frequency of cleaning and the methods used to clean the premises and storage areas (There should be a chart on the wall that is signed after every cleaning and a poster giving cleaning instructions)
- ST7 Have you carried out Physical count of dozes in the cold room (Grouped per vaccine and Batch No.)
- ST8 Have you populated the vaccine tracker template (Grouped per Batch No.)
- ST9 Is the Refrigerator is fitted with signals to indicate that refrigeration has failed? (The signal should permit resetting only by the authorized person.)
- ST10 Is the refrigerator well secured to prevent unauthorized access?
- ST11 Is there a contingency plan in case of power failure, equipment breakdown, or cold chain breach
- ST12 Is there Continuous temperature monitoring devices? If Yes, are there Written procedures describing the action in case of temperature deviating outside of the set standards and conditions?
- ST13 Is there sufficient lighting necessary to enable all operations to be carried out accurately and safely?
- ST14 Were broken or damaged items withdrawn from usable stock and stored separately?

Appendix V: Distribution at Sub County Level

Row Labels	DISTRIBUTION 1	DISTRIBUTION 2	DISTRIBUTION 3
Aldai	No	yes	yes
Chesumei	yes	yes	yes
Emgwen	yes	yes	yes
Mosop	yes	yes	yes
Nandi Hills	No	yes	yes
Tinderet	No	yes	yes
Compliant	3	6	6
Non-compliant	3	0	0

KEY

Are incidental costs arising from distribution/collection financed separately? If yes populate the Finding/Observation

DISTRIBUTION 1 with details of the financing

Does the Subcounty/County collect vaccines from the regional store? If yes populate the Observation/Finding column

DISTRIBUTION 2 how they are distributed to the county/subcounty stores and to Facilities

DISTRIBUTION 3 What mode of transport is used to collect/distribute vaccines?

Appendix VI: Accounting for Vaccines

Facility Trackers

Vaccine	Doses Received	Vaccinations Administered	In stock As at 31.03.22	Not expired	Expired	Adjustment	Total variance	Expired and Disposed (Qty)	Wastage and disposed (Qty)	Unaccounted for
Janssen	96,200	67,566	34,934	30,645	-	4,289	-6,300	-	-1,121	-4,479
Moderna	27,476	22,471	114	-	-	114	4,891	-	-396	5287
Oxford/AstraZeneca	133,949	117,712	49	-	490	49	15,698	160	-2,773	18,311
Pfizer	24,660	10,453	2,979	-	2,562	2,979	8,666	3,152	-344	5,858
										0
Sub County trackers										0
Janssen	700	-	-	-	-	-	700	-	-	0
Moderna	-	-	-	-	-	-	-	-	-	0
Oxford/AstraZeneca	1,400	600	-	-	-	-	800	-	-	800
Pfizer	1,080	-	317	-	-	317	1,080	-	-	763
TOTAL	285,465	218,802	38,393	30,645	3,052	7,748	25,535	3,312	-4,634	31,019

Absolute sum 31019

Negative sum -4479

Appendix VII: Disposal at Sub County Level

Row Labels	DISP1	DISP2	DISP3	DISP4	DISP5	DISP6	DISP7
Aldai	yes	No	yes	yes	No	No	yes
Chesumei	yes	No	yes	yes	No	yes	yes
Emgwen	yes	No	yes	yes	No	yes	yes
Mosop	No	No	yes	yes	No	yes	yes
Nandi Hills	yes	No	yes	yes	No	No	No
Tinderet	yes	No	yes	yes	No	No	No
Compliant	5	0	6	6	0	3	4
Non-Compliant	1	6	0	0	6	3	2

KEY

- DISP1** Are the disposals done at a NEMA approved pharmaceutical disposal site in compliance with the Guidelines for safe management of pharmaceutical waste
- DISP2** Did COVID 9 waste transported from one county to another have clearance from NEMA?
Did the County/Store fill any application form for disposal of pharmaceutical waste issued by the Pharmacy and Poisons Board in compliance with the Guidelines for safe management of pharmaceutical waste?
- DISP3** Was disposal of pharmaceutical waste supervised by a Pharmacy and Poisons Board inspector OR Public Health Officer in compliance with the Guidelines for safe management of pharmaceutical waste?
- DISP4** Was there a budget developed for disposal of COVID 9 waste? (Compare actual with the budget and Report under observation if the budget was adequate or not)
- DISP5** Was waste management plan developed at either the National and/or County level?
- DISP6**

DISP7

Were disposed vaccine vials recorded and accounted for in the vaccine inventory report?

Appendix VIII: Disposal at Facility level

Row Labels	DISP 1	DISP 2	DISP 3	DISP 4	DISP 5	DISP 6	DISP 7	DISP 8	DISP 9	DISP 0	DISP 1	DISP 1	DISP 1	DISP 1	DISP 1	DISP 1
Chemase Health Centre	No	No	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
chemelil dispensary	No	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A	
Chemomi Dispensary	No	No	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
Chemundu dispensary	No	No	Yes	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	
Chemuswa dispensary	No	No	Yes	Yes	Yes	Yes	No	No	Yes	No	No	Yes	N/A	N/A	N/A	
Chepkumia dispensary	No	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	N/A	N/A	N/A	
Chepkunyuk Dispensary	No	No	Yes	No	Yes	Yes	No	No	Yes	No	No	No	N/A	N/A	N/A	
Cheplengu dispensary	No	No	Yes	Yes	No	Yes	Yes	No	Yes	No	Yes	No	N/A	N/A	N/A	
Cheptabach	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
Chepterwai sub county hospital	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
Cheptil dispensary	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	
cheptilil dispensary	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A	
Kabiemit Health Center	No	No	Yes	No	No	Yes	No	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
Kabirisang Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	N/A	N/A	N/A	
Kabisaga dispensary	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A	
Kabiyet subcounty hospital	No	No	Yes	No	Yes	No	No	No	Yes	No	Yes	Yes	N/A	N/A	N/A	
Kaboi Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A	
Kabunyaeria Health Centre	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A	
Kaiboi Mission Health Center	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	

Kapkangani Health Center	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Kap kibimbir dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Kap kolei Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	N/A	N/A
Kapsabet county referral hospital	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Kapsiywo health center	No	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No	N/A	N/A
Kaptel dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	N/A	N/A
Kaptich dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
kaptumo subcounty hospital	No	No	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No	N/A	N/A
Kemeloi health centre	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	N/A	N/A
Khartoum dispensary	No	No	Yes	No	No	No	No	Yes	Yes	No	No	No	No	N/A	N/A
Kibwareng Health Centre	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	N/A	N/A
Kilibwoni Health Center	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Kimondi forest dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	N/A	N/A
Kimong dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Kipsamoite dispensary	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A	N/A
Kipsigak Dispensary	No	No	Yes	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	N/A	N/A
Kiroket Dispensary	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	N/A	N/A
Kobujoi Forest Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A	N/A
Koibem dispensary	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A	N/A
Koilot Health Centre	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A	N/A
Kombe dispensary	No	No	Yes	No	Yes	No	No	Yes	Yes	No	No	No	No	N/A	N/A
Koyo health centre	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	N/A	N/A
Lelimokwo dispensary	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Metei tei subcounty hospital	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A
Mosoriot subcounty hospital	Yes	No	Yes	No	Yes	No	No	Yes	No	No	Yes	No	Yes	N/A	N/A

Nandi Hills subcounty hospital	No	No	Yes	Yes	Yes	No	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A
Ndumbeneti dispensary	No	No	Yes	No	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A
Ngechek dispensary	No	No	Yes	No	No	Yes	No	No	Yes	No	No	No	N/A	N/A	N/A
Ngeny Bokurio Dispensary	No	No	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	N/A	N/A	N/A
Ol'lessos health centre	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	N/A	N/A	N/A
Sangalo dispensary	No	No	Yes	No	Yes	Yes	No	No	Yes	Yes	No	No	N/A	N/A	N/A
Savani Dispensary	No	No	Yes	No	Yes	No	No	No	Yes	No	No	No	N/A	N/A	N/A
Serem health centre	No	No	Yes	Yes	Yes	No	No	No	Yes	No	No	No	N/A	N/A	N/A
Setek Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	N/A	N/A	N/A
Siret Dispensary	No	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	N/A	N/A	N/A
Sirua dispensary	No	No	Yes	Yes	No	No	No	No	Yes	No	No	No	N/A	N/A	N/A
Soba River Tea Dispensary	No	No	Yes	No	No	No	Yes	No	Yes	No	No	No	N/A	N/A	N/A
St Boniface dispensary	No	No	Yes	No	Yes	No	No	No	Yes	No	No	No	N/A	N/A	N/A
Tinderet Tea Dispensary	No	No	Yes	No	No	No	Yes	No	Yes	No	Yes	No	N/A	N/A	N/A
Compliant	2	0	58	34	40	40	33	2	58	32	25	8	0	0	0
Non compliant	56	57	0	24	17	18	25	56	0	26	33	50	1	1	1

Key

DISP1	Does the facility have a waste management plan?
DISP2	Was there a budget for the disposal of COVID 19 Waste?
DISP3	Was there pharmaceutical waste separated from the sharp waste and other healthcare wastes and the different wastes securely packaged in plastic bags or rigid containers which are clearly labeled?
DISP4	Was there pharmaceutical waste stored in designated quarantine stores and away from usable pharmaceutical ?(Applicable to facilities with large volumes of daily waste, that do not transport/dispose daily)
DISP5	Is the public health officer involved in the disposal of COVID 19 Waste? (Storage, Transportation and Supervision of Disposal)

DISP6	Does the Facility Transport Pharmaceutical Waste? (For facilities that do not have a NEMA approved Waste Disposal Site. These sites have an incinerator. N/B: A burning chamber is not an incinerator)
DISP7	Was there pharmaceutical waste is transported to a NEMA approved Waste Disposal Site. (Facility should have a copy for the approval of the site/incinerator and a separate documentaion regarding approval for the transportation)
DISP8	Was there a pharmaceutical waste transported from one county to another had clearance from NEMA
DISP9	Does the facility have an incenerator, burning chamber or burning pit.
DISP10	Was the method used to dispose of sharp waste (syringes and needles) by the Healthcare facility and whether complying with the Guidelines for safe management of pharmaceutical waste and WHO Waste management of used COVID-19 vaccines vials and ancillary supply (Treatment should be by Incineration, Sharps are to be incenerated while other waste is to be burnt in a burning chamber)
DISP11	Did the quantity and the method used in the disposal of any vaccine vials (both wasted and expired) by the Healthcare facility comply with the Guidelines for safe management of pharmaceutical waste and WHO Waste management of used COVID-19 vaccines vials and ancillary supply?(requirement is Treatment by disinfection with solution, encapsulation, autoclaving or inertization)
DISP12	Were the disposed vaccine vials recorded and accounted for in the vaccine inventory report?
DISP13	Did the Healthcare facility fill an application form for disposal of pharmaceutical waste issued by the Pharmacy and Poisons Board in compliance with the Guidelines for safe management of pharmaceutical waste
DISP14	Was the disposal of pharmaceutical waste was supervised by a Pharmacy and Poisons Board inspector and at NEMA approved pharmaceutical disposal sites in compliance with the Guidelines for safe management of pharmaceutical waste
DISP15	Was the Healthcare facility issued with a certificate of safe disposal of pharmaceutical waste in compliance with the Guidelines for secure management of pharmaceutical waste

Appendix IX: Human Resource requirements at the Sub County Level

HR SUBCOUNTY

Row Labels	HR1	HR2	HR3	HR4	HR5	HR6	HR7
Aldai	Yes	Yes	Yes	No	No	No	Yes
Chesumei	Yes	Yes	Yes	No	No	No	Yes
Emgwen	Yes	Yes	Yes	No	No	No	Yes
Mosop	Yes	Yes	Yes	No	No	No	Yes
Nandi Hills	Yes	Yes	Yes	No	No	No	Yes
Tinderet	Yes	Yes	Yes	No	No	No	Yes
Compliant	6	6	6	0	0	0	6
Non-compliant	0	0	0	6	6	6	0

KEY

- HR1** Was the county represented in National training for T.O.Ts? If yes indicate in the remarks column number of people involved (Fill details in No. 8 below)
- HR2** Were the Sub County health management team trained on Covid 19 immunization?
Was the training well spread to all cadres supposed to be trained? Establish the composition of the Sub County health management team trained and what was covered in the training (Fill details in table 8 below)
- HR3** Was there a training plan and were the trainings done as per training plan? Populate details in the Remarks Column
- HR4** Was there a specific training budget for Covid 19 immunization?
- HR5** Does comparison of Expenditure with actual expenditure for training on Covid 19 vaccination give rise to a variance? If yes indicate the variance amount in the remarks Column
- HR6** Did you Obtain details of staff at national/county/subcounty/facility for the following Categories indicating their designation, attendance dates, Financier, etc.?
- HR7**

Appendix X: Human Resource requirements at the Facility Level

Row Labels	HR1	HR2	HR3	HR4	HR5	HR6		

Mosoriot subcounty hospital	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nandi Hills subcounty hospital	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Ndumbeneti dispensary	No	No	Yes	Yes	Yes	No	Yes	No
Ngechek dispensary	Yes	No	Yes	Yes	No	Yes	Yes	No
Ngeny Bokurio dispensary	Yes	Yes	Yes	Yes	No	Yes	Yes	No
Ol'lessos health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Sangalo Dispensary	No	No	Yes	Yes	Yes	Yes	Yes	No
Savani Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Serem health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Setek Dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Siret Dispensary	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Sirua dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Soba river health centre	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
St Boniface dispensary	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Tinderet Tea Dispensary	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes

Compliant	55	54	55	58	58	13		
Non-compliant	3	4	3	0	0	45		
KEY								
HR1	Did the facility have adequate staff to carry out the Covid 9 vaccination (See guide from 5. below)							
HR2	Did these staff have separation of roles and if not, was the staff trained to handle other roles? (See guide from 5. below)							
HR3	Were health Care Workers (HCW) trained before commencement of Covid 19 Vaccination at the facility? (HCW should be trained before being issued with vaccines. Compare date of training with the date the first doze of vaccine was received)							
HR4	Were the health care workers trained on vaccine administration (i.e. what was covered in the training)?							
HR5	Have you obtained the details of the facility's staff (involved in Covid-9 vaccination) as follows							
HR6	Has any staff of the facility been used in training other staff? i.e. CHV with Job Description of Trained on Mobilization, Awareness creation							

Appendix XI: Coordination at Sub County Level

COORDINATION AT SUBCOUNTY									
Row Labels	COORD1	COORD2	COORD3	COORD4	COORD5	COORD6	COORD7	COORD8	COORD9
Aldai	yes	yes	yes	yes	yes	yes	yes	yes	yes
Chesumei	yes	yes	yes	yes	yes	yes	yes	yes	yes
Emgwen	yes	yes	yes	yes	yes	yes	yes	yes	yes
Mosop	yes	yes	yes	yes	yes	yes	yes	yes	yes
Nandi Hills	yes	yes	yes	yes	yes	yes	yes	yes	yes
Tinderet	yes	yes	yes	yes	yes	yes	yes	yes	yes
Compliant	6	6	6	6	6	6	6	6	6

Non-compliant	0	0	0	0	0	0	0	0	0
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KEY

- COORD1** Was a coordination taskforce/committee at the county and Sub County formed?
- COORD2** Did the task force /committee have terms of reference?
- COORD3** Were the tors executed?
Did the county receive any directives/advisory/instruction from the national government in relation to Covid-9 vaccination?
- COORD4** Did the county/subcounty taskforce communicate to the National Task force?
- COORD5** Did the county/subcounty carry out any advocacy?
- COORD6** Did the county/subcounty carry out mobilization?
- COORD7** Did the county/subcounty carry out any outreaches?
- COORD8**

Appendix XII: Coordination at Facility Level

Row Labels	COORD 1	COORD 2	COORD 3	COORD 4	COORD 5
Chemase health centre	Yes	yes	yes	yes	yes
Chemelil Dispensary	Yes	yes	yes	yes	yes
Chemomi Dispensary	Yes	yes	yes	yes	yes
Chemundu dispensary	Yes	yes	yes	yes	yes
Chemuswa dispensary	Yes	yes	yes	yes	yes
Chepkumia dispensary	Yes	yes	yes	yes	yes
Chepkunyuk Dispensary	Yes	yes	yes	yes	yes
Cheplengu dispensary	Yes	yes	yes	yes	yes
Cheptabach	Yes	yes	yes	yes	yes

Chepterwai Sub County hospital	Yes	yes	yes	yes	yes
Cheptil dispensary	Yes	yes	yes	yes	yes
Cheptilil dispensary	Yes	yes	yes	yes	yes
Kabiemit Health Center	Yes	yes	yes	yes	yes
Kabirisang Dispensary	Yes	yes	yes	yes	yes
Kabisaga dispensary	Yes	yes	yes	yes	yes
Kabiyet subcounty hospital	Yes	yes	yes	yes	yes
Kaboi Dispensary	Yes	yes	yes	yes	yes
Kabunyaeria Health Centre	Yes	yes	yes	yes	yes
Kaiboi Mission Health Center	Yes	yes	yes	yes	yes
Kapkangani Health Center	Yes	yes	yes	yes	yes
Kapkibimbir dispensary	Yes	yes	yes	yes	yes
Kapkolei Dispensary	Yes	yes	yes	yes	yes
Kapsabet county referral hospital	Yes	yes	yes	yes	yes
Kapsisywo health center	Yes	yes	yes	yes	yes
Kaptel dispensary	Yes	yes	yes	yes	yes
Kaptich dispensary	Yes	yes	yes	yes	yes
kaptumo subcounty hospital	Yes	yes	yes	yes	yes
Kemeloi health centre	Yes	yes	yes	yes	yes
Khartoum dispensary	Yes	yes	yes	yes	yes
Kibwareng Health Centre	Yes	yes	yes	yes	yes
Kilibwoni Health Center	Yes	yes	yes	yes	yes
Kimondi forest dispensary	Yes	yes	yes	yes	yes
Kimong dispensary	Yes	yes	yes	yes	yes

Kipsamoite dispensary	Yes	yes	yes	yes	yes
Kipsigak Dispensary	Yes	yes	yes	yes	yes
Kiropket Dispensary	Yes	yes	yes	yes	yes
Kobujoi Forest Dispensary	Yes	yes	yes	yes	yes
Koibem dispensary	Yes	yes	yes	yes	yes
Koilot Health Centre	Yes	yes	yes	yes	yes
Kombe dispensary	Yes	yes	yes	yes	yes
Koyo health centre	Yes	yes	yes	yes	yes
Lelmokwo dispensary	Yes	yes	yes	yes	yes
Meteitei subcounty hospital	Yes	yes	yes	yes	yes
Mosoriot hospital	Yes	yes	yes	yes	yes
Nandi Hills subcounty hospital	Yes	yes	yes	yes	yes
Ndumbeneti dispensary	Yes	yes	yes	yes	yes
Ngechek dispensary	Yes	yes	yes	yes	yes
O'lessos health centre	Yes	yes	yes	yes	yes
Sangalo dispensary	Yes	yes	yes	yes	yes
Savani Dispensary	Yes	yes	yes	yes	yes
Serem health centre	Yes	yes	yes	yes	yes
Setek Dispensary	Yes	yes	yes	yes	yes
Siret Dispensary	Yes	yes	yes	yes	yes
Sirua dispensary	Yes	yes	yes	yes	yes
Soba river health centre	Yes	yes	yes	yes	yes
St Boniface dispensary	Yes	yes	yes	yes	yes
Tinderet Tea Dispensary	Yes	yes	yes	yes	yes
Ngeny Bokurio Dispensary	Yes	yes	yes	yes	no
Compliant	58	58	58	58	57

Non compliant	0	0	0	0	1
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KEY

COORD 1	Does the facility receive Covid 19 vaccine related directives/information from the National/county?
COORD 2	Did the facility receive communication from the National/county/subcounty government
COORD 3	Has the Facility carried out advocacy?
COORD 4	Has the Facility carried out mobilization?
COORD 5	Did the Facility carry out any outreaches?

Appendix XIII: Monitoring and Supervision at the Sub County Level

Row Labels	MO	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON	MON
Aldai	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chesumei	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emgwen	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mosop	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Nandi Hills	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tinderet	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Compliant	6	0	1	6	6	4	4	6	6	6	3	6	6	6	6	6	6
Non-Compliant	0	6	5	0	0	2	2	0	0	0	3	0	0	0	0	0	0

Key

- MON1** Did the County designate an in charge/Committee for monitoring Covid 19 vaccine rollout?
Were there terms of reference for the M&E
- MON2** committee?
- MON3** Were there reports of the M & E committee
Are the recommendation of the monitoring and evaluation team
- MON4** implemented?
Did the county receive any tablets from the
- MON5** Ministry?
Were the tablets
- MON6** distributed?
- MON7** Are the tablets in good working conditions?
- MON8** Are the Personnel involved in the rollout been receiving airtime?
Did the county/Sub County put in place any measures to ensure patients report adverse
- MON9** effect?
- MON10** Has the County/subcounty/facility received Adverse effect booklet etc that are required to report adverse effects?
Has the subcounty/facility experienced any instance of adverse
- MON11** effect?

- Does the County/Sub-county/Facility monitor temperature during transportation of vaccines?
- MON12** vaccines?
- MON13** Does the County/Sub-county record temperature every morning and evening in the temperature monitoring chart?
- MON14** Does the County/Sub-county/Facility monitor for the expiry of the vaccines?
- MON15** Has the Sub County/County monitored the pfizer and Moderna vaccines for the 30 days expiry period after thawing?

Appendix XIV: Monitoring and Supervision at the Facility Level

Row Labels	MON1	MON2	MON3	MON4	MON5	MON6	MON7	MON8	MON9	MON10	MON11
Chemase health Centre	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	No
Chemelil Dispensary	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Chemomi Dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Chemundu dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Chemuswa dispensary	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Chepkumia dispensary	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Chepkunyuk Dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Cheplengu dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Cheptabach	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	No
Chepterwai sub county hospital	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	No	Yes
Cheptil dispensary	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Cheptilil dispensary	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes	No
Kabimmit Health Center	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Kabirisang Dispensary	Yes	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Kabisaga dispensary	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Kabiyet subcounty hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes

Kaboi Dispensary	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kabunya Health Centre	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kaiboi Mission Health Center	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kapanganji Health Center	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kapkimbir dispensary	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kapkoiei Dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kapsabet county referral hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kapsiywo health center	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kaptel dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Kaptich dispensary	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes
kaptumo subcounty hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kemeloi health centre	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Khartoum dispensary	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kibwareng Health Centre	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kilbwonji Health Center	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kimondi forest dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Kimong dispensary	No	No	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kipsamoite dispensary	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kipsigak Dispensary	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kiroket Dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kobujoi Forest Dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Koibem dispensary	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Koilot Health centre	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Kombe dispensary	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	Yes
Koyo health centre	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes

Lelmokwo dispensary	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Meteitei subcounty hospital	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Mosoriot subcounty hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Nandi Hills subcounty hospital	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Ndumbeneti dispensary	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Ngechek dispensary	No	No	No	Yes	Yes	No	No	Yes	Yes	No	Yes
Ngeny Bokurio Dispensary	Yes	No	No	Yes	No	No	Yes	Yes	Yes	No	Yes
Ol'lessos health centre	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Sangalo dispensary	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Savani Dispensary	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Serem health centre	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Setek Dispensary	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes
Siret Dispensary	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Sirua dispensary	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Soba river health centre	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
St Boniface dispensary	No	No	No	Yes	No	No	Yes	Yes	Yes	Yes	Yes
Tinderet Tea Dispensary	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Compliant	40	32	26	58	48	1	44	57	58	44	55
Non-Compliant	18	26	32	0	10	57	14	1	0	14	3

Key

MON1

Did the Facility receive any tablets for Covid 19 vaccine data entry?

MON2

Are the tablets in good working conditions?

MON3

Has the facility staff been receiving airtime on time?

MON4

Has the County/subcounty/facility put in place to ensure patients report adverse effect

- MON5** Has the County/subcounty/facility received any Adverse effect booklet etc that are required to report adverse effects?
- MON6** Has the subcounty/facility experienced any instance of adverse effect?
- MON7** Does the County/Sub-county/Facility monitor temperature during transportation of vaccines
Does the County/Sub-county record temperature every morning and evening in the temperature monitoring chart
- MON8** Does the County/Sub-county/Facility monitor for the expiry of the vaccines?
- MON9** Are the pfizer and Moderna vaccines been monitored for the 30 days expiry period after thawing.
- MON10** Has the county/subcounty/Facility been making use of the temperature monitoring tools?
- MON11**



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