



Ministry of Health

NATIONAL VACCINES AND IMMUNIZATION PROGRAM (NVIP)VACCINE SUPPLY CHAIN TRAINING

DATE:

VENUE:



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PRESENTATION OUTLINE

1. OBJECTIVES OF THE TRAINING
2. KEY PROGRAM UPDATES
3. INTRODUCTION TO VACCINE STOCK MANAGEMENT
4. INTRODUCTION TO CHANJO ELMIS
5. VACCINE STORAGE AND HANDLING
6. VACCINE DISTRIBUTION
7. REVERSE LOGISTICS VACCINES
8. VACCINE SUPPLY CHAIN DATA & REPORTING

Training objectives

Broad Objective: To build capacity and strengthen skills and knowledge in Vaccines Management practices

Specific Objectives

1. **To discuss Vaccine Management Cycle:** Gain comprehensive insight into the end-to-end process.
2. **To enhance vaccine commodities management:** Highlight the key issues that lead to supply chain gaps including incomplete reporting and poor forecasting
3. **To Develop practical skills in managing vaccine logistics,** ensuring timely and safe delivery to all target populations
4. **To promote data driven decision making:** Learn to leverage data for informed decisions, optimizing stock levels, distribution routes, and cold chain maintenance.



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KEY PROGRAMME UPDATES



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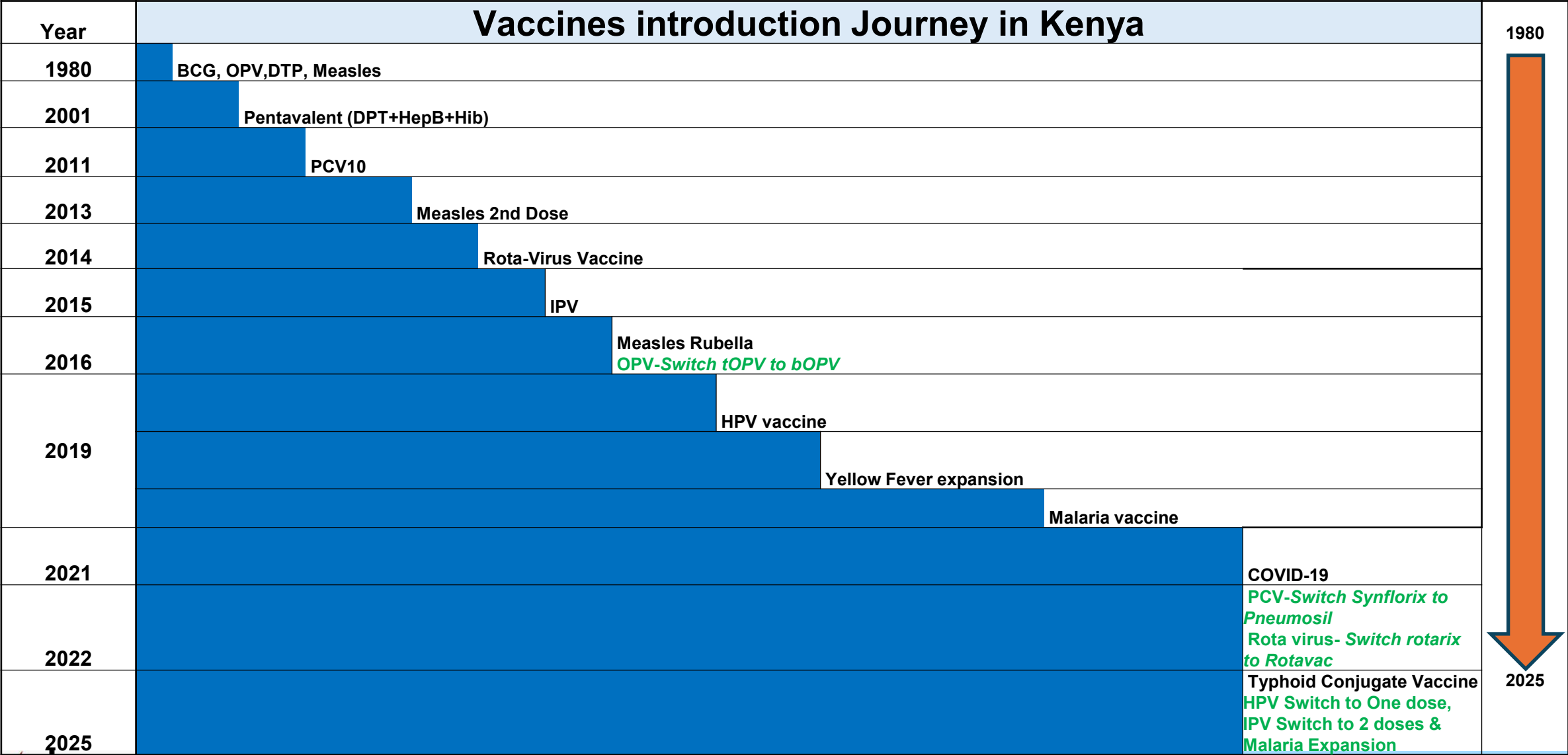
NVIP VISION & MISSION

NVIP Vision: A Nation free from vaccine preventable diseases.

NVIP Mission: To provide appropriate, accessible, affordable and equitable quality immunization services to the people of Kenya.

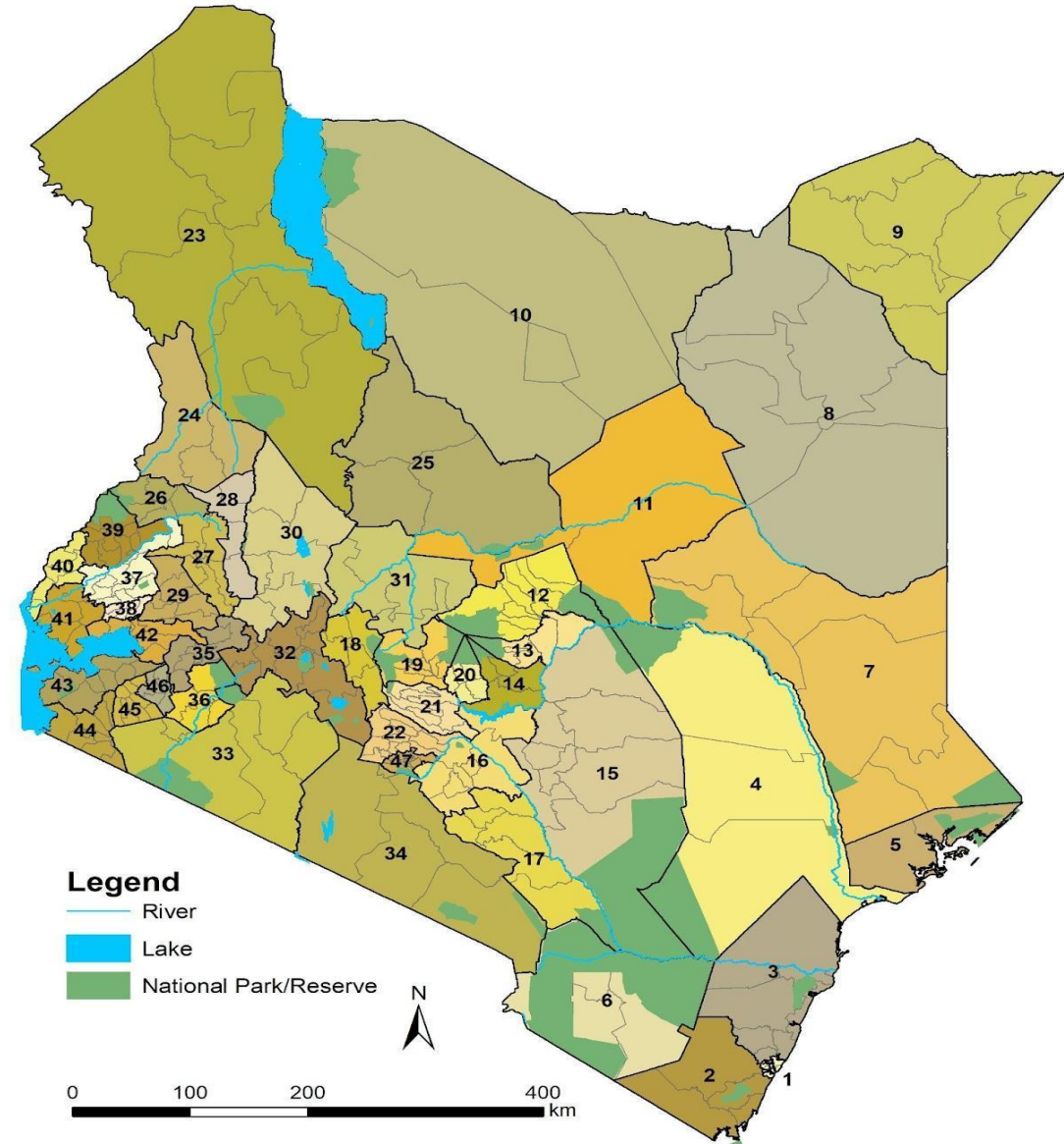
NVIP Mandate: Ensure availability of high-quality Government of Kenya provided vaccines and provide guidance on all immunization schedules for the life course in line with the Kenya Health Policy 2014–2030 objective of eliminating communicable diseases.

Kenya EPI Road Map

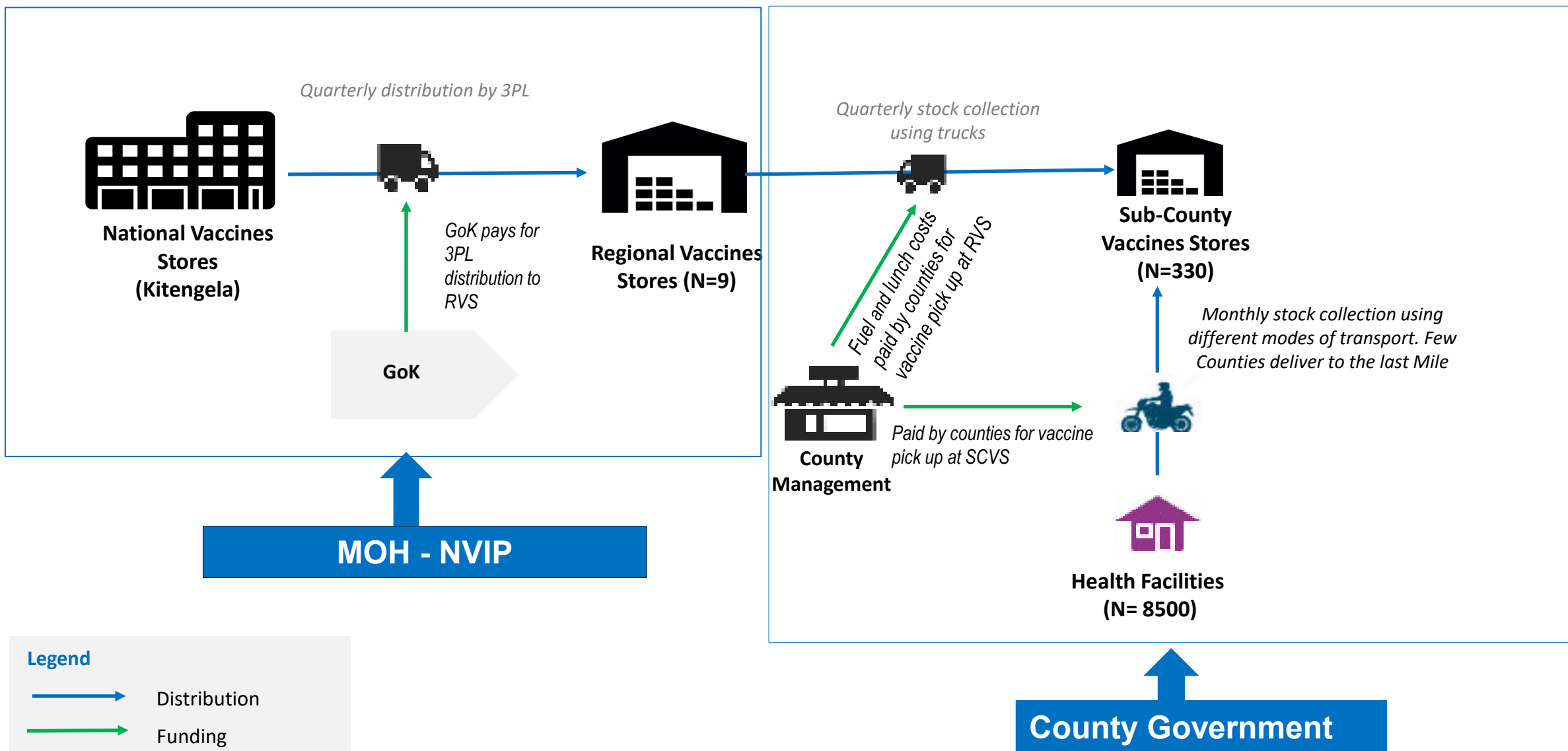


Organisation of EPI program Delivery system

- **Administrative** : 47 Counties Gov. and 1 National Government
- Population projection: 54 Million
- Target Population; (<1yr 1.7 Million, <5 years 7.5 Million),, HPV (10 year old girls) (800,000)
- Vaccine supplies - through Cold chain linkages of 1 Central Vaccine Store , 9 Regional Vaccine Store, 330 Sub County Vaccine Stores
- EPI Facilities - 8,500 out of 15,000 HFs
- Community & Environmental Surveillance for Public Health events (CHP)



VACCINES FLOW AND ROLES



COUNTY GOVERNMENT ROLES AND RESPONSIBILITIES

- All counties should achieve and maintain a minimum coverage of 80% of fully immunized children, based on the principle of “the full protection of any child is based on the collective protection of all children
- Ensure all vaccines are administered should be to the correct target groups, according to the prescribed schedule, through the prescribed route of administration, at the correct dosage and using the recommended injection device and safe practice
- Mobilize and allocate resources for immunization service delivery in the county.
- provide the refrigeration equipment, non-reusable injection devices, safety boxes, monitoring tools, IEC materials, cold chain equipment and spare parts in line with guidelines
- Strengthen capacity for immunization service delivery at the County level.
- promote the uptake of vaccination services through community health strategy structures.
- Integrate immunization service delivery and vaccine preventable disease control into the broader county health agenda.
- Forge appropriate multi-sectoral partnerships at the county level.
- Implement national government policies and guidelines for immunization and vaccine preventable disease control. Collect and report immunization data in line with this policy guidance.
- Conduct investigation of vaccine safety concerns in line with the guidelines

Kenya Immunization schedule

Vaccine	Ages of administration	Entire country	Parts of the country
BCG	At birth	√	
OPV	At birth, 6wks, 10wks, 14wks	√	
DPT-HepB-Hib	6wks, 10wks, 14wks	√	
Measles/Rubella	9 months, 18months	√	
Malaria	6 months, 7 months, 9 months, 24 months	8 Counties	Kisumu, Siaya, Migori Homabay, Bungoma, Busia, Kakamega & Vihiga,
Yellow fever	9 months	4 Counties	Baringo Elgeyo Marakwet Turkana & west Pokot
PCV10	6wks, 10wks, 14wks	√	
Rota	6wks, 10wks , 14wks	√	
IPV	14 Weeks, 9 Months	√	
TCV	9 Months	√	
HPV	10 Year Old Girls	√	
Td	Pregnant women and Penetrating injuries (Trauma)	√	

COLD CHAIN UPDATES

NVIP strategic optimal cold chain capacity strengthening efforts

1. 2018 to 2025: 7871 refrigerators and freezers procured and deployed to facilities for vaccine storage

- AC equipment for On-grid (HF with electricity)
- Solar direct drives for Off-grid (without electricity)

2. Cold boxes and vaccine carriers – 25,000 units distributed for transportation and vaccination sessions

3. FT2E distributed to HFs - 12000 for continuous temperature monitoring.

4. Spare parts: Available for CCE maintenance

5. Preventive Maintenance: Ongoing Quarterly at RVS and CVS.

YELLOW FEVER VACCINE STOCK MANAGEMENT

For: Baringo, Elgeyo Marakwet, Turkana and West Pokot Counties

As we work to strengthen vaccine availability and ensure uninterrupted Yellow Fever immunization services, it's important that we collectively reflect on the practical challenges affecting stock visibility, flow, and accountability across all levels of the supply chain.

Brainstorming Question:

What factors are currently creating bottlenecks or risks in the management, redistribution, and replenishment of Yellow Fever vaccine stocks across counties and sub-counties, and how might we address them proactively?

Note: *All four counties are required to submit comprehensive feedback to MOH-NVIP.*



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The Big Catch Up 2024-2025



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BACKGROUND

- Since November 2024, Kenya has been implementing the Big Catch Up (BCU) as a nationwide initiative that aims to catch up, restore and strengthen routine immunization using a life course approach.
- The BCU is targeting all children aged 0- 59 months with childhood vaccines and adolescent girls for HPV vaccines.
- BCU is being conducted across the 47 Counties leveraging on other routine immunization activities.
- A hybrid strategy is being used to reach the unreached eligible population - vaccination at health facilities and targeted outreaches (PIRIs)
- PIRI implementation is phased, from November 2024 to December 2025, through 3 rounds.
- The country has so far conducted 2 PIRIs(targeted outreaches) in Nov/Dec 2024 and March 2025.

THE BCU PILLARS

1. **Catch-up missed children** - Reach children who missed vaccination during 2019-2023, some of which was due to the pandemic and all other factors and provide all missing vaccines
2. **Restore vaccination coverage** in 2023 back to at least 2019 coverage levels to restore immunization programmes
3. **Strengthen immunization programmes:** Strengthen immunization systems within Primary Health Care, to improve program resilience & resume the trajectory of the IA2030 goals & targets

Implementation strategies



Increasing community demand for Immunization



Improved delivery of vaccines to the service delivery points



Use of a hybrid of strategies to reach the unreached eligible population - vaccination at health facilities and targeted outreaches (PIRIs)



Engage local leadership to support immunization

BIG CATCH UP – NEXT STEPS

1. Planned November/ December 2025 outreaches
2. All health facilities in Kenya **MUST INTENSIFY Defaulter Tracking** on all children who have missed any of the vaccines over the past 5 years and in coordination with the counties and community health promoters, reach out to these children.
3. Strengthen county-level coordination mechanisms through regular routine immunization performance reviews and feedback sessions.
4. Continuous mentorship for health care workers on BCU strategies.
5. Continuous catch-up outreaches in underserved areas guided by zero-dose mapping data. (Periodic Intensification of Routine Immunization)
6. Strengthen the integration of immunization activities with other health interventions and programs including Taifa Care, RMNCAH.
7. Scale up Effective Vaccine Management (EVM) follow-up actions and improvement plans
8. Mobilize additional resources to expand ACSM activities at county and community levels.
9. Data review and consultative meetings with the Counties (County Epi Logisticians, Directors, HRIOs).

DATA MANAGEMENT, MONITORING AND REPORTING

BCU Two reporting pathways

[Google sheet for the targeted outreach data.. Click here to access the outreaches googlesheet with targets for counties](#)

NOTE: BCU data at health facility level MUST BE captured in KHIS together with Routine Immunization data



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INTRODUCTION TO VACCINE STOCK MANAGEMENT

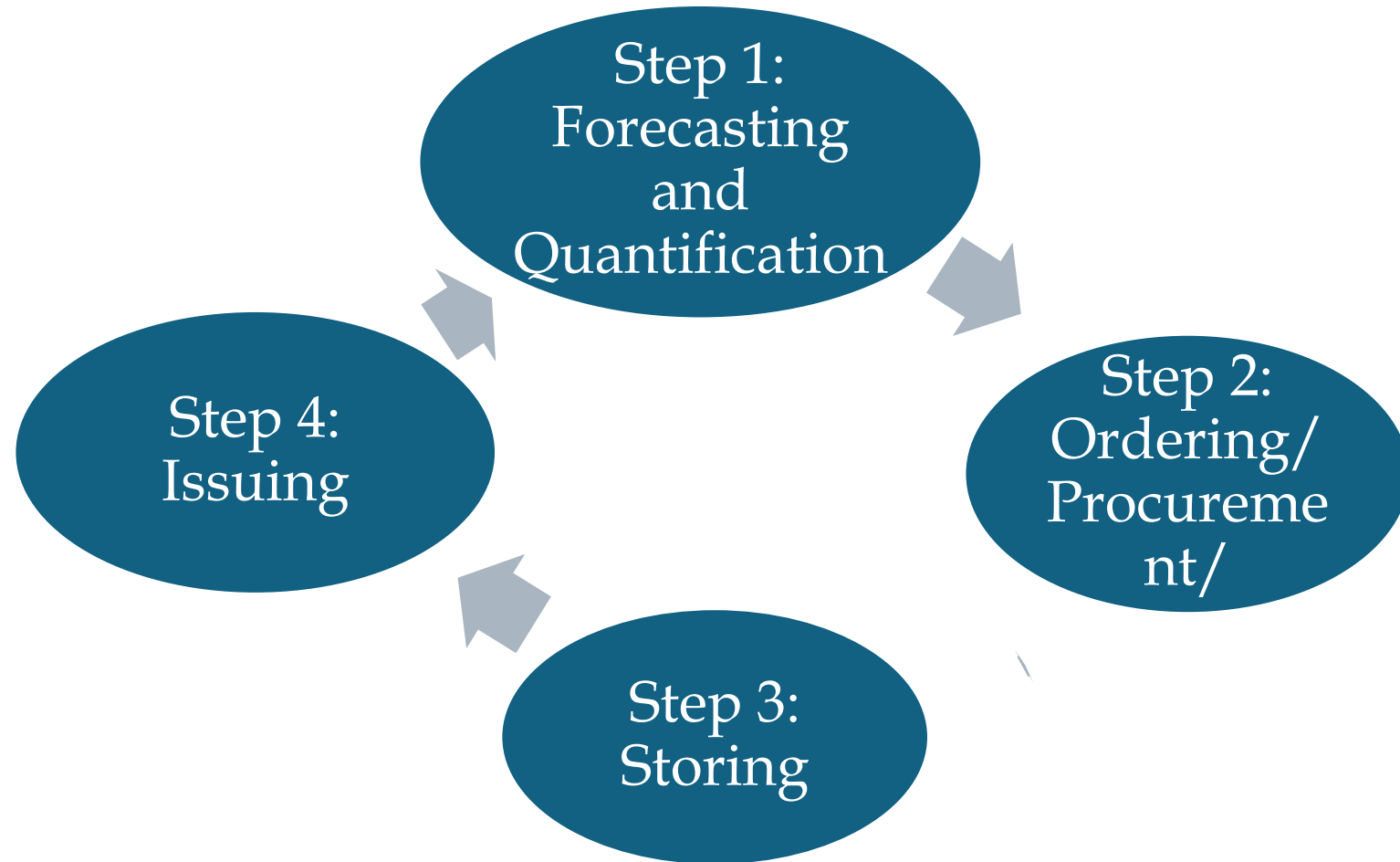


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IMMUNIZATION SUPPLY CHAIN

1. The immunization supply chain encompasses all the people, activities, infrastructure, resources, and planning necessary to ensure that vaccines stay safe and effective.
2. A robust supply chain is a fundamental prerequisite to improving immunization coverage and equity, directly contributing to reduced child mortality

VACCINE STOCK MANAGEMENT PROCESSES



FORECASTING AND QUANTIFICATION

- **Forecasting:**

- Forecasting is the process of **estimating demand for immunization supplies** in a specific future time period.
- It is the **initial stage** of the overall supply chain
- The output of this process is the **demand forecast**

- **Quantification**

- Is the process of determining the quantities and costs of the products required for the purpose of procurement or ordering
- It takes into consideration stock on hand, expiry, wastage rate and buffer stock.
- It is arrived at by subtracting usable stock on hand from forecasted amounts

WHY SHOULD WE FORECAST AND QUANTIFY VACCINE NEEDS?

1. Helps plan and budget for future needs in a timely way e.g. annual county plans
2. Helps plan for adequate storage.
3. Minimizes shortages or losses through overstocking of vaccines.
4. For effective programme delivery and monitor the progress of immunization in relation to target coverage

METHODS USED FOR FORECASTING AND QUANTIFICATION

- Several methods can be used to forecast the demand for vaccines and supplies. They include;
 - A. **Past Consumption Method:** For stable, long-running programs
 - B. **Target Population:** For new antigens/ vaccines or changing schedules
 - c. **Vaccination Session Size :** For campaign planning
- Forecasting can be done using one or a combination of these methods depending on quality of data and capacity
- Combining different forecasting methods can improve the accuracy of the final forecast

A) CONSUMPTION METHOD

Stock at the beginning of the year (S_{ini})

Quantity received during the year (Q_{rec})

Stock at the end of the year (S_{end})

Quantity wasted during the year (Q_{waste})

$$S_{ini} + Q_{rec} - S_{end} - Q_{waste}$$

Note:

- i. This method automatically considers vaccines that have been wasted during previous period so that there is no need to include the WMF
- ii. Preferred in the most stable, long-running programs,

VACCINE CONSUMPTION FORMULA

- **Consumption** = Opening Balance + Received – Closing Balance – Wastage

Example:

- Opening: 120 doses
- Received: 100 doses
- Closing: 80 doses
- Wastage: 10 doses
- Consumption = $120 + 100 - 80 - 10 = 130$ doses

b) TARGET POPULATION METHOD

- **Requires 4 Parameters**

- i. Target Population (TP): Children <1 WCBA
- ii. Immunization Schedule for each Vaccine (antigen)
- iii. Immunization Coverage (target coverage)
- iv. Wastage Rate and Wastage Factor (WF)

- **Formula:**

TP x Immunization Schedule x Coverage x WF +buffer

DEFINITION OF TERMS USED IN FORECASTING

- **Minimum stock** - The minimum stock level is the minimum number of vaccine doses that should be in the refrigerator when the next supply of vaccines arrives. It is usually calculated as 25% of the total vaccine needs for the supply period.
- **Maximum stock level** - the highest quantity of vaccine that should be stored at a location after receiving a new supply
- **Buffer stock** - is typically 25% of your monthly requirement to protect against unexpected delays or surges in demand.
- **Re-order level**- is the point at which a new order should be placed to replenish the stock, ensuring it's available before it reaches the minimum level
- **Ordering** - Process or requesting for replenishment of supplies from the upper tier of the vaccine supply chain

TARGET POPULATION VACCINE FORECASTING SHEET

2A: VACCINE FORECASTING SHEET

(LEVEL:/CVS/RVS/COUNTY/SUB COUNTY/ FACILITY) NAME.....

YEAR.....

VACCINE:	BCG	bOPV	IPV	DPT HEP	PCV 10	ROTA	MR	YELLOW	Malaria	TCV	HPV	Td
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1. ANNUAL VACCINE NEEDS (DOSES) BASED ON TARGET POPULATION (ALL CHILDREN UNDER 0-11,12-59 MONTHS OF AGE; 10 YEAR OLD GIRLS,PREGNANT WOMEN)

[A] Target population	-	-	-	-	-	-	-	-	-	-	-	-				
[B] Doses in immunization schedule	1	4	2	3	3	3	2	1	4	1	1	3				
[C] Expected Coverage	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%				
[D] Wastage factor	5	1.25	1.11	1.25	1.11	1.11	2	2	1.11	1.11	1.05	1.25				
[E] Total dose required this year = (A x B x C x D)	-	-	-	-	-	-	-	-	-	-	-	-				

2. QUANTITY FOR SUPPLY PERIOD (DOSES) SUPPLY PERIOD: HF = 1 MONTH; SUB COUNTY STORE = 3 MONTHS; REGIONAL STORE= 3 MONTHS NATIONAL STORE= 6 MONTHS

[F] Supply period (months)	3	3	3	3	3	3	3	3	3	3	3	3				
[G] Supply period (years) (F/12)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25				
[H] Total doses required for supply period (E x F)	-	-	-	-	-	-	-	-	-	-	-	-				

3. MINIMUM STOCK (DOSES) ANY TIME YOUR STOCK REACH THIS LEVEL, YOU MUST REORDER IMMEDIATELY

[I] Reserve stock proportion = (25%)	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%				
[J] Minimum or Reserve stock = (H x I)	-	-	-	-	-	-	-	-	-	-	-	-				

4. MAXIMUM STOCK (DOSES) YOUR STOCK CEILING, NEVER STOCK MORE THAN THIS AT ANY POINT IN TIME

[K] Maximum stock (H+J)	-	-	-	-	-	-	-	-	-	-	-	-				
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Syringes & safety boxes	SYRINGES AND SAFETY BOXES												TOTAL RUP syringe + needle 5ml	0.05ml AD syringe + needle	0.5ml AD syringe + needle	Safety box
[L] Wastage factor for syringes	1.11	-	1.11	1.11	1.11	0	1.11	1.11	1.11	1.11	1.11	1.11				
RUP syringe + ndl 2ml (L x K/N)	-															
RUP syringe + ndl 5ml																
0.05ml AD syringe + ndl (A x B x C x G x L)	-	-														
0.5ml AD syringe + ndl (A x B x C x G x L)			-	-	-	-	-	-	-	-	-	-				
Safety Box																
[M] Maximum stock																
Reserve (0.25)	-		-	-	-	-	-	-	-	-	-	-				

6. QUANTITY TO BE ORDERED (DOSES) YOU MUST CALCULATE THIS EVERY TIME YOU WANT TO ORDER VACCINES

EXERCISE : 1 : VACCINE FORECASTING — TARGET POPULATION METHOD

Forecast annual and quarterly vaccine needs for **Measles-Rubella**

Baraka Sub-county

Target population = 5,000 children

Coverage = **100%**;

Wastage factor = **2** ;

Buffer stock = **25%**;

Immunization Schedule: 2

Distribution frequency = quarterly (**3 months**);

1. Calculate Annual Vaccines needs

$(TP \times \text{Immunization schedule} \times \text{Coverage} \times WF) + \text{buffer}$

EXERCISE 2: VACCINE FORECASTING EXERCISE (2025 & 2026)

Instructions:

Based on the target population for your County/Sub-County, calculate the vaccine and related logistics requirements for 2025 and 2026 with the provided forecasting sheet.

Your calculations should include:

- 1) Vaccine requirements
- 2) Minimum and maximum stock levels
- 3) Syringes and safety boxes



Submit both Forecasting sheet to the Team Lead

WHO WASTAGE RATES AND WASTAGE FACTORS

	BCG	OPV	DPT	PCV	MR	ROTA	HPV	IPV	Td	YF	Malaria	TCV
WR	80%	20%	20%	10%	50%	10%	5%	10%	20%	50%	10%	10%
WF	5	1.25	1.25	1.11	2	1.11	1.05	1.11	1.25	2	1.11	1.11

Note: Counties should have specific Wastage Rates/Factor for all antigens

VACCINE WASTAGE RATE/FACTORS GUIDELINES

Monitor Vaccines Wastage for all antigens 2026

This Process will include:

1. Monitor Monthly Wastage Rate for every Antigens for all Health Facilities
2. Aggregate at the sub county, County Level and National Level
3. The National Team will be monitoring from the KHIS

WASTAGE RATE & FACTOR FORMULA & IMMUNIZATION SCHEDULE

Vaccine Wastage Rate (WR)

$$\text{Formula: } \frac{\text{Doses used} - \text{Doses administered} \times 100}{\text{Doses used}}$$

Formula: Wastage Factor (WF)

$$\bullet \quad \frac{100\% \text{ supply}}{100\% \text{ supply} - \text{VWR}} = 1 / (1 - \text{WR})$$

Example: Wastage Rate = 60%, Wastage Factor = $100 / (100 - 60) = 2.5$

Immunization	Schedule
Vaccine	Number of Doses
BCG	1
OPV	4
Pentavalent	3
PCV	3
Rota	3
IPV	2
TCV	1
MR	2
Yellow Fever	1
TD for pregnant women	3
HPV Vaccine	1
Malaria	4
Covid 19 Vaccines	2

TYPES OF VACCINE WASTAGE

Vaccine Wastage

Accounts for “lost doses” due to breakages, lost labels, VVM changes, frozen vials, MDVP, over-age vaccinations etc

Two types of vaccine wastage

- Open vial wastage
- Closed vial wastage

Open Vial Wastage

- Primarily related to packing format. Once opened vaccine vials are to be discarded after a specific duration
- More common in SDP, towards the end of a campaign

Closed Vial Wastage

- Occurs due to both expiry and loss of product integrity along the supply chain due to non compliance with storage temperature and other distribution requirements

REQUIREMENTS FOR ORDERING VACCINES

- Ordering is triggered when stock level falls to the re-order level.
- Order quantities are informed by the stock on hand, consumption trend, minimum and maximum stock levels established for your facility
- Policy: Ordering frequency at HF is monthly, at sub county and RVS is quarterly.
- Place an Order using the Ordering Form.

Note: The process should be repeated based on policy ordering frequency for equivalent supply period

CALCULATING ORDER QUANTITIES

- Determine the following
 - Utilization/consumption during the previous month
 - balance on hand
- **Quantity used** = Balance at the beginning of the month + Received during the month – Closing balance
- **Quantity to order** = (Maximum Stock – Balance in Store)
- Order quantities can also be equal to doses utilized in the month if the consumption is stable
- Use the order sheet provided to place your order

HEALTH FACILITY VACCINE ORDER FORM

Annex 7:

VACCINE ORDERING SHEET

LEVEL: Central: ☐ Regional: ☐ Sub County: ☐ Health Facility: ☐

Name of the County: Sub County: Health Facility:

Date of Last Order: Date of this order: Expected date of next order:

TOTAL POPULATION						DROPPERS	BACTCH NUMBER			EXPIRY DATES	
Children aged 0-11 months (under 1 year)						OPV					
Pregnant women						ROTAVIRUS					
Antigen	Amount to be Stocked in Doses		Number of children Vaccinated Since the last order	Stock Available			Ordered amount	Amount Received			
	Minimum	Maximum		Amount in Doses	Batch Number	Expiry date	Amount in Doses	Amount in Doses	Batch Number	Expiry date	VVM Stage
Pneumococcal											
TCV											
DPT-HepB-HiB											
HPV Vaccine											
Malaria											
Td											
IPV											
Rotavirus											
BCG											
BCG Diluent											
Measles Rubella											
MR Diluent											
Yellow Fever											
YF Diluent											
Oral Polio											

The Officer Requesting.....Designation.....Date.....Signature.....

Issued by.....Designation.....Date.....Signature.....

Received by.....Designation.....Date.....Signature.....

S 11 FORM – OTHER LOGISTICS



ORIGINAL

9485487

Form S. 11

REPUBLIC OF KENYA

COUNTER REQUISITION AND ISSUE VOUCHER

Ministry..... Dept./Branch..... Unit.....
To (issue point)..... Please issue the stores
listed below to (point of use).....

Code No.	Item Description	Unit of Issue	Quantity Required	Quantity Issued	Value	Remarks Purpose

Account No. Date
Requisitioning Officer..... Signature.....
Issued by..... Designation..... Date.....
Received by..... Signature.....
..... Designation.....

STOCK CONTROL CARD – OTHER LOGISTICS

GOVERNMENT OF KENYA MINISTRY OF HEALTH and No. _____
STOCK CONTROL CARD

Item Description (in full)	Unit of Issue
Expiry Date	

	Reference Number	Receipts	Issues	Reference Number (SI-I. Delivery Note)	Balances	Name of Issuing Receiving Officer
Balance Brought Forward and Card No.						
Balance Carried Forward				Balance Carried Forward		
Forward						

VACCINE STOCK LEDGERS

Use Existing Vaccine Stock Ledgers and ensure all required sections are fully completed ,accurate, up-to-date and clearly legible

FOR ACCOUNTABILITY PURPOSES:

VACCINE LEDGER BOOK MUST BE IN

USE IN ALL HEALTH FACILITIES AND

VACCINES STORES

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NATIONAL VACCINE AND IMMUNIZATION PROGRAMME

Vaccinate to Protect.

VACCINE STOCK LEDGER

TYPE OF ANTIGEN

ANTIGEN A

November 2022 Revision

INSTRUCTION ON HOW TO FILLING VACCINE STOCK LEDGER CONT....

How to use the vaccine ledger			
Column description			Definition of the column
Date			Enter the date of the transaction in DD/MM/YEAR
To/from/brought forward		Source/destination name	Enter name of the issuing facility or receiving facility, facility for daily routine immunization e.g. MCH, outreach etc.
	Receipts	Received	Enter the number of vaccine in doses received from the higher store or vaccines being returned to the fridge after being issued to your facility for routine immunization in the morning
		VVM Stage (1,2,3,4)	Enter the VVM stage of the vaccines received
Quantity in doses	Issues	Issued	Enter the number of vaccine in doses issued from the lower store or vaccines issued facility for routine immunization in the morning and vaccine issued for outreach activities
		VVM Stage (1,2,3,4)	Enter the VVM stage of the vaccines issued
	Losses	Removed	Breakage, expiry, theft, damage through heat (VVM 3,4) or freezing or unknown reasons
		VVM Stage (1,2,3,4)	Enter VVM status of vaccines lost if VVM is available
Vaccine information		Lot/Batch No.	Enter the lot or batch number for vaccines being tracked in this transaction
		Expiry Date	Enter the expiry date for the vaccines being tracked in this transaction
		Stock Balance in doses	Enter the number of vaccines in doses in stock at the end of the transaction
Diluent information		Quantity	Enter the number of diluent in doses received, issued, lost, damaged or expired
		Lot/Batch No.	Enter the lot or batch number for diluents being tracked in this transaction
		Stock Balance in doses	Enter the number of diluent in doses that are remaining at the end of the transaction
Remarks			Enter any remarks related to the transaction here



Ministry of Health
National Vaccines and Immunization Programme
VACCINE STOCK LEDGER

ANTIGEN/DILUENT_

[illegible]

NB: Use red ink for incoming stocks and blue ink
All losses should be described in the "Remarks" column e.g. expired, breakage

EXERCISE 3: ROLE-PLAYING

You are working at Heri Jema Sub County in Amani County and planning for a Distribution session. From the physical count, you realise you have 1000 BCG doses, whereas the ledger book's previous session recording shows 1260 doses.

1. Brainstorm the steps to be taken



ROLE PLAY: POSSIBLE ANSWERS

Verify the Physical Count Again-Confirm you are counting **usable vials only**

Review the Ledger Entries --Check the **opening balance, receipts, issues, returns, wastage entries**, and **adjustments** for errors.

Look for :

check Daily Usage Records

- Missed entries
- Double entries
- Arithmetic mistakes
- Compare the ledger against: Vaccine order sheets(annex 7) and Vaccine destruction form reports (for expired doses)

Review Wastage Documentation

Confirm all wastage is recorded:

- Missing Vials
- Broken vials
- Vials discarded due to VVM beyond stage 2
- Expired doses

NOTE: RECORD ALL TRANSCATION IN THE VACCINE LEGDER AND CHANJO LMIS

RECEIVING VACCINES

Check Quantity against the parking slip & Type of vaccines and other supplies

Check VVM and Record

Check for Damages, Opened Packaging

Count Quantities to ensure Consistency with Records

Register all accepted Stocks in the Vaccine Stock ledger
Date, Number of Doses, Batch/Lot Number, VVM, Expiry Date

ISSUE AND USE

Follow Check

Follow the earliest expiry, first out (EEFO) procedure during use.

Follow the FIFO principle if all the vaccines and supplies are of the same shelf-life

check

Check that the types and amount of vaccine, diluent and dropper are the same, as per microplan for that session site.

Check

Check the status of randomly selected vials for intact labels, expiry date, VVM and freezing.

ISSUE AND USE CONT....

Check and
Record

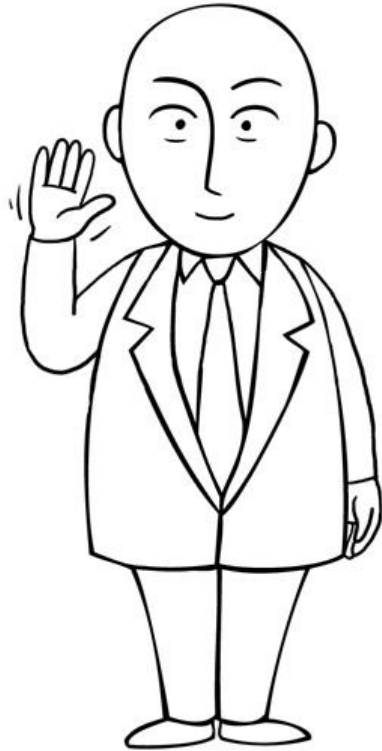
Check and record details, in the vaccine ledger every time they leave the storage point for use at the session sites.

Calculate and
Record

Conduct a physical count monthly/before placing an order

Ensure

Ensure that is adequate stock before any vaccination session



Thank you!



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INTRODUCTION TO CHANJO ELMIS



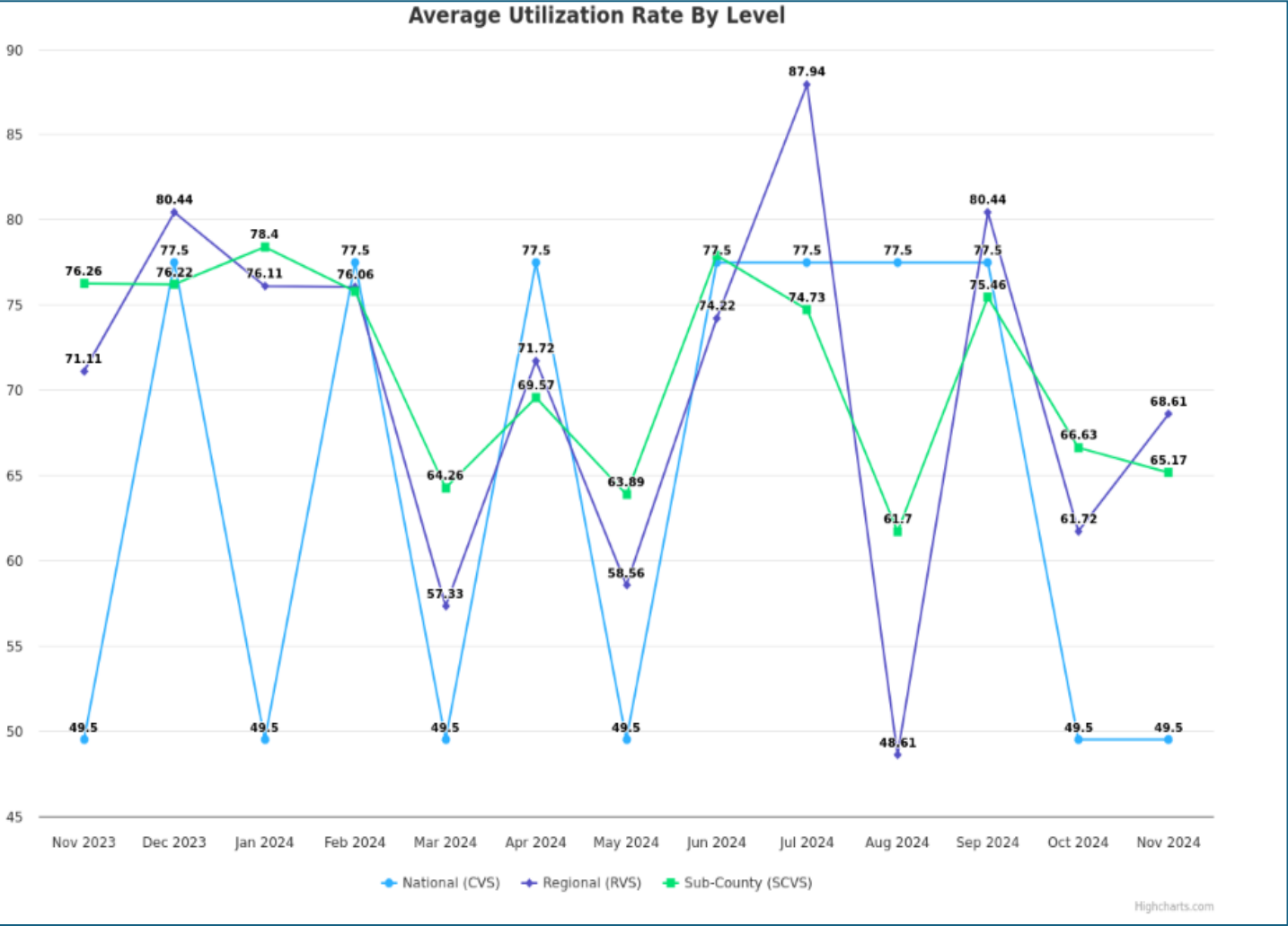
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BACKGROUND

- Chanjo is a web based electronic Logistics Management Information System for managing stock, cold chain and consumption data at the sub county levels.
- It is imperative to ensure that while we maintain reporting **we should ensure the correct values are reported**



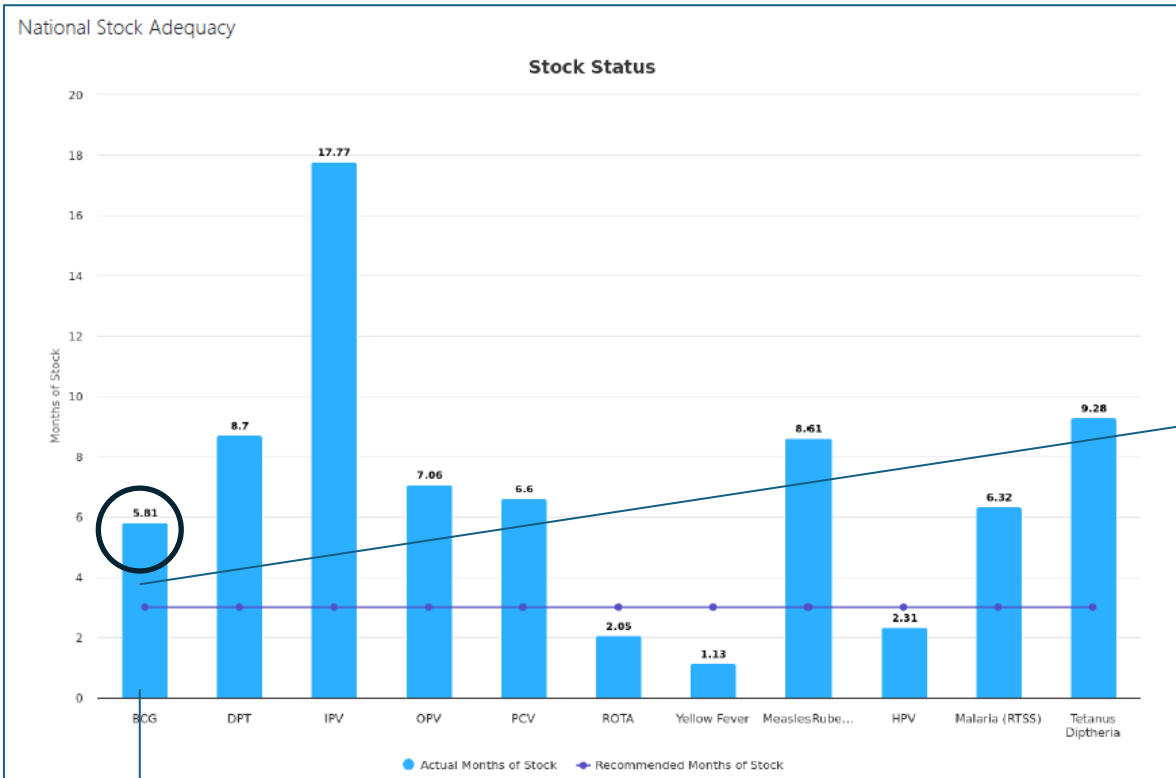
CURRENT UTILIZATION OF CHANJO



National and Regional Utilization remain strong ranging above 85% - This is because National and RVS stores do not transact monthly however subcounty reporting needs to be strengthened

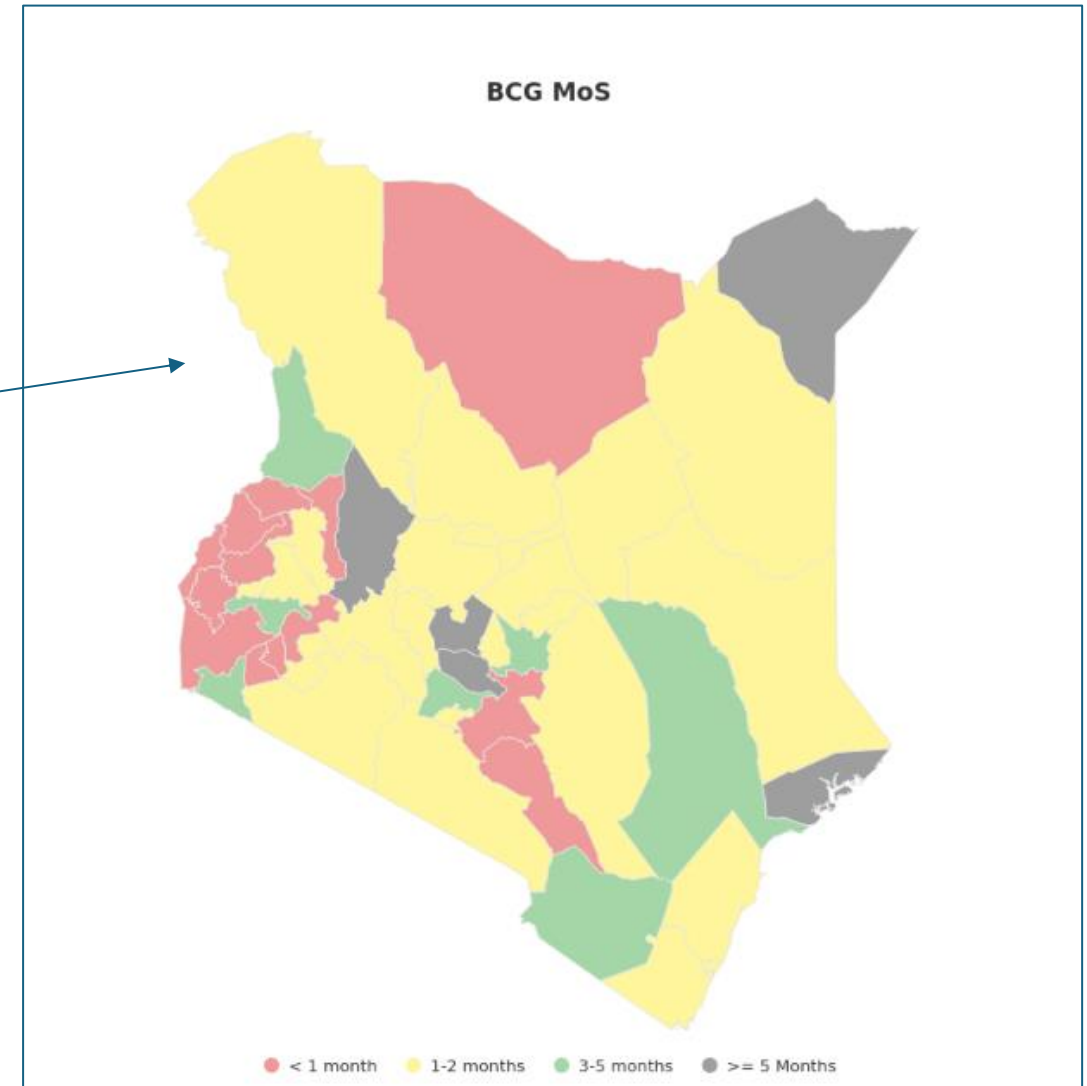
Reporting well does not always lead to reporting the correct thing

HOW POOR DATA REPORTING TRANSLATES TO INEQUITY



Spotlight: BCG Vaccine – While the national Stock status stands at 5.6 Months , a number of counties showing stock deficiencies

Source: Chanjo.org/newsletter



WHAT CONTRIBUTES TO POOR DATA ENTRY ON CHANJO

Users only entering physical counts into their ledgers

Double entry into the ledgers - eg physical counts for the same vial with different VVMs

Duplicate transactions on Chanjo

Lack of follow through with the correct batch

SUPPLY CHAIN INDICATORS TRACKED ON CHANJO ELMIS

1. Stock Availability
2. Stockout rate
3. Vaccine Wastage – logistical losses and loss through expiry
4. Order timeliness
5. Order fulfillment rate
6. Cold Chain functionality and availability

PHYSICAL COUNT:

 Stock 

 Physical Count

 Receive Stock

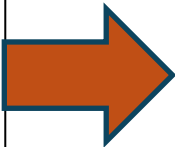
 Issue Stock

 Positive Adjustments

 Negative Adjustments

 VVM Stage Change

 Ledgers



 Manage Stock - Physical Count   

Vaccine Details 

Date of Count	Vaccine/Diluents	Batch Number	Expiry Date	Stock Quantity	Physical Count	VVM Status	Action
dd/mm/yyyy	Select Vaccine	Select Batch				Select VVM Stage	 
 Add Row							

Submit

RECEIVING:

Stock ▾

- Physical Count
- Receive Stock**
- Issue Stock
- Positive Adjustments
- Negative Adjustments
- VVM Stage Change
- Ledgers



MANAGE STOCK - RECEIVE STOCK

TRANSACTION DETAILS

Origin: Voucher #: Date Received:

VACCINE DETAILS

Vaccine/Diluents	Batch Number	Expiry Date	Stock Quantity	Quantity	VVM Status	Action
Select Vaccine					Select VVM Stage	Add Delete
+ Add Row						

- This section enables one to enter details of the vaccines and diluents your store has received.
- One should carry out this activity when they receive from the mother/main store i.e. from RVS.

ISSUE STOCK:

 Stock

- Physical Count
- Receive Stock
- Issue Stock**
- Positive Adjustments
- Negative Adjustments
- VVM Stage Change
- Ledgers



MANAGE STOCK - ISSUE STOCK - SINGLE LOCATION

Issue Single Location Issue Multiple Locations

TRANSACTION DETAILS

Level

Location

Voucher #

Date Issued

Sub County

Select location

VACCINE DETAILS

Vaccine	Batch Number	Expiry Date	Stock Quantity	Quantity Issued	VVM Status	Action
Select Vaccine	Select Batch					 
+ Add Row						

Submit

This section gives you the ability to issue vaccines to other stores.

This **issue single location** section enables you to enter details of the vaccines and diluents. You can do this per issue voucher or per antigen. The first shows the voucher scenario.

Issue multiple locations: Used when one wants to enter multiple transactions for one ledger. This enables one to enter multiple issue transactions of the same antigen

MANAGE STOCK - ISSUE STOCK - MULTIPLE LOCATIONS

4

Issue Single Location

Issue Multiple Locations

TRANSACTION DETAILS

Vaccine/Diluent

Stock Quantity

Allocated Quantity

Remaining Quantity

Select Vaccine

0

0

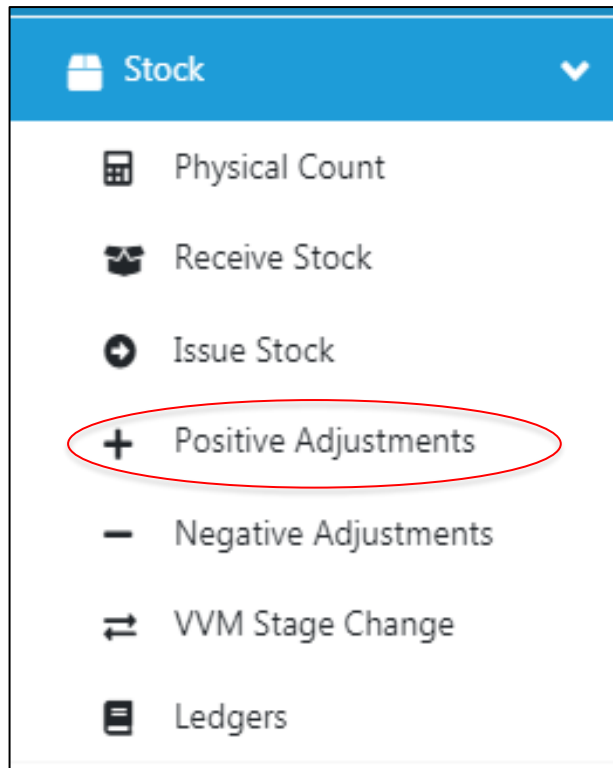
0

VACCINE DETAILS

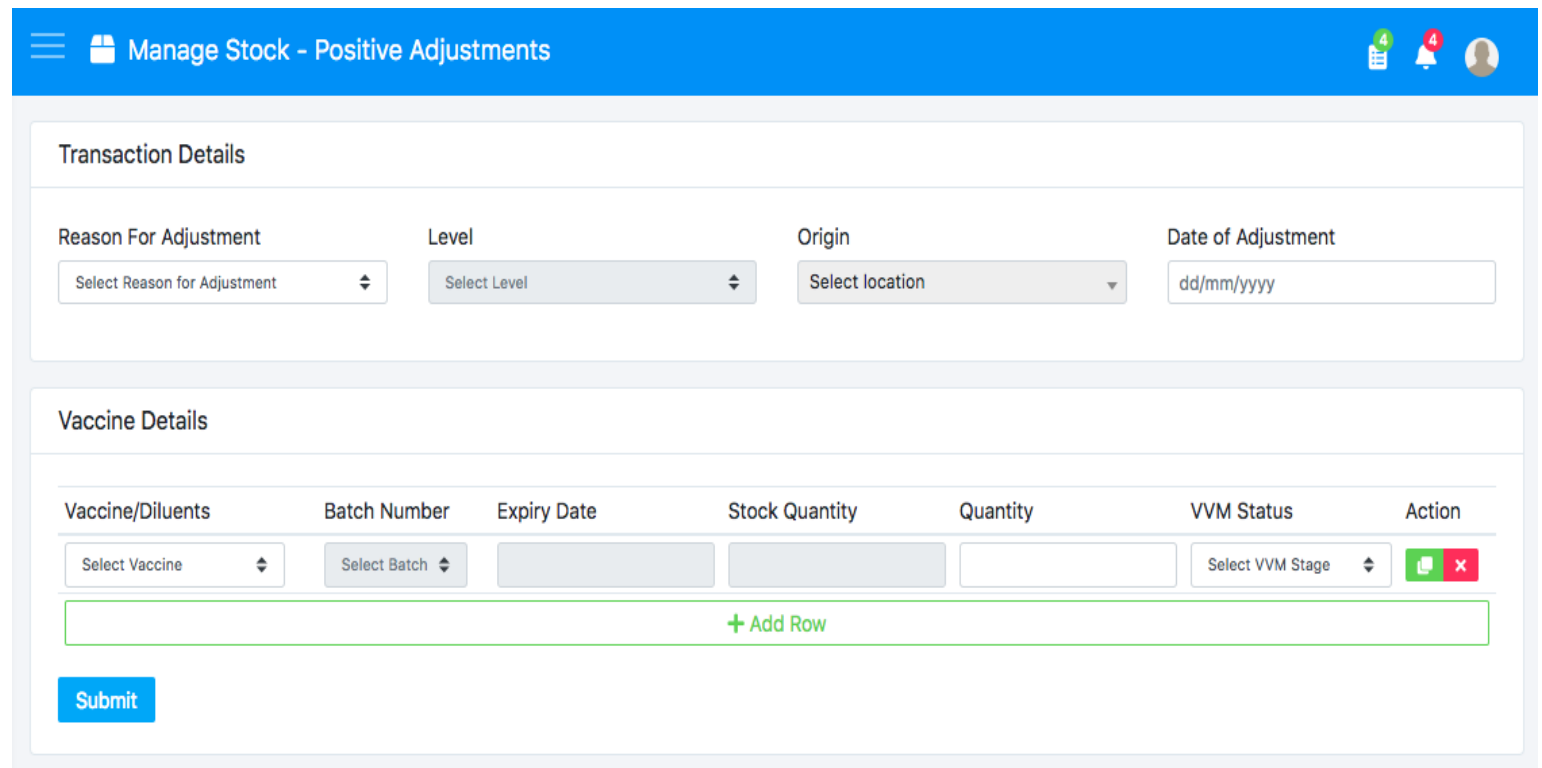
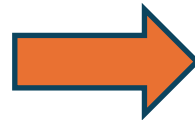
Date Issued	Location	Batch Number	Expiry Date	Stock Quantity	Quantity Issued	VVM Status	Action
	Select Location	Select Batch				Select VVM S	
+ Add Row							

Submit

POSITIVE ADJUSTMENT:



The screenshot shows a sidebar menu titled 'Stock' with a dropdown arrow. The menu items are: Physical Count, Receive Stock, Issue Stock, Positive Adjustments (highlighted with a red oval and a plus icon), Negative Adjustments, VVM Stage Change, and Ledgers.



The screenshot shows the 'Manage Stock - Positive Adjustments' form. It has a blue header bar with the title and a user profile icon. The form is divided into two main sections: 'Transaction Details' and 'Vaccine Details'.

Transaction Details:

- Reason For Adjustment: Select Reason for Adjustment (dropdown)
- Level: Select Level (dropdown)
- Origin: Select location (dropdown)
- Date of Adjustment: dd/mm/yyyy (text input)

Vaccine Details:

Vaccine/Diluents	Batch Number	Expiry Date	Stock Quantity	Quantity	VVM Status	Action
Select Vaccine (dropdown)	Select Batch (dropdown)				Select VVM Stage (dropdown)	 
+ Add Row						

Submit

Positive Adjustment: Is an addition to one's stock thus **INCREASES** the overall stock quantities.

Usually, this is stock received from other sources and NOT from the mother store i.e. from other SCVs or Facilities. (Casually termed as 'borrowing from others')

Also, positive adjustment can be facilitated by:

- Redistribution of vaccines and/or diluents.
- Miscalculation during receiving, issuing or physical counting.
- Returns from facilities

NEGATIVE ADJUSTMENT:

 Stock 

 Physical Count

 Receive Stock

 Issue Stock

 Positive Adjustments

 Negative Adjustments

 VVM Stage Change

 Ledgers



  Manage Stock - Negative Adjustments   

Transaction Details

Reason For Adjustment

Level

Destination

Date of Adjustment

Vaccine Details

Vaccine/Diluents	Batch Number	Expiry Date	Stock Quantity	Quantity	VVM Status	Action
Select Vaccine	Select Batch				Select VVM Stage	 
 Add Row						

Negative Adjustment: Is a minus/subtraction to one's stock thus **REDUCES** the overall stock quantities.

Usually, this is stock issued/ removed from existing stock to other SCVs or Facilities. (Casually termed as 'helping others')

Also, negative adjustment can be facilitated by:

- Expiries /breakage/ damage
- Miscalculation during receiving, issuing or physical counting.
- VVM Stage change i.e. from stage 2 to 3
- Missing Facilities: (Issuing to facilities physically BUT can't issue via eChanjo because they don't exist) among other reasons.

VVM STAGE CHANGE:

 Stock 

 Physical Count

 Receive Stock

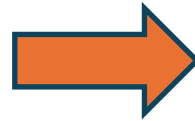
 Issue Stock

 Positive Adjustments

 Negative Adjustments

 VVM Stage Change

 Ledgers



  **MANAGE STOCK - VVM STATUS CHANGE**     

PRODUCT DETAILS

Date	Vaccine	Batch Number	Previous VVM	New VVM	Quantity	Action
27/02/2020	ROTA	AROLC666AA	1	51900	2	 
26/02/2020	Measles Rubella	0129W205	1	51680	2	 
						

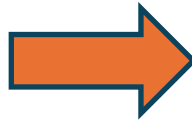


This section allows one to change the VVM stage of a vaccine when it changes. This change is also automatically effected in the ledger.

LEDGERS

 Stock 

-  Physical Count
-  Receive Stock
-  Issue Stock
-  Positive Adjustments
-  Negative Adjustments
-  VVM Stage Change
-  Ledgers



MANAGE STOCK - PRODUCT SUMMARY

Product Summary Batch Summary Product Ledger

PRODUCT SUMMARY

Search query

25

Id	Product	Type	Batches	Current balance	Last transaction date	Action
1	BCG	vaccine	2	115,520	27th Feb 2020	Ledger Batch Summary
2	DPT	vaccine	1	50,670	27th Feb 2020	Ledger Batch Summary
3	IPV	vaccine	1	56,960	24th Feb 2020	Ledger Batch Summary
4	Measles	vaccine	0	0	N/A	Ledger Batch Summary
5	OPV	vaccine	1	25,440	27th Feb 2020	Ledger Batch Summary
6	PCV	vaccine	1	69,292	27th Feb 2020	Ledger Batch Summary
7	ROTA	vaccine	1	51,900	27th Feb 2020	Ledger Batch Summary
8	Tetanus	vaccine	0	0	21st Feb 2020	Ledger Batch Summary

This section allows you to view vaccine ledgers.

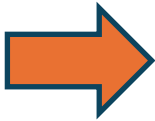
It has pages that outline transaction details of the vaccines and/or diluents.

Batch Summary Section:

Allows one to view batch balances for the vaccine and allows one to filter the transactions in the ledger

25 ▾

Last transaction date	Action
27th Feb 2020	<a>Ledger <a>Batch Summary
27th Feb 2020	<a>Ledger <a>Batch Summary
24th Feb 2020	<a>Ledger <a>Batch Summary
N/A	<a>Ledger <a>Batch Summary
27th Feb 2020	<a>Ledger <a>Batch Summary
27th Feb 2020	<a>Ledger <a>Batch Summary
27th Feb 2020	<a>Ledger <a>Batch Summary
21st Feb 2020	<a>Ledger <a>Batch Summary
27th Feb 2020	<a>Ledger <a>Batch Summary



BCG BATCH SUMMARY							
Product	Batch	Expiry Date	VVM	Last Transaction Date	Transactions	VVM Quantity	Batch Quantity
BCG	0379G045	28th Jul 2021	1	24th Feb 2020	1	78,000	78,000
BCG	0378G263	28th Jun 2021	1	27th Feb 2020	6	37,520	37,520
Total							115,520

Chanjo Support Contacts

NB- The primary support contacts for Chanjo support are the RVS managers in each region but for additional challenges:

Primary Support: Support@chanjo.org

Lewis Kabuga

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lkabuga@clintonheakthaccess.org

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Dennis Onchomba

[+254720650698](tel:+254720650698)

denochomba@gmail.com

CHANJO PRACTICE SITE

Visit :staging.chanjo.org

Or scan this QR CODE:



Log in using the credentials on the EPI TESTING ACCOUNTS table

PRACTICAL SESSION: CHANJO ELMIS

Physical counts: *(All Levels of supply chain to update the Chanjo eLMIS during training)*

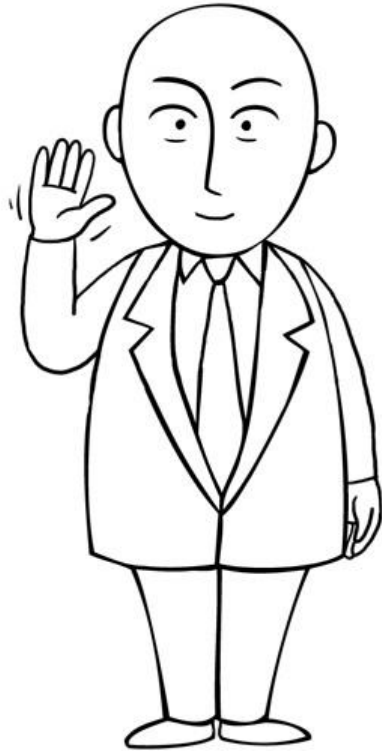
Ordering — *Check any pending Order*

Receiving — *Check any pending stock not received*

Stock adjustment — *(Check any pending Adjustment positive or Negative)*



Note: By the end of the Training all sections should be up to date



**Thank you
for your attention!**



Ministry of Health

VACCINE STORAGE AND HANDLING



Vaccinate to Protect.
Ministry of Health

INTRODUCTION

Vaccine storage and handling

- Refers to the proper procedures and practices used to **maintain the potency, safety, and effectiveness** of vaccines from the point of manufacture to the point of administration.
- It includes: storing vaccines at recommended temperatures, using appropriate equipment, monitoring and recording temperatures regularly, handling vaccines carefully during transport, preparation, and administration and maintaining the cold chain.

VACCINE STORAGE TEMPERATURES AT DIFFERENT LEVELS

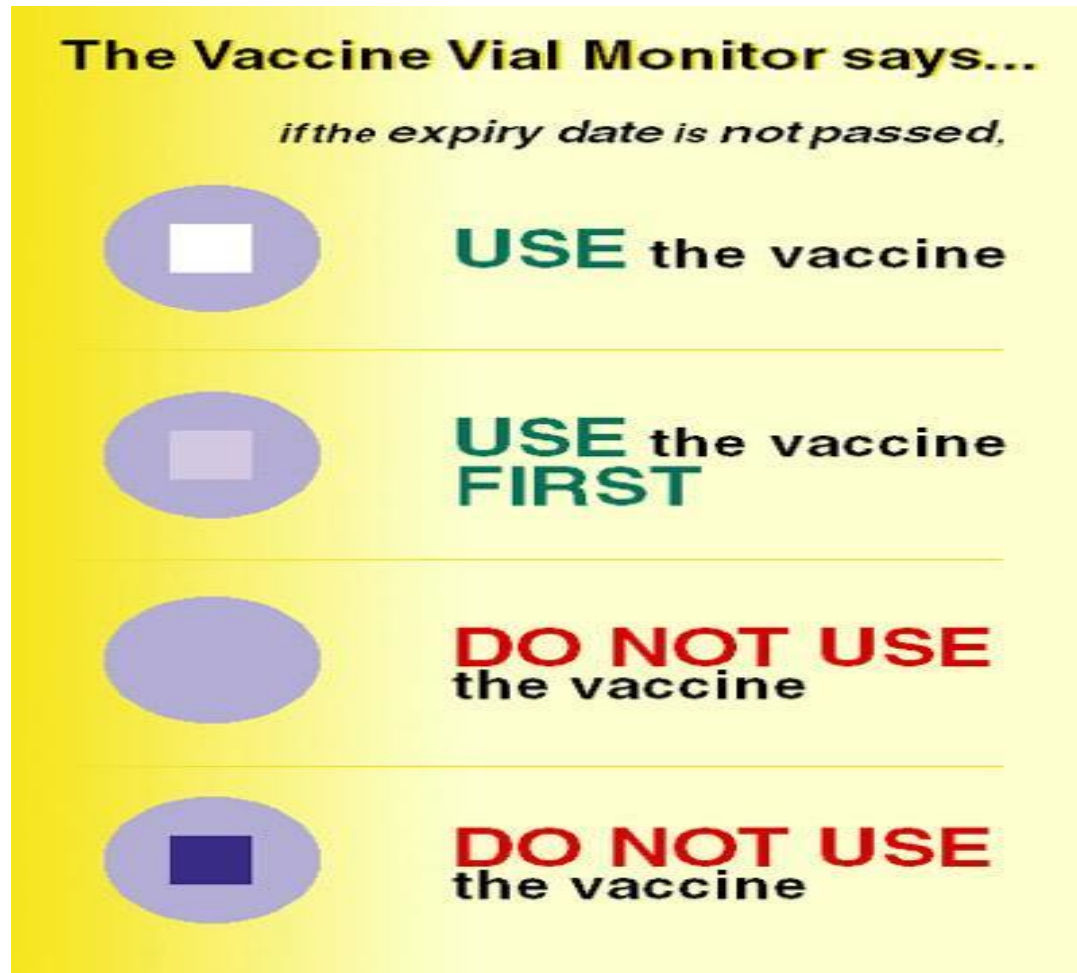
Vaccine	National 12 months	Regional 3 months	Sub County 3 months	Health Facilities 1 month
OPV	-25°C to -15°C			+2°C to +8°C
Rotavirus	-25°C to -15°C		+2°C to +8°C	Vaccine and diluent must be stored in the refrigerator at THE DILUENT MUST NEVER BE FROZEN
Measles Rubella (MR), BCG, Yellow Fever	-25°C to -15°C or +2°C to +8°C			
DTP/HEP+HIB, IPV, PCV, HPV, Td, Malaria, Covid 19, Typhoid Conjugate Vaccine (TCV), Anti-rabies, Anti-snake venom	+2°C to +8°C			
Diluent	Room Temperature (+25 °C)			

TEMPERATURE MONITORING DEVICES



VACCINE VIAL MONITOR (VVM)

VVM is a label with a heat-sensitive material, placed on a vial to register cumulative heat exposure



HOW IT WORKS

- ✓ **USE VACCINE WHEN THE SQUARE IS WHITE (stage 1)**
- ✓ **USE FIRST WHEN THE SQUARE IS LIGHTER THAN THE CIRCLE (stage 2)**
- **DISCARD WHEN THE SQUARE IS AS DARK AS THE CIRCLE (stage 3)**
- **DISCARD WHEN THE SQUARE IS DARKER THAN THE CIRCLE (stage 4)**

Temperature Monitoring Chart (fridge)



MINISTRY OF HEALTH NATIONAL VACCINES AND IMMUNIZATION PROGRAMME MONTHLY TEMPERATURE RECORDING SHEET



REFRIGERATOR MAKE: _____ MODEL: _____ COUNTY: _____
 TEMPERATURE MONITORING DEVICE SERIAL NO.: _____ SUB-COUNTY: _____
 MFL No.: _____ Health Facility: _____
 OPERATING ON: GAS: ☐ ELECTRICITY: ☐ SOLAR: ☐ Month: _____ Year: _____

Date of Month	AM(°C)	PM(°C)	Max; ▲ °C	Alarm: X OK: ✓	Alarm Duration	Min; ▼ °C	Alarm: X OK: ✓	Alarm Duration	Initials	Actions Taken*(see note (e) below)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										

NATIONAL VACCINES AND IMMUNIZATION PROGRAMME
MONTHLY TEMPERATURE RECORDING SHEET

REFRIGERATOR MAKE: NETA FRIDGE MODEL: ICE LINED COUNTY: NAIROBI
 TEMPERATURE MONITORING DEVICE SERIAL NO.: 35060004433 SUB-COUNTY: LANGATA
 MFL No.: 13030 Health Facility: KIBERA JOSH HEALTH CENTRE
 POWER SOURCE: GAS: ☐ ELECTRICITY: ☒ Month: MARCH Year: 2025

Date of Month	AM(°C)	PM(°C)	Max; ▲ °C	Alarm: X OK: ✓	Alarm Duration	Min; ▼ °C	Alarm: X OK: ✓	Alarm Duration	Initials	Actions Taken*(see note (e) below)
1	2.6	2.9	3.4	✓	0000	3.1	✓	0000	JN	Temp OK
2	2.5	2.8	3.3	✓	0000	3.0	✓	0000	JN	Temp OK
3	3.1	2.5	6.5	✓	0000	3.0	✓	0000	FSA	Temp OK.
4	2.9	3.6	3.1	✓	0000	3.0	✓	0000	JN	Temp OK
5	3.0	3.6	3.4	✓	0000	2.9	✓	0000	FSA	Temp OK.
6	2.9	3.3	4.0	✓	0000	2.9	✓	0000	FSA	Temp OK.
7	3.1									
8										

Temperature Monitoring Chart (Freezer)



 MINISTRY OF HEALTH NATIONAL VACCINES AND IMMUNIZATION PROGRAM MONTHLY TEMPERATURE RECORDING SHEET 																																										
REFRIGERATOR/ FREEZER MAKE: _____																COUNTY: _____																										
TEMPERATURE MONITORING DEVICE SERIAL NO: _____																SUB COUNTY: _____																										
HEALTH FACILITY: _____																MFL NO: _____																										
ENERGY SOURCE: ELECTRICITY ☐ SOLAR ☐ GAS ☐																MONTH : _____ YEAR: _____																										
DAY:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31											
TIME																																										
Plot the Minimum and Maximum temperatures in the graph below:																																										
30																																										
28																																										
26																																										
24																																										
22																																										
20																																										
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24																																										
26																																										
28																																										
Important Notes a) The proper operating temperature for a refrigerator is between +2 °C and +8 °C. b) Record temperature twice daily, in the morning and afternoon. c) The maximum and minimum temperature of the day has to be recorded in the morning of the next day. d) Check any alarm for the day before leaving the facility. e) A temperature alarm is a serious concern for the vaccines; take and document actions until resolved. Use the following code for actions to be taken during																																										
1. Thermostat Adjusted											3. VVM status checked											5. Defrosted refrigerator											9. Vaccines discarded (specify)									

Key Aspects in CCE Management

- **Compliance** with guidelines: adhering to national and international standards for vaccine storage and handling
- **Cold Chain Inventory management:**
 - i. Keeping track of all CCE to ensure they are functioning correctly and available when needed
 - ii. Equipment stock register should have details of the CCE i.e. make, model number, serial number, capacity (volume), date or month of manufacturer, received on, received from and by who, document of receipt and details of warranty **NOTE: During Training** (Submit CCE Inventory for sub county depots, county depots (Mandera, Turkana & Wajir Depots), and RVS CCE- Template provided)
 - iii. The dates of installation and repair should also be mentioned for individual equipment
 - iv. Liase with Biomedical Engineers incase there is need for CCE Spare parts

NOTE: All counties should update their immunization cold chain equipment inventories and submit the reports to MoH–NVIP.

Best Practices for Chain Equipment Management

1. Maintenance & Inspection

- Conduct **routine maintenance** on refrigerators, generators, and cooling units.
- Keep units **clean, leveled**, and free from **dust, humidity, or overheating**.
- Check **oil levels** and **service generators** regularly as per manufacturer's instructions.
- Perform **daily/weekly inspections** for leaks, ice buildup, or damaged seals.
- Ensure **proper installation** (adequate spacing, shading, panel positioning).

2. Monitoring & Training

- Use **reliable temperature monitoring devices** and **record data consistently**.
- Implement **real-time alerts** for temperature deviations.
- Provide **continuous mentorship** and train all staff on equipment handling and emergency procedures.
- On proper use and maintenance of CCE, as well as the proper maintenance of cold chain to ensure vaccine potency

Best Practices for Chain Equipment Management

3. Backup & Contingency Planning

- Maintain **backup power sources** (e.g., generators, battery packs) and **spare equipment**.
- Develop, test, and communicate a **contingency and response plan** for power or equipment failure.
- Job aids and SOPs should be visible and displayed at all health facilities

Emergency vaccine storage (contingency planning)

Every facility must have a contingency plan.

It outlines steps to be taken in the event of the following:

- Equipment malfunction
- Power failures
- Natural disasters or other emergencies that might compromise vaccine storage
- Any event that results in temperature excursion outside of the recommended range.

Temperature excursion

Follow these procedures:

1. In case of power or CCE failure, **close** the door/lid tightly
2. Ensure the vaccine is kept at appropriate temperatures. Ensure the refrigerator or freezer is plugged in and working properly or move the vaccines to alternative CCE as quickly as possible
3. If freezing is suspected; **Do NOT** discard the affected vaccines unless directed to by your supervisor. Label the vaccines “**Do Not Use**” so that the potentially compromised vaccines can be easily identified



EXCURSION DIAGNOSIS

WHAT CAUSED THIS TEMPERATURE ALARM?



HEAT EXCURSION

* Temperature above 8°C for more than 10 hours.



	Is the refrigerator unplugged?	If yes, plug it back in.
	Is the gas cylinder empty?	If yes, switch to the standby cylinder and contact your supervisor to request more gas.
	Are the solar panels obstructed by objects or dust?	If yes, remove the obstruction or dust.
	Is the refrigerator less than 5cm away from the wall?	If yes, move the refrigerator farther away from the wall.
	Is there more than 5mm of ice build-up on the evaporator?	If yes, defrost the refrigerator.
	Is the refrigerator resting unevenly on the floor?	If yes, level the refrigerator and check the spirit level to ensure the bubble is in the center.
	Is the refrigerator overloaded (packed above 100% capacity)?	If yes, move some items to alternate storage so the refrigerator is packed at 100% capacity or below. Review your ordering practices to prevent overloading in future.
	Is there visible damage to the refrigerator's electrical plug?	If yes, contact your supervisor to call a technician to fix the plug.
	Has there been inconsistent power supply to the refrigerator?	If yes, contact your supervisor. Switch to an alternate power source.
	Does your solar panel experience shade for more than 1 hour in a day?	If yes, clear the source of shade if possible. Otherwise, contact your supervisor to discuss moving the solar panels.
	Is the thermostat set too low?	If yes, gradually raise the temperature setting and continue to monitor the temperature. If adjusting the thermostat does not properly change the temperature, the thermostat could be faulty. Contact your supervisor to request a technician to replace the thermostat.
	Is there ice build-up in the inside of the refrigerator?	If yes, defrost the refrigerator.
	Is the thermostat set too high?	If yes, gradually lower the temperature setting and continue to monitor the temperature. If adjusting the thermostat does not properly change the temperature, the thermostat could be faulty. Contact your supervisor to request a technician to replace the thermostat.
	Is the refrigerator under-packed (packed below 25% capacity)?	If yes, adjust the thermostat to a lower setting, and add water packs to the refrigerator. If you are at minimum stock levels, replenish your vaccines stock.
	Is there visible damage to the refrigerator gasket?	If yes, this could be the cause of the excursion. Contact your supervisor to request a technician to replace the gasket. Continue monitoring closely for additional excursions.

FREEZE EXCURSION

* Temperature below -0.5°C for more than 1 hour.



ALL EXCURSIONS

IF THE EXCURSION CAUSE IS STILL UNKNOWN, CONTACT YOUR SUPERVISOR TO REQUEST REPAIR AND MAINTENANCE SUPPORT.

CONTACT YOUR SUPERVISOR IF:

- An excursion has occurred or is still ongoing.
- The excursion cause is still unknown or too complex and a technician is needed to fix the faulty equipment.
- The gas to power the refrigerator has run out.
- The source of electricity is inconsistent, or unavailable for an extended period of time.
- You have to dispose of vaccines because of damage.
- There has been vandalism/theft of vaccines or equipment.
- There is a need to relocate vaccines to a back-up site.

CONTACT DETAILS

Name & phone no. of facility in-charge	Name & phone no. of local electrician
Name of MCH in-charge (if applicable)	KPLC emergency no. Local police no.
Name & phone no. of SCPHN/KEPI nurse	Vaccines relocation site names & phone nos.
Name & phone no. of local medical engineer	1. 2. 3.



EXCURSION RESPONSE

WHAT SHOULD I DO IN THE EVENT OF A TEMPERATURE ALARM?



1 HAS AN EXCURSION OCCURRED?

- * Temperature above 8°C for more than 10 hours.
- * Temperature below -0.5°C for more than 1 hour.



FOR ALL EXCURSIONS:

- Record the excursion in the monthly temperature recording sheet.
- Contact your supervisor.
- Continue monitoring the refrigerator and if the temperature is no longer between 2-8°C, proceed with the "ongoing excursion" protocol.



FOR FREEZE EXCURSIONS:

- Isolate freeze-sensitive vaccines.
- Mark freeze-sensitive vaccines as "DO NOT USE." Your supervisor will determine if and when these vaccines can be marked for use again.
- Report excursion to your supervisor.



FOR HEAT EXCURSIONS:

- Check VVM status of vaccines.
- Dispose of vaccines at stages 3 or 4 using the appropriate method as applies to your facility.
- Update the ledger book as needed.

2 IS IT STILL ONGOING?



IF YES:

- Move all vaccines to alternate storage (cold box/vaccine carrier, another vaccine refrigerator or another facility).
- Contact your supervisor.



CONTACT YOUR SUPERVISOR IF:

- An excursion has occurred or is still ongoing.
- The excursion cause is still unknown or too complex and a technician is needed to fix the faulty equipment.
- The gas to power the refrigerator has run out.
- The source of electricity is inconsistent, or unavailable for an extended period of time.
- You have to dispose of vaccines because of damage.
- There has been vandalism/theft of vaccines or equipment.
- There is a need to relocate vaccines to a back-up site.

CONTACT DETAILS

Name & phone no. of facility in-charge	Name & phone no. of local electrician
Name of MCH in-charge (if applicable)	KPLC emergency no. Local police no.
Name & phone no. of SCPHN/KEPI nurse	Vaccines relocation site names & phone nos.
Name & phone no. of local medical engineer	1. 2. 3.

Vaccine handling tasks

Daily Tasks

Update these records:

- Vaccine ledger books
- Temperature logs/charts
- Vaccination tally sheets
- Wastage reports
- Check VVM status
- Check and resolve temperature ALARMS
- Clean/dust the equipment

Other Tasks

Review and analyze:

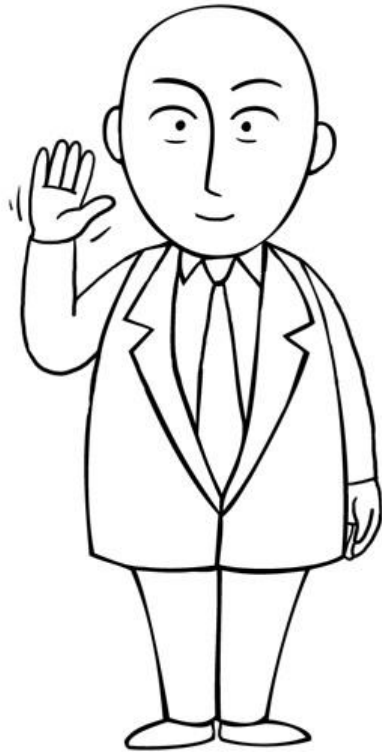
- Weekly consumption patterns
- Upcoming session requirements
- Any stock imbalances
- Equipment maintenance
- Average Monthly Consumption

Vaccine handling and Stock management

- All EPI managers should **distribute** and **redistribute** vaccines within their jurisdictions to avoid or lessen overstocking/stock outs of antigens.
- Always refer to SOP on VVM stages to manage heat sensitive vaccines appropriately.
- All receipts of vaccines from higher Level or other Health Facilities s should be entered in vaccines ledger books using **a red pen**.
- Vaccine ledger books and Chanjo eLMIS system should be updated and accompanying documents filled across all levels .
- All facilities should carry out a physical stock count at the **end of the month** and **before ordering** and **document** stocks using a **red pen** in vaccine ledger books and Chanjo eLMIS

Vaccine storage and handling summary

Criteria	Details
Temperature Requirements	Store vaccines at recommended temperatures and monitor temperature continuously
Cold Chain Equipment	Use WHO-approved refrigerators and cold boxes; maintain ice packs during transport
Vaccine Arrangement	Store in original packaging; avoid overcrowding; apply FEFO (first-expiry-first-out).
Storage Zones	Store vaccines in appropriate vaccine tray
Light Sensitivity	Keep light-sensitive vaccines in original cartons to protect from light
Monitoring and Recording	Record temperatures daily, morning and evening document temperature excursions and take appropriate action
Emergency Preparedness	Have an updated contingency plan in place incase of power outage or any excursions
Access and Security	Restrict access to authorized staff; secure refrigeration units under lock and key



**Thank you
for your attention!**



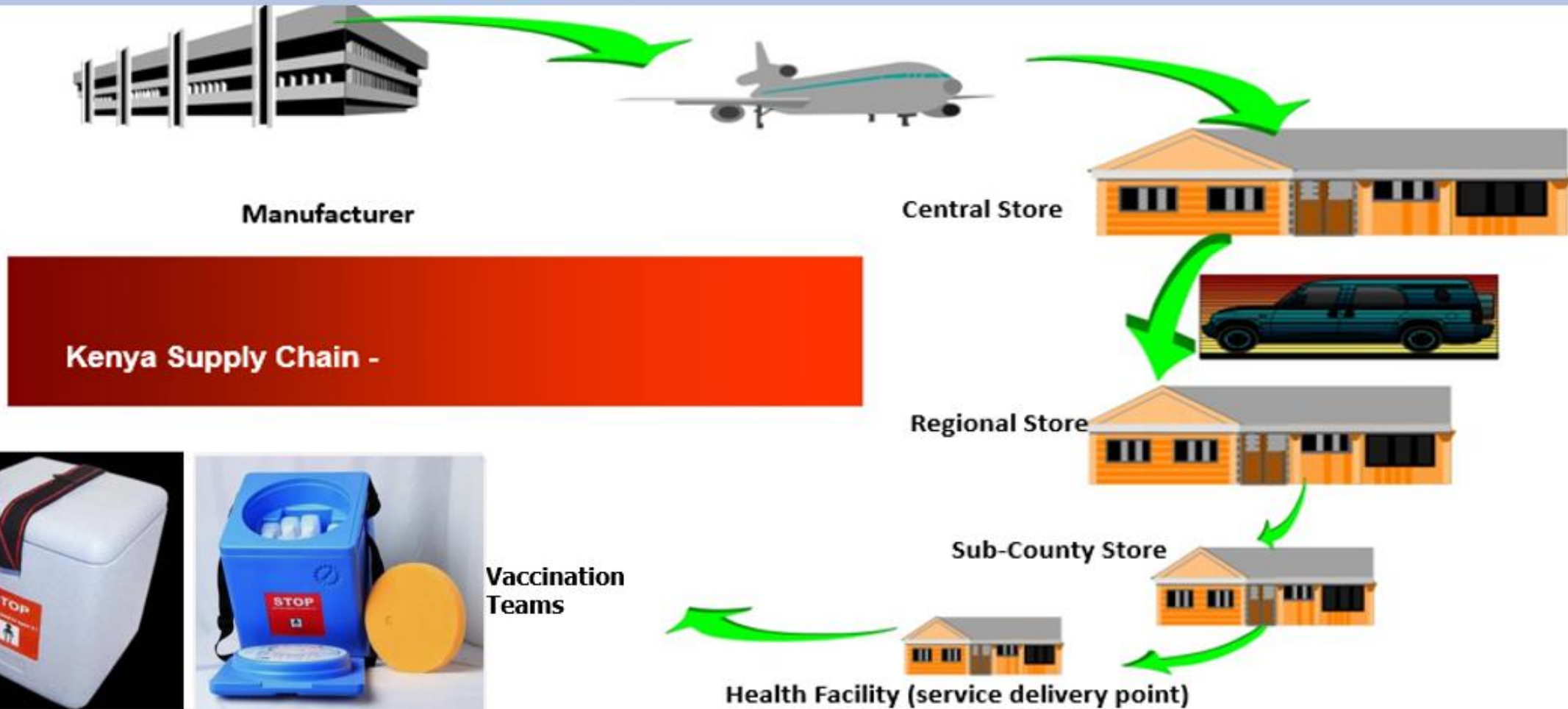
Ministry of Health

VACCINE DISTRIBUTION



Vaccinate to Protect.
Ministry of Health

VACCINE DISTRIBUTION FLOW



DISTRIBUTION PLAN

A distribution plan is done at the National level and shared with the Regional vaccine store managers prior to actualization of distribution.

It entails:

- Frequency of supply period i.e. Quarterly and Monthly
- Name of the receiving store
- Quantities allocated per antigen
- Balances at the receiving stores
- Total quantities to be dispatched per antigen
- Balances at the issuing stores

DISTRIBUTION SCHEDULE

- A distribution schedule entails the name of the receiving store, day, date and time of issue, weight and volume, routing plan, the capacity and type of the trucks (National level)
- A communication is done from the National level to the 9 Regional store managers via email.
- Regional Stores: County name, day and date of collection
- Sub county: Categories of the Health facilities and date of collection (private, faith-based, and GOK facilities)
- Communication to the relevant officers is done through the emails, WhatsApp and phone calls.
- Preparation of the issue vouchers i.e. S11

CHOICE OF MODE OF TRANSPORTATION

Depends on:

- The quantity of vaccines and safe-injection equipment needed to be transported
- The condition of the roads
- The distance to be travelled
- Urgency or time sensitivity
- Security, Safety and Reliability
- Cost and budget i.e fuel supply
- Availability of the driver
- Accompanying person
- Cold boxes with conditioned ice-packs
- Accompanying documents must always be ready- packing lists and order forms when making logistics collection

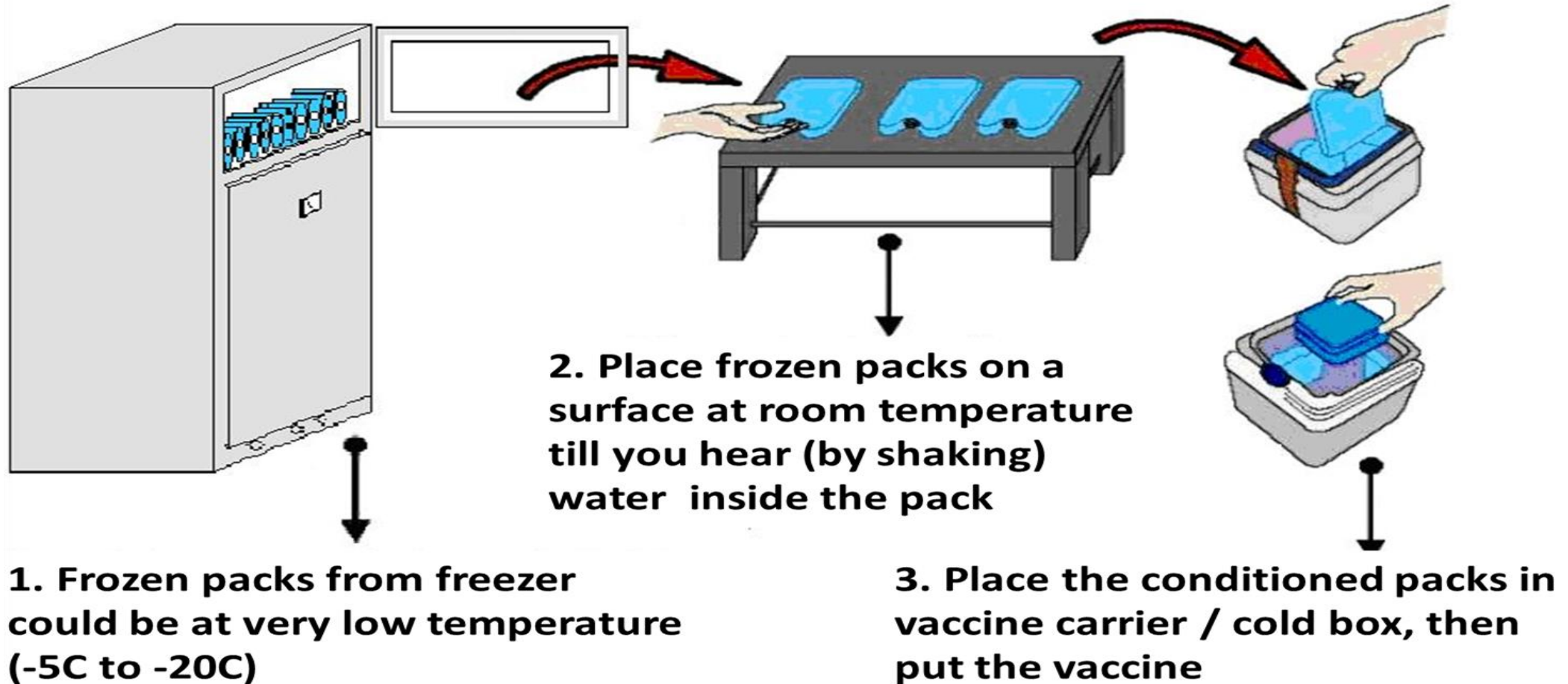
VACCINE PACKAGING AND TRANSPORTING

- Use only **recommended transport** boxes with adequate and appropriately prepared ice-packs
- Monitor temperature, preferably using **fridge tags**, as this allows monitoring throughout the transport period and check the reading at end of trip and download of data
- Managers should ensure that all staff doing packing of vaccines (including support staff) understand how to condition ice packs
- Pack frozen vaccines separately from freeze sensitive vaccines (separate cold box)



CONDITIONING THE ICEPACKS NOT TO FREEZE THE VACCINES

Frozen packs conditioning



TEMPERATURE MONITORING DEVICES DURING TRANSPORT

- Fridge tag (2-8)
- Truck temperature display
- Cold trace® for freezers
- Thermometer



TRANSPORT CONTINGENCY PLAN

- In case of failure of the refrigerated trucks:
 - Alert the key stakeholders i.e. logistics team, transport provider and nearby storage facilities
 - Monitor temperature using the temperature loggers to assess if vaccines are still within the recommended range
 - Transfer vaccines to an alternative refrigerated truck or cold storage facility nearby

VACCINES ARRIVAL, RECEIPT AND STORAGE

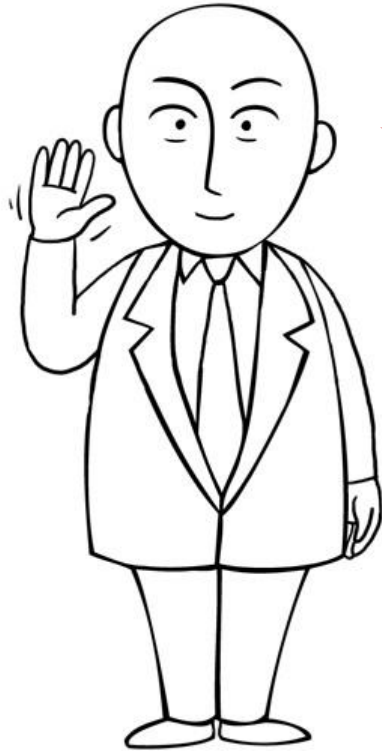
- Inspect vaccines quality and quantity by checking the temperatures, VVM stage at arrival and the issue vouchers
- Check and record the temperatures on the truck display and the temperature logger on arrival for any excursions
- Download and print the trip recording on the log tag/trek
- Transfer vaccines in to the Cold chain equipment at recommended temperatures (-25°C to -15°C, +2°C to +8°C, 25°C).
- Update stock management tools i.e. Ledger books, bin cards, chanjo eLMIS and chanjo KE
- Prepare an arrival report noting the discrepancies and incidences

DISTRIBUTION REPORT

- A distribution report should be done following vaccines and its related supplies distribution to the lower levels.
- It shows THE quantity of vaccines issued/received as per the distribution plan.
- It also shows the incidences encountered during vaccines distribution and transport i.e any damages, loss, discrepancies, time taken in transit
- It should also include status of VVM, number of batches Numbers, number of boxes receipt,
- Include bottlenecks during the distribution-vehicle, fuel availability

KEY MESSAGES

- Maintain cold chain at all times at recommended temperatures
- Use proper packaging equipment and conditioned ice packs
- Monitor vaccine temperatures continuously
- Ensure secure and efficient transport for all distribution & redistribution
- Proper documentation of shipments and continuous improvement
- Increased capacity building for store managers and 3rd party operators
- Dissemination of SOPs for distribution



Thank You!



Ministry of Health

REVERSE LOGISTICS



Vaccinate to Protect.
Ministry of Health

REVERSE LOGISTICS

Reverse logistics is a process of moving , withdrawing, or removing the products from distribution points (point of consumption to the point of origin , or another location) at least one step backward up the supply chain for redistribution and or to ensure proper disposal.

Reasons for Reverse Logistics:

- i. **If redistribution is not feasible and doses risk expiring.** *Return the vaccines to a higher-level store for appropriate action and document all actions taken.*
- ii. **Excess stocks due to unused quantities: E.g.** *Special events such Mass vaccination campaigns. The vaccines should be returned to the issuing stores for reconciliation, potency checks (if applicable), and proper re-entry into inventory*
- iii. **Product quality** - not meeting specifications, defects, damage
- iv. **End of shelf life:** Manufacturer or Thawing expiry date. Return for proper disposal

Reverse Logistics Pathway

Health Facility

Sub County

Regional

CVS

REVERSE LOGISTICS FOR THE UNSUSABLE VACCINES

Unusable vaccine vials" refer to vaccine that are no longer safe or effective for administration due to various reasons

- i. **Expired Vaccine** *(Manufactures Expiry date or Thawed Expiry Date) When vaccines reach their expiry date at any level (health facility, sub-county, county, or national store), they should be consolidated and returned to higher level for official disposal*
- ii. **Improper Storage** *(Vaccines have been exposed to freezing or heat beyond allowable ranges)*
- iii. **Damaged Labels**
- iv. **Vials are physically damaged or broken**

Note: Always Update the Vaccine ledger books, Chanjo ELMIS and Chanjo Ke

Reverse Logistics Pathway



REVERSE LOGISTICS FOR UNUSABLE VACCINES

1. **Facilities:** fill the Vaccine Destruction Form in Triplicate and submit to sub county together with the unusable vaccines for destruction.
2. **Sub county:** consolidate all facilities quantities and fill the sub county vaccine destruction forms and take them to the RVS.
3. Inform the PHO and fill in the county waste forms
4. RVS: Consolidate and forward to the disposal site using approved national and international standards.

Update the Vaccine ledger books, Chanjo ELMIS and Chanjo Ke



Annex 8
To be filled in triplicate

 **Ministry of Health**

NATIONAL VACCINES AND IMMUNIZATION PROGRAM

VACCINE DESTRUCTION FORM : SUB COUNTY

County _____ Subcounty _____

Name of the Antigen	Manufacturer	Date of receipt	Date of Expiry (Manufacturer)	Thawed Expiry (Moderna, Pfizer, Rota)	Quantity to be destroyed	Batch No.	Reason for destruction	Remark/Comment

Health Facilities that have Submitted Expiries

The officer requesting for destruction (subcounty pharmacist) Name..... Designation.....Date..... Signature: _____

Witnessed by:

1. SC EPI: Name..... Designation.....Date..... Signature.....

2. SC PHO: Name..... Designation.....Date..... Signature.....

Approved by(SMOH): Name..... Designation.....Date..... Signature..... Stamp

REVERSE LOGISTICS WASTE TRACKING DOCUMENT

FORM NEMA/WM/3
Adopted from Regulation 8 of Waste
Management Regulations, 2006
(Legal Notice 121)

Ministry of Health

Serial Number: _____

**NATIONAL VACCINES AND IMMUNIZATION
PROGRAMME**

COUNTY TRANSPORTATION WASTE TRACKING DOCUMENT
To be filled in Triplicate

A.	Name of staff transporting the waste IDNO.....Signature.....Date Designation Person who approved waste disposal (SC MOH): Name:..... Signature Stamp:
CONSIGMENT NOTE FOR THE CARRIAGE AND WASTE DISPOSAL OF SOLID WASTE	
B.	1) Area collected: County.....Sub County..... 2) Type of waste 3) Description and physical nature of waste (solid/liquid) 4) Quantity/size of waste (Kgs/Litres) 5) Number of containers/bags.....
C.	I certify that I have received the waste as described above. The waste was delivered in vehicle: _____ (Registration No.) at _____ (Time) on _____ (date) and the carrier gave his/her name as _____ on behalf of the Ministry of Health(NVIP) Signed by _____ Name: _____ Position: _____ Date: _____

After signing Part C one FORM will be retained at the RVS, one at the County and the other FORM will be retained by the National Office

NOTE: This is a **CONTROLLED** document. The user of this document is responsible for ensuring that they are using the latest revision of the document.

FORM NEMA/WM/3
Adopted from Regulation 8 of Waste
Management Regulations, 2006
(Legal Notice 121)

Ministry of Health

Serial Number: _____

**NATIONAL VACCINES AND IMMUNIZATION
PROGRAMME**

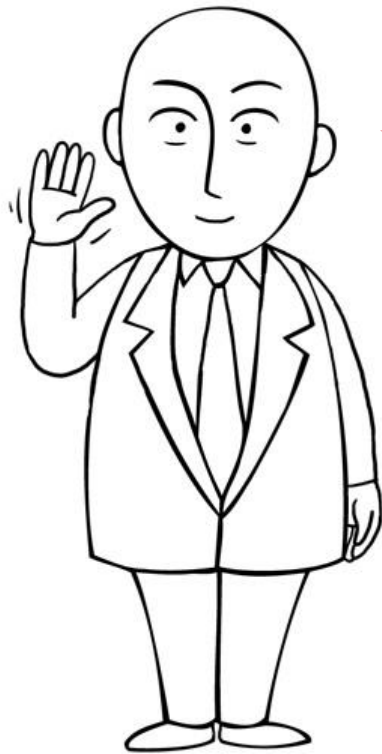
REGIONAL TRANSPORTATION WASTE TRACKING DOCUMENT
To be filled in Triplicate

A.	Name of staff transporting the waste IDNO.....Signature.....Date Designation Person who approved waste disposal: (RVS Manager) Name:..... Signature Stamp:
CONSIGMENT NOTE FOR THE CARRIAGE AND WASTE DISPOSAL OF SOLID WASTE	
B.	1) Area collected: Region:..... 2) Type of waste 3) Description and physical nature of waste (solid/liquid) 4) Quantity/size of waste (Kgs/Litres) 5) Number of containers/bags.....
C.	I certify that I have received the waste as described above. The waste was delivered in vehicle: _____ (Registration No.) at _____ (Time) on _____ (date) and the carrier gave his/her name as _____ on behalf of the Ministry of Health(NVIP) Signed by _____ Name: _____ Position: _____ Date: _____

After signing Part C one FORM will be retained at the RVS, one at the Incinerator and the other FORM will be retained by the National Office

NOTE: This is a **CONTROLLED** document. The user of this document is responsible for ensuring that they are using the latest revision of the document.

County Form & RVS Waste Trucking Form – Fill in Triplicate



Thank You!



Ministry of Health

VACCINE SUPPLY CHAIN DATA & REPORTING



Vaccinate to Protect.
Ministry of Health

VACCINE SUPPLY CHAIN REPORTING DATA FLOW

KHIS

KHIS

Sub County

Health Facility

Chanjo eLMIS

**Central Vaccine
Store**

**Regional
Vaccine
Store**

**County
Vaccine Stores**

**Sub County
Vaccine Store**

DATA CAPTURE AND REPORTING TOOLS IN S.C & LOGISTICS

s.no	Tool	Purpose	Level of Use
1	Vaccine Forecasting Sheet	Vaccine Quantification	All levels
2	Vaccine Ordering Sheet	Ordering vaccines	Subcounty & facility level
3	Vaccine Stock Ledger	Vaccine stock tracking	All levels
4	MOH 710 Section B & C (summary tool)	- Track vaccines received, vaccines used and balances remaining end of the month - Reporting of functionality status the Cold Chain Equipment	Health Facility, subcounty

CONT.....

	Tool	Purpose	Level of Use
5	Temperature monitoring chart	Monitor vaccines temperature	All Levels
6	AEFI reporting booklet	Reporting suspected AEFI cases	Health Facility level
7	Chanjo eLMIS	• Ordering of vaccines • Receiving of vaccines • Issuing of vaccines • Monitoring of cold chain equipment status • Capturing vaccine physical count • Monitoring of vaccine stock status	National, RVS, Subcounty
8	Chanjo ke	• Collection of individual client Data • Tracking covid 19 vaccines utilization • Assurance of Covid 19 certificate	All levels
9	Taifacare	• Health Facility Point of Care EMR system for patient care(both outpatient and inpatient),lab, pharmacy, radiology and commodity management • Tracking vaccines to the last mile(at health facility level)	Rollout on course to all government health facilities in Kenya

DATA QUALITY STANDARDS

Good data must be:

- Completeness
 - Accuracy
 - Timeliness
 - Consistence
-
- The 3Cs: Count → Compare → Correct
-
- NOTE: ALWAYS USE THE UPDATED TOOLS

REPORTING REQUIREMENTS

- Weekly – Stock status report (LMIS/SCMOH)
- Monthly – Immunization report (DHIS2/Chanjo)
- Daily – Temperature monitoring, Vaccine Tally Sheet (doses administered), Ledger (stock movements)

DATA ELEMENTS AT HEALTH FACILITY – MOH 710

- Opening balance
- Stock received
- Doses administered
- Wastage (opened/unopened)
- Closing balance
- Days out of stock

MOH 710 (Section B)

SECTION B COLD CHAIN LOGISTICS AND VACCINE STOCK OUTS, FILL MONTHLY 'TOTAL' AT FACILITY LEVEL EVERY COLUMN SHOULD HAVE COLD CHAIN INFORMATION AND VACCINES & VITAMIN A STOCK OUTS

IMMUNIZATION LOGISTICS. (NB if more than one equipment, separate each entry with a slash e.g Model: RCW42EG/SIBIR V170GE Serial No. 2345/2045) Revised_April 2024	Cold Chain Equipment														
	Type (Freezer or Refrigerator)														
	Model														
	Serial No:														
	Working Status (Y/N)														
	Energy Source (E/G/S)														
	Equip. age in Yrs														
	Vaccines and Vitamin A														
	Stockout and type														
	Type (Vaccine)														
	No.Days														
	Type (Vaccine)														
	No.Days														
	Type (Vitamin A)														
	No.Days														

MOH 710 Section C

SECTION C FILL MONTHLY "TOTAL" AT FACILITY LEVEL .

Antigen		DATE											
BCG	[A]Doses in stock at the beginning of the month												
	[B]Dose received within the month												
	[C]Total doses stocked in the month (A+B)												
	[D]Doses remaining at the end of the month												
	[E]Doses used in the month [C-D]												
	[F]No. of children vaccinated during the month												
	[G] Doses wasted in the month[E-F]												
	[H] Wastage rate in the month[(G/E) x 100]												
OPV	[A]Doses in stock at the beginning of the month												
	[B]Dose received within the month												
	[C]Total doses stocked in the month (A+B)												
	[D]Doses remaining at the end of the month												
	[E]Doses used in the month [C-D]												
	[F]No. of children vaccinated during the month												
	[G] Doses wasted in the month[E-F]												
	[H] Wastage rate in the month[(G/E) x 100]												
IPV	[A]Doses in stock at the beginning of the month												
	[B]Dose received within the month												
	[C]Total doses stocked in the month (A+B)												
	[D]Doses remaining at the end of the month												
	[E]Doses used in the month [C-D]												
	[F]No. of children vaccinated during the month												
	[G] Doses wasted in the month[E-F]												
	[H] Wastage rate in the month[(G/E) x 100]												
DPT+HIB+H EP B	[A]Doses in stock at the beginning of the month												
	[B]Dose received within the month												
	[C]Total doses stocked in the month (A+B)												
	[D]Doses remaining at the end of the month												
	[E]Doses used in the month [C-D]												
	[F]No. of children vaccinated during the month												
	[G] Doses wasted in the month[E-F]												
	[H] Wastage rate in the month[(G/E) x 100]												

PRACTICAL SESSION: Vaccine Stock Monitoring - KHIS

- As Manager your role is to monitor how health facilities in your jurisdiction report Routine Immunization (RI) data in KHIS.
- Each facility is expected to submit their complete monthly immunization report **by the 5th of every month.**

Practical Session: Timeliness and Completeness

Using KHIS, find the Timeliness and Completeness of Routine Immunization monthly reports for your Health Facilities for January–Dec 2024 and respond to the following questions?

PRACTICAL SESSION: KHIS

- a) **What is the Completeness (%) of routine immunization reports for your Facilities for the selected months?**
 - i. How many facilities submitted complete the report out of the total expected? (*Facilities with complete report / Expected Reports*100*)
 - ii. List down sub-counties/Facilities have the highest and lowest completeness? (**List**)
- b) **What is the Timeliness (%) for the same period?** (*Facilities reported on time / expected Reporting Facilities*100*)
 - i. How many facilities submitted on or before the deadline?
- c) **Compare Timeliness vs Completeness.**
 - i. List the Sub Counties/ facilities not submitting at all
- d) **Give 2–3 reasons why timeliness or completeness may be low based on what you observe in KHIS.**
- e) **Propose at least three actions to improve reporting performance in your county/Facilities.**
- f) **Submit the answers to the Team Lead**

ROLES IN THE VACCINE SUPPLY CHAIN

- **National Level** – Procures vaccines, distributes to counties, manages national stock
- **County Level** – Procure Immunization Logistics (Syringes, safety boxes CCE etc.) Stores vaccines, allocates to sub-counties, supervises reporting and monitor stock status and immunization Coverages
- **Sub-county Level** – Distributes vaccine s and related logistics to facilities, verifies data, provides training and mentorship
- **Facility Level** – Monitor stock, reports consumption, delivers immunization
- **Community Level** – Mobilization, defaulter tracing, provides feedback

KEY INDICATORS

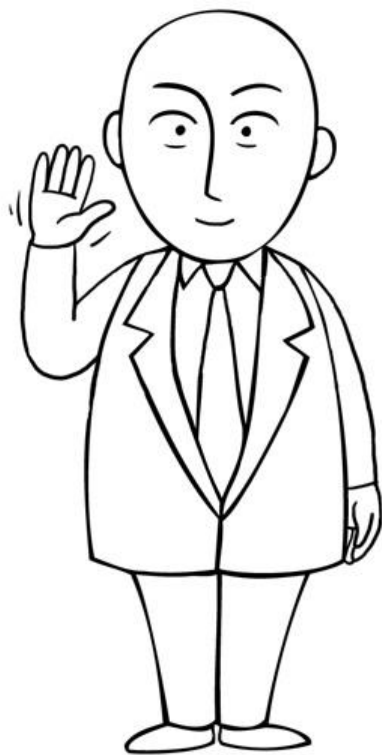
- ***A High Stockout Rate:*** Could indicate poor forecasting, delayed orders, or distribution problems.
 - ***Action:*** Review forecasting data and ordering timelines.
- ***High Wastage Rate:*** Could Indicate poor session planning or cold chain problems.
 - ***Action:*** Investigate specific causes (open vial vs. closed vial wastage).
- ***Low Order Fulfillment Rate:*** Could Indicate a supply problem at the higher level.
 - ***Action:*** Escalate to county/national level

REPORTS TO SUBMIT -

All Sub Counties, Counties and RVS

1. Training Sum
2. Physical Count for all antigens Target Population 2025
3. Number of children vaccinated (January–December 2024 and January–October 2025)
4. Average monthly consumption for all vaccines
5. Vaccine forecasting sheets (*vaccines, syringes, and safety boxes*) – 2025 and 2026
6. Cold Chain Equipment (CCE) inventory at Sub County, County Depots and RVS

PLENARY DISCUSSIONS



Thank You!