FEDERAL MINISTRY OF HEALTH

DEPARTMENT OF FOOD AND DRUG SERVICES

NIGERIA SUPPLY CHAIN WAREHOUSING AND INVENTORY CONTROL - STANDARD OPERATING PROCEDURES (SOPS) FOR PHARMACEUTICALS AND OTHER HEALTHCARE PRODUCTS (VERSION 2.0)

NATIONAL PRODUCTS SUPPLY CHAIN MANAGEMENT PROGRAMME (NPSCMP)

JANUARY 2025

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ABBREVIATIONS:

ASN: Advance Shipment Notice
CC: Cytotoxics Coordinator
CCLO: Cold chain Logistic Officer
CCO: Customs Clearance Officer
COA: Certificate of Analysis
DPS: Director of Pharmaceutical Services
FCMS: Federal Central Medical Stores
RN: Goods Received Note
HA: Head of Audit
HF: Head Finance
IM: Inventory Manager
ITM: IT Manager
ISO: International Standards Organization
LPO: Local Purchase Order
N/SC: National/State Coordinator
NPSCMP: National Products Supply Chain Management Program
NSCIP: Nigeria Supply Chain Integration Project
NSCP: Nigeria Supply Chain Policy
PA: Procurement Assistant
PFI: Pro-forma Invoice
PM: Procurement Manager
PO: Purchase Order
PPE: Personal Protective Equipment
PR: Principal Recipient
PTL: Program Team Leads
QM: Quality Manager
RDC: Receiving & Dispatch Clerk
SOP: Standard Operating Procedure
SP: Superintendent Pharmacist
WA: Warehousing Assistant/Checkers/Pickers/Causal officers
WM: Warehouse Manager
WMIS: Warehouse Management Information System
W/SO: Warehousing/Store Officer

REVIEW AND APPROVALS

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Finally, I appreciate the dedication and hardwork of NPSCMP staff whose commitment to improving the health supply chain system in Nigeria has been examplary.

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2025.

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- Department Of Family Health, Federal Ministry Of Health (Dfh-Fmoh)
- National Products Supply Chain Management Programme (Npscmp)
- State Ministry Of Health (Smoh)
- Clinton Health Access Initiative (Chai)
- Catholic Relief Services (Crs)
- National Malaria Elimination Programme (Nmep)
- National Tuberculosis And Leprosy Control Programme (Ntblcp)
- National Agency For The Control Of Aids (Naca)
- National Aids And Stds Control Programme (Nascp)
- The Global Fund (Tgf)
- United Nations Population Fund (Unfpa)
- Global Health Supply Chain Procurement And Supply Management (Ghsc-Psm)
- Multinational Expeditor Business Solutions (MEBS) Global Reach
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- Edo State Ministry of Health- Essential Drug Programme
- Imo State Ministry of Health- Central Medical Stores
- Thought Leadership- Public Health Supply Chain (Tl-Phsc)
- Ondo State Drugs And Health Commodities Management Agency (Odhcma)
- Akesis
- Kaizen Institute
- MDS Logistics

INTRODUCTION

The guidelines and Standard Operating Procedures (SOPs) for warehousing and inventory control is carefully documented to reflect the current transformation in the management of the National Health Supply chain management system in line with the NHSIP. In keeping with the standard, the upgrading of the state and federal warehouses requires the matching standards in the installation and use of warehousing facilities, the requisite management systems and sustained maintenance. To achieve the above aims, stakeholders decided to introduce new measures intended to instil a culture of continuous improvement and innovation spanning the three levels of work i.e. leadership, management and operation. For the introduction of guidelines on leadership and management, the name of the document has been amended accordingly. To ensure that the documents is effectively used, NPSCMP shall mobilize resources to capacitate users to practice incremental improvement and monitoring through warehouse maturity assessments and grading.

Theory of Change

The Theory of Change (ToC) is based on the cultivation of continuous improvement and innovation culture throughout the entire levels of the workforce. a valuable framework in leadership and management that outlines a step-by-step process that helps organizations to achieve a specific goal or vision. The operations and management of the warehouses will follow the theory of change by the disaggregation into three layers:

- Leadership
- Management
- Operations

The organogram of the warehouse management should spell out these three levels.

Leadership: the functions of the leadership in warehouse management will be to monitor both internal and external processes. This will include the system of

P Plan
D Do
S Study
A Act

Leadership will involve getting insights from the internal processes and changes from the environment (external) which includes stakeholders' expectations. Studying them and using it in the day to day decision making. To study them will help leadership answer the questions on 'why", which may be positive or negative. Having answers to why certain things happen will make them to be more proactive. There shall be an established maturity measurement tool which will be measured by NPSCMP to determine the maturity metrics of the different warehouses.

There functions include:

a. Enhanced focus on continuous improvement and transformation/innovation.
b. Areas of sustainability
c. Performance monitoring of the warehouse management system
d. Warehouse maturity measurement metrics
e. Warehouse network management
f. Continuous improvement and innovative culture

Management: This is the middle class and also the problem solving and improvement class. They will make use of the information from the performance monitoring tool and feedback from customers. There system of work will be based on;

P Plan
D Do
C Check
A Act

Operation: This group will be implementing the SOP with an eye on improving their day to daily work having the theory of change in mind

Purpose

The Standard Operating Procedures (SOPs) for Warehousing are a step-by-step guide to everyday practices undertaken by warehouse staff managing health supplies in Federal and State Health Commodity Warehouses in Nigeria. The SOPs are to be deployed to the warehouses mentioned where the Nigerian Health LMIS is used to manage health supplies. The aim is to improve and standardize warehouse practices across the country. The SOPs are carefully designed to both reflect current practices and incorporate procedures to improve, optimize and standardize health commodity management across Nigeria.
Implementing the SOPs is a matter of both:

1. Ensuring that day-to-day activities are being done correctly all the time by all staff.

2. Introducing new activities to improve accuracy and efficiency of the local supply chain.

Measuring Performance

As part of improving our systems, it is important to measure our performance. These Key Performance Indicators should be publicly displayed in the Federal Medical and State Medical Warehouses and updated monthly:

1. Percentage (%) of stock stored on the ground (measured by value of stock on hand/total stock value)
2. Average time from orders being received to dispatch
3. Accuracy of stock in Health LMIS (measured by monthly audit of 20 random Health Products) and by stock taking as defined in the **SOP for Physical Inventory.**
4. Number of daily spot-check stock taking performed each month
5. Percentage (%) availability of 100 critical Health Products (measured by number of critical Health Products in stock/100 x100)
6. Percentage of expired health products (measured by quantity of expired products/total quantity of products x 100

We specify suggested Performance Indicators for monitoring performance against each SOP in these guidelines

Standard Operating Procedures: Receiving Health products from Suppliers

TITLE: SOP FOR PREPARATION FOR HEALTH PRODUCTS RECEIPT	
Functional Area: WAREHOUSING	**Date issued:**
Code: : FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 001/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible: WM, PM, QM, IM, CCO, WA, W/SO, ITM, RDC, CC or SP, N/SC, PTL	

1. Purpose: To ensure that stock receipt occurs in an organized and efficient manner with sufficient time for planning for all stakeholders.

2. Scope: This SOP covers preparation for the receipt of essential medicines, public health products and public health program products for warehousing at both Federal, and State warehouses.

3. Definitions: Health Products for routine use.

4. PPE: It is necessary to educate handlers on how to handle medical products and the importance of the products signage, functions etc., to prevent damages and hazards.

- Safety shoes
- Overalls (cotton)
- Reflective Jacket
- Hand gloves
- Helmet

TOOLS

Pallets, Forklift, Pallet truck, Physical record book, WMS

5. Abbreviations:

- **CC:** Cytotoxics Coordinator
- **CCO:** Customs Clearance Officer
- **ITM:** IT Manager
- N/SC: National/State Coordinator
- **PM:** Procurement Manager
- **PTL:** Program Team Lead
- **QM:** Quality Manager
- **RDC:** Receiving & Dispatch Clerk
- **SP:** Superintendent Pharmacist

- **WA:** Warehousing Assistant/Checkers/Pickers/Causal officers
- **WM:** Warehouse Manager
- **WMIS:** Warehouse Management Information System
- **W/SO:** Warehousing/Store Officer

6. Reference: INDO PACIFIC SUPPLY CHAIN DTAC- Warehouses Standard Operating Procedures

7. Process Owner: Procurement Manager

8. External Parties: Supplier, NAFDAC

9. Standard Operating Procedure: Preparation for Health Products Receipt

No	Guidance	Action Owner(s)
9.1	Supplier informs the procurement manager at least two weeks before a consignment of health products is due to arrive at the warehouse (in writing or any other form of communication).	PM, Supplier
9.2	The Procurement Manager collates the following documents in preparation for delivery receipt, validate and confirm the completeness against the *Purchase Order* a. Invoice b. Bill of Lading (sea freight) or Airway Bill (air freight) c. Packing List d. Supporting documentation (such as Certificates of Analysis, Dangerous Health products Declarations/permits) e. Supplier Delivery Note f. Purchase Order	PM
9.3	The Procurement manager emails the above documents and notifies the following stakeholders on the expected delivery date, time and nature of the delivery: a. National/State Coordinator b. Warehouse Manager c. Superintendent Pharmacist d. Customs Clearance Officer e. Quality Manager f. Inventory Manager	PM

	g. Cold chain Logistic Officer h. Controlled substances: Superintendent Pharmacist/NAFDAC i. Cytotoxic or hazardous: Superintendent Pharmacist or Cytotoxic Coordinator j. Program Team Leads for program products k. And any other relevant stakeholder.	
No	**Guidance**	**Action Owner(s)**
9.4	Warehouse Manager ensures availability and adequate staff to assist with unloading, physical inspection, sorting and put-away of the shipments.	WM
9.5	Warehouse Manager coordinates clearance of warehouse space in preparation for the incoming stock with the Warehousing/Store Officer and receiving and dispatch officer.	WM, W/SO, RDC
9.6	For program product, Program Team Leads notifies National/State Coordinator of expected delivery of program products.	Program Focal person
9.7	Inventory manager documents and Keep records of all incoming receipts of products	

10. Performance Indicators for suppliers (to be calculated in percentages)

- **Error Free: Percentage of products that maintains quality and integrity on arrival**
- **In-Full: At the right quantity**
- **On-Time: Product received within the specified lead time**

On -time delivery of health products: Number of products lines delivered within the specified period/total number of product lines

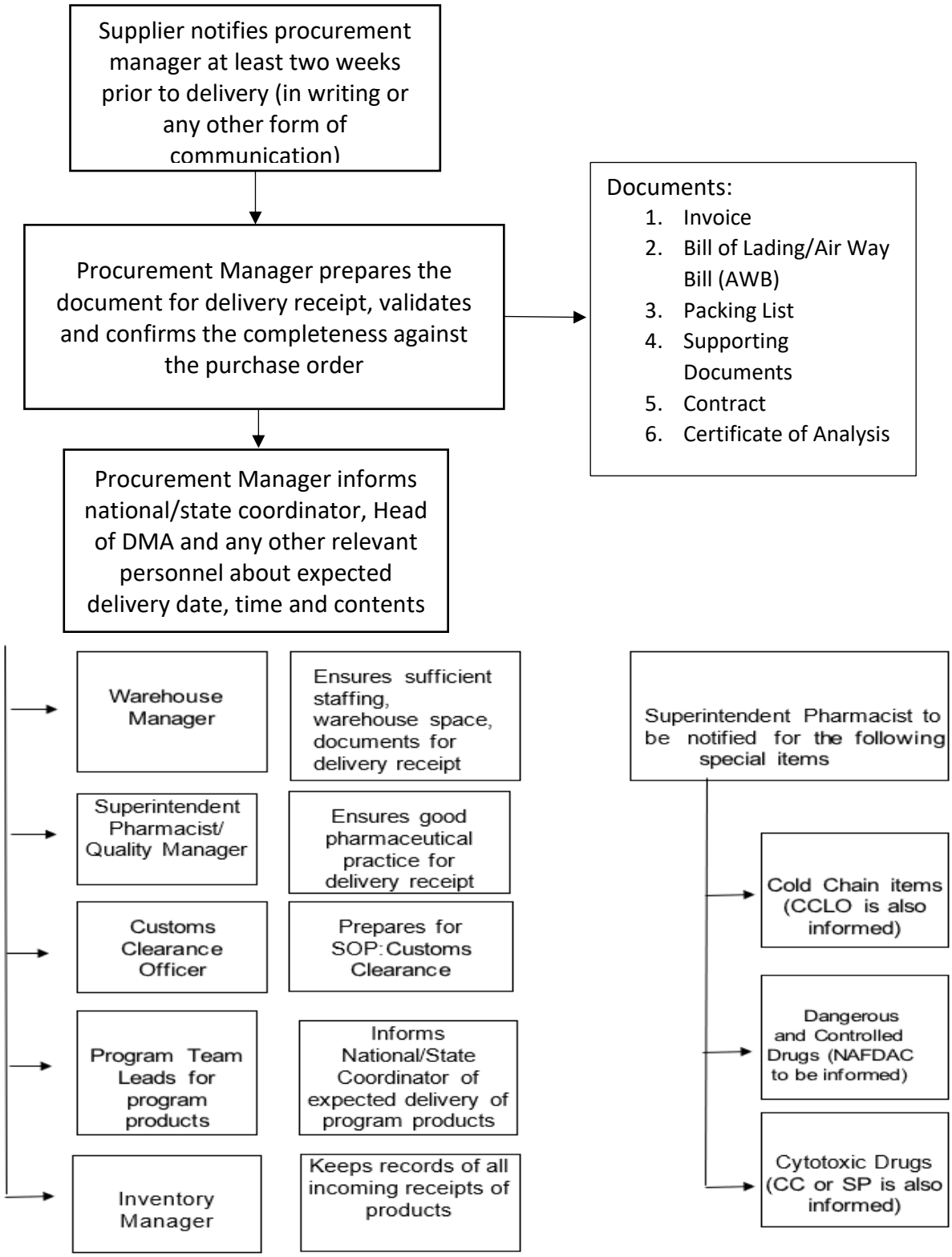
Performance Indicators for warehouse (to be calculated in percentages)

- **Receiving and put away efficiency**
- **Order fulfilment rate**
- **Store capacity utilization**

11. Records:

- **Invoice**
- **Bill of Lading/ Air Waybill (AWB)**
- **Packing List**
- **Supporting Documents**
- **Contract/ PO**
- **Certificate of analysis**

12. Process Map: Preparation for Health Products Receipt



Standard Operating Procedures: Receiving Health products from Suppliers

TITLE: SOP FOR CUSTOMS CLEARANCE	
Functional Area: WAREHOUSING	**Date issued:**
Code: : FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 002/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible: SP, N/SC, HF, CCO, PM,	

1. Purpose: To ensure that all incoming stock is cleared from the seaport or airport) efficiently and in accordance with all legal requirements and manufacturer instructions on item handling.

2. Scope: This SOP covers clearance of essential medicines and public health products from the seaport or airport) for warehousing at both National and State warehouses.

3. Definition: Health Products for routine use.

4. Abbreviation:

- **CCO:** Customs Clearance Officer
- **HF:** Head Finance
- N/SC: National/State Coordinator
- **PM:** Procurement Manager
- **SP:** Superintendent Pharmacist
- **WMIS:** Warehouse Management Information System
- **W/SO:** Warehousing/Store Officer

5. Reference: INDO PACIFIC SUPPLY CHAIN DTAC- Warehouses Standard Operating Procedures

6. Process Owner: Procurement Manager

7. External Parties: Shipping Broker/Clearing agent, Nigerian Customs Service

8. Standard Operating Procedure: Customs Clearance

No	Guidance	Action Owner(s)
8.1	Following the **SOP for Preparation for Health products Receipt** the Customs Clearance Officer receives delivery documents from Procurement Manager (2 weeks before a consignment of Health products is due to arrive at the seaport or airport).	CCO
8.2	Customs Clearance Officer: a. Checks the estimated delivery date with the Shipping Agency.	CCO

	b. Sends the documents to the Shipping Broker.	
8.3	Shipping Broker: a. Records details in the Customs computer system. b. Calculates the taxes and fees payable. c. Returns the assessment to the Customs Clearance Officer.	Shipping Broker
8.4	Customs Clearance Officer: a. Confirms that calculated amounts (Tax Declaration) are correct. If there are any discrepancies or questions, these are clarified with the Procurement Manager. b. Notifies the Shipping Broker to go ahead.	CCO
8.5	Shipping Broker submits the documents to Customs: a. Customs confirms the amounts, stamps the documents, and issues a Declarant Reference Number and Assessment Notice for payment. b. Shipping Broker forwards the Assessment Notice to the Procurement Manager.	Shipping Broker
8.6	Procurement Manager attaches an explanatory cover letter to the Assessment Notice and gives it to the Head of Finance: a. Head of Finance signs and forwards to the National or State Coordinator. b. National/State Coordinator signs and forwards to the Head of Finance to issue a payment, as per local protocols.	PM/HF//N/SC
No	**Guidance**	**Action Owner(s)**
8.7	Head of Finance arranges and ensures payment to Customs for the Assessment Notice.	HF
8.8	Customs issues a payment receipt and relevant local paperwork, such as a release form indicating whether Health products will be released with no inspection, X-ray scanning or full inspection.	Nigerian Customs Service

8.9	Customs Clearance Officer takes the payment receipt and relevant local paperwork to the airport or ports, clears the item, and collects it. For large orders, Shipping Broker arranges transportation to the warehouse.	CCO
8.10	Additional fees are to be communicated by the Customs Clearance officer to the Head of Finance for the following for payment following the same process above: a. Storage and handling (particularly if the process takes too long). Usually, clearance and transport are expected to take only two days. b. Transportation to the warehouse.	CCO/HF
8.11	For donated items: The FMOH request Import Duty Exemption Certificate (IDEC) from Ministry of Finance and import duty permit from NAFDAC, the two documents are to be forwarded to Nigerian Custom Services for product release.	

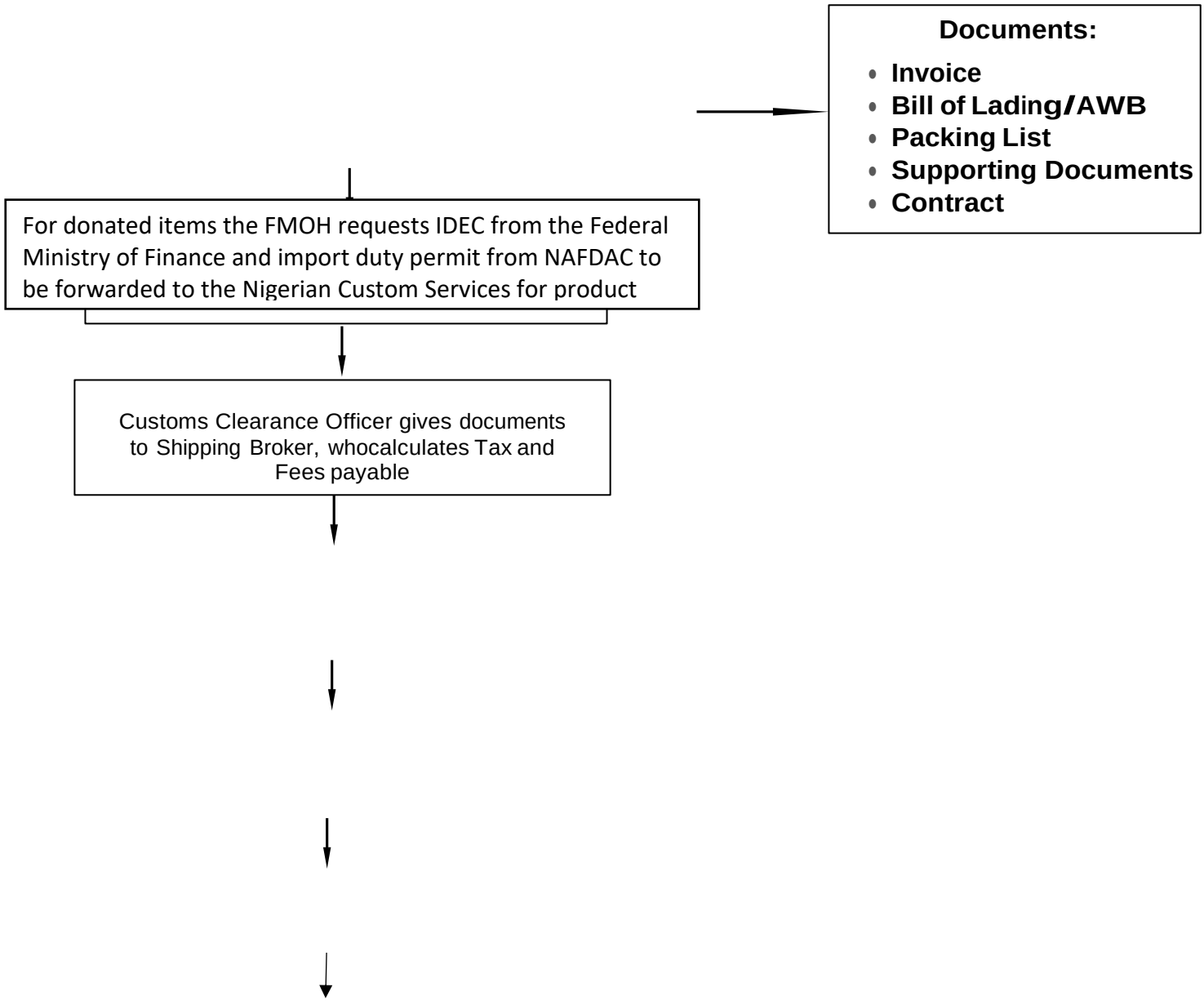
9. Performance Indicators: Customs Clearance

- Proportion of in-bound Health products cleared by customs within 7 days
- On time Delivery
- Custom Clearance Cycle Time
- Error Rate
- Customer Satisfaction Rate

10. Records

- Invoice
- Bill of Lading/AWB
- Packing List
- Supporting Documents
- Contract
- Certificate of Analysis

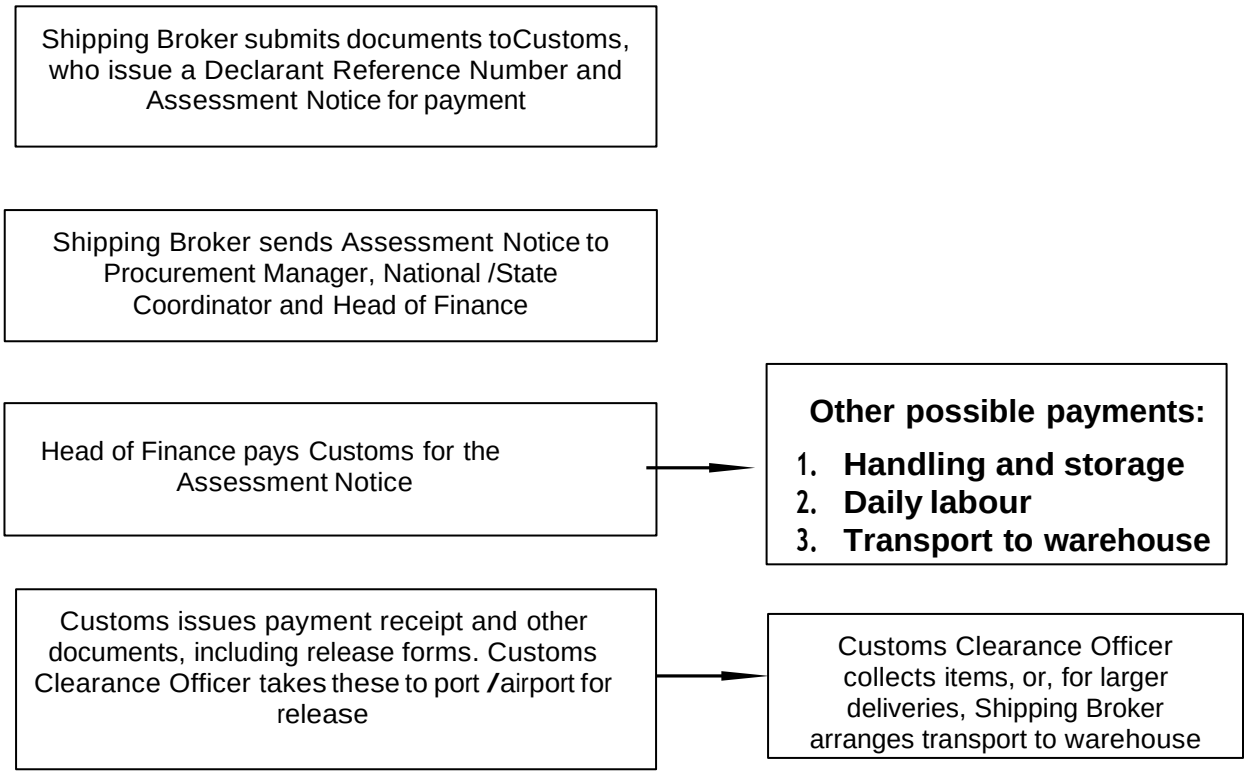
11. **Process Map: Customs Clearance**



Standard

TITLE: SOP FOR RECEIVING OF HEALTH PRODUCTS	
Functional Area: WAREHOUSING	**Date issued:**
Code: : FDS/NPSCMP/WH/SOP	**Revision No: 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 003/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible: SP, WM, PTL, PM, PA, W/SO, IM, RDC, HF, HA, QM, SP, DPS, NSC	

Operating Procedures: Receiving Health products from Suppliers



1. Purpose: To ensure efficient and effective receipt and storage of health products.

2. Scope: This SOP covers the receipt of essential medicines and public health products for warehousing at both Federal, and State warehouses.

3. Definition: Health Products for routine use.

4. Abbreviation:

- ASN: Advance Shipment Notice
- COA: Certificate of Analysis
- DPS: Director of Pharmaceutical Services
- FCMS: Federal Central Medical Stores
- GRN: Goods Received note/Store Receipt Voucher
- HA: Head of Audit
- HF: Head Finance
- IM: Inventory Manager
- ISO: International Standards Organization
- LPO: Local Purchase Order
- NC: National Coordinator
- NPSCMP: National Products Supply Chain Management Program
- NSCIP: Nigeria Supply Chain Integration Project
- NSCP: Nigeria Supply Chain Policy
- PA: Procurement Assistant
- PFI: Pro-forma Invoice
- PM: Procurement Manager
- PO: Purchase Order
- PR: Principal Recipient
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
    - SOP: Standard Operating Procedure
    - SP: Superintendent Pharmacist
    - WM: Warehouse Manager
    - W/SO: Warehousing/Store Officer

5. Reference: Nigeria Supply Chain Policy & ISO 9001:2008
6. Process Owner: SP: Superintendent Pharmacist
7. External Parties: None

Standard Operating Procedure: Receiving of Health Products

No	Guidance	Action Owner

1	Review expected deliveries on a regular basis together with the program team leads/national/state coordinator and notify SP/WM of any outstanding deliveries making references to requisition orders, incoming Health products register and purchase orders at hand.	RDC/W/SO/PTL/ N/SC
2	Make provisions for adequate resources, where applicable, to off-load Health products for any expected delivery	RDC/W/SO
3	Determine which warehouse/bay shall receive specific deliveries i.e. • For Lab, Cold Chain Health Products and other related products need to ascertain adequate space in the cold rooms before-hand • Keep an updated record of free pallet positions in the warehouses always • For automated warehouse management information system, bin locations are automatically assigned	IM/W/SO
4	Liaise with PTL/national/state coordinator, Head of DMA or any other relevant authority to schedule deliveries to the identified warehouse and indicate desired delivery times to the 3PL	RDC/W/SO/N/SC
5	Receive supplier's documents that MUST include the following; • Imported consignments: Advance Shipment Notice (ASN), Airwaybill, Bill of laden, packing list, Certificate of analysis (COA), international commercial terms (incoterms) for each batch where applicable and Clearing agent's delivery notes • Local Consignments: Local Purchase Order, packing list, Certificate of analysis (COA) for each batch where applicable and Supplier's delivery notes contract award letter, contract agreement, intent to supply.	RDC/W/SO
6	For Imported consignments, crosscheck and ensure that the delivery note tally with approved order/PFI and all item specifications. For local consignments, the local purchase order should include item description,manufacturer, strength, pack size, and quantity by each line item, batchnumber, dosage form and expiry date	RDC/W/SO
7	Raise a query if the supplier documents do not match the approved PFI or local purchase order and forward to the relevant program or entity for immediate follow-up.	RDC/W/SO
8	• Offload products from vehicle and stack them neatly onto pallets in the receiving bay, ensuring that each batch is placed on a separate pallet • Look out for partially filled cartons, fill them with loose packs of the same batch, and relabel the carton as FULL. • Put away and arrange products according to program, or in an approach that will make tracking and tracing a seamless process • Update incoming ledger, ensure that bin cards are raised for new products while updated for existing stock • Raise a store receipt voucher (SRV) for only quantity received	RDC/IM

No	Guidance	Action Owner
9	• In case of cold chain items, offload Health products from refrigerated vehiclewith ice packs • Open each box to verify that products have not deteriorated or incomplete before receiving. • transfer to the cold room ensuring that each batch is placed on a separate pallet/location	RDC/IM
10	Check that the health products match with the approved PFI or local purchase order in terms of, • Item Description and Unit of measure • Quantity per box (Open each sample box (1 out of 10) forrandom sampling to verify the content).	RDC/W/SO
11	In all cases of missing items, fill out a query form, endorse and forward to PM/SP/WM for follow up.	RDC/IM
12	Assess the quality of items received using a preliminary QualityAssessment Checklist that should focus on • Batch numbers are available and visible • Labeling is appropriate • Certificate of Analysis from the manufacturer is available for each batch received. • Expiry date of each item is acceptable – refer to the NSCP on **Shelf-Life limits.** • Contents match item description: Open one container per consignment to check that contents represent the item description on the label about appearance and fill volume.	IM/QM
13	Record discrepancies and reject or quarantine defective/non-compliantHealth products: • Reject defective/non-compliant Health products from local suppliers /shipmentsource. • Quarantine defective/non-compliant Health products from foreign suppliers/shipment source pending follow-up, re-export, or destruction.	IM/QM
14	Generate a GRN/SRV and enter the details of compliant and/or non- compliant received items (including quarantined rejects) where applicableand forward to SP/WM for approval.	RDC/W/SO
15	Confirm the information entered on the GRN/SRV against the deliverynote; and conduct additional verification as deemed necessary prior toapproval.	RDC/IM
16	Inform the procurement entity/PM immediately in case of rejection ofproducts by indicating the same on the purchase order.	RDC/IM/PM

17	Endorse Delivery note to confirm that Health products have been received in rightquantity and state. • Separate and retain copies, give the supplier or supplier representative their copies. • Write any anomalies observed on the delivery note if any	RDC/W/SO

No	Guidance	Action Owner
18	In case of partial rejection of consignment, endorse Delivery notes only after details of the rejected items and quantities have been included	RDC/W/SO
19	Use a copy of the invoice to make entries into WMIS	IM/W/SO
20	File copies of the approved PFI or LPO obtained from PA, Invoice, GRN/SRV and send originals to accounts.	W/SO/HF
21	Use the approved PFI and GRN/SRV to complete the order entry in the computerized system.	W/SO/HF
22	Approve hard copy of GRN/SRV	SP

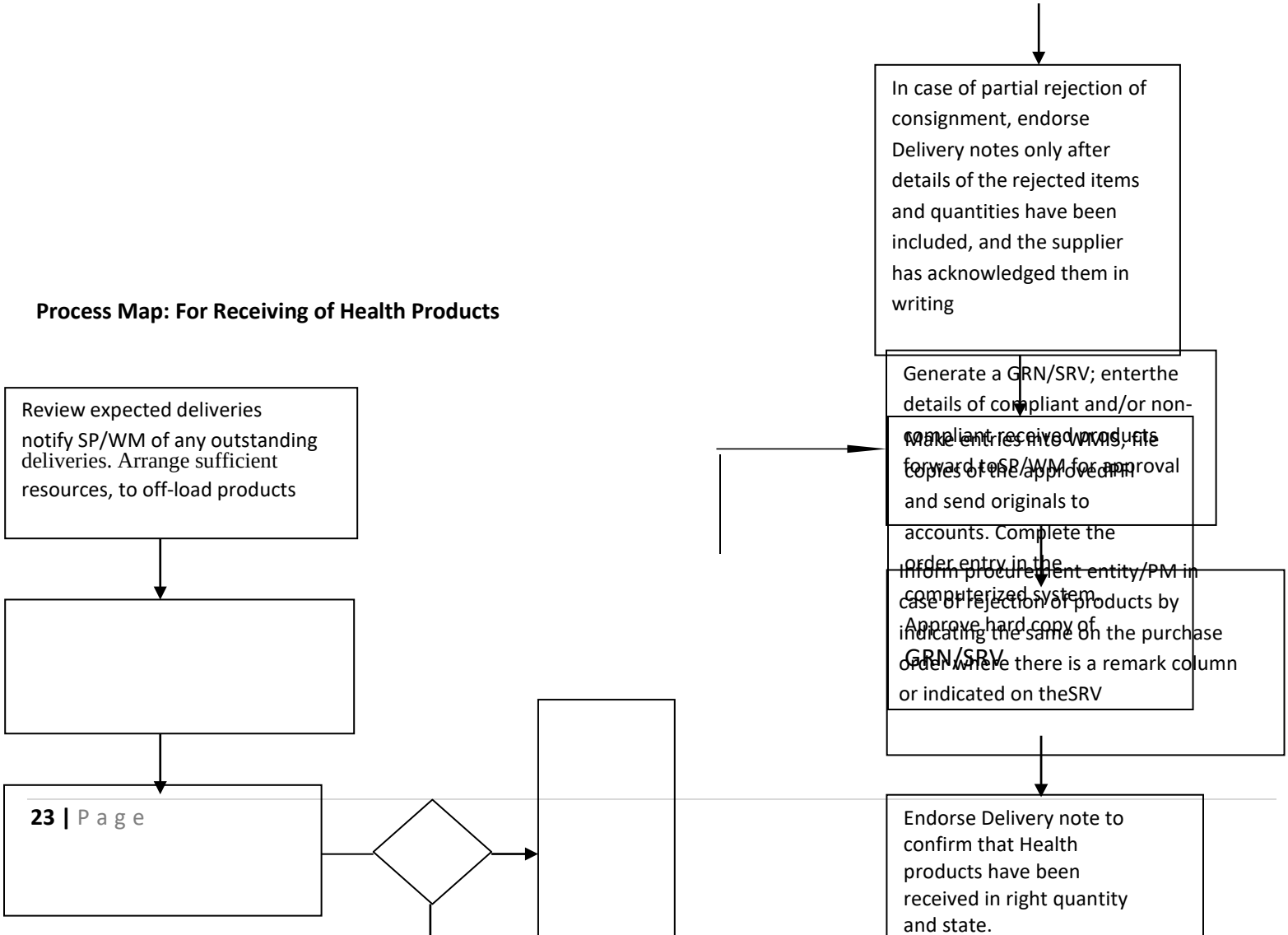
Records Required:

1. Discrepancy Form
2. Quality Assessment Form
3. Goods Received Note (GRN)/Store Receipt Voucher (SRV)
4. Purchase orders
5. Delivery Note

Performance Indicators:

- **Lead Time Reduction** (Metric: The average number of days it takes a supplier to deliver the goods after an order is placed.
- **Defect Rate** (Metrics: The number of orders containing defective products divided by the total number of orders placed)
- **Order Accuracy Rate** (Metric: The number of orders delivered with 100% accuracy divided by the total number of orders)
- **Availability Rate** (Metric: The number of times a supplier was able to fulfill an order divided by the total number of orders placed with them)
- **Competitiveness (**Metric: Price of an order placed with one supplier compared to an alternative supplier)
  1. Expected deliveries reviewed on a weekly basis.
  2. Adequate resources available to receive consignments
  3. Zero errors in the exact receiving warehouse or receiving bay for the consignment.
  4. Any queries raised must be resolved within 24 hours
  5. Health products stocked neatly onto pallets
  6. Correct placement of Health products in the warehouse with respect to the WMIS.
  7. Approved PFI and GRN/SRV to complete the order entered in the computerized system on the same day of receipt of the health products and within 24 hours if any queries were raised.

Process Map: For Receiving of Health Products



Determine which warehouse shall receive specific deliveries, schedule deliveries to the identified warehouse

Raise a query and follow-up with the PM/SP/ WM

No

Receive supplier's documents, cross check, and ensure that they tally with approved PFI

Yes

Offload products ensure that each batch is placed on a separate pallet. In case of cold chain items, transfer to the cold room

In all cases of missing items, fill out a query form, forward to Procuring Entity/PM for follow up

Assess the quality of items received using the Quality Assessment Checklist

Record discrepancies and reject or quarantine defective/non-compliant products

Standard Operating Procedure: Inventory Management

TITLE: SOP FOR STACKING	
Functional Area: WAREHOUSING	**Date issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 004/024	**Effective Date:**

Next Review Date:
Person(s) Responsible: RDC, WA, WM, W/SO

1. **Purpose:** To ensure appropriate and careful stacking of commodities and to maintain the stability of stacks, maximize the use of space, facilitate stocktaking and prevent damage or loss to Health products being stored.

2. **Scope:** This SOP covers clearance of routine and public health products from the seaport or airport for warehousing at both Federal and State warehouses.

3. **Definition:** Health Products for Routine use.

4. **Abbreviation:**

- **RDC:** Receiving & Dispatch Clerk
- **WA:** Warehousing Assistant/Checkers/Pickers/Causal officers
- **WM:** Warehouse Manager
- **W/SO:** Warehousing/Store Officer

5. **Reference:** Standard Operating Procedures (SOP) for warehouse and Inventory Management: UNHCR

6. **Process Owner:** Warehouse Manager

7. **External Parties:** None

8. **Standard Operating Procedure: Stacking**

No	Guidance	Action Owner(s)

1	**Stability** • Never store Health products directly on the warehouse floor. Elevate to avoid moisture. Product should be stored 10cm above floor level, 30cm away from the wall and not more than 2.5m height. • Never store Health products directly against walls, pipes, or supports as stacks place stress on the structures, will hamper access and could expose Health products to moisture. • Place the product and then stack it on level and smooth floors to prevent the product from falling over. • Stack the product up to the edge of the pallets and position it in bonded or interlocked stacks to increase stability of the product and prevent it from falling over. •	WM, W/SO, WA, RDC
2	**Stacking order** • Keep different items, packages, and consignments in different stacks. • Ensure all commodities with expiry date are arranged based on FEFO principles. • Ensure all commodities without expiry date are arranged based on FIFO principles. • The maximum height of stacks depends on the type of Health products and their packing, ensure safe storage and handling for warehouse workers. • Do not stack the product higher than 2.5 meters to protect the product. This is a general rule, but if you have very heavy products, like liquids, you may need to stack your boxes lower to prevent the weight from crushing or reducing the quantity in the package. In addition, stacking higher than 2.5 meters is a safety concern.	WM, W/SO, WA, RDC
3	**Light and ventilation** • Stack the product at least 30 centimeters (about 11.81 in) from the wall and other stacks to allow for ventilation	WM, W/SO, WA, RDC
No	**Guidance**	**Action Owner(s)**

4	**Damaged Health Products** • Stack damaged Health products separately. • Do not mix different types of damaged Health Products together. • All damaged Health Products should be properly labelled.	WM, W/SO, WA, RDC
5	**Open areas** • Store fuels, lubricants and other hazardous substances in a dry store with appropriate safety measures.	WM, W/SO, WA, RDC
6	**Bottles and Cans** • Stack packages containing cans or bottles upright.	WM, W/SO, WA, RDC
7	**All Healthcare Products** • As a general principle, stack Health products in their smallest possible units, to simplify later distribution.	WM, W/SO, WA, RDC
8	**Availability of Pallets** • Note that if pallets are not available, suppliers will provide commodities pelletized.	WM, W/SO, RDC

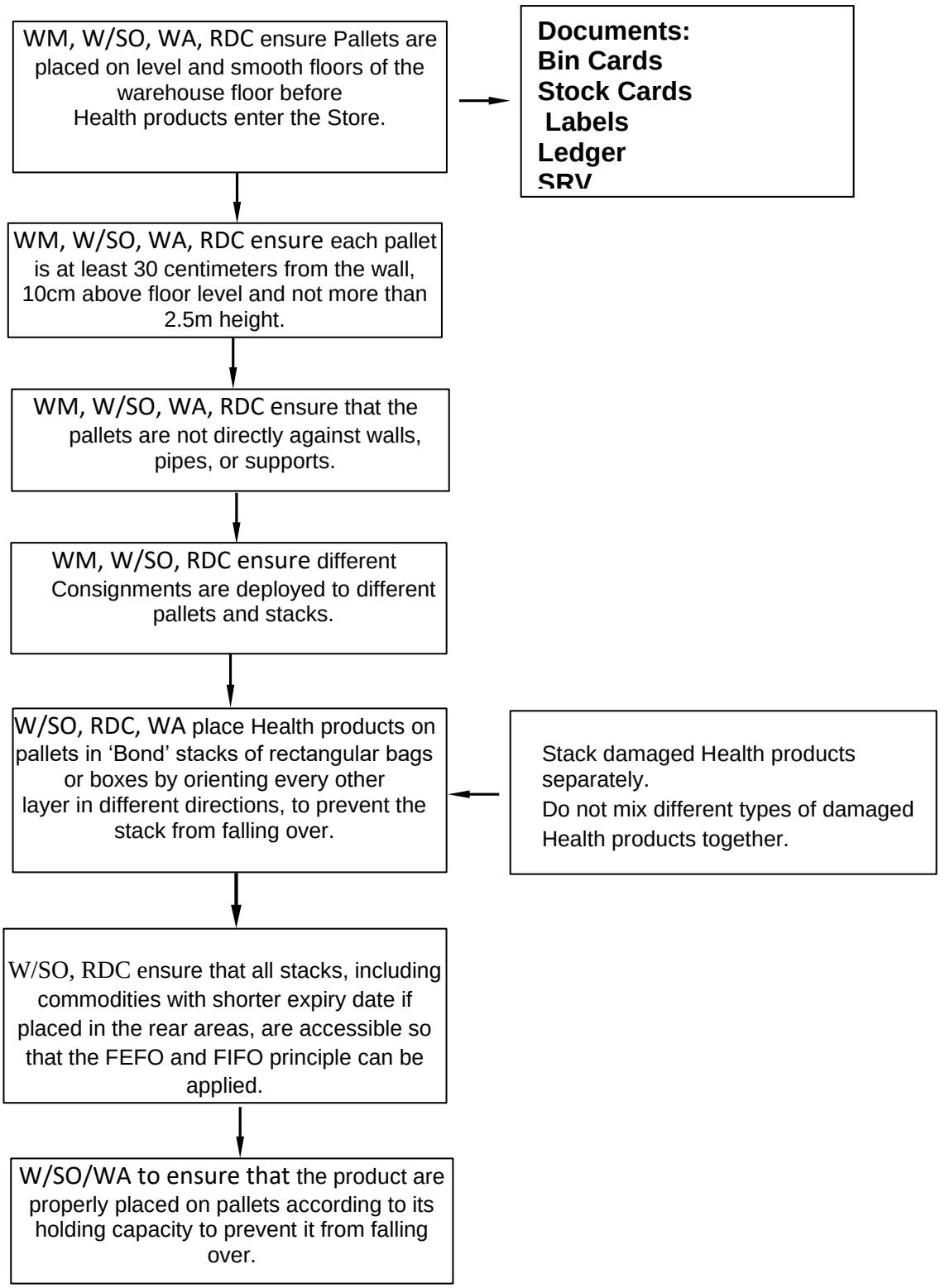
9. Performance Indicators: Stacking

- Health Commodities stacked in an organized manner in the warehouse
- Health commodities stacked within the recommended height

10. Records

- Documents
- Bin Cards
- Stock Cards
- Labels
- Temperature and relative humidity monitors

11. **Process Map: Stacking**



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR MONITORING PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No.02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 005/024	**Effective date:**
Next Review Date:	
Person(s) responsible: SP, WM, W/SO, PTL, IM, HF, QM, PM, RDC, N\SC	

1.PurPurpose: To track fast moving, slow moving, obsolete, deteriorated, damaged and expired, , products for informed decision.

2. Scope: This procedure covers activities aimed at ensuring that products are properly located, tracked and traced. Stock wastage (expiry, damage, pilfering) is proactively monitored and obsolete items are properly managed.

3. Definitions:

- Slow moving products: Products that have not registered an issue in a period greater than 6 months
- Fast moving products: Products that are frequently issued
- Superseded products: Products still with sufficient shelf life that are no longer fit for usedue to changes in treatment guidelines, scientific discovery; recall instructions etc.

4. Abbreviation:

- HF: Head Finance
- IM: Inventory Manager
- NC: National Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehouse Assistants
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehouse/Stores Officer

5. References: NAFDAC Regulations**,** ISO 9001:2008**,** WHO Good Storage practice and Expiry Date Policy

6. Process Owner: Warehousing/Store Officer

7. External Parties: None

8. Standard Operating Procedure: Monitoring Products

No	Guidance	Action Owner
1.0	**Product quantity, location, and lot tracking information**	
1.1	Use WMIS to track all product locations, batch numbers and expirydates.	W/SO
1.2	Receive and investigate reports from stock checkers on all stock discrepancies (e.g., stock not found on location, wrong stock on location, or wrong batch numbers and expiry dates)	W/SO
1.3	Use the empty bins list generated from the WMIS toIdentify wrongly located items (bins appearing as empty in the system but physically not empty or vice-versa)	W/SO/IM
1.4	Correct relative discrepancies appropriately through: • Physical movement of stock to correct locations • Movement of stock in the inventory management system to correct locations • Revision of batch numbers, expiry dates and manufacturer information	W/SO/IM
1.5	Correct absolute discrepancies (mismatch between total physical inventory value for a product versus inventory management system value) after physical count i.e. • Raise a positive or negative adjustment and a request forstock adjustment • Forward to SP/WM and HF/HA (head account) for approval • Forward to accounts for registration and posting • Post stock in the inventory ledger • Receive copy back from accounts and put-away	W/SO/IM W/SO/IM
2.0	**Monthly Expiry Date Survey**	
2.1	Prepare from the WMIS, a monthly expiry report, indicating which products are likely to expire before issue/use and counter measures to be discussed during review meetings	W/SO/IM
2.2	Cross check physical stock against expiry report to confirm and share report including suggested actions with SP/WM	W/SO/IM
2.3	Review and confirm actions to be taken	SP/WM

2.4	Flag items with shelf life of less than three months. (Refer to Procedure for managing Short-dated products.	SP/WM/HF
2.5	Flag products recommended for donation using the SOP for	HF/SP/WM

No	Guidance	Action Owner
	issuing stock from warehouse for other uses.	
3.0	**Fast moving, slow moving and obsolete items**	
3.1	To track and write reports monthly to trigger replenishments.	WM/IM
3.2	Generate a quarterly report from the computerized system for products that have not been issued for 6 months.	W/SO/IMC
3.3	Analyze the report for slow moving products and decide on the most appropriate course of action	SP/WM
3.4	Write-off products recommended where applicable	PE/HF/SP/WM
4.0	**Visual inspection**	
4.1	Carryout periodic visual inspection to identify damaged, expired, and unusable products, then prepare an inventory report and submit to SP/WM	W/SO
4.2	Review and recommend for disposal in line with the disposal procedure for damaged, expired, and obsolete products	SP/WM
4.3	Monitoring is completed when transfers or write-offs are done for all slow-moving, expired, damaged and obsolete products for subsequent donation or disposal after approval.	PE/HF/SP/WM/W/SO

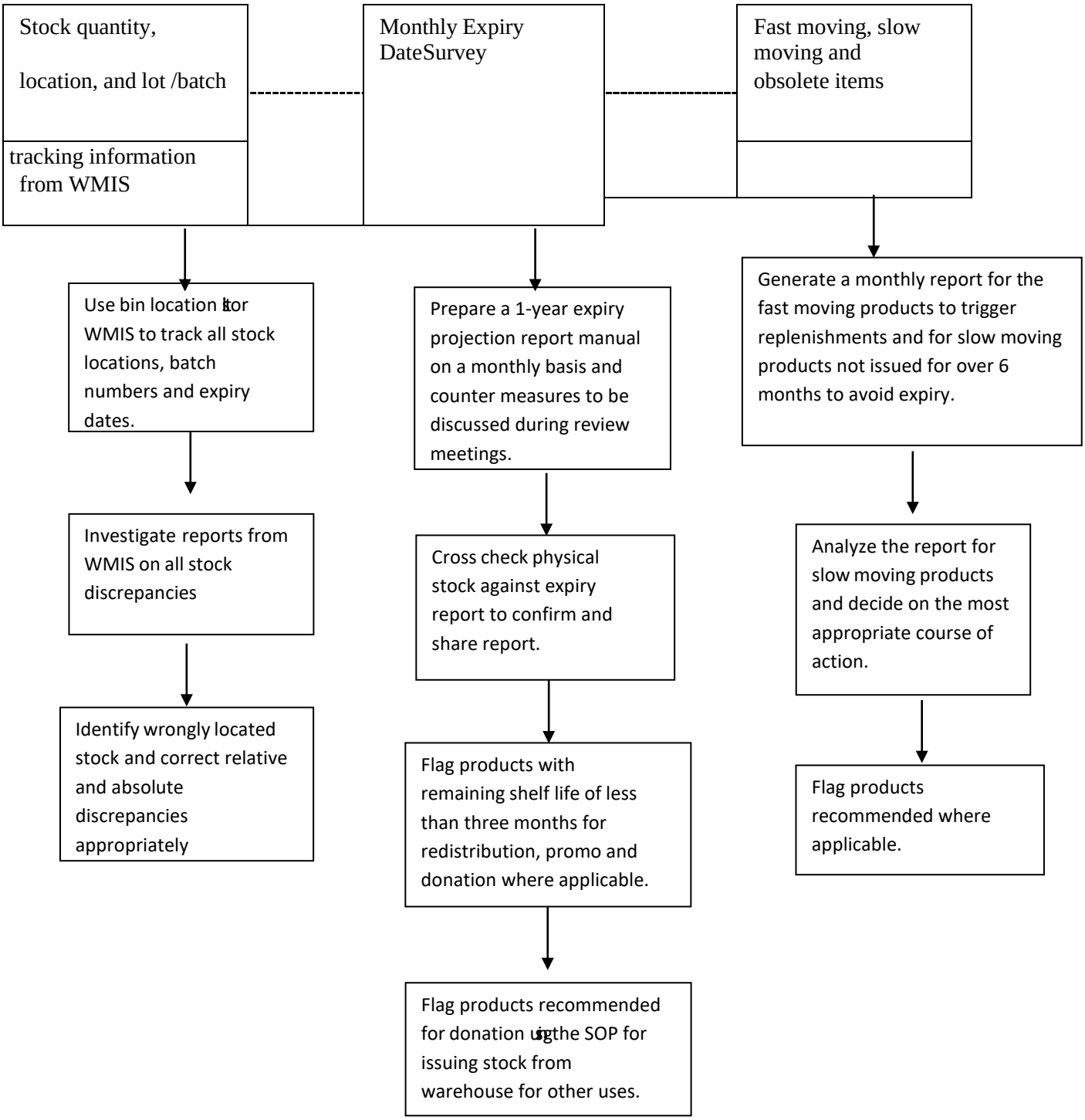
8. Performance Indicators:

1. All products, locations, batch numbers and expiry dates conform to WMIS records.
2. Timely reports on fast moving slow moving, short dated, obsolete, and expired products monthly.
3. All unusable (expired and damaged) products are sorted, well labelled and placed in designated areas
4. Inventory accuracy/cycle count

9. Records:

- Stock adjustment inventory ledger
- Expiry Projection Report
- Stock Discrepancy Report
- Bin List
- Stock count reports

Process Map: FOR MONITORING STOCK



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR PHYSICAL INVENTORY	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 006/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: SP, WM, W/SO, PTL, IM, HA, HF, QM, WA, PM, RDC, NC, WA	

1. Purpose: To describe all activities to be conducted during physical inventory to ensure accurate physical counts; proper stock reconciliation; and management of discrepancies.

2. Scope: This procedure covers all the activities involved in physical inventory from the preparation stage through to implementation.

3. Definitions: physical inventory is the physical count of all stocks in the warehouse within a defined period.

4. Abbreviation:

- HA: Head of Audit
- HF: Head Finance
- IM: Inventory Manager
- NC: National Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer

5. Reference: ISO 9001:2008

6. Process Owner: Warehousing/Store Officer/Inventory Manager

7. Standard Operating Procedure: Physical Inventory

No	Guidance	Action Owner
1.0	**Physical inventory program**	
1.1	Prepare a detailed stock take schedule outlining • Activities to be carried out and their time frames • Counting teams, team leads, reconciliation, registration, investigation, and other groups	W/SO/IM
1.2	Share the Schedule with SP/WM and HF for review prior to circulation	W/SO/IM
1.3	Circulate the program to relevant staff after approval from SP/WM	W/SO/IM
2.0	**Preparations for stock take (1 week before)**	
2.1	Liaise with procurement entity/PM to confirm that no product (local and foreign) will be delivered within the week before and during the stock take to facilitate final clearance for the exercise. Exceptions can be considered for life-saving commodities with proper arrangement made so as not to disrupt the exercise.	W/SO/IM
2.2	Identify an area where products coming in as an exception shall be stored and clearly labeled.	W/SO/RDC
2.3	Clear up and enter all orders for received and returned products; and ensure that all products in the receiving bays are put away.	W/SO/RDC
2.4	Ensure that the store is neat, tidy and in good order to facilitate counting. • Label and properly arrange stock in locations • Label all storage locations	W/SO/IM/WA
2.5	Ascertain that empty bins (system report) are physically empty and if not, appropriate corrections are made. Refer to SOP for monitoring.	IM/WA
2.6	Ensure that all outstanding stock adjustments are affected; all expired and damaged products are sorted out, labeled and moved to the designated areas.	W/SO/IM
2.7	Ensure that all customer orders, shipments are cleared • Ensure all picked products are invoiced or cancelled and appropriate remarks made. • Ensure that, for cancelled pick lists, all products are returned to respective locations/bins	W/SO/IM
2.8	Physically check the dispatch bay to ensure that all products are properly labeled accordingly as customer orders and are invoiced or else returned to Bin.	W/SO/RDC
2.9	Print a bin content list and cross check that stocks are in correct physical locations as compared to the inventory management system. Refer to SOP for monitoring.	W/SO/IM
2.10	Conduct a mock physical count and make the necessary adjustments	W/SO/IM

3.0	**Physical counting (gazette day)**	
3.1	Conduct a brief meeting for stock take staff to clarify any issues and share	W/SO/IM
No	**Guidance**	**Action Owner**
	previous experiences	
3.2	Print counting sheets & distribute to the various teams	HF/IM
3.3	Obtain pens, clipboards, markers, writing materials, cello tape and calculators fromAdministrative Assistants	Teams
3.4	Physically identify and count products by location in a sequence and record results against the correct stock on counting sheets provided. • Take note of product description and units of measure • Take note of pack sizes • Take note of quantities per carton • Take note of partially filled cartons and loose packs • Take note of any mix-ups	Teams
3.5	Record any expired or short expiry (< 6 months) and damaged products on the extra sheets provided.	Teams
3.6	Record any products not found on the counting sheets on the extra sheets provided	Teams
3.7	Conduct a second count for products that do not tally with first count • Deploy a different counting team • Use a fresh counting sheet	Teams
3.8	Conduct a third count for items where the first and second count do not tally • Deploy a different counting team • Use a fresh counting sheet	Teams
3.9	Generate a variance report for all locations where the third count has been completed • Attach a list of expired and damaged products • Attached a list of near expiries for re-distribution, promotion and donation • Attach a list of products not found on the counting sheets	W/SO/IM
3.10	At the end of physical inventory, update all inventory control cards with physical quantity counted.	
4.0	**Investigation of discrepancies and posting**	
4.1	Print inventory at hand report (stock status report) for use to investigate variances	W/SO/HF
4.2	Investigate products with a significant variance	W/SO/IM

4.3	Make changes on variance reports where necessary and endorse	W/SO/IM
4.4	Check variance reports against counting sheets, provide justification if any, and ensure correct entry and endorse	HF/SP/WM
4.5	Forward variance reports to SP/WM for approval and copy HF/HA	W/SO/IM
5.0	**Stock Adjustments**	
5.1	Check and approve the results of the count and forward for computer entry	SP/WM
No	**Guidance**	**Action Owner**
	and update bin card explaining any difference in stock. • If there is a query send back to W/SO for further investigations • If no query approves the results of the physical count	
5.2	Input physical count results into the financial management system	HF
5.3	Print test report	HF
5.4	Check test report against physical count sheets	SP/WM
5.5	Forward test report for posting	SP/WM
5.6	Prepare and post stock in inventory ledger/register	HF
6.0	**Random Physical Count**	
6.1	Identify products that require random physical count • Products that present a problem • Products of which stock happens to be very low, and which caneasily be counted • Products that are out of stock, to confirm that nothing is remaining • Products that are of high value • Products that are of high black-market value • Products that are easily mixed up e.g. similar packaging different strength • Products that have short shelf life (6 months) • Products that deteriorate easily	W/SO/IM
6.2	Prepare appropriate count sheets and instruct WA to count	W/SO
6.3	Count stock, record physical quantities and forward to IM for verification	IM
6.4	Verify counts and raise queries, if any, for W/SO to follow up	IM
6.5	Check variance reports against counting sheets & investigate stock with a significant variance to ensure correct entry.	W/SO

6.6	Make changes on variance reports and provide justification where necessary and endorse	W/SO/IM
6.7	Forward justified variance reports to SP/WM through HF for approval	W/SO
6.8	Follow steps 5.1-5.6 above, in effecting stock adjustments ***The process is completed when all variances are posted/submitted***	W/SO/HF

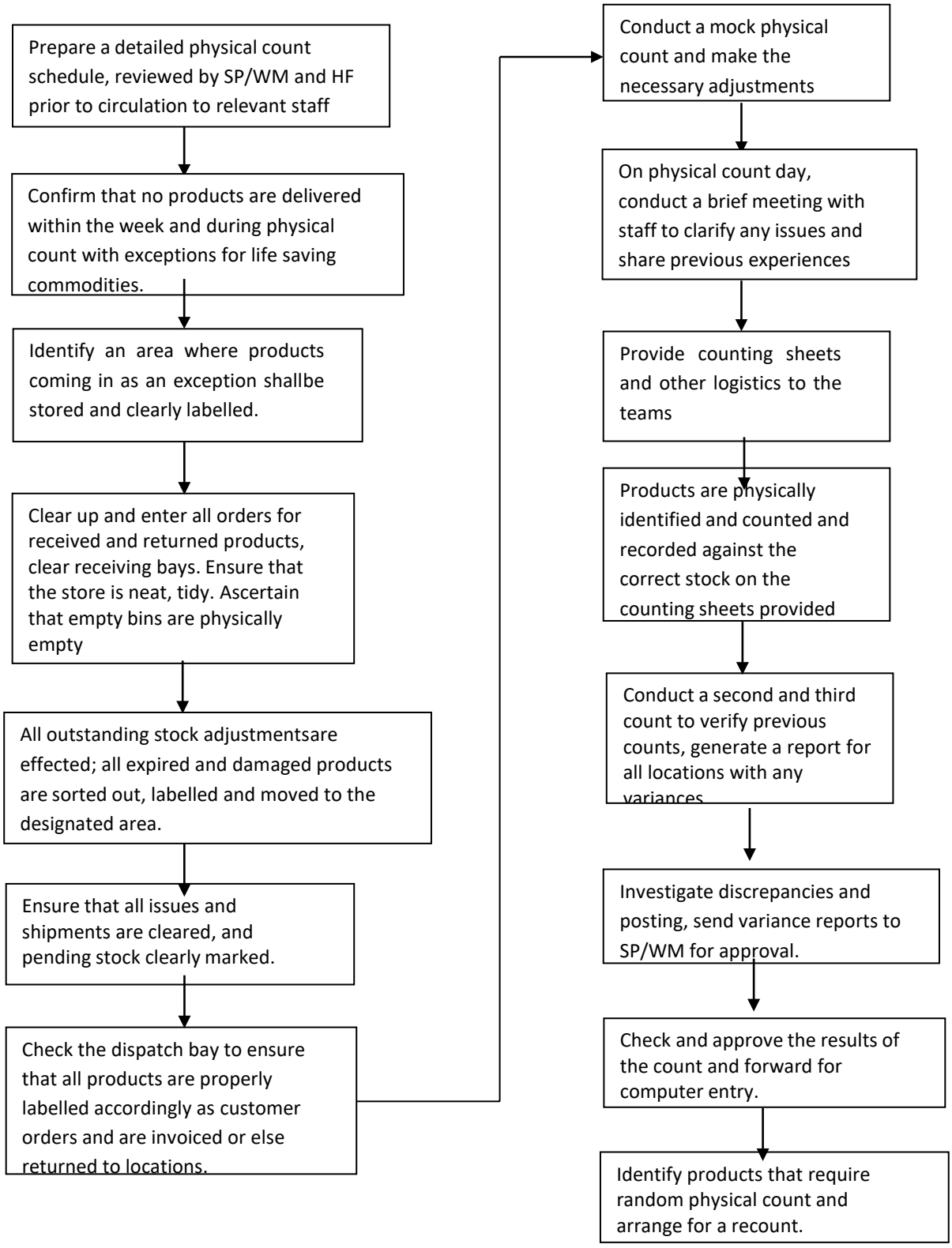
9. Performance Indicators:

- Aging inventory (Metric: average cost of goods sold ÷ avg. Inventory] x 365= Average Inventory Age)
- Dead stock, spoilage (Metric: Dead stock = (unsellable goods / total goods) x 100%)
- Inventory days on hand (Metric: Days sales of inventory = time period / inventory turnover)
- Accurate physical counts;
- Proper stock reconciliation;
- Management of discrepancies in line with approved strategies;
- Full stock count in a warehouse should be conducted at most 48 hours.

10. Records:

- Physical count schedules (monthly, bimonthly, quarterly, biannually, and annually)
- Counting sheets
- Inventory register/ledger
- Bins content list
- Inventory at Hand Report
- Stock Variance Report
- Reconciliation report
- Transaction report (Opening balance, inbound, outbound and adjustment and closing balance for the period under review)
- Wastage report (expiry, damage and loss to theft)

11. Process Map: Physical Inventory



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR ROUTINE INSPECTION OF STORED PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No.**02
Prepared by: NPSCMP	**Approved by:** NC
SOP No: 007/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: NC, SP, WM, QM, W/SO, PTL, IM, HF, WA, PM, RDC	

1. **Purpose:** To provide guidance during routine inspection of stored products to assess compliance with Good Storage Practice (GSP).
2. **Scope:** This procedure covers all activities related to inspection of stored products for quality to assess compliance with Good Storage Practice.
3. **Definitions**: GSP-refers to the WHO best practices for storage of pharmaceutical productsand related health commodities
4. **Abbreviation:**
   - **HA:** Head of Audit
   - **HF:** Head Finance
   - I**M**: Inventory Manager
   - **NC:** National Coordinator
   - **PM:** Procurement Manager
   - **PTL:** Program Team Leads
   - **QM:** Quality Manager
   - **RDC:** Receiving & Dispatch Clerk
   - **WA:** Warehousing Assistant/Checkers/Pickers/Causal officers
   - **SP:** Superintendent Pharmacist
   - **WM:** Warehouse Manager
   - **W/SO:** Warehousing/Store Officer

5. Reference: WHO best practices for storage of pharmaceutical products and related health iscommodities.

6. Process Owner: IM/W/SO: Inventory Manager & Warehousing/Store Officer

7. External Parties: None **8. Standard Operating Procedure: Routine Inspection of Stored Products**

No	Guidance	Action Owner
1.1	Identify the bins or storage locations you would like to assess for GSP. (Assess all bins at least once a week) The warehouse manager also needs to inspect the warehouse atleast twice a month for compliance	W/SO/IM (weekly) SP/WM (by weekly)
1.2	To ensure a clean, safe and world class work environment adopt the 5S principle: Sort Set in Order Shine Standardise Sustain Refer to 5S check list	WM/SO (daily)
1.2	Identify a reference bin or storage location and assess in order without skipping any bin or storage location using a storage check list • Check that the bin is properly labelled and contains the right products • Check that the expiry dates and batch numbers correspond to those in the inventory management system • Check that First-Expiry-First-Out and FIFO are followed when issuing stock • Check that product labels are intact • Check for damages and leakages • Identify expired products • Check that all products are neatly placed on pallets with labelsfacing the aisles • Check that the pallets are still fit for use • Check that cold chain is maintained • Check utilities and layout • Check equipment	W/SO/IM (weekly) SP/WM (Monthly)
1.3	Record your observations for each bin and bin content	W/SO/IM (weekly) SP/WM(Monthly)
1.4	Share the assessment report with SP/WM in case of W/SO/IM highlighting areas for corrective action.	QM/W/SO (weekly)
1.5	Arrange to have the corrective actions implemented within 24-72hours of receipt of the assessment report.	W/SO/SP/WM/QM
1.6	Follow up corrective actions with W/SO/IM to ensure implementation	SP/WM/QM

9. Performance Indicators

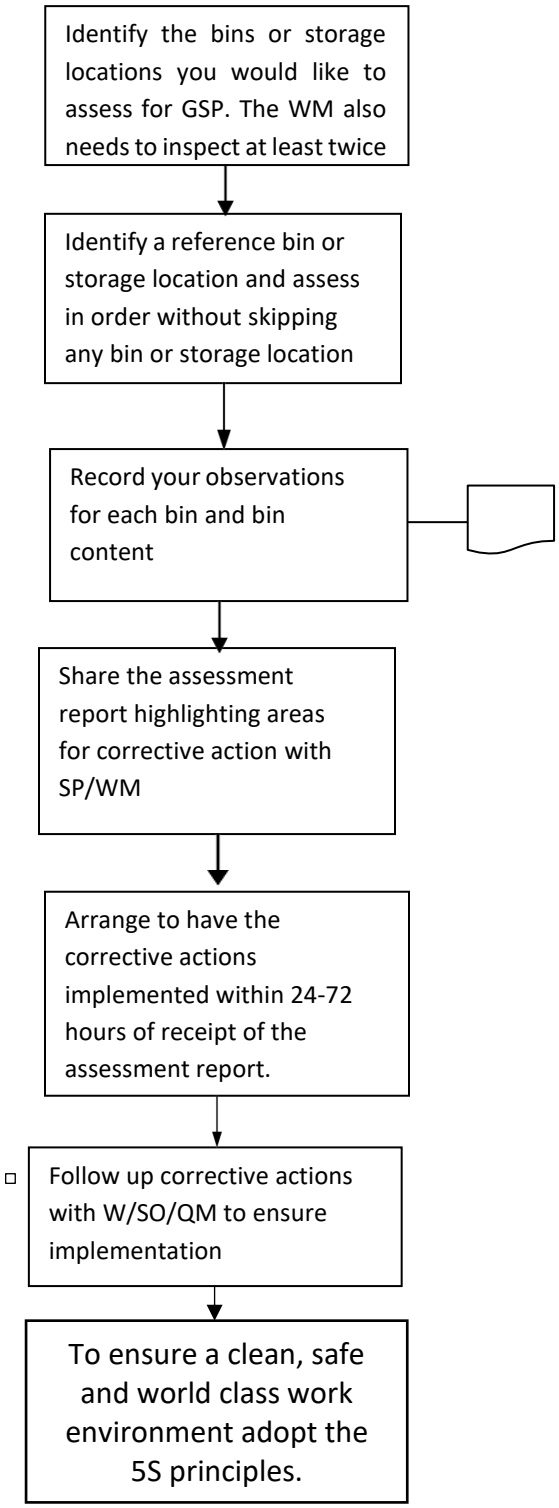
- Routine inspection takes place weekly.

- The storage locations should contain the right products.
- Expiry dates and batch numbers correspond to those in the inventory management system.
- First-Expiry-First-Out and FIFO are followed when issuing stock.
- Product labels are intact.
- Damages and leakages are identified in a timely manner.
- Expired and short dated products are identified.

10. Records:

- Stores Inspection Checklist
- Assessment report
- 5S check list

Process Map: For Routine Inspection of Stored Products



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR HANDLING COLD CHAIN PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 008/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: NC, SP, WM, W/SO, PTL, IM, HF, RDC, WA, QM	

1.

Purpose: To maintain the cold chain of health products through receipt, storage, handling.

2. Scope: This procedure covers all activities involved in maintaining a cold chain of health products.

3. **Definitions**: Cold Chain is defined as the continuous process through which stock, which needs to be refrigerated at temperatures normally ranging between 2 degrees Celsius and 8 degrees Celsius, is received, stored, picked, packed, checked, and distributed.

4. Abbreviations:

- HF: Head Finance
- IM: Inventory Manager
- 3PL: Third party logistics
- PM: Procurement Manager
- NC: National Coordinator
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers/Pickers/Causal officers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer

5. Reference: NAFDAC Regulations, NSCIP/WH/SOP/01, Manufacturers product handling guidance, ISO 9001:2008

6. Process Owner: IM: Inventory Manager

7. External Parties: 3PLs

8. Standard Operating Procedure: Handling Cold Chain Products

No	Guidance	Action Owner
1.0	**Receiving of cold chain items**	
1.1	Ensure that cold chain monitoring devices are intact before receiving cold chain products as per procedure for receiving products (SOP001/01).	W/SO/RDC
1.2	Ensure temperature logging device are in good working condition as to maintain the cold chain	RDC
1.3	Check for temperature excursions (Temperature monitoring devices that accompany cold chain products)	RDC
1.4	If the cold chain has been maintained up to the point of delivery go to step1.6	RDC/IM
1.5	If the cold chain has NOT been maintained up to the point of delivery go tostep 2.1	RDC
1.6	Transfer cold chain products immediately into the cold room i.e. within 15 minutes of receipt of the items.	RDC
2.0	**Handling Temperature Deviations on Receipt**	
2.1	Segregate the affected products and keep in the cold room quarantine.	W/SO/WA
2.2	Report any temperature deviations to the SP/WM	W/SO/PTL
2.3	Share copies of the invoice, packing list, GRN/SRV, certificates of analysis and temperature chart or monitor with SP/WM	W/SO/PTL
2.4	Consult the thermo-stability tables for the respective products and provide guidance on handling the products.	SP/WM
2.5	Reject locally supplied cold chain products immediately if temperatures are out of recommended range	SP/WM
2.6	Reject internationally supplied cold chain products, but retain in cold room quarantine as re-export or destruction is being organized	SP/WM
2.7	Re-export or destroy as per NAFDAC Guidelines respectively	SP/WM
3.0	**Monitoring cold room temperatures**	
3.1	Store all cold chain products at between +2 Degrees and +8 DegreesCelsius	W/SO/WA
3.2	Obtain cold room temperature report every week by printing and tracking the temperature chart from the temperature monitoring device (e.g. i-button)	W/SO
3.3	Reset/calibrate temperature monitoring system (where applicable) as per the recommended manufacturers guidelines or refer to the SOP on equipment maintenance and calibration	W/SO
No	**Guidance**	**Action Owner**
3.4	Ensure that temperature monitoring device is connected to an alarm system always to notify SP/WM, maintenance personnel responsible when the temperature goes out of the selected range.	W/SO

3.6	Complete a storage temperature deviation from every time an alarm goeson. If the alarm continues beyond 5 minutes, notify the maintenance unit/engineering firm immediately.	W/SO
3.7	Share completed deviation form with SP/WM for information	W/SO
3.8	Arrange emergency evacuation to a pre-identified back-up warehouse within 4 hours of consistent breakdown of the cold room as per SOP 010/01 for emergency evacuation of cold chain products.	W/SO/SP/WM
4.0	**Transportation of cold chain products in non-refrigerated vehicles**	
4.1	Transport all cold chain products at between +2 degrees and +8degrees centigrade.	WSP/3PL
4.2	Keep ice packs in freezers and the cold rooms always for purposes of emergency evacuation and relocation; and normal delivery of cold chain products.	W/SO /WA
4.3	Maintain cold chain using the validated number of ice packs in every standard box	W/SO /WA
4.4	Complete a notification of dispatch and delivery temperature form before products are removed from the cold room for dispatch.	WA
4.5	Use temperature monitors during transportation from the warehouse to health facilities.	W/SO/3PL
4.6	Attach freeze tag for products that must be protected from freezing. • The freeze tag used is pre-activated and must have a tick to showthat it has never been exposed to freezing temperatures. • If products freeze in transit the indicator will show an irreversible X. • If there is an X on the indicator at delivery the customer should indicate this on the log sheet before receiving the product. • The products should be kept under cold chain until a decision is made by the program and communicated to health facility on the suitability for use.	W/SO/3PL
4.7	During transportation, products that should be protected from freezing shouldnot be in direct contact with frozen icepacks. • Only ice-packs from the cold-room, stored between +2 degrees and +8 degrees centigrade should be placed near the products. • The ice packs should be placed in the outer layer. • The freeze tag should be placed on or between the products	W/SO/3PL
4.8	Document the delivery temperatures and maintain a health facility signed	W/SO/3PL

No	Guidance	Action Owner
	copy for proof of delivery within the recommended temperature ranges.	
5.0	**Transportation of cold chain products in refrigerated vans with freezers**	
5.1	Complete a notification of dispatch and delivery temperature form: before products are removed from the cold room for dispatch.	W/SO/RDC
5.2	Use temperature monitors during transportation from the warehouse tohealth facilities.	W/SO/3PL
5.3	Place the cold chain products in an appropriate chamber of the cold van. • In the refrigerated chamber for cold chain products that should be maintained at between +2 degrees and +8 degrees. • In the freezer for cold products that must be frozen	W/SO/3PL
5.4	Complete a notification of dispatch and delivery temperature form: upon delivery to the health facility. • Indicate temperature reading at delivery. • Document status of freeze tags on the delivery note.	W/SO/3PL

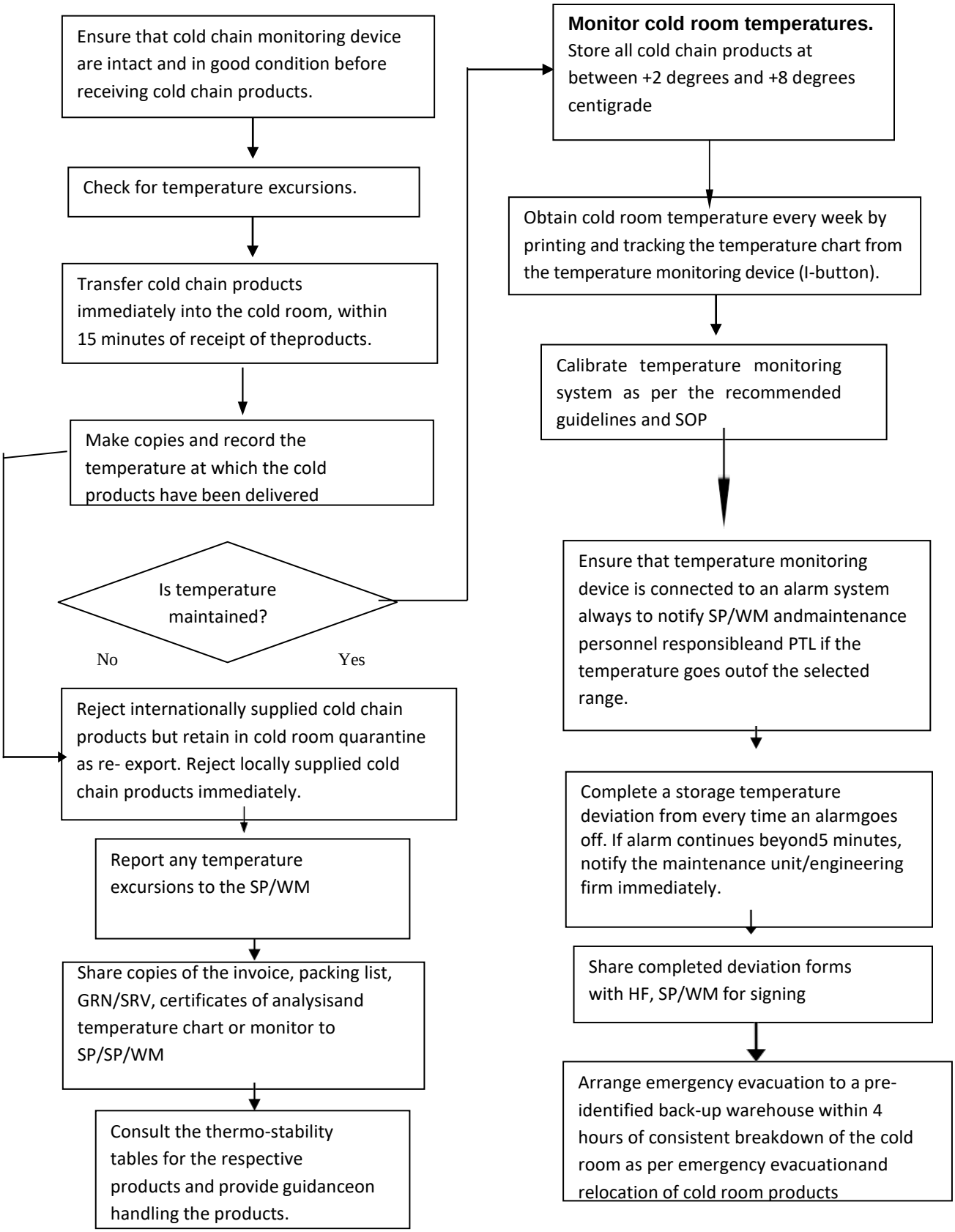
9. Performance Indicators

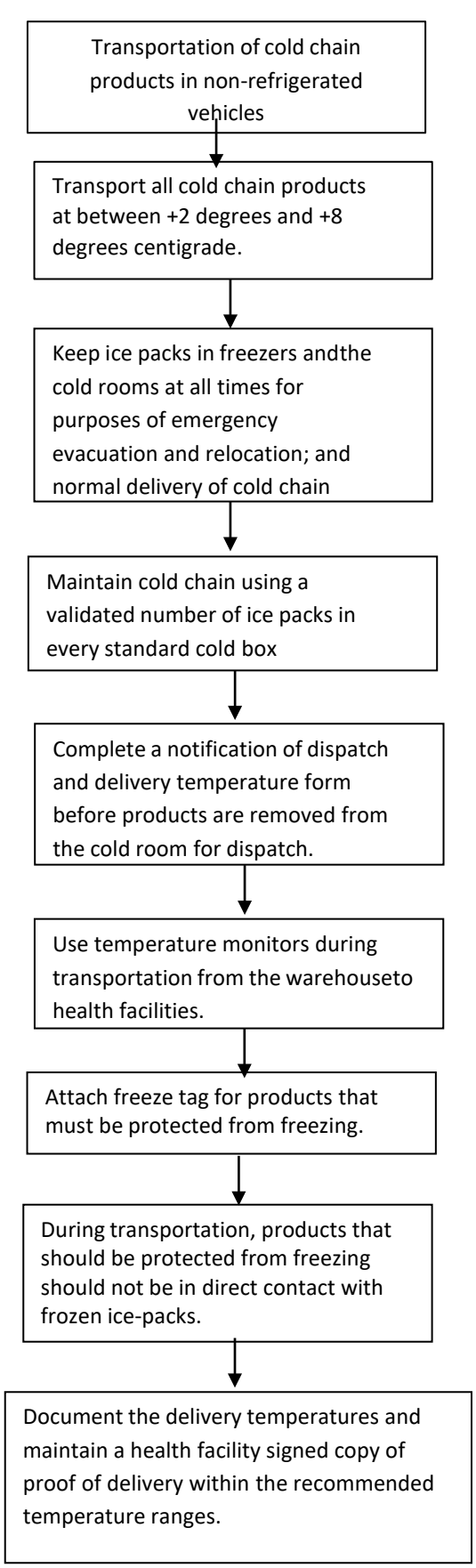
- Cold Chain products are transported and stored at the required temperatures for potency and safety throughout transportation and storage and are not transported or stored outside the required temperature range.

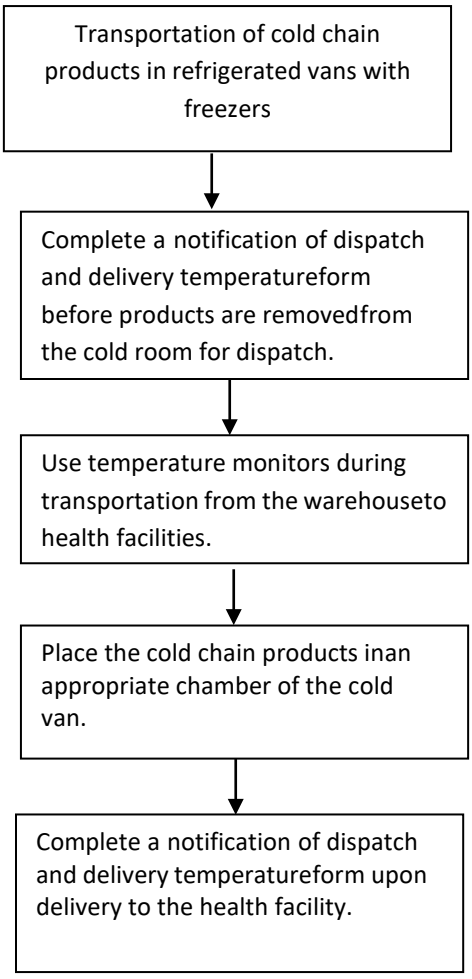
10 Records:

- Dispatch and delivery temperature form:
- Temperature logs
- Invoice
- Packing list
- GRN/SRV
- Certificates of analysis
- Temperature chart
- Thermo-stability tables
- Temperature monitoring device report (I-button report)
- Temperature deviation forms
- Freeze tags

11. Process Map: For Handling Cold Chain Products




Transportation of cold chain products in non-refrigerated vehicles
Transport all cold chain products at between +2 degrees and +8 degrees centigrade.
Keep ice packs in freezers andthe cold rooms at all times for purposes of emergency evacuation and relocation; and normal delivery of cold chain
Maintain cold chain using a validated number of ice packs in every standard cold box
Complete a notification of dispatch and delivery temperature form before products are removed from the cold room for dispatch.
Use temperature monitors during transportation from the warehouseto health facilities.
Attach freeze tag for products that must be protected from freezing.
During transportation, products that should be protected from freezing should not be in direct contact with frozen ice-packs.
Document the delivery temperatures and maintain a health facility signed copy of proof of delivery within the recommended temperature ranges.


Transportation of cold chain products in refrigerated vans with freezers
Complete a notification of dispatch and delivery temperatureform before products are removedfrom the cold room for dispatch.
Use temperature monitors during transportation from the warehouseto health facilities.
Place the cold chain products inan appropriate chamber of the cold van.
Complete a notification of dispatch and delivery temperatureform upon delivery to the health facility.

Standard Operating Procedure: Inventory Management

TITLE: SOP FOR PRODUCT RECALL	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
Issue No: 009/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: SP, WM, W/SO, PTL, IM, HF, WA, RDC, N/SC	

- **Purpose:** To provide guidance on effective recall of products or health commodities distributed to health facilities after the discovery of safety issues or product defect.

- **Scope:** This procedure covers activities related to the planning, communication, collection, transportation, and receipt of recalled products to depot facilities (Federal Central Medical Store or , State CMS or State Zonal Hubs, etc.)

- **Abbreviations:**

    a. HF: Head Finance
    b. CMS: Central Medical Stores
    c. NC: National Coordinator
    d. IM: Inventory Manager
    e. PM: Procurement Manager
    f. PTL: Program Team Leads
    g. QM: Quality Manager
    h. RDC: Receiving & Dispatch Clerk
    i. WA: Warehouse Assistant/Checkers/Pickers/Causal officers
    j. SP/WM: Warehouse Manager
    k. W/SO: Warehousing/Store Officer

- **Reference:** NAFDAC regulations, FDA regulations, WHO regulations, ISO 9001:2000

- **Process Owner:** Warehouse Manager

External Parties: None

8. Standard Operating Procedure: Product Recall

No	Procedure	Action Owner
1.1	Receive product complaints through any of the following means; • Customer care unit • Field Operations team • Meetings and related fora • Suppliers • Regulatory agencies e.g. NAFDAC, FDA etc. • International agencies e.g. WHO • Service delivery points • Principle recipients • Product users • Academia, consumer protection agencies, drug alert groupsetc.	SP/WM
1.2	The Program Team Lead should propose product recall to warehouse manager based on identification and classification of product quality complaint as illustrated below for Class 1, 2, 3 and 4 defects Product quality complaints shall be classified based on severity of the product defect as Class 1, Class 2, Class 3, and Class 4. • **Class 1:** those that are or may be highly dangerous or pose serious health hazard to users e.g. Chemical or physical contamination. • **Class 2:** those that may be harmful to users or may affect the therapeutic impact of the product, but which are not life threatening e.g. Errors in printed packaging material, missing or defective patient information leaflets and mislabeling. • **Class 3**: those that do not pose a significant health hazard to users' e.g. inadequate packaging or visible but harmless impurity. • **Class 4:** those that are non-life threatening and are not classified but may have packaging defect e.g. missing droppers, measures, or tablets in a blister pack.	PTL/SP/WM
1.2	The Program Team Lead, after due consultation with relevant stakeholders, should propose product recall to warehouse manager based on identification and classification of product quality complaint.	PTL
1.3	Inform higher authorities (NAFDAC, DFDS and other relevant authorities) to authorize the product recall and cause for the product to be recalled from the peripheral facilities to the warehouse.	PTL/SP/WM and W/SO
1.4	Work with RDC to generate a list of customers who bought orreceived the defective batches.	W/SO and SP/WM

No	Procedure	Action Owner
1.5	Prepare a recall message and forward to SP/WM to contact the relevant customers.	W/SO
1.6	Share the recall message with relevant customers and inform themto segregate and label the defective products. • Escalate the need for recall with relevant customers • Quarantine the defective products that are within thewarehouse	PTL/W/SO
1.7	Keep a record of all customers contacted and share a copy with the SP/WM.	W/SO
1.8	Record all customers who return the defective products together withthe quantities and batch number returned. • Use a copy of the list of customers who bought the defectivebatch to track those that have returned defective products. • Work with PTL to keep reminding customers/clients who havenot returned the defective batches.	W/SO
1.9	The recall exercise shall last a period of not more than three (3) months after which the SP shall file and maintain a record of the entire recall exercise.	SP/WM

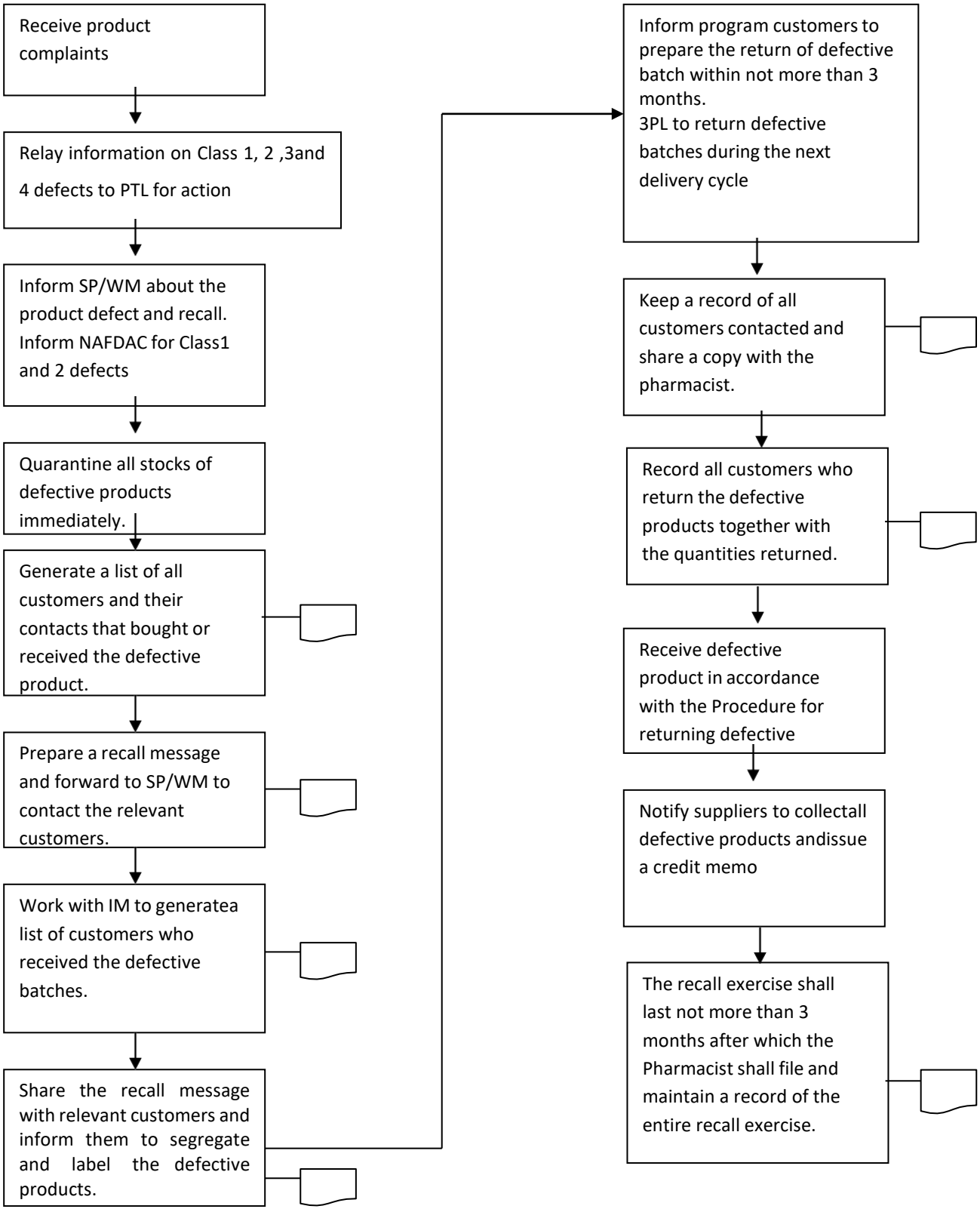
8.Performance Indicators:

- Activities related to the planning, communication, collection, transportation, and receipt of recalled products to depot facilities take place in an organized manner.
- The fate of the recalled products shall be known immediately the products reach the depot facility and action taken with respect to this within 24 hours.

9.Records:

a. Inventory Ledger/Register
b. Customer complaint
c. Customer List
d. Recall Message
e. Invoice/Pick and Pack list
f. Health products Received Form
g. Credit Note
h. Return and transfer form

10. Process Map: For Product Recall



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR MANAGEMENT OF SHORT DATED PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 010/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: NC, SP, WM, W/SO, PTL, IM, HA, HF, WA, RDC,	

1. Purpose: To manage, handle, segregate and accelerate usage of short-dated products to reduce and minimize wastage.

2. Scope: This procedure covers all activities involved in identifying, managing, and handling ofproducts that are near to expire.

3. Definitions:

- **Short dated products** - Products with 6 months to expiry as calculated from the productlabel or the manufacturer or as may be declared by the relevant programmes.
- **Quarantine Area -** Dedicated/segregated area or lockup cage, for storing near to expire products i.e. less than 3 months of shelf life. In the absence of a dedicated area, near to expire goods can be labeled “Near to expire” and strapped together with yellow tape to facilitate the picking of these products and transfer to reject area when they eventually expire.

4. Abbreviations:

- HF: Head Finance
- HA: Head of Audit
- IM: Inventory Manager
- NC: National Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers/Pickers/Causal officers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer

5. **Reference:** NAFDAC regulations, FDA regulations**,** WHO regulations

6. **Process Owner:** Warehouse Stores Officer

7. **External Parties:** None

8. Standard Operating Procedure: Management of Short-Dated Products

No	Procedure	Action Owner
1.0	**Identification, verification, and separation of short dated products**	
1.1	Identify short dated products in the store through the following methods: • Prepare a one-year expiry projection report once every month from Warehouse Information Management System (WIMS). • Physically identify short dated products through regular stock inspection e.g. during physical count. • Prepare expiry projection based on recommendation from health programme	W/SO
1.2	Verify that the product is short dated and earmark for close monitoring	IM
1.3	Remove products due to expire within 3 months and products as may be indicated by the health programmes from the bins and transfer to: • A quarantine area for products that are near to expire and identifyfor fast track.	WA/IM and W/SO
1.4	Review if the products can be issued out to high volume sites and/or donated to avert the risk of expiry and communicate the findings to SP/WM and PTL for action	IM/W/SO
1.5	Fast track the issuance of stock to high volume sites and/or donation	W/SO
2.0	**Identification, verification, and removal of short dated products from stock (Unusable products)**	
2.1	Verify that product is indeed un-usable.	IM/W/SO
2.2	Remove all unusable products from the quarantine area to the "Rejected Area" and notify SP/WM and HF/HA.	W/SO/WA/HA
2.3	Fill in a request for stock adjustment ensuring that all information indicated corresponds to the affected products.	IMC
2.4	Forward the stock adjustment request to the SP/WM for approval and copyHF and relevant PTL in case of program stock.	W/SO
2.5	Provide a copy of the stock adjustment form to accounts to prepare stockadjustment journals	W/SO
2.6	Effect a negative stock adjustment of the affected products in the inventory management system and inventory control cards.	HF

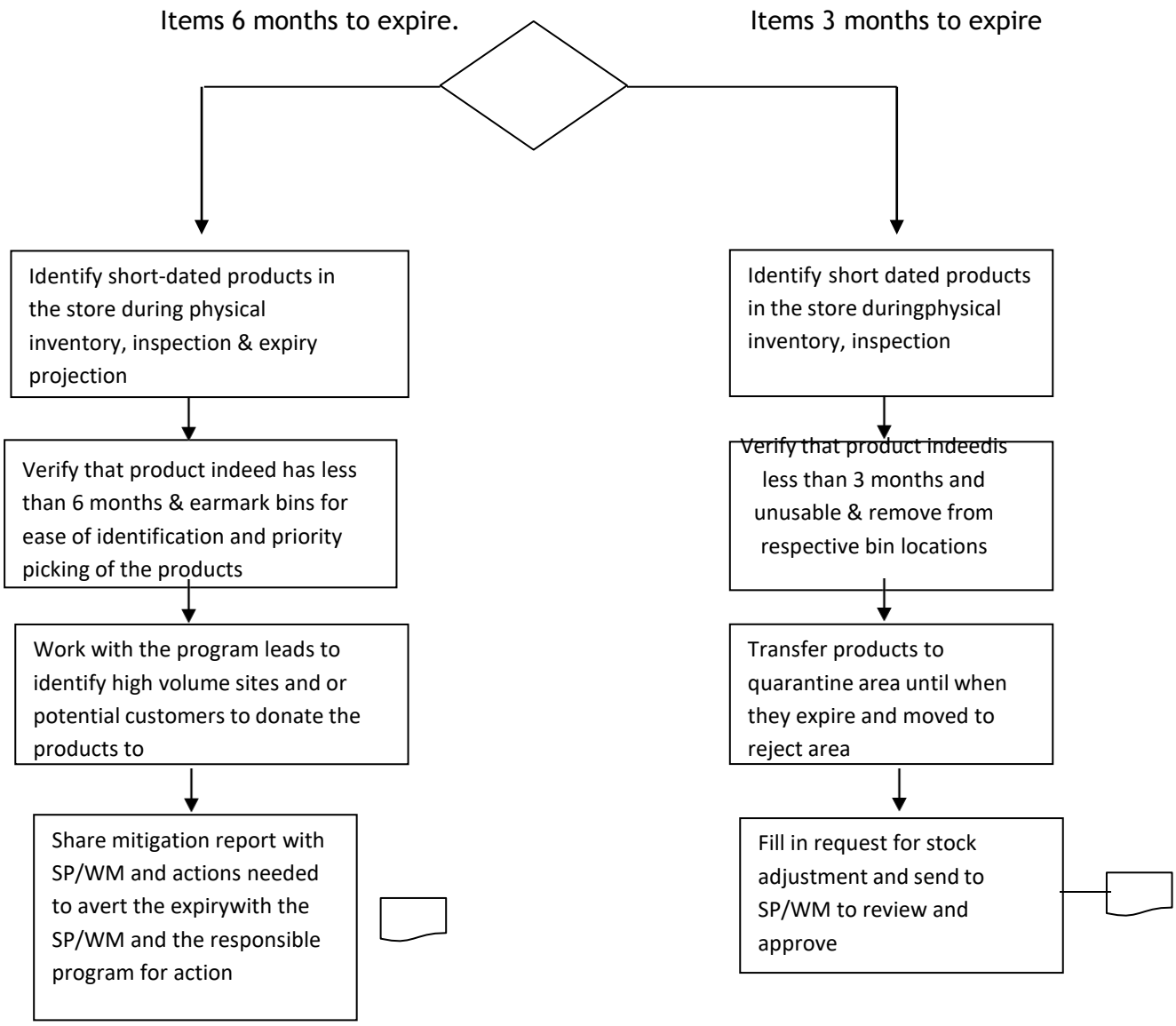
9. Performance Indicators

- Accelerated usage of short-dated products to reduce and minimize wastage and expiry of products.

9. Records:

- Expiry Projection report
- Short dated products report

Process Map: For the management of short-dated Products



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR MANAGEMENT OF EXPIRED, AND DAMAGED PRODUCTS	
Functional Area: WAREHOUSING	Date Issued:
Code: FDS/NPSCMP/WH/SOP	Revision No. 02
Prepared by: NPSCMP	Approved by: NC
SOP No: 011/024	Effective Date:
Next Review Date:	
Person(s) responsible: NC, SP, WM, W/SO, PTL, IM, HF, HA	

1. Purpose: To manage, handle, segregate and dispose expired and damaged products to avoid mix-ups.

2. Scope: This procedure covers all activities involved in identifying, managing, handling anddisposal of products that are not suitable for use.

3. Definitions:

- **Expired Products -** Products that have reached the end of their shelf life as per the productlabel or manufacturer
- **Damaged Products** - Products that have been damaged to the extent that they are nolonger in a usable condition.
- **Rejected area**- Dedicated/segregated area or lockup cage, for storing rejected products i.e., damaged, expired or rejected. In the absence of a dedicated area, rejected products can belabeled clearly **"Rejected and not to be used"** and strapped together with red tape to avoidthe picking of these products.

4. Abbreviations

- HA: Head of Audit
- HF: Head Finance
- IM: Inventory Manager
- NC: National Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers/Pickers/Causal officers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer

5. Reference: NAFDAC regulations, FDA regulations, WHO regulations

6 Process Owner: Warehouse Stores Officer

7 External Parties: None

8. Standard Operating Procedure

No	Procedure	Action Owner
1.0	**Identification, verification, and segregation of expired/rejected products from the warehouse**	
1.1	Identify expired/rejected products in the store through the followingmethods: • Use the Warehouse Management Information System (WMIS) to identify slow moving products. • Physically identify expired/damaged products through regularstock inspection e.g. during physical count. • Commodities which have been marked as unusable and isolatedfor disposal.	W/SO/WA
1.2	Conduct a physical transfer of rejected products to the rejected area andupdate the bin cards for the "Rejected Area".	W/SO
1.3	Fill in a request for stock adjustment ensuring that all information indicated corresponds to the affected product.	IM
1.4	Forward the stock adjustment request to the SP/WM for approval and copy HF/HA and relevant Program Team Lead in case of program stock.	W/SO/IM
1.5	Provide a copy of the approved stock adjustment form to accounts to prepare stock adjustment journals.	IM
1.6	Verify stock and quantity of expired/damaged products	IM
1.7	Remove all expired and damaged products from the bin cards of usable products. Effect as well in the inventory management system.	WA
2.0	**Identification, verification, and removal of damaged products from warehouse**	
2.1	Identify damaged products through weekly stock inspection.	W/SO
2.2	Verify the quantity of products actually damaged and un-usable	IM
2.3	Remove all damaged products from the shelf and bin card, transfer tothe "Rejected Area" and notify SP/WM and HF.	W/SO/WA/HA
2.4	Fill in a request for stock adjustment ensuring that all information indicated corresponds to the affected products.	IMC

No	Procedure	Action Owner
2.5	Forward the stock adjustment request to the SP/WM for approval andcopy HF and relevant PTL in case of program stock.	W/SO
2.6	Provide a copy of the stock adjustment form to accounts to preparestock adjustment journals	W/SO
2.7	Effect a negative stock adjustment of the affected stock in the inventory management system and the bin card	HF
3.0	**Destruction of expired/damaged items**	
3.1	Compile a list of the products, corresponding weights, value and sharewith SP/WM	W/SO/IM
3.2	Verify that the products require destruction	W/SO/IM
3.3	Forward to program responsible in case of program stocks and DFDSfor own stocks for approval	SP/WM
3.4	Liaise with NAFDAC and other relevant stakeholders to inspect, destroyand issue a certificate of destruction.	SP/WM

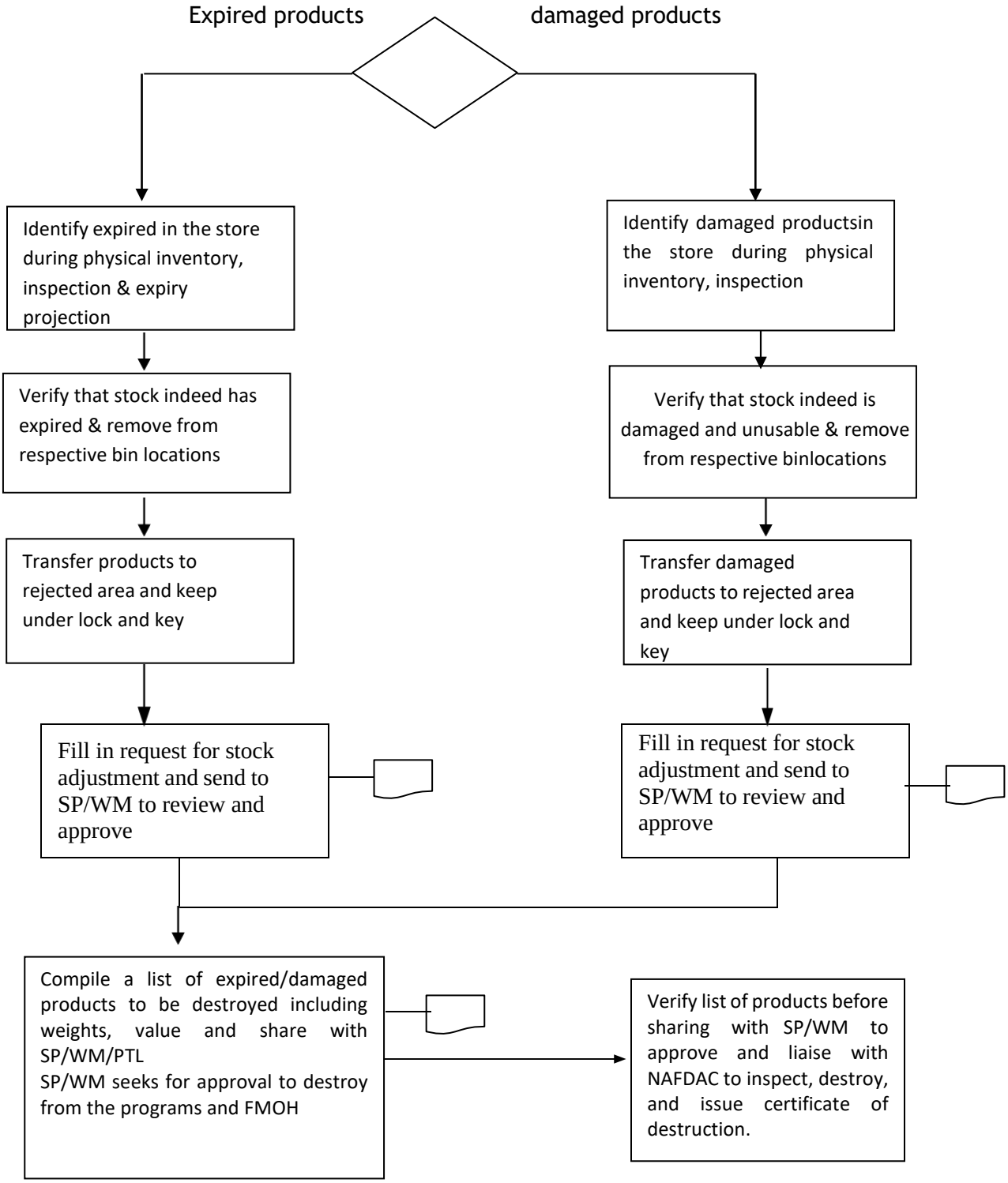
9 Performance Indicators

- No expired products shall be available for distribution or redistribution.

10 Records:

- Expiry Projection Report
- Stock Discrepancy Report
- List of expired and damaged products
- Destruction certificate

11 Process Map: To manage expired and damaged products



Standard Operating Procedures: Inventory Management

TITLE: SOP FOR RETURNING HEALTH PRODUCTS FOR REDISTRIBUTION	
Functional Area: WAREHOUSING	**Date issued:**
Code: NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 012/02	**Effective Date:**
Next Review Date:	
Person(s) responsible: SP, N/SC, WM (RET), WM(REC), HA, HF, PTL, QM, IM, RDC	

1.Purpose: To ensure efficient and effective receipt and storage of returned health products before redistribution.

2. Scope: This SOP covers the return of essential medicines and public health products health products from warehouses at the Federal, State, Local Government and Healthcare Facility level for warehousing at both Federal, Zonal hubs and State warehouses.

3. Definitions: Health Products for routine uses that are returned for redistribution

4. Abbreviations:

- SP: Superintendent Pharmacist
- N/SC: National or State Coordinator
- WM(RET): Warehouse Manager Returning Warehouse
- WM(REC): Warehouse Manager Receiving Warehouse
- HA: Head of Audit
- HF: Head of Finance
- PTL: Program Team Leads
- QM: Quality Manager
- IM: Inventory Manager
- RDC: Receive and Dispatch Clerk

5. Reference: WHO Expert Committee on Specifications for Pharmaceutical Preparations Fifty-fourth report: WHO Technical Report Series, No. 1025, 2020

6. Process Owner: Inventory Manager

7. External Parties: 3PLs

8 Standard Operating Procedure: Returned Health products for Redistribution

No	Guidance	Action Owner(s)
1	The Superintendent Pharmacist and Warehouse Manager of the returning warehouse from which Health products will be returned will inform the Inventory Manager in writing of the need to return health commodities with The Program Team Leads, National or State coordinators, Heads of Finance, and the Heads of Audit in copy.	SP, WM(RET)
2	The National or State Coordinator with the Program Team Lead will give approval for the return of Program Health products to the inventory manager in writing with Superintendent Pharmacist, Warehouse Manager, Head of Accounts and Head of Audit in copy. The National or State Coordinator will give approval for the return of non-program Health products to the inventory manager in writing with Superintendent Pharmacist, Warehouse Manager, Head of Accounts and Head of Audit in copy. In this approval document will be specified details about the health product(s) and quantity as well as the returning and receiving warehouses.	N/SC, PTL
3	The Warehouse Manager (returning warehouse) will provide details about dispatch date and time to the Inventory Manager for approval.	WM(RET)
4	The Inventory Manager will send this information to the warehouse manager (receiving warehouse) to obtain approval for the suggested dispatch date and time.	IM, WM(REC)
5	If the dispatch date and time is approved in (4), the inventory manager will forward approval for dispatch of the health products to the Warehouse Manager (returning warehouse).	IM
6	If the dispatch date and time is not approved in (4), the inventory manager will obtain a suitable dispatch date for both warehouse managers for the dispatch of the health products and forward approval for dispatch of the Health Products to the warehouse manager (returning warehouse).	IM, WM(REC), WM(RET)
7	The Warehouse Manager (returning warehouse) will contact the approved 3PL who will be responsible for collecting the Health Products and taking them to the approved location.	WM(RET)
No	**Guidance**	**Action Owner(s)**
8	The Warehouse Manager (Return Warehouse) and Superintendent Pharmacist will give instructions to warehouse officer to pick and pack the health products and update the record in WMIS as required for the health product(s).	WM(RET) , SP, W/SO
10	The items will be checked by the Warehouse Manager and dispatched by the Receive and Dispatch Clerk based on the Check and Dispatch SOPs using the approved 3PL	WM(RET), RDC

11	The Items will be received in the receiving warehouse in line with the Receiving Health Products SOP.	WM(REC)
12	The Warehouse Manager (Receiving Warehouse), Superintendent Pharmacist and quality manager will ensure that all returned medical products should be placed in quarantine upon receipt. The status of the Health Products should be clear before redistribution. Precautions should be taken to prevent access and distribution until a decision has been taken with regards to their disposition.	WM(REC), SP, QM
13	The particular storage conditions applicable to the medical products should be maintained until their distribution. This is the responsibility of the Superintendent Pharmacist, Quality Manager and Warehouse Manager.	WM, SP, QM
14	The Superintendent Pharmacist and Warehouse Manager should perform the following Functions: a) Liaise with the Quality Manager to check the quality of the items to ensure that their quality is satisfactory, after they have been critically assessed. Also, the nature of the medical product, any special storage conditions it requires, its condition and history and the time lapse since it was issued, should all be taken into account in this assessment. Where any doubt arises over the quality of the medical product, it should not be considered suitable for reissue or reuse. b) If the Quality of the returned goods is optimal, the health products are received into the warehouse and the WMIS updated. c) If the Quality of the returned goods is not optimal, the SOP for Expired and Damaged products should be applied. d) Medical products returned should be destroyed unless it is certain that their quality is satisfactory, after they have been critically assessed. The SOP for Expired and Damaged products should be followed at all times. e) Any action taken should be appropriately recorded.	WM, SP, QM
No	**Guidance**	**Action Owner(s)**
	f) When handling returned goods, the following considerations at least should be taken: ▪ A risk-based process should be followed when deciding on the fate of the returned goods. This should include but not limited to the nature of the product, storage conditions, condition of the product history, time-lapse since distribution and the manner and condition of transport while being returned.	WM, SP, QM

	▪ The terms and conditions of the agreement with the supplier should also be applied. ▪ Where products are rejected and cannot be returned to the supplier, authorized procedures should be followed in line with the **SOP for damaged and expired goods** including safe transport. ▪ Destruction of products should be done in accordance with international, national, and local requirements regarding disposal of such products, and with due consideration to the protection of the environment. ▪ Records of all returned, rejected, and destroyed medical products should be kept for a defined period, in accordance with national requirements.	

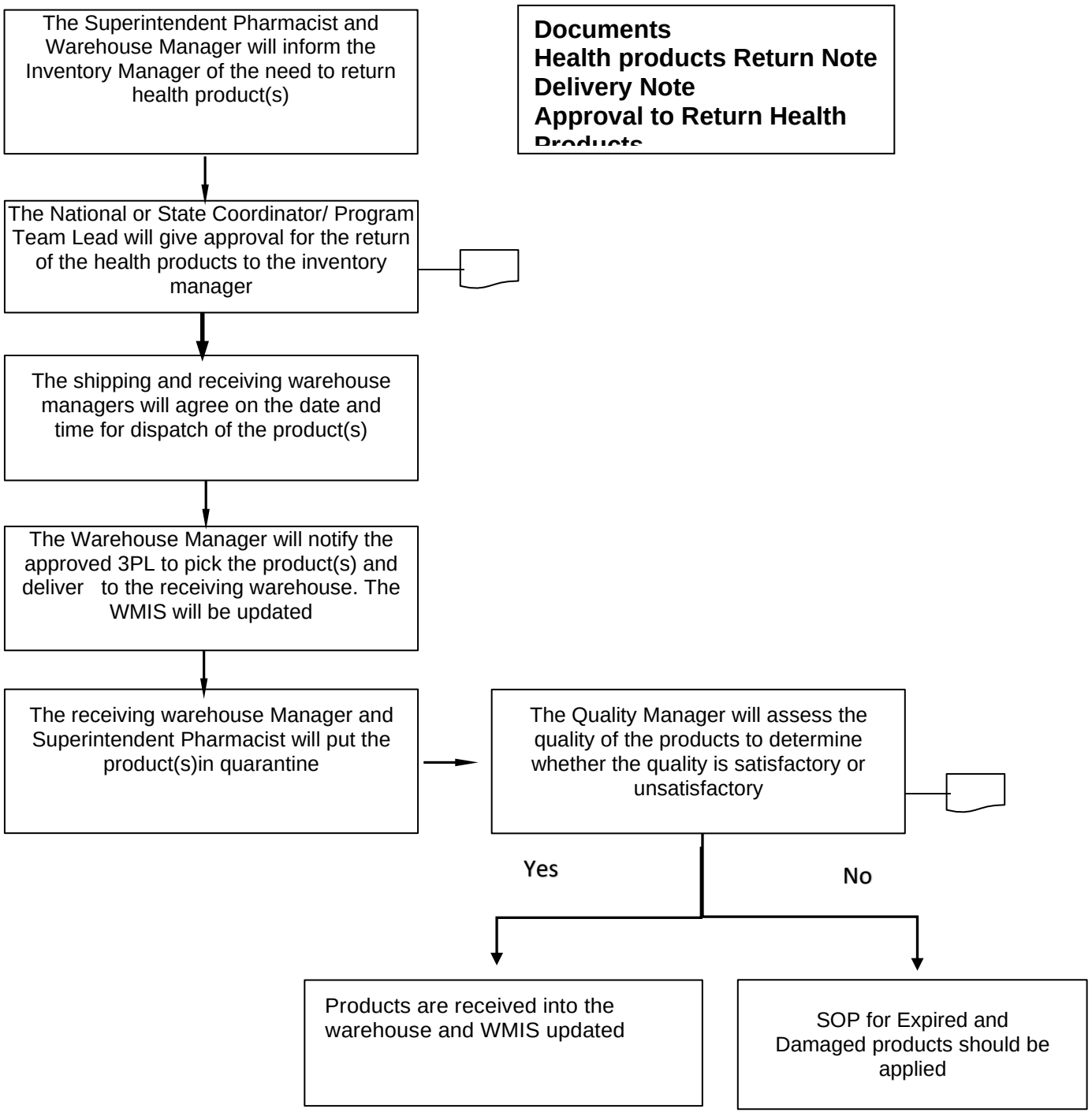
9. Performance Indicators:

- Health products should be returned within seven (7) days of approval.
- Only Healthcare Products whose quality has been determined to bs satisfactory shall be redistributed.

10. Records:

- Health products Return Note
- Delivery Note
- Approval to Return Health Products

11.Process Map: Returned Health products for Redistribution



Standard Operating Procedure: Inventory Management

TITLE: SOP FOR HANDOVER OF RESPONSIBILITIES	
Functional Area: WAREHOUSING	**Date issued:**
Code: NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 013/02	**Effective Date:**
Next Review Date:	
Person(s) responsible: SP, N/SC, WM. IM, PTL, HA, HF	

1. **Purpose:** To ensure that any change of Warehouse Manager responsible for inventory management will require a complete physical inventory verification exercise. System inventory will be compared with physical inventory. Both the outgoing warehouse manager and the incoming warehouse manager will conduct this exercise

2. **Scope:** This SOP covers the handover of routine and program health products from the outgoing warehouse manager to the incoming warehouse manager for Federal and State warehouses.

3. **Definition:** Health Products used for Routine Purposes.

4. **Abbreviations:**
   - **HA:** Head of Audit
   - **HF:** Head of Finance
   - **N/SC:** National or State Coordinator
   - **PTL:** Program Team Lead
   - **SP:** Superintendent Pharmacist
   - **WM:** Warehouse Manager
   - **IM:** Inventory Manager

5. **Reference**: Standard Operating Procedures (SOP) for warehouse and Inventory Management (UNHCR).

6. **Process Owner:** Superintendent Pharmacist

7. **External Parties:** None

8. **Standard Operating Procedure: Handover of Responsibilities**

No	Guidance	Action Owner(s)
1	The superintendent Pharmacist will receive notification from the National Coordinator for National warehouses, or the State Coordinator for State Managed Warehouses on any change(s) and detail(s) of an incoming Warehouse Manager.	N/SC
2	A date before the withdrawal of services of the outgoing warehouse manager will be chosen by the Superintendent Pharmacist for the inventory verification count that is agreeable to all parties. The	SP

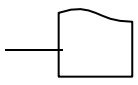
	parties are the national or state coordinator, the incoming and outgoing warehouse managers, the finance manager, the superintendent pharmacist, and the inventory Manager. The day chosen should be a day when commodities are not received or leave the warehouse. This date will be communicated to all parties by the Superintendent Pharmacist at least one week before the physical stock count.	
3	The necessary stock documents, the counting sheets and Inventory Register/Ledger should be available at least 2 days before the physical stock count. This is the responsibility of the superintendent pharmacist and outgoing warehouse manager.	SP, WM
4	The WMIS stock status report shall be provided as hard copy before the stock count begins. It will be provided by and remain in custody of the inventory manager	IM
5	The Inventory Manager, Superintendent Pharmacist, and the Warehouse Managers (outgoing/incoming) must conduct the physical stock verification exercise as a joint exercise. In case of programme products overseen by a Program Team lead, the program team lead in charge should be involved in the physical stock verification as well.	IM, SP, WM, PTL
6	The physical Inventory records will be compared with the Bin Card and system records. Where there are discrepancies, the **SOP for Physical Inventory**, Investigation of discrepancies will apply. Action will be taken by the Inventory Manager and Superintendent Pharmacist to the Head of Finance and Head of Audit.	IM, SP, HA, HF
No	**Guidance**	**Action Owner(s)**
7	The incoming Warehouse Manager in charge must sign the complete and updated inventory records for which they are taking over the responsibility.	WM
8	Copies of the signed completed updated inventory records will be provided to the National/State Coordinator, Inventory Manager and program team lead where necessary by the Inventory Manager. The Superintendent Pharmacist will file the signed and complete inventory documents.	N/SC, IM, PTL

9. Performance Measures: Handover of Responsibilities

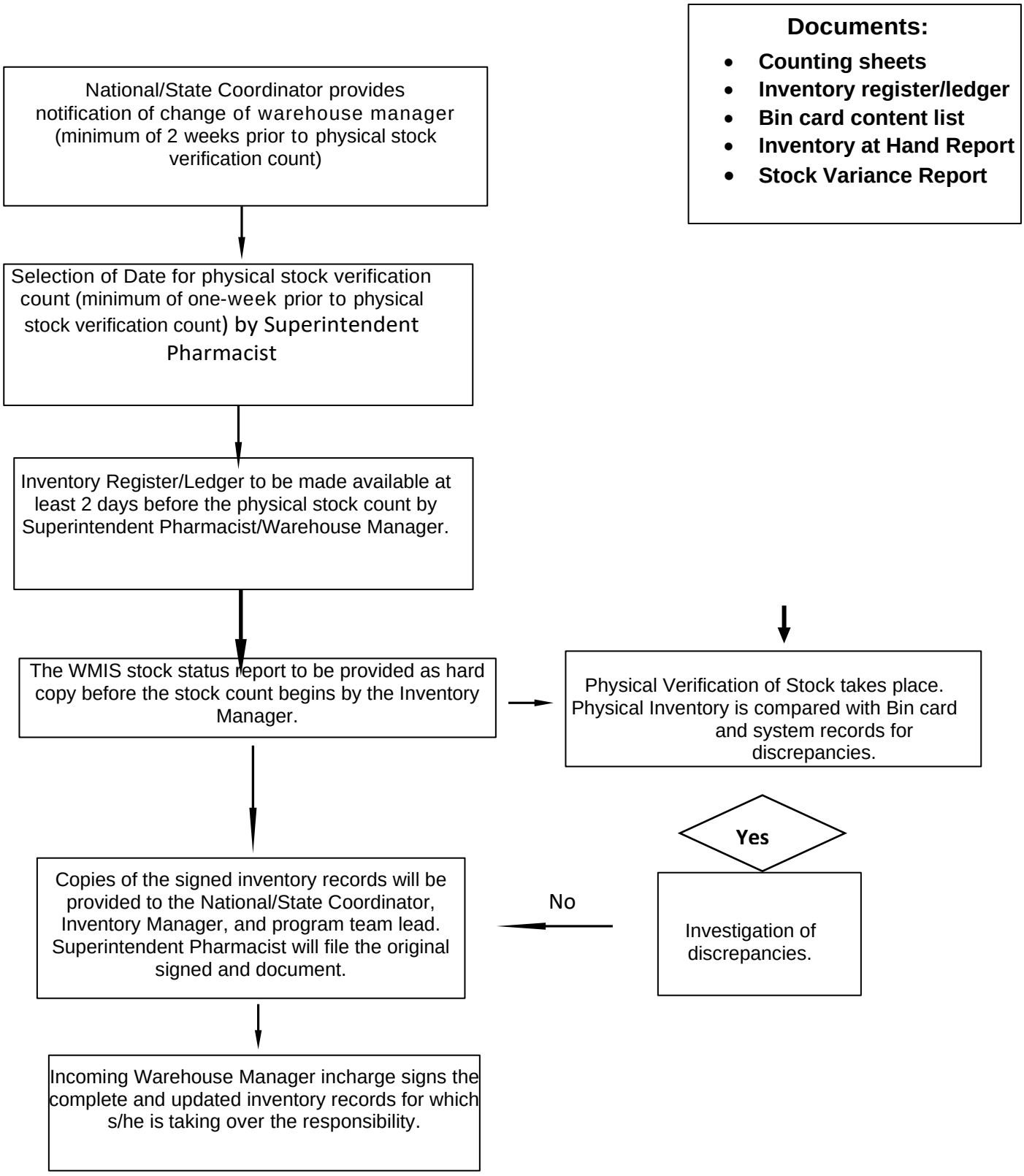
- Effective handover of warehouse responsibilities to the incoming warehouse manager with complete and updated inventory records within 24 hours.

10. Records

9 Counting sheets
10 Inventory register/ledger
11 Bin cards content list
12 Inventory at Hand Report
13 Stock Variance Report



11. Process Map: Handover of Responsibilities



TITLE: SOP FOR SUPPLEMENTARY ORDERS	
Functional Area: WAREHOUSING	**Date issued:**
Code: NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 014/02	**Effective Date:**
Next Review Date:	
Person(s) responsible: DPS, SP, N/SC, WM, PM, IM, PTL	

1. **Purpose:** To ensure appropriate quantities of stock are always available at the national warehouse, while also minimising stock wastage.

2. **Scope:** This SOP covers the availability of routine and public health products at both Federal and State warehouses.

3. **Definitions:**

A Normal Health Product is any item on the Essential Medicines List or the Essential Medical Supplies List (consumables and basic equipment) and Essential In-Vitro Diagnostics List. It does NOT include laboratory items, other medical equipment, specialist departmental purchases or other items.

A Critical Health Product is any item on the Essential Medicines List, or the Essential Medical Supplies List (consumables and basic equipment) and Essential In-Vitro Diagnostics List the Federal Ministry of Health determines, cannot be out of stock at any time.

Stock on Hand: The national warehouse should have 3 to 15 months cover of all Normal Health Products as stock on hand at all times. To achieve this, annual tenders shall be placed based on a 12-month plus 3months buffer stock quantification. All orders should be placed as per the procurement SOP and annual tender guidelines.

4. **Abbreviations:**

- **EDL:** Essential In-Vitro Diagnostics list
- **EML:** Essential Medicines Supply List
- **N/SC:** National or State Coordinator
- **PTL:** Program Team Lead
- **SP:** Superintendent Pharmacist
- **WM:** Warehouse Manager
- **IM:** Inventory Manager

5. **Reference**: INDO PACIFIC SUPPLY CHAIN DTAC- Warehouses Standard Operating Procedures

6. **Process Owner**: Procurement Manager and Warehouse Manager

7. **External Parties:** National Medicines and Therapeutic Committee, Supplier

8. **Standard Operating Procedure: Supplementary Orders**

No	Guidance	Action Owner(s)

1.0	PROCESS OF OBTAINING CRITICAL HEALTH PRODUCTS		
1.1	Once a month, the Warehouse Manager runs reports in WMIS/NHLMIS to find: a) All Normal Health Products with less than 3 months available stock and b) All Critical Health Products with less than 6 months available stock are verified against actual stock.		WM
1.2	Warehouse Manager consolidates the reports and forward them to the Inventory Manager and Procurement Manager.		WM
1.3	The Procurement Manager schedules a meeting in the same week with the Inventory Manager, National or State Coordinator, Director of Pharmaceutical services at the Federal or State Level respectively, warehouse Manager and Program Team Lead if program products are involved.		PM
1.4	At the meeting, the Procurement Manger presents the following information: Normal Health Products a) A list of Normal Items that are out of stock b) A list of Normal Items with <3 months available stock on hand c) A summary of those items that are already on order and the Estimated Date of Arrival (EDA) of each. Critical Health Products a) A list of Critical Items that are out of stock b) A list of Critical Items with <6 months available stock on hand c) A summary of those items that are already on order and the Estimated Date of Arrival (EDA) of each		
2.0	**Assessment of Each Item**		
2.1	Is the information accurate?	• Warehouse Manager should verify any information that seems incorrect	WM
No	**Guidance**		**Action Owner(s)**
2.2	Is the Health Product still in use according to	• Director of Pharmaceutical Services should verify if unclear. • If the item is no longer in use but still listed on the EML or EDL, it should be referred to	DPS

	the EML or EDL?	the National Medicines and Therapeutics Committee (NMTC) and flagged for removal from the EML or EDL. • Once removed from the EML or EDL, the item can be removed from NHLMIS.	
2.3	Does the usage data reflect actual usage trends?	• The National or State Coordinator, Inventory Manager and Program Team Lead should evaluate the information below as it pertains to Health Products on the critical Health Product list. • Some items have sporadic usage or declining usage, due to changing treatment guidelines or seasonality. • Monthly averages in WMIS/NHLMIS may therefore be accurate but not reflective of true usage trends. • For example, some items may have had a spike in usage due to a program or epidemic or a pandemic but are no longer in high use. Other items might have recently changed from first-line therapy to second-line therapy. • These Health Products do not need to be removed from the EML or EDL but ordering quantities should be decreased. • WMIS/NHLMIS will present the trend and offer an opportunity for better understanding through a deep dive.	N/SC, IM, PTL
2.4	Is this an inventory positioned to manage an epidemic or pandemic?	• The National or State Coordinator, Inventory Manager and Program Team Lead should evaluate the information below as it pertains to Health Products on the critical Health Product list. • Some disease outbreaks or vaccination campaigns prompt large orders of short-term items that are not regularly used. • These Health Products do not necessarily get removed from the EML or EDL but may not be ordered regularly. Other examples include very sporadically used items, such as snake anti-venom.	N//SC, IM, PTL
No	**Guidance**		**Action Owner(s)**
2.5	Is the item already on order?	• Procurement Manager is responsible for providing updates on the status of orders. • If the order status is satisfactory, a supplementary order may not be required.	PM

		• If an item has passed its estimated date of arrival, the Procurement Manager must follow up with the supplier.	
3.0	Processing a Supplementary Order		
3.1	If a supplementary order for an item is required, the NPSCMP or State DMA must determine the quantity to order. To calculate the quantity, they must first determine if a large order for the item has already been placed. **a)** If a large order for the item has already been placed: Supplementary Order Quantification = Cover up to EDA of the larger order + 3-month buffer **b)** If there is no current order for the item: Supplementary Order Quantification = Cover up to EDA of the next annual tender + 3-month buffer (may be up to 12 months away)		
3.2	Procurement Manager summarises the item list and arranges for supplementary orders to be placed.		

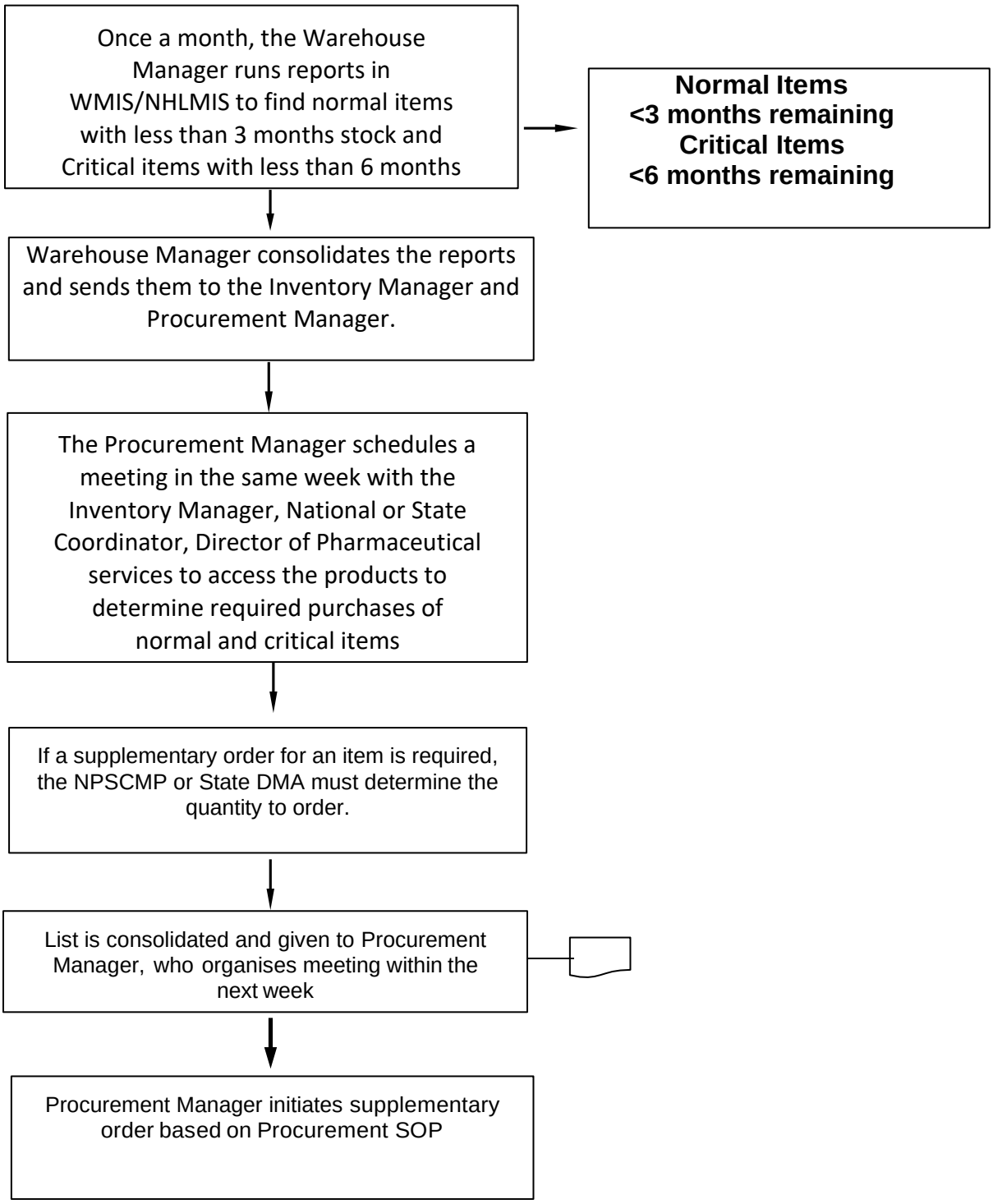
9. Performance Indicators: Supplementary Order

- Number of days' cover of stock
- Minimum stock level days' cover
- Value of total stock on hand
- Value of expired stock
- Proportion of expired stock
- Percentage (%) of Critical Items in stock

10. Records

- WMIS/NHLMIS Report
- EML/EDL

11. Process Map: Supplementary Order



Standard Operating Procedures: Processing & Distributing Health Products

TITLE: SOP FOR REPACKAGING CONSIGNMENTS FOR ROUTINE DISTRIBUTION	
Functional Area: WAREHOUSING	**Date issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 015/02	**Effective Date:**
Next Review Date:	
Person(s) responsible: WM, W/SO, WA, RDC	

1. **Purpose:** To ensure that repackaging of consignments for delivery from the warehouse is done in an organized manner.

2. **Scope:** This SOP covers the repackaging of consignments of essential medicines and public health products at Federal, Zonal and State warehouses.

3. **Definition:** Repacked consignments are consignments not in their original form of packaging.

4. Repackaging materials refers to corrugated cardboard or paperboard such as carton used for holding pharmaceutical items to maintain their integrity.

Packing list/Delivery note: Refers to a document that contains details of product description, quantities batch details, expiry date, date issued, address of issuing personnel / warehouse and consignee.6. Label: Refers to a document affixed on the repackaging material that contains details of product description, quantity, batch details, and dosage form and expiry date.

Abbreviations:

- RDC: Receiving & Dispatch Clerk
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer
- WA: Warehousing Assistant(Checkers/Pickers/Causal officers**/** porters)

Reference: Warehouse Standard Operating Procedures, Warehousing Manual Medical Store Depot (MSD) Lahore, Department of Health, Government of Punjab

Process Owner: Warehouse Manager

External Parties: None

Standard Operating Procedure: Repackaging Consignments

The Warehouse Manager, Warehousing Officer and the Receipt and dispatch Clerk will be responsible for compliance with the SOP below:

No	Guidance	Action Owner(s)
1	Ensure that the carton used to repack the supplies is in good condition.	WM, WA, W/SO, RDC
2	For protection, always use plastic tape to seal the cartons so they do not break at the edges.	WM, WA, W/SO, RDC
3	Obtain a repacking list which comprises the list of the items that will be repacked.	WM, WA, W/SO, RDC
4	Repack the supplies so that it cannot be easily removed from inside the carton while they are being moved from issuing warehouses to receiving warehouses.	WM, WA, W/SO, RDC
5	Using the provided repacking list, ensure that the right item(s), and the right quantity(ies), for the right place are repacked.	WM, WA, W/SO, RDC
6	Paste clearly visible tags on the repacked cartons that indicate the handling, placing, and storage precautions.	WM, WA, W/SO, RDC
7	Provide a packing list/ delivery note of the repacked quantity including the item description and complete address of consignee; send the packing lists with the cartons to the consignee.	WM, WA, W/SO, RDC
8	Ensure that the carton is secured and properly packed on all sides.	WM, WA, W/SO, RDC

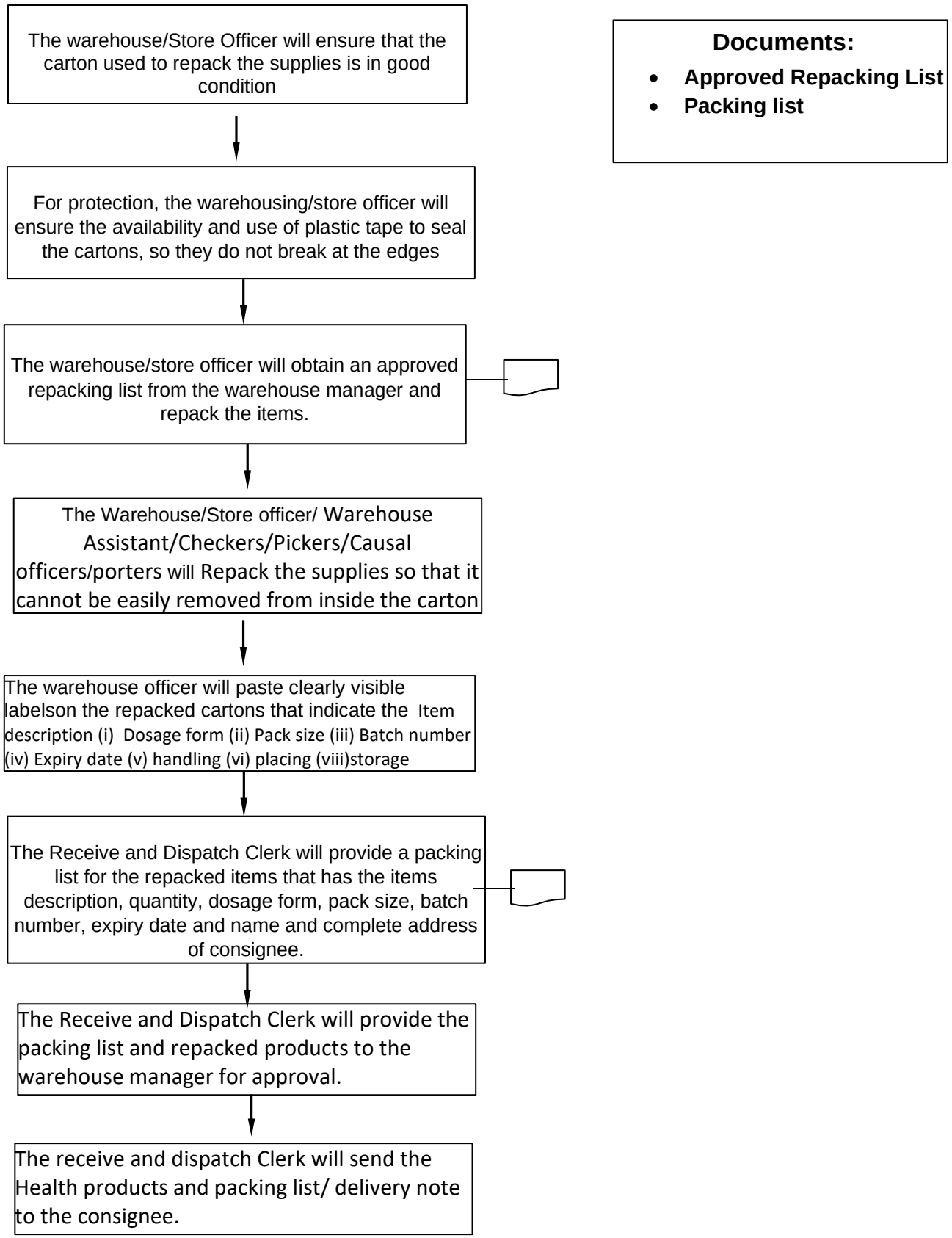
Performance Indicators: Repackaging Consignments

All consignments repacked for dispatch are securely packed and labelled visibly to show the (i) Item description (ii) Dosage form (iii) Pack size (iv) Batch number (v) Expiry date (vi) handling (vi)placing (vii)storage precautions

10. Records

- Approved Repacking List
- Packing list /delivery note

Process Map: Repackaging Consignments



Standard Operating Procedures: Processing & Distribution of Health Commodities

TITLE: SOP FOR ISSUING PRODUCTS FROM WAREHOUSE FOR OTHER USES	
Functional Area: WAREHOUSING	**Date issued:**
Code: FDS/NPSCMP/WH/SOP	**Revision No.02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 016/02	**Effective Date:**
Next Review Date:	
Person(s) responsible:	**SP, WM, W/SO, PTL, IM, HA, HF, WA, QM, RDC, N/SC**

1. Purpose: To provide guidance on how to issue products and thus ensure proper inventory management and control.

2.Scope: This procedure covers issuance of products in situations other than routine resupply and receipt. E.g., instances of quality control testing, warehouse donation, demonstrations, and trainings.

3. Definition:

4. Abbreviation:

- HA: Head of Audit
- HF: Head Finance
- IM: Inventory Manager
- NC: National Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehouse/Store Officer
- DA: Distribution Agent

5. Reference: WHO Good Storage Practice

6. Process Owner: W/SO: Warehouse/ Stores Officer

7. External Parties: None

8. Standard Operating Procedure

No	Guidance	Action Owner
1.0	**Issuing of stock for quality control testing**	
1.1	Obtain a request for samples for testing from the relevant authority	WM/QM
	The warehouse manager to generate a pick list with details of products / items required for sampling.	WM
	The warehouse manager shall send a pick list to SP /QM for approval for sample collection.	SP/QM
1.2	Instruct WA to pick stock using the SP/QM approved pick slip	SP/QM
1.3	Pick the stock required for testing from the bin locations as stated on the pick list1.4a Examine the pick list and understand details of the product to be picked • Read the product description • Check unit of measure, pack-size, strength, and weight of the package where applicable • Check lot/batch number and expiry date • Confirm that shelf life is > 3 months • Confirm details of manufacturers specifications • Pick the quantity required and place in a designated carton / packaging material	WA
1.4	Sign the pick slip and place the carton in a designated area for confirmation.	WA
1.5	SP/QM shall confirm details of the items picked against the pick slip and sign.	SP/QM
1.6	Issue the pick slip to the warehouse manager for processing delivery note.	WM/SP
1.7	Issue the confirmed products for testing along with a signed delivery note. The delivery note shall be signed by the warehouse and distribution agent for onward delivery to the consignee. ***Action is completed when commodity is handed over to quality control staff fortesting***	WA/DA
1.8	DA shall deliver products to the consignee at the right place and at the right time. Consignee shall sign the delivery note as proof of delivery.	DA /Consignee
1.9	All parties shall file the signed proof of delivery and archive for future record.	DA /WM /Consignee
2.0	**Issuance of products for a Donation**	

2.1	Receive request for donation of products from the SP/WM/PTL	W/SO
	The warehouse manager shall generate a pick slip reference to the request for donation and details of the products required. This shall include quantity, item description, expiry dates, batch number etc. (See sample label in appendix).	WM /QM
2.2	Proceed as in 1.3 to 1.8 above.	WM/ SP/ DA/ WA
2.3	DA shall deliver products to the consignee at the right place and at the right time. Consignee shall sign the delivery note as proof of delivery.	DA/Consignee
2.4	All parties shall file the signed proof of delivery and archive for future record.	DA/WM

No	Guidance	Action Owner
	Action is completed when recipient endorses receipt letter and signs offdelivery note for donated items	

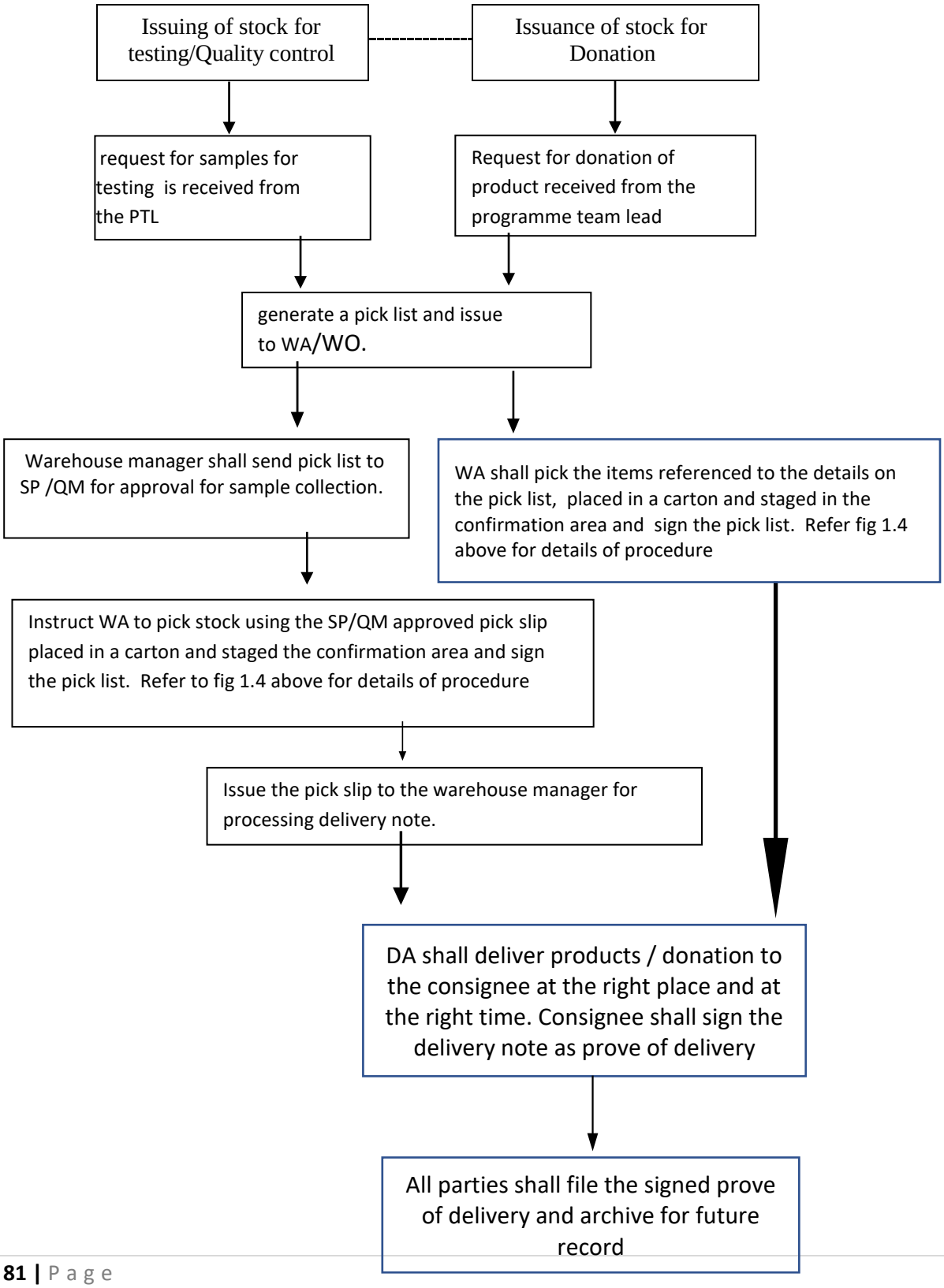
9. Performance Indicators

1. Products are issued from the warehouse referenced to requests and are stated in the SOP. The document shall be validated and archived for future reference.
2. Ensure that products are delivered at the right place and at the right time without variances nor discrepancy

10. Records:

1 Pick list
2 Request for samples
3 Request for a Donation
4 Delivery note
5 Proof of delivery

11. Process Map: For Issuing Products



TITLE: SOP FOR EMERGENCY EVACUATION & RELOCATION OF COLD CHAIN PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code : FDS\NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 017/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: NC, SP, WM, W/SO, PTL, IM, HF, WA, QM, RDC	

1. **Purpose:** To provide guidance on evacuation and relocation of cold chain products because of a breakdown or malfunction of the warehouse cold room

2. **Scope:** This procedure covers all activities involved in evacuating and relocating cold chain products to a back-up location.

3. **Definitions**: Cold Chain is defined as the continuous process through which products, which need to be refrigerated at temperatures normally ranging between 2 degrees Celsius and 8degrees Celsius, is received, stored, picked, packed, checked, and distributed.

4. **Abbreviations:**

   - HF: Head Finance
   - IM: Inventory Manager
   - NC: National Coordinator
   - PM: Procurement Manager
   - PTL: Program Team Leads
   - QM: Quality Manager
   - RDC: Receiving & Dispatch Clerk
   - WA: Warehousing Assistant/Checkers/Pickers/Causal staff
   - SP: Superintendent Pharmacist
   - WM: Warehouse Manager
   - W/SO: Warehousing/Store Officer

5. **Reference**: ISO 9001:2008, WHO Good Storage Practice

6. **Process Owner**: W/SO/IM: Warehousing Store Office & Inventory Manager

7. **External Parties:** None

8. Standard Operating Procedure

No	Guidance	Action Owner
1.0	Dispatching and Transportation of cold chain products from the warehouse	
1.1	Prepare to evacuate and relocate cold chain products once cold room has malfunctioned or broken down for 4 hours and engineers have confirmed that repairs cannot be effected immediately; . • If the malfunction or breakdown occurs at night evacuate and relocate commodities the following morning on or before 9am. • If the malfunction or breakdown occurs during day evacuate and relocate commodities the same day.	W/SO/RDC
1.2	Call the contact persons in the back-up cold room of choice and notify him her of the planned relocation. Generate inventory of the stock on hand of all the cold room products, conduct volumetric analysis and share details of these with the backup cold room. This serves as an advanced shipment notification.	W/SO/RDC
1.3	The back up cold room shall confirm availability of space reference to the volumetric analysis and stock on hand received and confirm readiness to receive the cold chain products.	W/SO/RDC
1.4	Generate and print pick slip by bin location.	IM/W/SO
1.5	Prepare ice packs, cold boxes and temperature and humidity log tag readers	RDC
	.	
1.6	Preparation to maintain cold chain Pick and confirm cold chain products and place them in a cold box containing ice pack and temperature and humidity log tag readers. Generate a delivery note, record the temperature at the specified time on the delivery note and sign the delivery note. • Pack alongside ice packs or frozen packs if transporting or relocating using a non-cold van • Pack without ice packs or frozen packs if transporting or relocating using cold vans.	W/SO/WA
1.7	Tag all packs with colored reflective identification labels. Labels to contain; • Name of product • Quantity • Batch Number • Expiry date • Manufacturer	W/SO/WA

1.7	Transport cold chain products as per SOP 000/00 on handling cold chain products -Transportation section	W/SO/3PL
1.8	Receive cold chain products into back-up cold room as per SOP and verify quantities referenced to the initial SOH, (Advanced shipment notification) with cold room attendant at back-up cold room.	W/SO/3PL
1.9	Record the temperature of cold chain products at the time of delivery on the delivery note.	W/SO/3PL
1.10	Have the delivery note signed by both the back-up cold room attendant / consignee and delivery agent.	W/SO/3PL
2.0	Receiving cold chain products from back-up cold room and transportation to warehouse once repairs are done	
2.1	Confirm that warehouse cold room is functional	W/SO/SP/WM
2	Contact the cold room attendant at back-up cold room and inform them	W/SO/SP/WM

No	Guidance	Action Owner
	on readiness to receive cold chain products back to the original cold room	
2.3	Set off with icepacks or frozen packs, cold boxes and temperature and humidity log tag readers if non-cold van is going to be used.	W/SO
2.4	Verify the quantities and quality of the cold chain products	W/SO/WA
2.5	Obtain copies of the Min-Max cold room temperature graphs or logs	W/SO/WA
2.6	Record the temperatures at which the cold chain products have been issued.	W/SO/WA
2.7	Obtain a signed copy of the delivery note	W/SO/WA
2.9	Transport products to warehouse as per Procedure (SOP 009/01) on handling cold chain products -Transportation	W/SO/WA

2.10	offload cold chain products from vehicle and transfer to the cold room. • Verify quantities against delivery notes • Verify temperature at which commodities are delivered	W/SO/WA
2.11	If commodities are delivered outside the recommended temperatures relocate items to quarantine section of the cold room and inform the SP/WM to act.	W/SO/RDC
2.12	In case of any errors liaise with the back-up cold room attendant and resolve issues.	W/SO/SP/WM
2.13	In case of failure to resolve issues escalate to SP/WM.	W/SO

9.

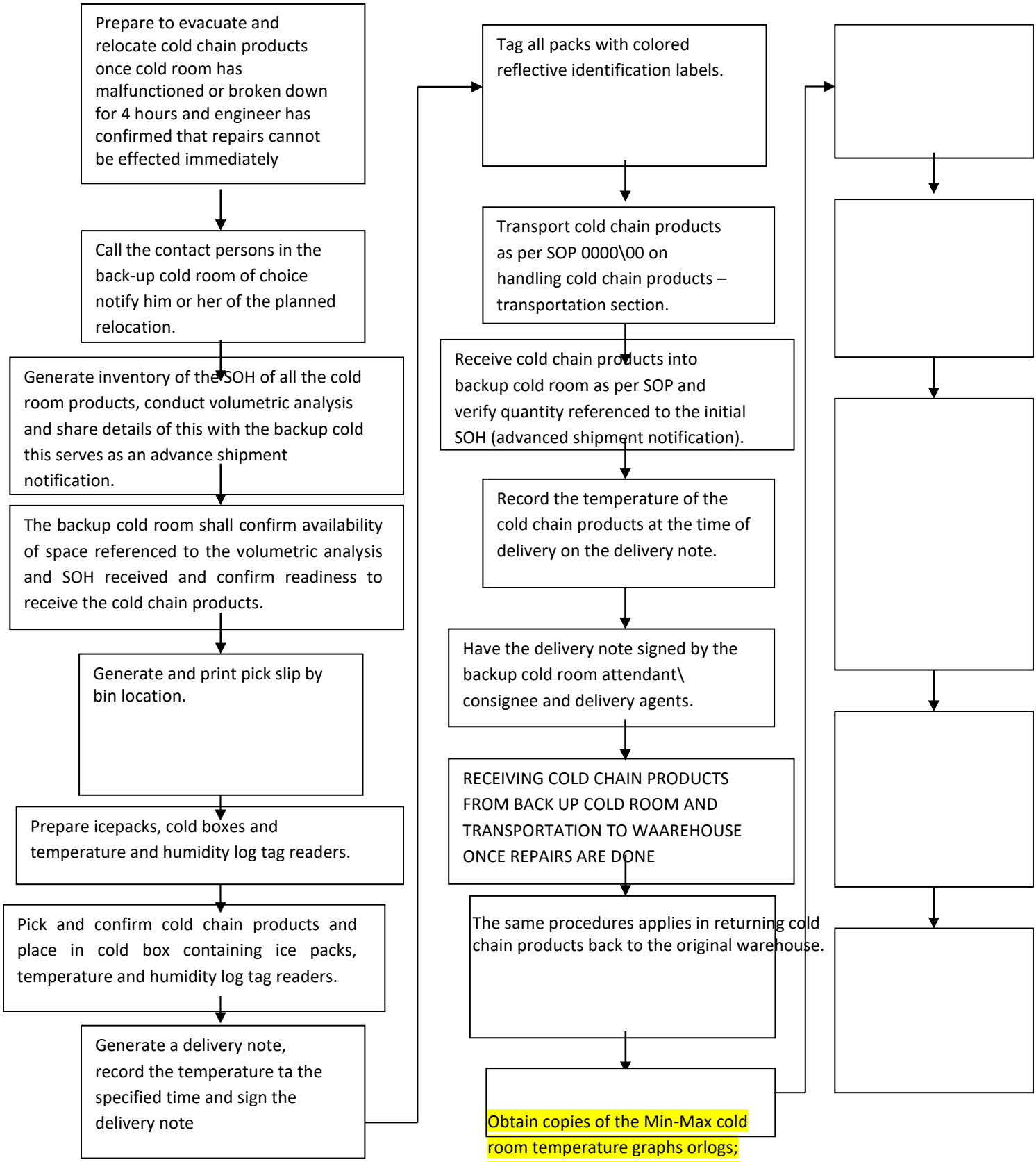
Performance Indicators:

- Cold chain products are evacuated immediately a warehouse cold room malfunction is noticed so far, the cold room temperature is at between 2 to 8 degrees Celsius and the temperature must remain at this range throughout movement and entry and storage into another warehouse cold store.
- Cold chain products are evacuated immediately from the malfunction cold room to the backup cold room while maintaining temperature between 2 to 8 degrees Celsius or as per manufacturer specifications.
-

10. Records:

- Delivery note
- Identification labels
- Temperature graphs or lo

11. Process Map: Emergency Evacuation and Relocation of Cold Chain Products



TITLE: SOP FOR PROCESSING ORDER REQUESTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS\ NPSCMP//WH/SOP	**Revision No.02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 018/024	**Effective Date:**
Next Review Date:	
Person(s) responsible: NC, W/SO, SP, WM, PTL, ICO, HOF, ICC, ADM, HFCMS MIS	

1. **Purpose:** To ensure that the correct quantities of products requested by clients are processed and records are kept accordingly.

2. **Scope:** This procedure covers all activities involved in processing order requests by the warehouse from either the health care facilities and or the programs.

3. **Definition:** Orders refers to request by either the health facility or programs containing details of products to be issued by the warehouse to the SDP.

4. **Abbreviations:**

   - ADM: Administration
   - HF: Head of Finance
   - NC: National Coordinator
   - IM: Inventory manager
   - PM: Procurement Manager
   - PTL: Program Team Leads
   - QAO: Quality Assurance Officer
   - RDC: Receiving & Dispatch Clerk
   - WA/WE: Warehousing Assistant/Checkers/Pickers/Causal officers
   - SP: Superintendent Pharmacist
   - WM: Warehouse Manager
   - W/SO: Warehousing/Store Officer
   - MIS Management Information Systems
   - FEFO First-Expiry-First-Out
   - POC Point of contact

5. **Reference**: ISO 9001:2008

6. **Process Owner**: Inventory Management coordinator

7. **External Parties:** None

8. Standard Operating Procedure

No	Guidance	Action Owner
1.0	**General customer Issues**	
1.0	**Receiving Orders**	
1.1	. Receive orders/requests from the programs and or Health Facilities by: • Written requisition form submitted by program or Health Facility contact person • E-mail from Health Facility or Program contact person. r) •	WM SP
1.2	Confirm receipt of orders in the WMIS or by e-mail/written requisition form	WM SP
1.3	Check that an appropriate account exists for the program/client • If no, request client to complete a client data sheet • Forward to MIS team to create a new program client account • Confirm that the new client or program account has been created.	IM MIS Tea m
1.4	Ensure that all orders have the required authorization i.e. • Signature and stamp of the person in charge of the program • Stamp and signature of an authorized personnel, at the health facility	WM SP
1.5	Refer orders that are not properly endorsed or authorized to clients to address, correct, or resolve any issues	WM SP
	Check total quantities of products on order and inform programs and or health facilities if available.	IM
	Approve orders that have been verified validated for processing.	WM SP
2.0	**Order Processing**	
	Process orders transmitted electronically automatically on the WMS and print the pick slip.	IM
	Process orders received manually on the WMS and print the pick slip.	IM
	Confirm that orders have been processed based on FEFO	

2.1	Generate proforma invoice and issue to health facility point of contact if applicable.	IM
2.2	Confirm payment and attach evidence to the pick slip and or order if applicable. The evidence of payment shall be forwarded to the facility POC.	WM

No	Guidance	Action Owner
2.3	Forward all pick slips to the store to be action accordingly	IM
3.0	**PICK AND PACK**	
3.1	Pick products from bin locations reference to item description, dosage form, batch details, expiry dates and location as stated on the pick slip.	WA
3.2	Place picked products in appropriate cartons, sign the pick slip, insert in the carton and stage in the confirmation area.	WA
3.3	Confirm picked products reference to the pick slip, sign the pick slip and move picked products to the dispatch area.	WA
4.0	**Additional Points to no**	
4.1	Pick slips should not be handed over to clients	All
4.2	Pick slips should not be changed after dispatch	All
4.3	Quantities in orders should not be changed after pick slips has been printed	All
4.4	No amendments should be made to products description or clients particulars	All
4.5	All payments must be verified before dispatch if applicable.	

[1] This is for programmes which pay for their services. As mentioned in steps 2.3, 3.5

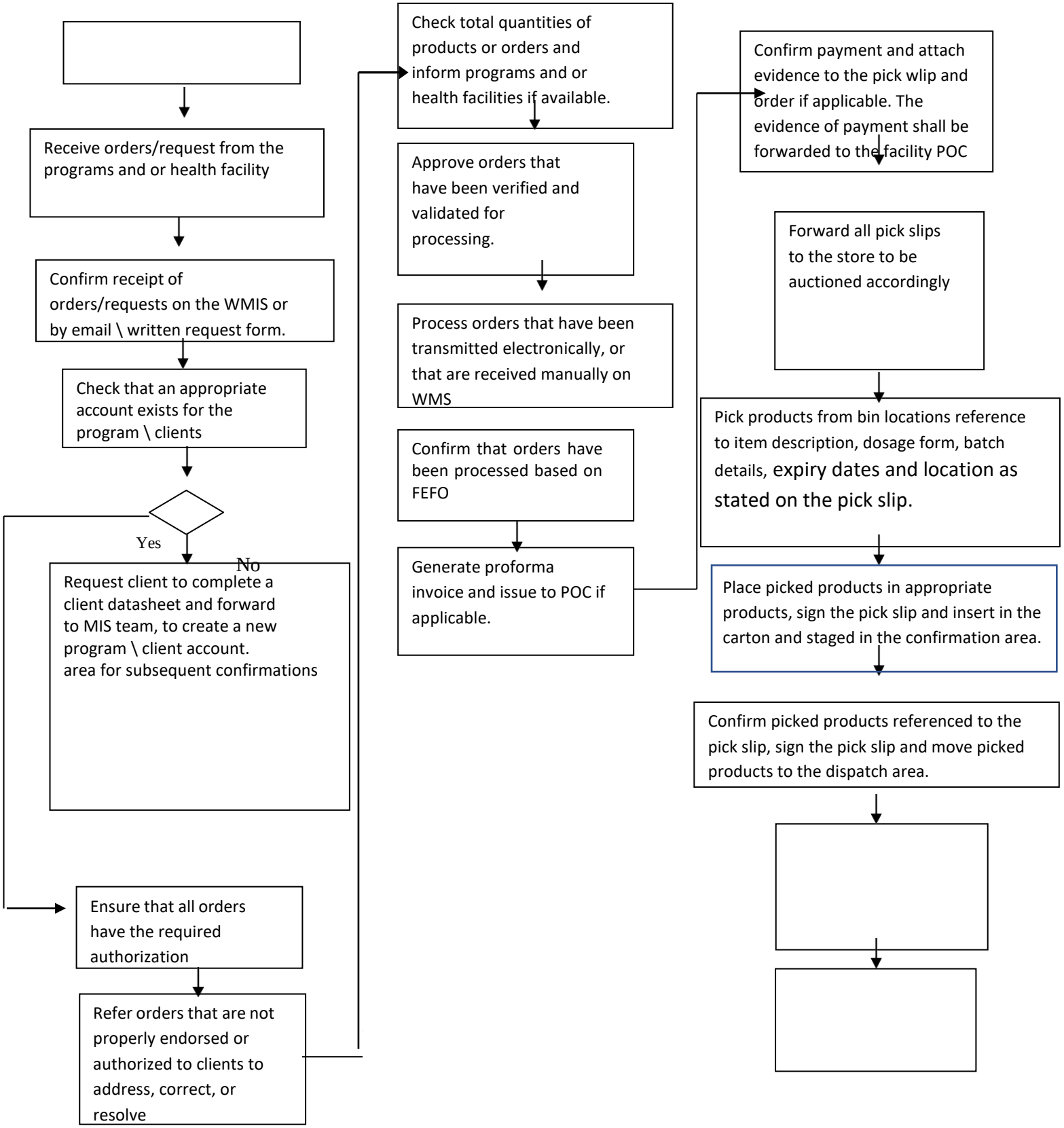
9. Performance Indicators

- The right types and quantities of products requested by customers shall be processed and the right accounts updated correctly. (Number of orders processed correctly divide by number of total orders processed multiply by 100 over a specific period of time).

10. Records:

- Pick slips
- Pro-forma invoice
- Request orders
- Client Account
- Client data sheet

Process Map: For receiving customer orders requests



Standard Operating Procedures: Processing & Distributing Health Commodities

TITLE: SOP FOR CHECKING AND DISPATCHING OF PRODUCTS	
Functional Area: WAREHOUSING	**Date Issued:**
Code: FDS\NPSCMP//WH/SOP	**Revision No.02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 019/024	**Effective Date:**
Next Review Date:	
Person/s Responsible:	**NC, SP, WM, W/SO, PTL, IM, HF, WA, QM, RDC**

1. **Purpose:** To ensure that the right types, batch and quantities of products are dispatched to clients

2. **Scope:** This procedure covers activities involved in checking and dispatch of products under the authority of the Warehouse Manager

3. **Definition:** Checking and dispatching products

4. **Abbreviations:**

- DFDS: Director Foods and Drugs Services
- HF: Head Finance
- IM: Inventory Manager
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehousing Assistant/Checkers/Pickers/Causal staff
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehousing/Store Officer

5. **Reference**: ISO 9001:2008 & WHO Good Storage Practice

6. **Process Owner**: Warehouse/Store Officer

7. **External Parties:** None

8. Standard Operating Procedure: Checking or Dispatching of Products

No	Guidance	Action Owner
1.0	Checking	
1.1	Receive picked products and pick slip from WA at the dispatch area.	W/O
1.2	Ensure that you have adequate space for checking and packing	WA
1.3	Verify that the products picked conform to the specifications indicated on the pick slip for each product. • Check product description • Check quantities • Check batch details nd expiry dates • Check unit of measures, pack sizes and strength • Confirm that the products are not damaged • Confirm that the shelf life is valid • Check that the manufacturer's name is what appears on the pick slip	W/SO
1.4	Put aside the products that do not conform to the specifications above and as stated on the pick slip. b). Replace products with the correct products and confirm using the specifications in 1.3 and confirm	W/SO /WA
1.5	Tick besides the Product No. checked and confirmed, to match the quantity and specifications above.	W/SO /WA
1.6	In case of any discrepancies between pick slip document and productpicked, call the WA to clarify and correct any discrepancy. • Return excess stock to respective locations, • Pick required quantities	W/SO
1.7	Complete the verification as in 1.3 above	W/SO
1.8	Cross check the pick slip to ensure that all products are picked	W/SO /WA
1.9	WM shall generate the delivery note and sign.	IM WA
1.10	Assign WA to pack and seal the consignment properly in appropriate pharma grade packaging material.	W/SO
1.11	Count and write down the total number of boxes/packages making up the consignment on the cartons. Indicate the name and address of the health facility	WA

	on all the cartons.	
1.12	The delivery note along with the consignment shall be handed over to the delivery agent who shall sign and proceed for onward delivery to the SDP.	W/SO
No	**Guidance**	**Action Owner**
1.13	The Warehouse shall retain the pick slip and a copy of the delivery note and payment receipt if applicable and archive for future reference.	WO
2.0	**Dispatch of products to programs**	
2.1	Verify outbound products as per SOP for Verification of Outbound Health products	Participants Team

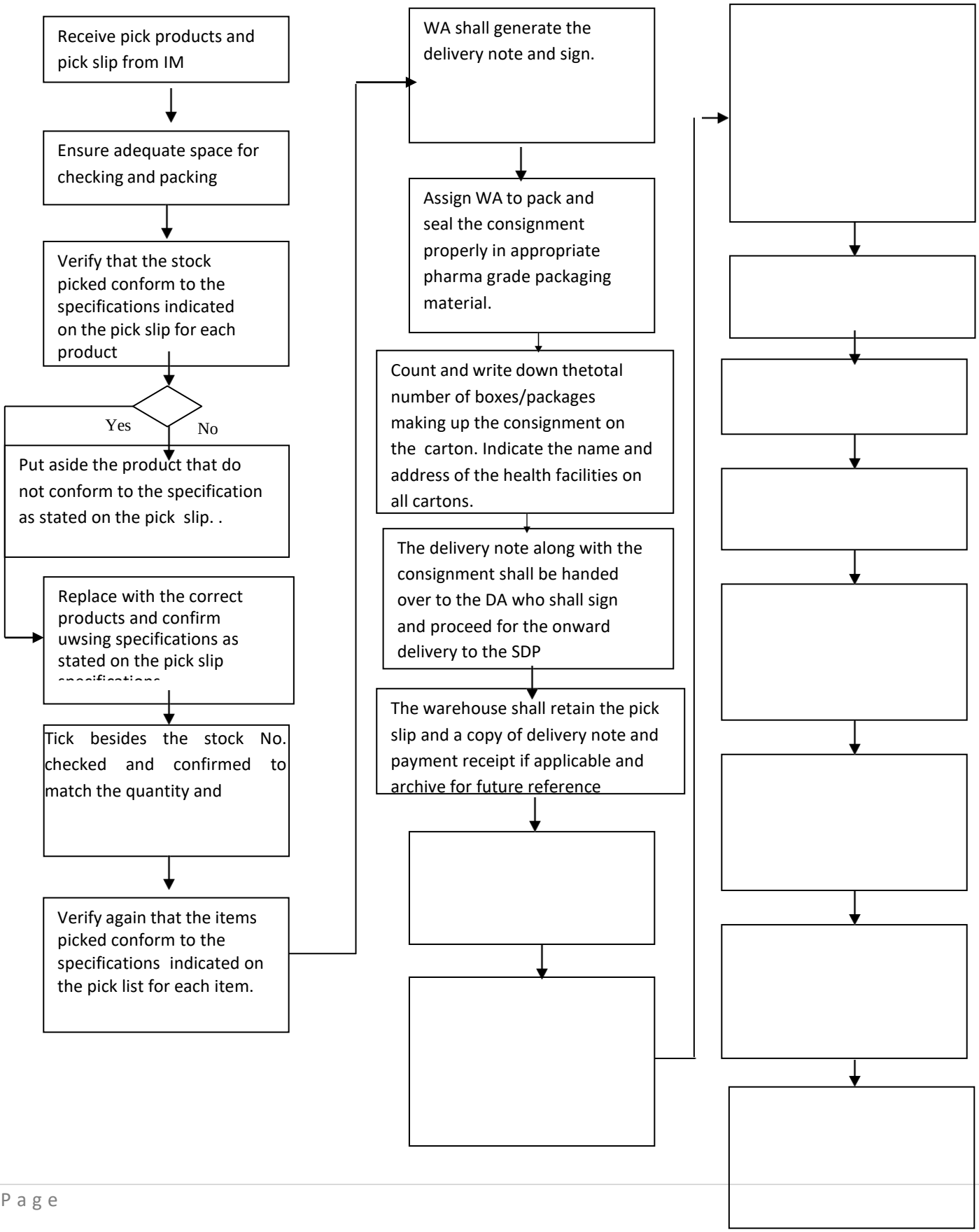
9. **Performance Indicators:**

- The right types and quantities of products shall be always dispatched to customers with the right documents.

10. Records:

1. Pick slip
2. Delivery note
3. Payment Receipt

11. Process Map: For Checking and Dispatching Of Products



TITLE: SOP FOR RESPONSIBILITIES OF WAREHOUSE PERSONNEL	
Functional Area: WAREHOUSING	**Date issued:**
Code : NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 020/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**SP, WM, WA, W/SO, RDC**

1. **Purpose:** All warehouses need to have competent personnel and adequate equipment and materials to manage and control the warehousing operations and the inventories. In addition, the organizational structure needs to be defined detailing the authority, roles, responsibility, and accountability of all warehouse personnel..

2. **Scope:** This SOP covers requisite skills, responsibilities, and activities of personnel for managing Pharma grade warehouses. .
3. **Definition:** Responsibilities of warehouse personnel

4. **Abbreviations**
   - **DMA:** Drug Management Agency
   - **RDC:** Receive and Dispatch Clerk
   - **SP: Superintendent Pharmacist**
   - **WA:** Warehouse Assistant, Checkers, Pickers, Casual staff
   - **W/SO: Warehousing/Store Officer**
   - **WM: Warehouse Manager**
   - **GRN Good Received Notes**
   - **IM Inventory Manager**

5. **Reference**: Standard Operating Procedures (SOP) for warehouse and Inventory Management: UNHCR

6. **Process Owner**: Warehouse Manager

7. **External Parties: None**

8. Standard Operating Procedure: Responsibilities of Warehouse personnel

No	Guidance	Action Owner(s)
1.0	**Responsibilities & Staffing structure**	
1.1	Oversees that the warehouse maintains good warehousing and pharmaceutical practices with respect to the storage, movement, and receipt/issue of inventory. Oversees the storage, movement and receipt/issue of all controlled drugs and poisons.	SP
1.2	Oversee the warehouse operations. Control storage, movement, and receipt/issue of inventory.	WM
1.3	Oversees the Quality of all items entering the warehouse. Oversees s the Quality of all items stored in the warehouse. Oversees the Quality of all items dispatched to other warehouses and Healthcare Facilities for consumption. Oversees all quality practices within the warehouse.	QM
1.4	Ensures that commodities are in their proper position in the warehouse in line with the WMIS. Ensures that items are properly labelled and stacked. Ensures efficient put away and picking of items within the warehouse. Ensures that physical inventory records (Bin/Stock Cards) are at the same location as the products they are referencing.	W/SO
1.5	Match physical quantities against receipt/release Documents and ensure that inventory records on the WMIS and (Bin/Stack & Stock Cards) match physical inventory.	IM
1.6	Update and track inventory files and shipping Documents, ensure proper filing routinely and record keeping.	RDC
1.7	Ensure 24-hour protection of warehouse premises and Items stored.	Security
1.8	Ensure that warehouse staff recognize their responsibility for managing the inventories during receipt, storage, and dispatch, including the handling and filing of documents. It is equally important that all warehouse functions including load masters, loaders, tally clerks, cleaners, casual workers, etc. have clear job descriptions detailing the procedures to be followed. Their job descriptions should include: • Clearly defined responsibilities. • Defined tasks to be performed. • Planned working hours and shifts. • Defined standards for good job performance. • Documents to be used and document flows.	WM/SP

	• Usage of tools and equipment. • All staff should be trained to perform their functions, and regular staff meetings be held, specifically on safety and quality assurance matters.	
2.0	**Routine task and Activities in the warehouse**	
2.1	Plan and implement the daily work flow based on information of inbound and outbound movements and control all warehouse operations. .	WM
2.2	Verify all inventories and assign donor, funder or owner accordingly.	WM, SP, W/SO
2.3	Inspect the general condition of the warehouse premises.	WM/W/SO
2.4	Ensure cleanliness of the building and premises and ensure that waste disposal routines are environmentally friendly.	WM/W/SO/WA
2.5	Ensure security and safety checks are performed.	WM/Security
2.6	Check that the Layout & Storage plan is updated and matching the physical placement of inventory in the storage area.	WM, SP, W/SO
2.7	Ensure that the storage conditions are adequate (general condition and cleanliness, etc.).	WM, W/SO, WA
2.8	Ensure that the stacking of items is appropriate and safe as required in SOP for Staking	WM, W/SO, WA
2.9	Conduct physical checks on the inventory to verify if the bottom layer is elevated from the floor and if items are damaged or not.	WM, W/SO, WA
2.10	Check that the Layout & Storage plan is updated and matching the physical placement of inventory in the storage area.	WM
2.11	Ensure the correctness and completeness of documents, such as Inbound and Outbound Shipment reports, Waybills, GRNs, Inspection reports etc. and ensure they are finalised and delivered as per the SOP.	IM
No	**Guidance**	**Action Owner(s)**
2.12	Check the completeness of documents for handling and filing routines, in the storage area and in the warehouse office (receipt, signatures, updating etc.)	IM, W/SO WM
2.13	Verify that all bins/stacks have Bin/Stack Cards.	WM/W/SO
2.14	Verify that Bin/Stack Cards & Stock Cards are timely updated.	WM, W/SO

2.15	The Warehouse Manager must ensure that the Programme Leads, NPSCMP or State DMA office receive the following information in timely manner: • Daily: Inbound and Outbound Shipment reports; Copies of GRNs, Waybills & Quality Inspection reports. • Weekly (or as otherwise instructed): Stock reports (detailing in/out movements and balances). • Monthly: Copies of Stock Cards (also those where the quantity has reached zero during the reporting period). • Quarterly: Physical Inventory Verification reports.	WM
2.16	Verify that personnel report at the start of their shift, verify absences, and train newly recruited personnel in their tasks, plan for and task personnel for the activities to take place.	WM

9. Performance Indicators:

- Actual number of personnel with requisite skills divided by the expected number of personnel with requisite skills multiplied by 100
- Inventory Management Skill
- Problem Solving Skill
- Team Work and Communication skill

Develop Skill Competency Matrix and evaluate quarterly, with 85% target score

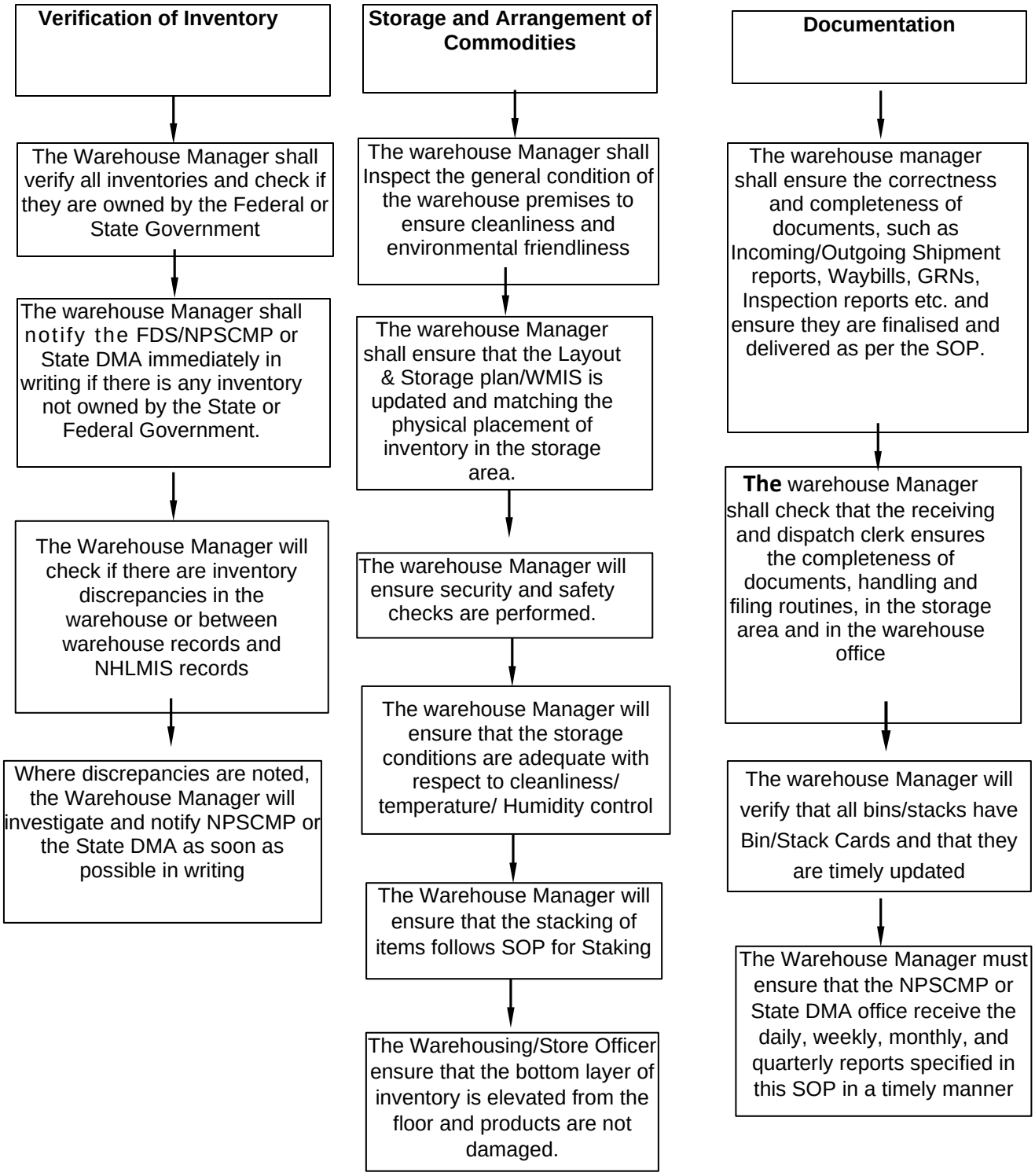
10. Reports

- Copies of GRNs, Waybills & Quality Inspection reports
- Stock reports (detailing Inbound/Outbound, stock on hand and balances)
- Copies of Stock Cards
- Physical Inventory Verification reports

Process Flow Map: Responsibilities of Warehouse Personnel

Documents:

- **Copies of GRNs, Waybills & Quality Inspection reports**
- **Stock reports (detailing in/out movements and balances)**
- **Copies of Stock Cards**
- **Physical Inventory Verification reports**



Standard Operating Procedures: Warehouse Maintenance

TITLE: SOP FOR BASIC WAREHOUSE EQUIPMENT	
Functional Area: WAREHOUSING	**Date issued:**
Code: NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 021/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**WM, W/SO, SP, PM**

1. **Purpose:** All warehouses shall have basic warehouse equipment as detailed in the SOP

2. **Scope:** This SOP covers requirements for basic warehouse equipment for the proper functioning of warehouses used for storing essential medicines and public health products at both Federal and State warehouses.

3. **Definition: Warehouse Equipment refers to any tool that relates to the movement, protection , or storage of goods and products in the warehouse**

4. **Abbreviations**
   PM: Procurement Manager
   WM: Warehouse Manager
   W/SO: Warehousing and Store Officer
   SP: Superintendent Pharmacist

5. **Reference**: Standard Operating Procedures (SOP) for warehouse and Inventory Management: UNHCR, Guidelines for Warehousing Health Commodities USAID DELIVER PROJECT

6. **Process Owner**: Warehouse Manager

7. **External Parties:** None

8. Standard Operating Procedure: Basic Warehouse Equipment

No	Guidance	Action Owner(s)
1.0	Basic equipment below must always be available in the warehouse for the warehouse to function properly.	
1.1	First aid kits (and medical plan) in case a person is injured.	WM/SP/PM
1.2	Material Handling Equipment as follows: 1. Forklifts where space and volume of material handling allow the use of forklifts. 2. Pallet Lift Trucks (Jacks) which can be either manual pallet jacks or electric Pallet Jacks (also called walkie low lift trucks). 3. Rolling warehouse Ladders 4. Pallets For additional information about the equipment listed, please access the following websites: • http:// www.yale.com/ (Yale Materials Handling Cooperation) • http://www. hyster.com/ (Hyster Forklifts) • http://www.mit-lift.com/ (Mitsubishi Forklift Trucks).	WM/PM
1.3	Telephone or radio communications link.	WM
1.4	Internet/fax connection should be arranged to facilitate exchange of information and sharing of data.	WM
1.5	Computer, WMIS & multifunction printer (copier, printers, scanner, fax).	WM
1.6	Source of power apart from national GRID-Generator, Solar Panel and inverters.	WM/PM
1.7	Cooling systems such as air conditioners, refrigerators, freezers, cold room	WM/SP
1.7	Tools for opening cases, such as hammers, crowbars, steel cutters etc.	WM/PM
1.8	Spare sacks, needles, twine, cello tapes, Permanent markers and small containers or cartons to repack supplies when packaging has been damaged.	WM/PM
1.9	Empty Corrugated Cartons.	WM, PM

1.10	Scales for weighing commodities, digital thermometer and hygrometer, suitable size sieves, and two wheeled hand and/or jack trolleys for moving Health products.	WM
1.11	Brooms, dust pans, brushes, and rubbish bins	WM
No	**Guidance**	**Action Owner(s)**
1.11	Provision of First aid kit, flashlights, borehole and water tank, fire extinguishers, smoke detectors, fire alarms, hose reels and other firefighting equipment, both inside and outside the storage building.	SP/WM
1.12	Provision of Power cables or extension boxes	WM
1.13	Provision of stand-by generators if the electric supply is not stable.	WM/PM
2.0	To ensure that the warehouse equipment is always available and functioning	
2.1	A list of all equipment and items provided in this SOP should be maintained in the inventory Register/Ledger.	WM
2.2	A Maximum and a Minimum Quantity Should be determined for all equipment and items provided in this SOP based on historical consumption data within the warehouse.	WM
2.3	Periodic stock taking by the warehousing/store officer.	W/SO
2.4	A requisition voucher for the replacement of routinely used items and equipment should be provided to the Procurement manager when the inventory level reaches the minimum quantity.	WM
2.5	All Equipment is adequately inspected, cleaned, and maintained to their desired specifications in line with the SOP for Equipment Maintenance and Calibration.	WM

9. Performance Indicators: Basic Warehouse Equipment

10. Number of functional basic warehouse equipment/Expected basic equipment x 100

11. Records:

- Equipment Register/Ledger

12. Process Map: Basic Warehouse Equipment

Documents:

- **Inventory Register/Ledger**
- **Requisition Voucher**

Maintaining Basic Equipment Inventory.

A list of all equipment and items provided in this SOP should be maintained in the inventory Register/Ledger by the warehouse Manager.

A Maximum and a Minimum Quantity Should be determined for all equipment and items provided in this SOP by the warehouse Manager.

A weekly Stocktake should be conducted by the Warehouse/Store Officer and provided to the warehouse Manager.

If an item is not available, the warehouse manager shall make a request in line with the procurement SOP.

Maintaining Basic Equipment Inventory Performance.

The warehouse Manager shall ensure that all Equipment is adequately inspected, cleaned, and maintained to their desired specifications in line with the SOP for Equipment Maintenance and Calibration.

Standard Operating Procedures: Warehouse Maintenance

TITLE: SOP FOR EQUIPMENT MAINTENANCE AND CALIBRATION	
Functional Area: Warehouse	**Date Issued:**
Code : NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 022/02	**Effective Date:**
Next Review Date:	
Person/s : NC, SP, WM, W/SO, PTL, IMC, HF, HA	

1. **Purpose:** To ensure that the Warehouse equipment are adequately inspected, cleaned, and maintained as per manufacturer specifications to promote their service life span.

2. **Scope:** This SOP covers all activities related to, planned preventive maintenance activities, and servicing of all warehouse equipment. .

3. **Abbreviation:**

   - HA: Head of Audit
   - HF: Head Finance
   - HFCMS: Head Federal Central Medical Stores
   - NC: National Coordinator
   - IM: Inventory Manager
   - PPM: Planned Preventive Maintenance
   - PM: Procurement Manager
   - PTL: Program Team Leads
   - QM: Quality Manager
   - RDC: Receiving & Dispatch Clerk
   - WA: Warehousing Assistant/Checkers/Pickers/Causal officers
   - SP: Superintendent Pharmacist
   - WM: Warehouse Manager
   - W/SO: Warehousing/Store Officer
   - PPE: Personal Protective Equipment

4. **Definitions**: Planned Preventive Maintenance (PPM): is a well-documented and scheduled plan to be completed before a breakdown occurs. This is unlike unplanned maintenance. The process of planning the maintenance makes the tasks more efficient and eliminates the effect of maintenance on the operations of the facility.

5. **Reference**: WHO Good Warehousing Practices, ISO9001-2008

6. **Process Owner**: Warehousing/Store Officer/Administration

7. **External Parties:** None

8. **Standard Operating Procedure: Equipment Maintenance and Calibration**

No	Guidance	Action Owner
1.0	**Equipment Planned Preventive Maintenance**	
1.1	All equipment used in the warehouse should be inspected prior to and cleaned after each use to ensure a regular and high quality of performance.	W/SO/WA
1.2	Ensure planned service and maintenance of all store equipment by developing a maintenance plan for each equipment and indicate thosethat are still under warranty.	W/SO/QM
1.3	Maintain a log of faults, services, and repairs for all key equipment to allow checking of historical performance/issues	W/SO
1.4	Report failure and damage of forklifts, hand trucks, strapping machine, batteries, PPEs etc. to in-house maintenance technicians	W/SO
1.5	In the event of equipment failure or malfunction, a licensed subcontractor or the warehouse maintenance unit is contacted for repairsand these repairs documented.	W/SO/QM
1.6	Oversee the maintenance of equipment and tools by an external contractor or the warehouse maintenance unit.	WA/QM
2.0	**Calibration of Equipment**	
2.1	Request at least three external providers of calibration services to provide pro-forma invoices for calibration of equipment as required (weighing scale, max-min thermometers & hygrometers).	PM
2.2	Receive, evaluate, and select appropriate calibration services vendor	PM
2.3	Prepare purchase order and forward to vendor to calibrate equipment	PM
2.4	Validate and ensure functionality of calibrated equipment	W/SO/QM
2.5	Share copies of calibration reports with SP/WM, HF and relevant stakeholders.	W/SO/QM
3.0	**Biannual Fire Prevention, Detection & Fighting Equipment Inspection**	

3.1	Request at least three pre-qualified vendor(s) to provide pro-forma invoice(s) for inspection and maintenance of: • Fire extinguishers • Fire detectors • Fire alarms • Fire hoses, reels, and glasses • Etc.	PM
3.2	Receive, evaluate, and select appropriate vendor where applicable	PM
3.3	Prepare purchase order and forward to vendor to conduct inspection	PM
No	**Guidance**	**Action Owner**
	and maintenance of fire equipment	
3.4	Validate and ensure functionality of fire prevention, detection and fighting equipment.	W/SO/QM
3.5	Share copies of the maintenance and service reports with SP/WM/HFCMS	W/SO

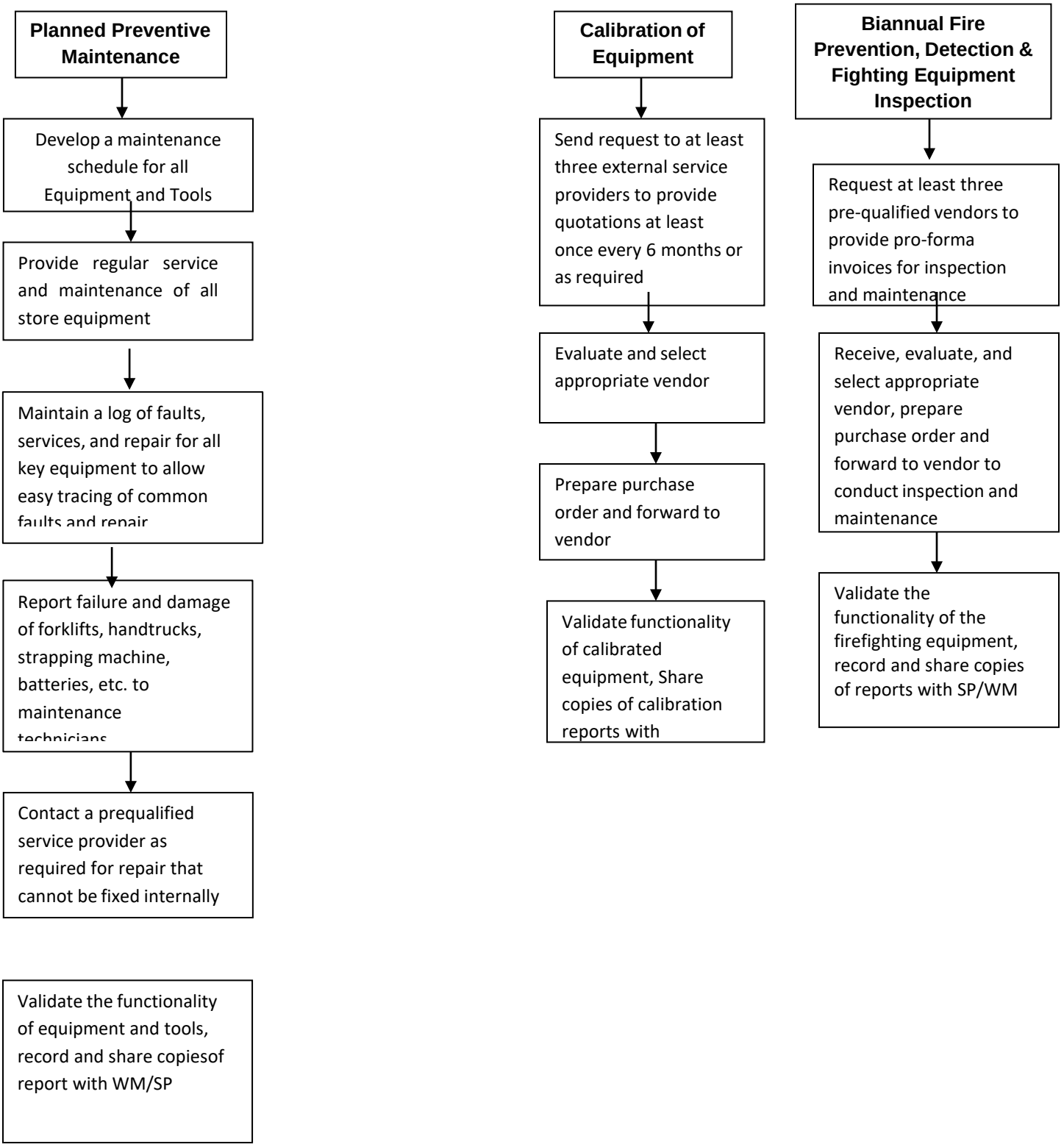
9. Performance Indicators

- Actual number of times the PPM is adhered to divided by the Expected PPM activities multiplied by 100
- There shall be no downtime for any equipment
- Mean Time To Repair (MTTR) in hour
- Mean Time Between Failure (MTBF) in days

10. Records:

- Planned Preventive Maintenance schedule
- List of equipment under warranty
- Purchase Order, Pro-forma Invoice
- Calibration report
- Machine maintenance Log

11. Process Map: For Equipment Maintenance and Calibration



Standard Operating Procedures: Warehouse Maintenance

TITLE: SOP FOR ENVIRONMENTAL CONTROL	
Functional Area: Warehouse	**Date Issued:**
Code : NPSCMP/FDS/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 023/02	**Effective Date:**
Next Review Date:	
Person/s Responsible: NC, SP, WM, W/SO, PTL, IM, HF, PM, QM, WA, RDC	

1. **Purpose: 1. Purpose** To describe the activities required to be followed to ensure that the warehouse environment is suitable for storage of health products and to promote health and safety of warehouse staff

2. **Scope:** This SOP covers all activities related to environmental control e.g. the external and internal environment of the warehouse.

3. **Abbreviation:**

- HF: Head Finance
- IM: Inventory Manager
- N/SC: National/State Coordinator
- PM: Procurement Manager
- PTL: Program Team Leads
- QM: Quality Manager
- RDC: Receiving & Dispatch Clerk
- WA: Warehouse Assistant/Checkers/Pickers/Causal officers
- SP: Superintendent Pharmacist
- WM: Warehouse Manager
- W/SO: Warehouse/Store Officer

4. **Definitions**: Warehouse surroundings and maintenance

5. **Reference**: WHO Good Warehousing Practices, ISO9001-2008

6. **Process Owner**: Warehousing/Store Officer/Administration

7. **External Parties:** None

8. Standard Operating Procedure: Warehouse Maintenance

No	Guidance	Action Owner
1.0	**Environmental Control Internal**	
1.1	Print temperature and humidity monitoring record sheets	WA
1.2	Read and record minimum, maximum and current temperatures for thestores every morning, afternoon, and evening	WA
1.3	Notify the W/SO and copy the SP/WM if • Humidity is above 70% for >3 days • Temperature above 30^0C for > 3 days • There is a difference in temperature readings of >5^0C in 3 consecutive day's average readings • There is a difference in humidity readings of >5% in 3 consecutive day's average readings	QM
1.4	Plot the readings on a monthly chart or I-button charts and file both.	QM
1.5	Check daily that all products are stored in the conditions specified on packages and take corrective actions accordingly.	WA/QM
1.6	Share copies of temperature and humidity readings with W/SO & IM and relevant stakeholders	WA/QM
2.0	**Monthly Inspection of Stores internal and External**	
2.1	Conduct a physical inspection of the stores at least once a week and check for: • Electrical faults and lighting • Pests and rodents • Leakages or ground water seepage • Flaking paint • Cracks in walls, ceiling, and floor • Integrity of door locks • Integrity of racks and pallets • Signs of vermin • Compound and external appearance	W/SO/IMC
2.2	Prepare and present inspection report, and indicate any potential problems to SP/WM	W/SO
2.3	Arrange to have the problems fixed in time	W/SO

2.4	Supervise the maintenance operations by external vendors or warehouse maintenance unit.	W/SO/QM

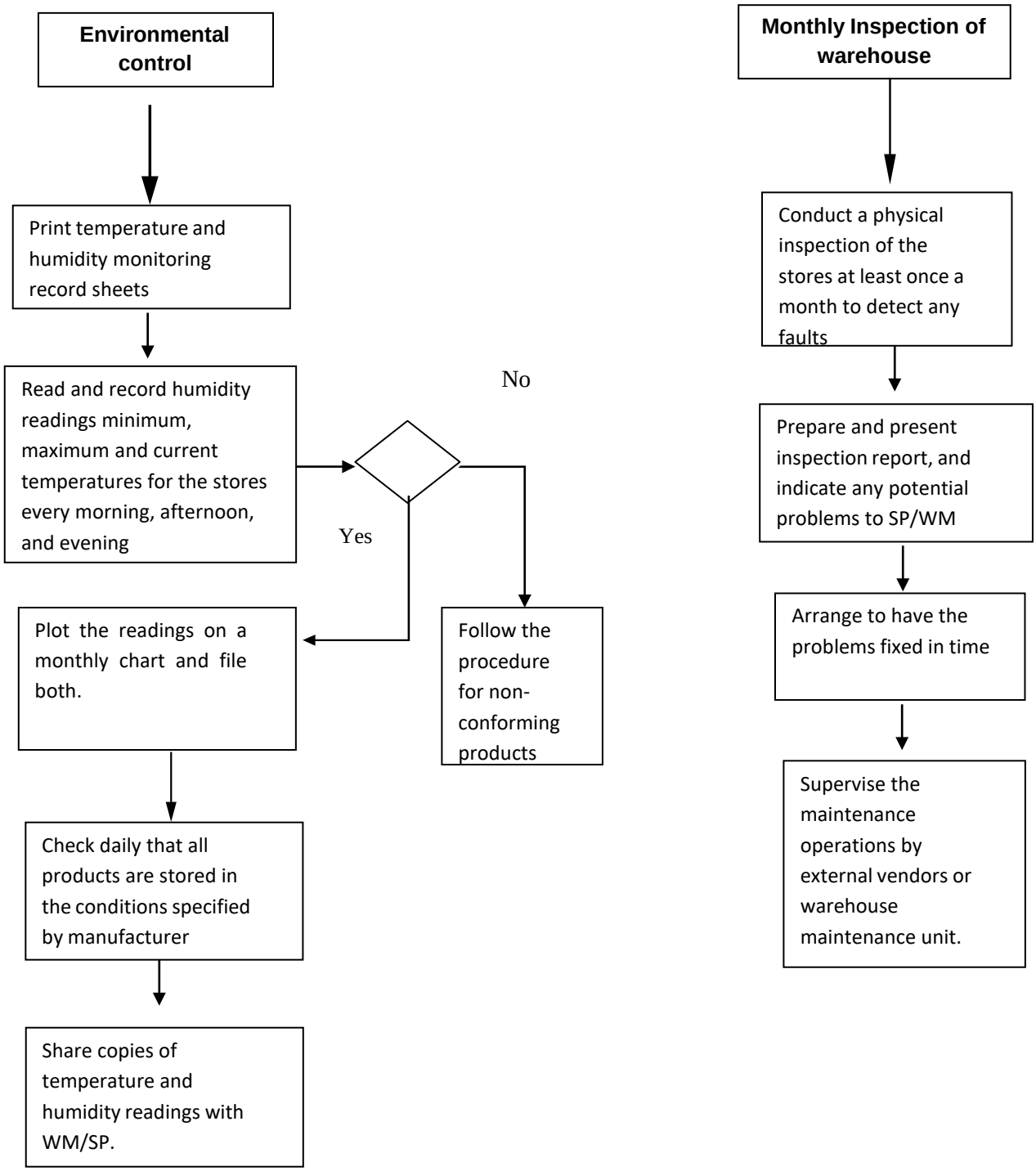
9. Performance Indicators These are qualitative

- There shall be no Electrical faults in the warehouse.
- The warehouse shall have adequate lighting
- There shall be no Pests and rodents or signs of vermin in the warehouse.
- There shall be no roof or wall leakage or ground water seepage in the warehouse.
- There shall be no flaking paint in the warehouse.

10. Records:

- Temperature and humidity monitoring records
- Temperature and humidity charts
- Maintenance report

11. Process Map: For Environmental Control



Standard Operating Procedures: Warehouse Maintenance

TITLE: SOP FOR PEST CONTROL	
Department: WAREHOUSING	**Date Issued:**
Code :FDS NPSCMP/FDS/WH/SOP	**Revision No.** 02
Prepared by: NPSCMP	**Approved by:** NC
SOP No: 024/02	**Effective Date:**
Next Review Date:	
Person(s) Responsible: NC, SP, WM, W/SO, PTL, IM, HF, WA, RDC	

1. Purpose: To define the procedures and responsibilities for the maintenance of the pest control program

2. Scope: This procedure applies to the warehouse where products are stored, it covers preparatory pest control activities; bimonthly inspection, biannual treatment, and control as well as preventive measures/activities.

3. Abbreviations:
   - HF: Head Finance
   - IM: Inventory Manager
   - N/SC: National Coordinator
   - PM: Procurement Manager
   - PTL: Program Team Leads
   - QM: Quality Manager
   - RDC: Receiving & Dispatch Clerk
   - WA: Warehouse Assistant/Checkers/Pickers/Causal officers
   - SP: Superintendent Pharmacist
   - WM: Warehouse Manager
   - W/SO: Warehouse/Store Officer

4. Definitions: Pest control is the process of managing and preventing pests such as insects, rodents and other animals from causing damages to products in the warehouse, building and warehouse environment.

5. References:
   - WHO Good Storage Practice
   - ISO9001:2008 Quality Management System Audit Check List

6 Process Owner: Warehouse Store Officer/Warehouse Manager

7 External Parties: None

8 **Standard Operating Procedure: Pest Control**

No	Procedure	Action Owner
1.0	**Preparatory pest control activities**	
1.1	Prequalify, evaluate, and select providers of pest control services	W/SO/HF/PM
1.2	Request vendor to prepare and share a pest control program.This should consist of; • Bimonthly inspections • Biannual pest control • List of pest control methods to be used including recommended preventive measures/activities • List of safe pesticides that meet regulatory approval for use under the pest control program. • Precautions to be taken if any	W/SO/HF/PM
1.3	Circulate and share the pest control program with SP/WM	W/SO
2.0	**Bimonthly inspections**	W/SO/Vendor
2.1	Vendor inspects the interior and exterior warehouse environment together with W/SO for any signs of pests.	Vendor/W/SO/QM
2.2	Examine, refill and replace, where necessary, each and every baitbox in the warehouse	Vendor/W/SO/QM
2.3	Document observations and interventions in the Pest Control & Treatment Report Book and share with SP/WM	Vendor/W/SO
2.4	In the event of a gross infestation resulting in damage to products,a Incident report must be written by the W/SO and copied to the SP/WM	W/SO
2.5	The causes of such Incident shall be addressed within a maximum of 5 days and the Incident report shall be maintained by the W/SO alongside the Pest Control Treatment Report Book.	SP/WM
3.0	**Biannual pest treatment and control**	
3.1	Inspect the interior and exterior warehouse environment for anysigns of pests.	Vendor/W/SO
3.2	Use the specified pre-agreed regulatory approved pesticides andpest control methods to control pests • Plant baits and traps where applicable using non-toxic pesticides e.g. Bromadiolone. • Spray entrances, crevices and other susceptible areas using non-toxic pesticides e.g. Dichlorvos. • Use toxic chemicals e.g. Chlorpyriphos to spray manholes • Use toxic chemical e.g. Bifenthrin to spray gardens	Vendor

No	Procedure	Action Owner
3.3	Document observations and interventions in the Pest Control & Treatment Report Book and share with SP/WM	Vendor/W/SO
4.0	**Preventive measures/activities**	
4.1	Report any signs of insect, rodent infestation or bird activity observed to immediate supervisors who in turn, will report the observation to the SP/WM	WA/ Cleaners
4.2	Eliminate perches near doors and ensure that evidence of bird activity is not present in the storage areas.	WA/ Cleaner
4.3	Where practical, feasible and in consultation with SP/WM, request for the use of Ultra Violet insect electrocutors.	W/SO
4.4	Wherever applicable and feasible keep exterior doors closed when not in use, to minimize pest entry to the warehouse.	WO/WA/ Cleaners
4.5	Do not eat or drink in the warehouse to deter pest activity and infestations	All
4.6	Maintain the warehouse clean, neat, and tidy.	Cleaners

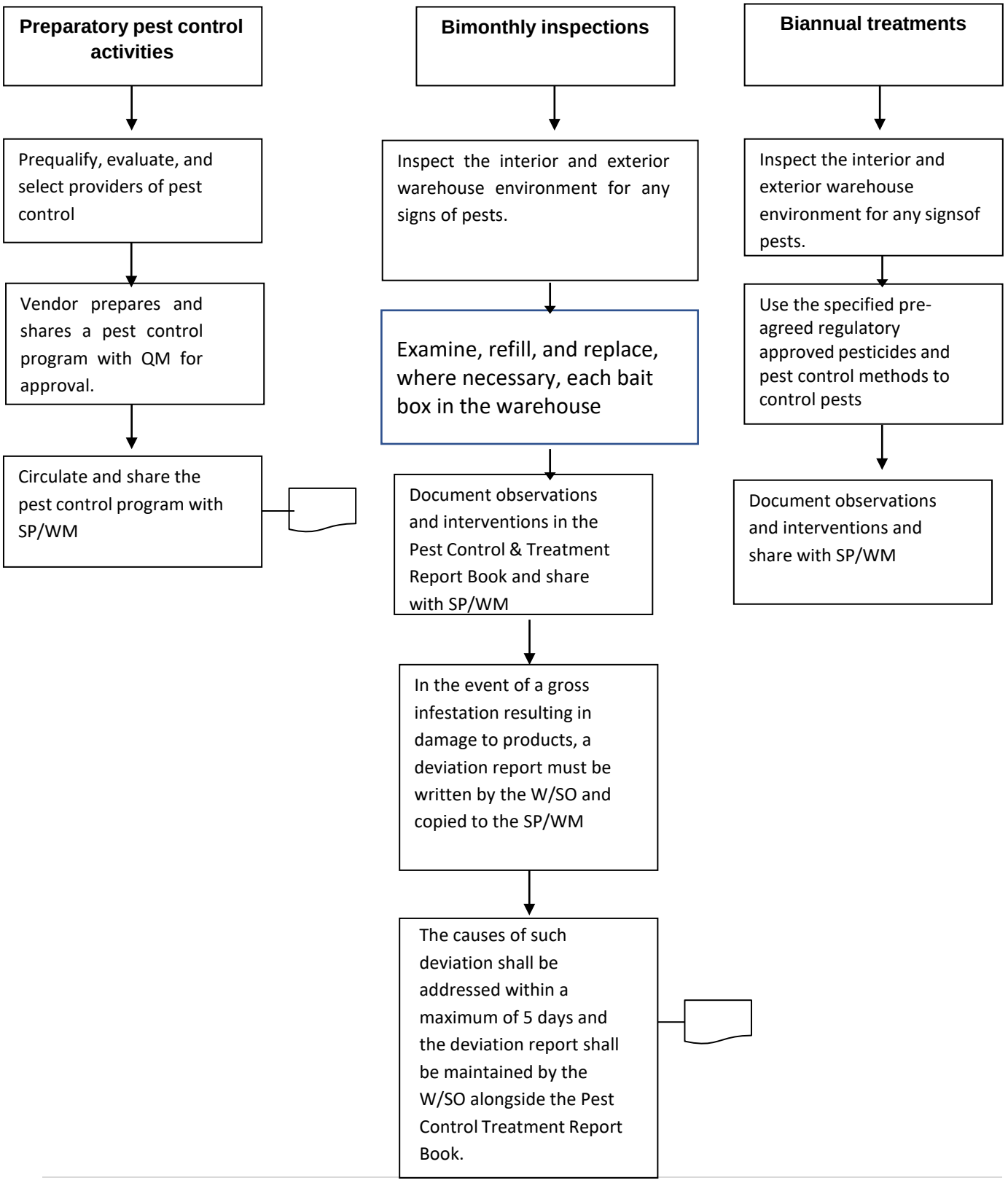
9 Performance Indicators:

- There shall be no evidence of pest infestation in the warehouse or in warehouse surroundings.
- There shall be no impact of pests on health commodities or warehouse equipment.
- Any evidence of pest infestation in the warehouse should be handled as soon as it is discovered.

10 Records:

- Pest Control & Treatment Report Book
- Pest control program

11. Process Map: For Pest Control



Standard Operating Procedures: Warehouse Maintenance

TITLE: SOP FOR SECURITY AND SAFETY	
Functional Area: WAREHOUSING	**Date issued:**
Code : FDS\NPSCMP//WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 024/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**WM, W/SO. N/SC, RDC, ITM, DFDS, Security**

1. **Purpose: To** protect health products from the risks of fire, loss, breakage, damage, and theft and to ensure the safety of warehouse personnel.

2. **Scope:** This SOP covers requirements for protection of warehouses from the risks of fire, loss, breakage, damage, and theft. And to ensure safety and security of warehouse staffs. These are warehouses storing essential and public health products at both Federal and State warehouses and facility stores.

3. **Definitions:** Security: is the state of been free from danger or threat
4. Safety: is the condition of been free from hurt injuries or loss.

5. **Abbreviations:**
    - **WM:** Warehouse Manager
    - **W/SO:** Warehouse and store officer
    - **N/SC:** National or State Coordinator
    - **RDC:** Receive and Dispatch Clerk
    - **ITM:** IT Manager
    - **DFDS:** Director of Food and Drug Services

6. **Reference**: INDO PACIFIC SUPPLY CHAIN DTAC- Warehouses Standard Operating Procedures

7. **Process Owner**: Warehouse Manager

8. External Parties: None

9. Procedure: Security and Safety and Security of Stock

No	Guidance	Action Owner(s)
1.0	**Security risk assessment and facilities assessment and preparation of infrastructure plan**	
1.1	Security lighting, evacuation plan (escape exits) and assembly points\muster points clearly identified and marked.	WM
1.2	Appropriate fencing and other security measures as alarms; perimeter walls/fences towards adjoining buildings/areas. This may include security guards/ response plan / support from Government Security Forces.	WM, N/SC
1.3	No smoking policy.	WM
1.4	Firefighting equipment and fire safety plan.	WM
1.5	Limited and controlled entry/exit to the warehouse/storage area.	WM
1.6	Storage requirements for hazardous items (especially fuel or flammable substances).	WM
1.7	Special storage and security conditions for high value Health Products and other items:	WM, Security
1.8	Incident response plan.	WM, Security
1.9	Warehouse staff understanding of safety measures and safety drill	WM
2.0	**Warehouse requirements for safety and Security**	
2.1	A working phone, radio and adequate surveillance cameras.	WM
2.2	Adequate external lighting for night staff.	WM
2.3	Fire extinguishers at convenient points throughout the facility, particularly in the warehouse. Staff should know the locations of all fire extinguishers.	WM
2.4	Amenities, including a guardhouse and toilet, which must be available to security staff and not accessed by non-staff members.	WM
2.5	A well-maintained perimeter fence made entirely of concrete (or with concrete footings and solid metal bars) to prevent penetration by vehicles or large groups.	WM
2.6	A well-constructed gate, which must remain closed and locked at all times outside of business hours. During business hours, security staff is to be actively on duty at the entrance.	WM
No	**Guidance**	**Action Owner(s)**
3.0	**Hazardous products**	

3.1	Hazardous, flammable, or explosive materials need to be stored away from inhabited areas and surrounded by metal or masonry barriers	WM, W/SO
3.2	Keep hazardous Health products and other Hazardous products away from other products.	WM, W/SO
3.3	Be aware of the different hazard classes and which hazardous/dangerous Health products that cannot be stored together.	WM, W/SO
3.4	All hazardous/dangerous Health products and other hazardous products must be appropriately marked with markings/stickers on the Health products/packing.	WM, W/SO
3.5	All staff must be trained \informed about handling, preventive and mitigating actions, .	WM, W/SO
4.0	**Security**	
4.1	There should be designated security personnel for 24- hours services at the warehouse The warehouse manager should ensure that they: • Wear a clearly recognisable uniform at all times. • Shall be responsible for granting access to staff members and – where necessary – inspecting credentials. Security staff should be trained that only authorised persons are allowed into the premises . • Inspect the shipment documents/delivery vouchers • for every delivery vehicle arriving to ensure the delivery is for the facility. Security staff will receive training in how to properly assess shipment document and delivery vouchers andredirect the vehicle to the correct site where necessary.	WM
5.0	**Warehouse staff responsibilities for Security**	
5.1	The main roller doors to the warehouse should always remain closed unless stock is being received or dispatched.	WM, WS/O, RDC, SP, WA
5.2	The warehouse and all office facilities should be locked outside business hours and not accessible by security staff. The facility should also be lockable from the inside for staff working alone.	WM, WS/O, RDC, SP, WA
5.3	External visitors must be always accompanied when inside the warehouse. They must fill in the visitor's log, recording their name, organisation, reason for entry, date of entry, time in, time out and signature.	WM, WS/O, RDC, SP, WA
No	**Guidance**	**Action Owner(s)**
5.4	No stock may be removed by any person at any time without the documented approval of the Head of the DMA, or for program products, PSM Head/ program team lead. Only stock for which an invoice and approved pick slip have been generated may be dispatched from the facility. Any staff member suspected of inappropriately removing stock must be reported immediately to the Warehouse Director or Manager.	WM, WS/O, RDC, SP, WA

5.5	A comprehensive Closed-Circuit TV (CCTV) system should be set up with video stored on a local server.	WM, WS/O, RDC, SP, WA
h5.6	Data storage, backup and monitoring is the responsibility of the local IT Department.	WM, WS/O, RDC, SP, WA
5.7	Access to the server should be restricted and the room should remain locked whenever IT staff are not present.	WM, WS/O, RDC, SP, WA
5.8	If footage needs to be reviewed, IT staff should prepare the relevant video and watch it in the presence of senior staff members.	WM, WS/O, RDC, SP, WA

10. Performance Indicators: Security and Safety

- All warehouse staff must understand and fully implement the required actions for Security and Safety.

11. Reports

- Visitors Logbook
- Incident Response Plan

Standard Operating Procedures: Warehouse Layout Design

TITLE: SOP FOR WAREHOUSE LAYOUT AND STORAGE PLAN	
Functional Area: WAREHOUSING	**Date issued:**
Code :/FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 025/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**WM. N/SC, PTL, W/SO, RDC, ITM**

1. **Purpose:** One of the main objectives of warehouse management is to ensure that inventories stored for shorter or longer periods of time are in the best possible condition while in storage until dispatched for use by the beneficiaries. The Layout & Storage plan is a tool to manage space utilisation in the warehouse and to ensure efficient workflow within the warehouse.

2. **Scope:** This SOP covers the warehouse Layout & Storage plan for essential medicines and public health products for Federal and State warehouses.

3. **Definition:** Warehouse Layout and Storage plan: The efficiency of any warehouse operation highly depends on its floor plan's layout and design. Key steps to an efficient warehouse layout design include schematic creation, space optimization, equipment selection, implementation of sound workflow strategies, and traffic flow testing.

   Safety Area:Area mapped out for first aid treatment before referal

4. **Abbreviations:**
   - **WM:** Warehouse Manager
   - **W/SO:** Warehouse and store officer
   - **N/SC:** National or State Coordinator
   - **RDC:** Receive and Dispatch Clerk
   - **ITM:** IT Manager
   - **PTL: Program Team Lead**
   - **WDE:** Warehouse Design Expert
   - **SP: Superintendent Pharmacist**
   - **WMIS: Warehouse Management Information System**

5. **References**:
   - Standard Operating Procedures (SOP) for warehouse and Inventory Management: UNHCR,
   - https://fitsmallbusiness.com/warehouse-layout/
   - https://www.bigrentz.com/blog/warehouse-layout

6. **Process Owner**: Warehouse Manager

7. **External Parties**: Warehouse design expert

8. Standard Operating Procedure: Warehouse Layout and Storage Plan

No	Guidance	Action Owner(s)
1.0	**Layout & Storage plan**	
1.1	All warehouses should maintain a Layout and Storage Plan based on a grid layout, showing where the different items are stored, and update it regularly. The storage areas should be marked by paint on the floor and include area, row and aisle identification codes (e.g.: grid Area 2/Row A/Aisle 1).	WM, N/SC, SP, WDE
1.2	A minimum of six areas should be designated • Office area • Health products receiving area • Health products storage area • Damaged/expired Health products area • Staging/loading area for items picked and ready for release. • Quarantine Area	WM, N/SC, SP, WDE
1.3	Further areas that may also be required such as: • Sealed/locked area, for attractive and/or high value items. • Spare parts storage area • Temperature controlled/cold chain storage area • Dangerous items area (pesticides, fuel, etc.) • Safety area	WM, N/SC, SP, WDE
1.4	When developing the Layout & Storage plan, the following must be ensured: • Store items on pallets • Allow at least one meter space around stacks and between stacks, walls, pillars, beams, or other obstructions, for ventilation and manoeuvring. • Store different consignments (lot IDs/PO numbers) of the same item in separate stacks • Use the FEFO (first expiry/first out) principle unless special circumstances such as emergencies require to deviate. • Record the location of stock in the Layout & Storage plan, in the Stock Card/WMIS, and include the following details: - Storage area code (e.g.: grid: Area 1/Row A/Aisle 2). - Commodity code or description of the item. - Lot ID/PO number of the item.	WM, N/SC, SP, WDE

1.5	Before starting on the layout planning process for the warehouse floor plan, consider the needs—from space utilization, storage options, and productivity equipment to aisle layout and production area workflows. Also, keep the inventory management system in mind, as the layout will impact your ability to manage inventory effectively.	WM, N/SC, SP, WDE
No	**Guidance**	**Action Owner(s)**
1.6	Design a map, blueprint, or design of the warehouse. Please reference an existing map of the warehouse, or a new one can be designed. This can be done manually or with the aid of warehouse layout design software by the warehouse manager or a warehouse design expert who can design an optimized layout based on your specifications and needs. It is recommended that the design be U shape or L Shape design depending on the space available.	WM, N/SC, SP, WDE
1.7	Ensure that the different areas are labelled and the direction of the workflow, including walking paths and the flow of shipment and products. Include space measurements in the design, like the height of the building inside.	WM, N/SC, SP, WDE
1.8	Plan for Space Optimization: The aisles shall be a minimum of 2 metres- where forklifts will be used; pallets should be at least 30cm away from the wall and 10cm from the floor. Also use the following calculations to calculate the following metrics to see how much space is available. • Total warehouse space calculation: - Identify the total square footage of the warehouse. - Subtract office space, restrooms, and any other space that isn't used for storage. - Multiply the remaining square footage by the clear height of the warehouse (distance from the floor to any overhead object). - Potential Storage Area size calculation: • Multiply the length and width of the outside dimensions of your racking by the height of the highest load in that area. This results in the cubic volume for your storage area size. *It is the potential storage space or maximum storage space* based on the current setup.Storage utilization calculation: - **If the warehouse uses a warehouse management information system (WMIS):** Obtain the total volume of all products stored in the warehouse, as this is reflected in the WMIS already. Divide the total volume of all products by the storage area size and multiply by 100. - **If the warehouse does not use a WMIS:** Divide the storage area into possible sections (like stacking rows). Estimate the percent utilization of each row. Next, add the results together and divide by the number of each section or row.	WM, N/SC, SP, WDE
1.9	Choose warehouse Equipment: Pallet, Racks, Shelves, Forklifts, pallet jacks, PPE, Fire fighting Equipment , Water Hydrant , Planned Preventive System, High Reach Truck and Mobile Step Galvanised Steel Ladder where required.	WM, N/SC, SP, WDE
1.10	Use efficient traffic flow strategies for workers, materials, and Health products move in, out and around the warehouse for work to safely occur.	WM, N/SC, SP, WDE

	This is where the warehouse manager or warehouse staff need adequate space to stock received Health products and pick items for orders.	
No	**Guidance**	**Action Owner(s)**
1.11	Allocate workspace for warehouse staff to move Health products into, around, and out of the warehouse which are the packing, shipping, and receiving areas,	WM, N/SC, SP, WDE
2.0	**Test out the new warehouse layout before use**	
2.1	Measure the space and apply masking tape on the floor to mark the positioning of the main units—whether they're equipment, tables, or shelves or aisles. This is not necessary for every piece, but it is important to mock up key workflow and production zone areas.	WM, WDE
2.2	Walk through the space of the warehouse as though actually conducting key tasks that will be performed in the warehouse: • Practice performing work functions: Carry boxes, tools, or materials to test the warehouse design. Ensure that there is plenty of clearance in all directions. Roll carts or pallet jacks through the warehouse layout to ensure items navigate easily along the planned paths—even when heavily loaded down. • Ensure that employees test the floor plan: Staff in the warehouse should also be involved in acting out work processes. • Make sure staff has ample room to conduct the tasks they will be required to perform. • Check hard-to-change layout areas multiple times**:** If there are large spaces within the warehouse layout that will house heavy equipment or large shelving units, these areas should be tested multiple times. It is better to make traffic flow corrections at this stage (while changes can be easily made) than to move heavy fixtures and equipment once they're installed.	WM, SP, WDE

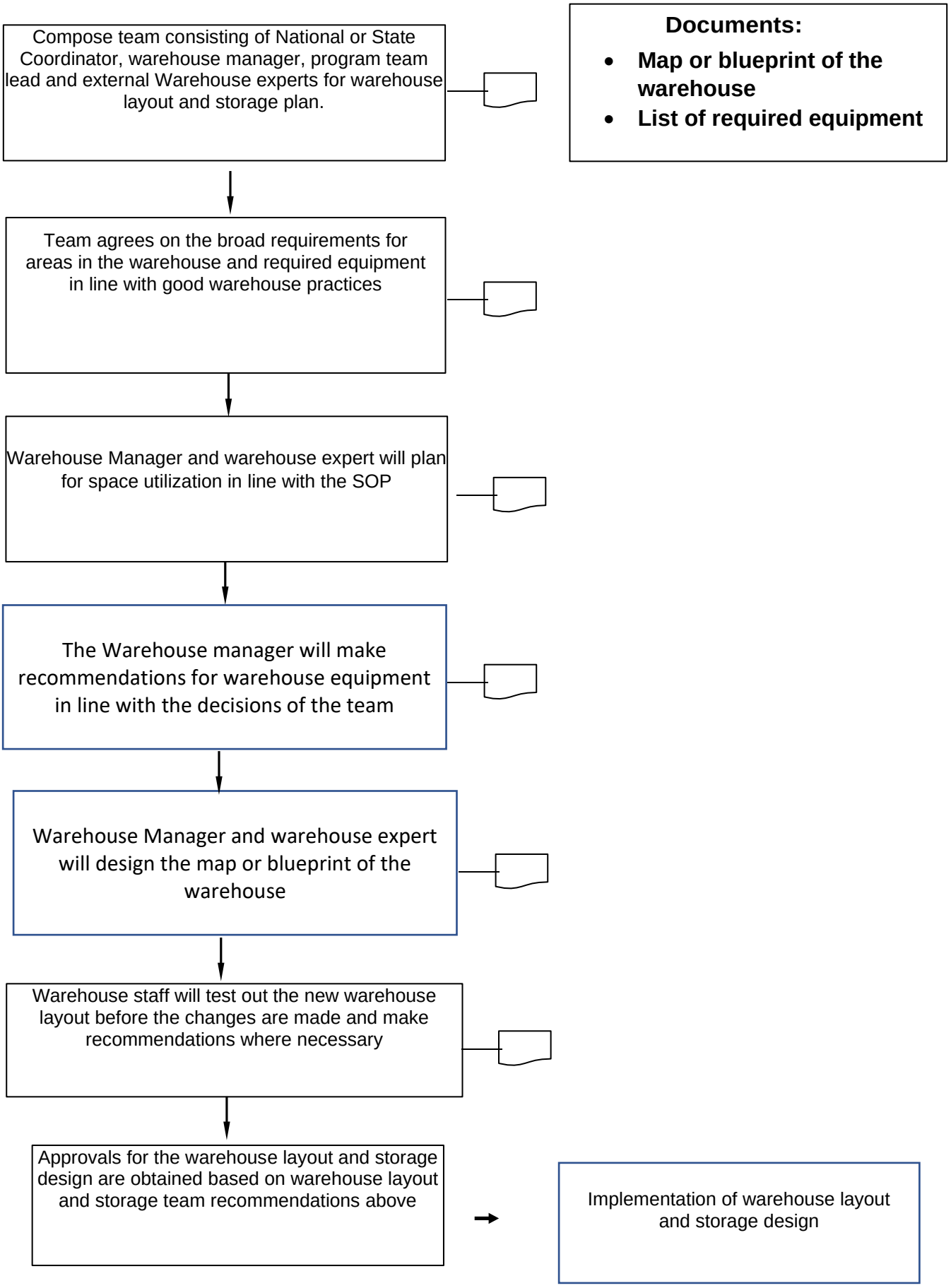
9. Performance Indicators:

- Well-designed warehouse plan with flow that allows for the efficient flow and storage of Healthcare Commodities.
- Storage capacity of the warehouse
- Space Optimisation of the warehouse
- Pallet utilisation: Number of pallets occupied/ Total number of usable pallet *100%
- Adherence to standard stacking requirement

10. Records

- Map or blueprint of the warehouse
- List of required equipment

11. **Process Map: Warehouse Layout and Storage Plan**



Standard Operating Procedure for creating Traceability Events

TITLE: SOP FOR GLOBAL LOCATION NUMBER	
Functional Area: WAREHOUSING	**Date issued:**
Code : /FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 026/024	**Effective Date:**
Person(s) Responsible	**SP, WM, N/SC**

1. **Purpose:** This is for Federal and State warehouses to have location identification keys based on GS1 Standards in compliance with the National Pharmaceutical Traceability strategy to achieve real time supply chain visibility as Health Commodities move from one location to another. Traceability provides the means through which healthcare commodities are tracked through the supply chain up to the point of dispense to see where products reached or are presently in the supply chain for the purpose of obtaining data for inventory management, stock availability, managing shelf life, forecasting, product qualification and the realities of contingencies where products may need to be transferred between locations.

2. **Scope:** This SOP covers requirements for the tracking and traceability of commodities in the Federal and State warehouse.

3. **Definition: Global Location Number:** GS1 Globally Unique Identification keys for identifying legal entities, physical locations or a function that takes place in department within a physical location.

4. **Abbreviations:**
   SP: Superintendent Pharmacist
   WM: Warehouse Manager
   N/SC: NAFDAC National or State Coordinator
   GLN: Global Location Number
   GS1: Global Standard 1
   GSTH: Global Traceability Standard for Healthcare

5. **Reference**: GS1 Global Traceability Standard for Healthcare (GTSH) Implementation Guideline

6. **Process Owner**: Superintendent Pharmacist

7. **External Parties**: GS1, NAFDAC

8. **Standard Operating Procedure: Global Location Number**

No	Guidance	Action Owner(s)
1	The NAFDAC National Coordinator for GLN will obtain from GS1 the list of all Federal Warehouses and Healthcare Facilities that have Global Location Numbers (GLNs) and also the requirements to obtain a Global Location Number.	NC
2	The NAFDAC state Coordinator for GLN will obtain from GS1 the list of all Warehouses and Healthcare Facilities that have Global Location Numbers (GLNs) and also the requirements to obtain a Global Location Number.	SC
3	The lists in (1) and (2) will be shared with Superintendent Pharmacists of Federal and State warehouses and Healthcare Facilities.	N/SC
4	The Superintendent Pharmacist will check whether his/her warehouse has a Global Location Number and a barcode that encodes a global location number.	SP
5	If the warehouse or Healthcare Facilities does not have a global location Number, a request to obtain a Global Location Number will be made by the Superintendent Pharmacist to the NAFDAC National Coordinator or State Coordinator for GLN depending on whether it is a Federal or State Warehouse respectively.	SP
6	The list of facilities that require Global Location Numbers will be collated on a weekly basis and sent to NAFDAC.	N/SC
7	NAFDAC will obtain the requested global location numbers and corresponding Barcode from the GS1 Member Organization and send to Superintendent Pharmacist within 2 working days.	NAFDAC
8	The Superintendent Pharmacist and warehouse manager will ensure that the Barcode containing the Global Location Number is placed strategically at the Health products receiving area and the Staging and Loading area.	SP

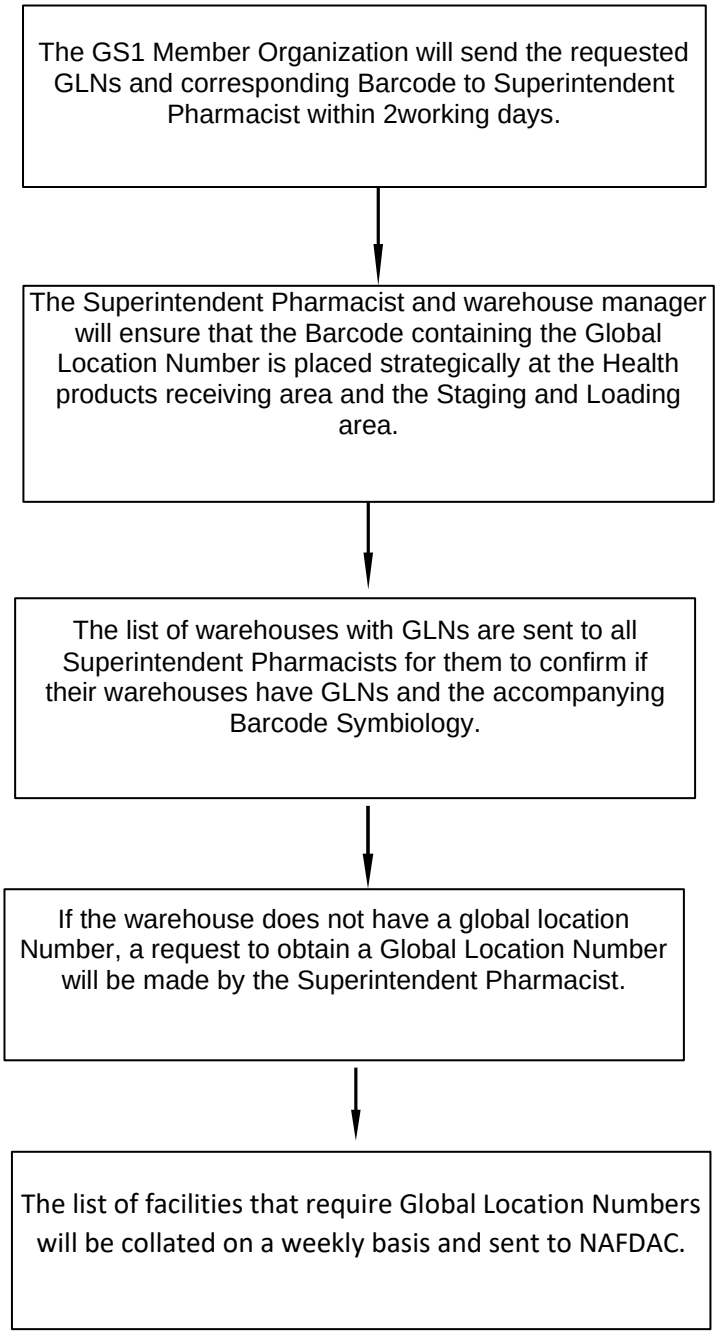
9. Performance Indicator: Global Location Number

- All warehouse locations and healthcare Facilities will have Global Location Numbers.

10. Records

- GLN list of all Federal and State Warehouses
- GLN Request Form
- GLN Barcode

11. Process Map SOP for Global Location Number



Standard Operating Procedure for creating Traceability Events

TITLE: SOP FOR HARDWARE TO CREATE TRACEABILITY EVENTS	
Functional Area: WAREHOUSING	**Date issued:**
Code : /FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 027 /024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**PTL, PR, SP, WM, N/SC, HF, IM,ITM, PM**

1. **Purpose:** This is for Federal and State warehouses to have Hardware necessary to create Traceability events. It may also be applicable to Service Delivery Points

2. **Scope:** This SOP covers requirements for hardware to create traceability events within Federal and State warehouse and Service Delivery Points for healthcare commodities.

3. **Definition:** 2-D Mobile enabled Barcode Scanners are capable of scanning both 1 D and 2-D Barcodes and creating traceability events

4. **Abbreviations:**
   - PTL: Program Team Lead
   - PR: Principal Recipient
   - SP: Superintendent Pharmacist
   - WM: Warehouse Manager
   - N/SC: National of State Coordinator
   - HF: Head of Finance
   - IM: Inventory Manager
   - ITM: IT Manager
   - PM: Procurement Manager
   - SDP: Service Delivery Points

5. **Reference**: GS1 Global Traceability Standard for Healthcare (GTSH) Implementation Guideline

6. **Process Owner(s)**: National/State Coordinator, Procurement Manager, Warehouse Manager and Superintendent Pharmacist

7. **External Parties**: GS1, NAFDAC

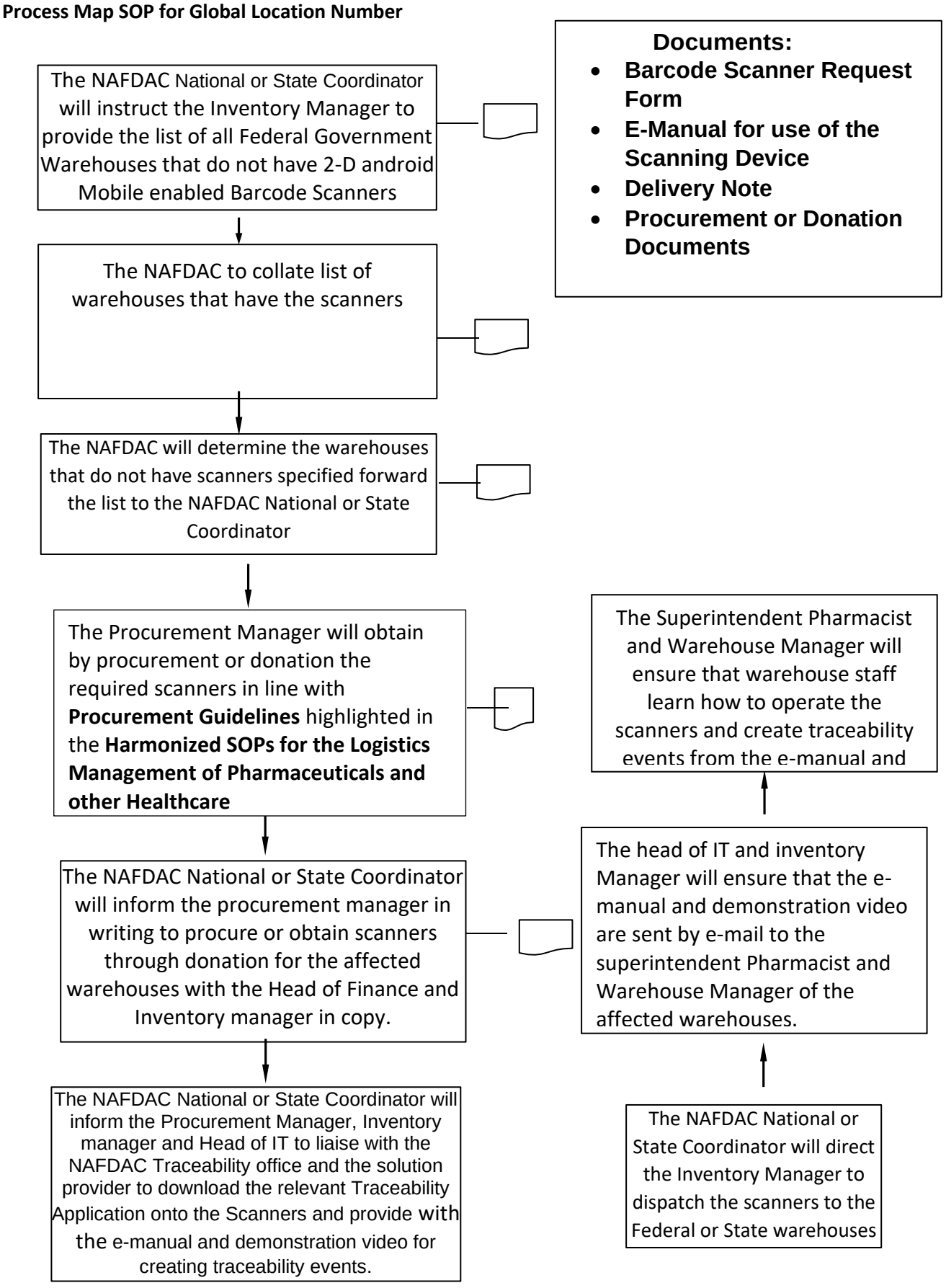
8. Standard Operating Procedure: Hardware to Create Traceability Events

No	Guidance	Action Owner(s)
1	The NAFDAC National Coordinator to obtain the list of all Federal Government Warehouses that do not have 2-D android Mobile enabled Barcode Scanners capable of scanning both 1 D and 2-D Barcodes and creating traceability events from the Superintendent Pharmacist and Warehouse Managers.	NAFDAC NC
2	The NAFDAC state Coordinator to obtain the list of all State Warehouses that do not have 2-D android Mobile enabled Barcode Scanners capable of scanning both 1 D and 2-D Barcodes and creating traceability events from the Superintendent Pharmacist and Warehouse Managers.	NAFDAC SC
3	NAFDAC, to collate list of warehouses that have the scanners	NAFDAC Coordinator
4	The NAFDAC National Coordinator will compare the list in (1) against the total list of Federal Government Warehouses in order to determine the number and locations of warehouses that do not have the scanners specified in (1) and forward this to the National Coordinator	NAFDAC National Coordinator
5	The NAFDAC State Coordinator will compare the list in (1) against the total list of State Government Warehouses in order to determine the number and locations of warehouses that do not have the scanners specified in (1) and forward this to the state coordinator.	NAFDAC State Coordinator
6	The NAFDAC National or State Coordinator will ask the affected warehouses to provide contact details including phone numbers and emails of the Superintendent Pharmacist and the Warehouse manager which will be shared with The Procurement Manager, Head of IT, and Inventory Manager.	N/SC
7	The NAFDAC National or State Coordinator will inform the procurement manager in writing of the need to procure or obtain scanners through donation for the affected warehouses with the Head of Finance and Inventory manager in copy.	N/SC
8	The Procurement Manager will liaise with the Director of Pharmaceutical Services, Program Team Leads, NAFDAC, National or State Coordinator, Head of Finance and the Principal Recipient of Donor Programs to procure or obtain by donation the required scanners in line with their **Procurement Guidelines** highlighted in the **Harmonized SOPs for the Logistics Management of Pharmaceuticals and other Healthcare Products.**	PM
9	The NAFDAC National or State Coordinator will inform the Procurement Manager, Inventory manager and Head of IT to liaise with the NAFDAC Traceability office and the solution provider to download the relevant Traceability Application onto the Scanners. The Solution Provider will also provide an e-manual that will describe the process of scanning and creating traceability events and a demonstration Video.	N/SC
10	The NAFDAC National or State Coordinator will direct the NAFDAC Inventory Manager to dispatch the scanners to the Federal or State warehouses respectively in line with **SOP for issuing products from**	NC

	warehouse for other uses and **SOP for checking and dispatching of products.**	
11	The Head of IT and Inventory Manager will ensure that the e-manual and demonstration video are sent by e-mail to the Superintendent Pharmacist and Warehouse Manager of the affected warehouses in (No. 5 above).	ITM, IM
12	The Superintendent Pharmacist and Warehouse Manager will ensure that warehouse staff learn how to operate the scanners and create traceability events from the e-manual and demonstration video.	
13	The NAFDAC National or State Coordinator may decide to have a one day workshop on the deployment and training of the use of the 2D android mobile enabled scanners.	

9. **Performance Indicators:**
    - All warehouses will have Mobile enabled 2D Data matrix Scanners.
    - Warehouses utilisation of the Traceability scanners
10. **Records:**
    - Barcode Scanner Request Form
    - Procurement or Donation documents
    - E-Manual for use of the Scanning Device
    - Delivery Note

Process Map SOP for Global Location Number



Standard Operating Procedure for creating Traceability Events

TITLE: SOP FOR CREATING EVENTS FOR TRACEABILITY	
Functional Area: WAREHOUSING	**Date issued:**
Code : /FDS/NPSCMP/WH/SOP	**Revision No. 02**
Prepared by: NPSCMP	**Approved by: NC**
SOP No: 02/024	**Effective Date:**
Next Review Date:	
Person(s) Responsible	**SP, WM, RDC, W/SO, WA**

1. **Purpose:** This is for Federal and State warehouses to have Hardware necessary to create Traceability events. It may also be applicable to Service Delivery Points.

2. **Scope:** This SOP covers the process of creating traceability events within Federal, Zonal, State warehouse and Service Delivery Points for healthcare commodities.

3. **Definition:**
   - Traceability events: Receiving, Shipping, Inspection
   - Globally Unique Product Identification: GTIN (May be expressed as PC)
   - Globally Unique Logistics Unit Identification: SSCC

4. **Abbreviations:**
   - **SP:** Superintendent Pharmacist
   - **WM:** Warehouse Manager
   - **RDC:** Receive and Dispatch Clerk
   - **W/SO:** Warehousing and store officer
   - **WA:** Warehouse assistants, casuals
   - **GTIN:** Global Trade Item Number
   - **PC:** Product Code
   - **SSCC:** Serial Shipping Container Code
   - **SDP:** Service Delivery Points

5. **Reference**: Trackgenic® Training Manual, USAID/GHSC PSM Global Standards Labelling and Barcode Requirements

6. **Process Owner(s)**: Warehouse Manager, Warehouse Officer, Receiving and dispatch clerk

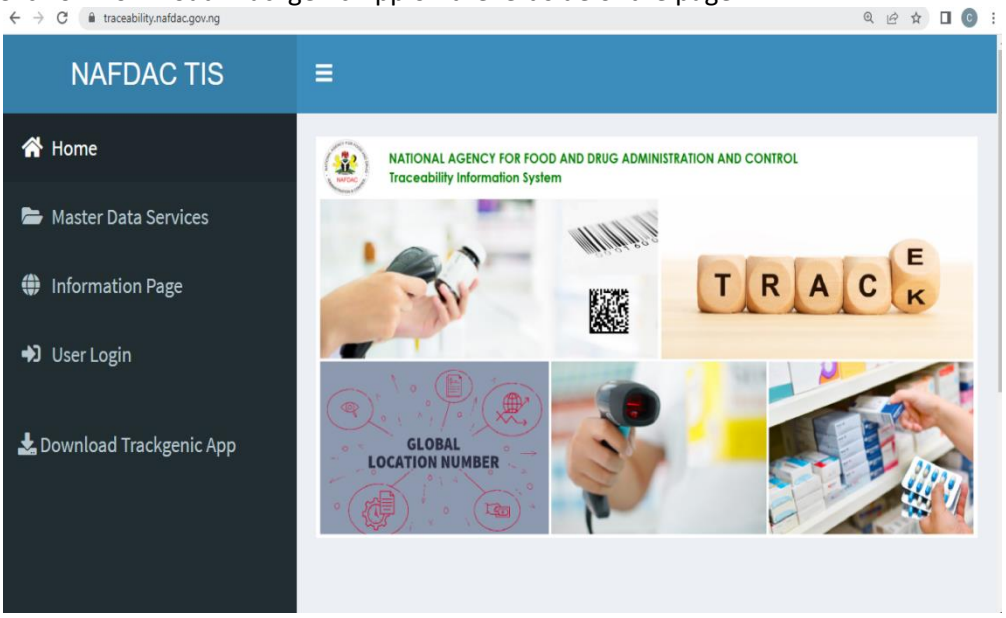
7. **External Parties**: NAFDAC

8. **Standard Operating Procedure: Creating Events for Traceability**

Introduction to the Traceability application

1. Open the application from your browser using the address https://traceability.nafdac.gov.ng/ on the mobile enabled scanner or mobile phone if the mobile enabled scanner is not available.

2. Click on Download Trackgenic App on the left side of the page.



3. After some seconds, a welcome screen with storyboard will be displayed.



4. Click on the iscan app on the mobile Scanner to activate the scanning ability capacity. There is no need to do this with a mobile phone.

5. Swipe through the Storyboard to get more insight on some of the App's Features.



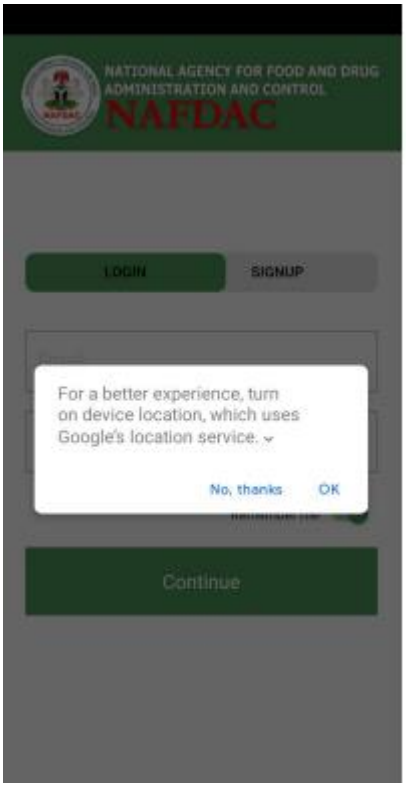




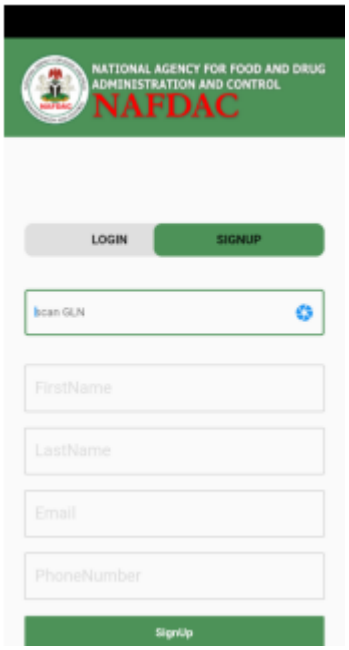
6. Click on the SKIP or START button to go to the home Page



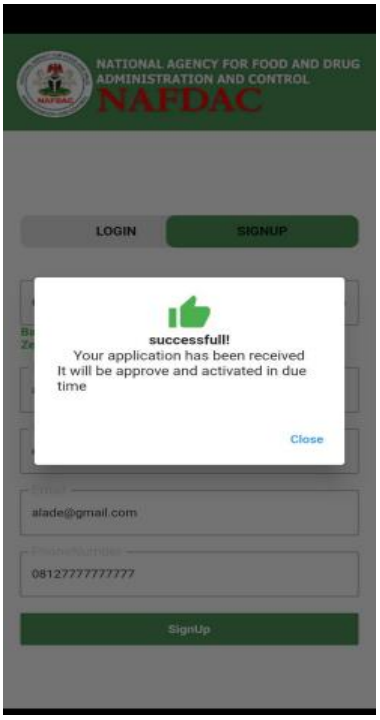
7. On getting to the home screen, you may be prompted to enable or switch on your location service. Kindly do so by clicking ok and wipe down from top of your device to confirm that the service is on.



8. Register on the application by clicking on the signup tab and scan in your facility's GLN from the GLN barcode in the GLN field. If you have a scanner, point the device pointer at the GLN barcode and scan using the scanner pointer. If you have a mobile phone, click on the ring of arrows inside the Scan GLN box and scan using the mobile phone scanner. You will fill the user's first name, last name, working phone number and working email address in the provided fields and click on set up.



9. Successful Signup will show the following information on the screen

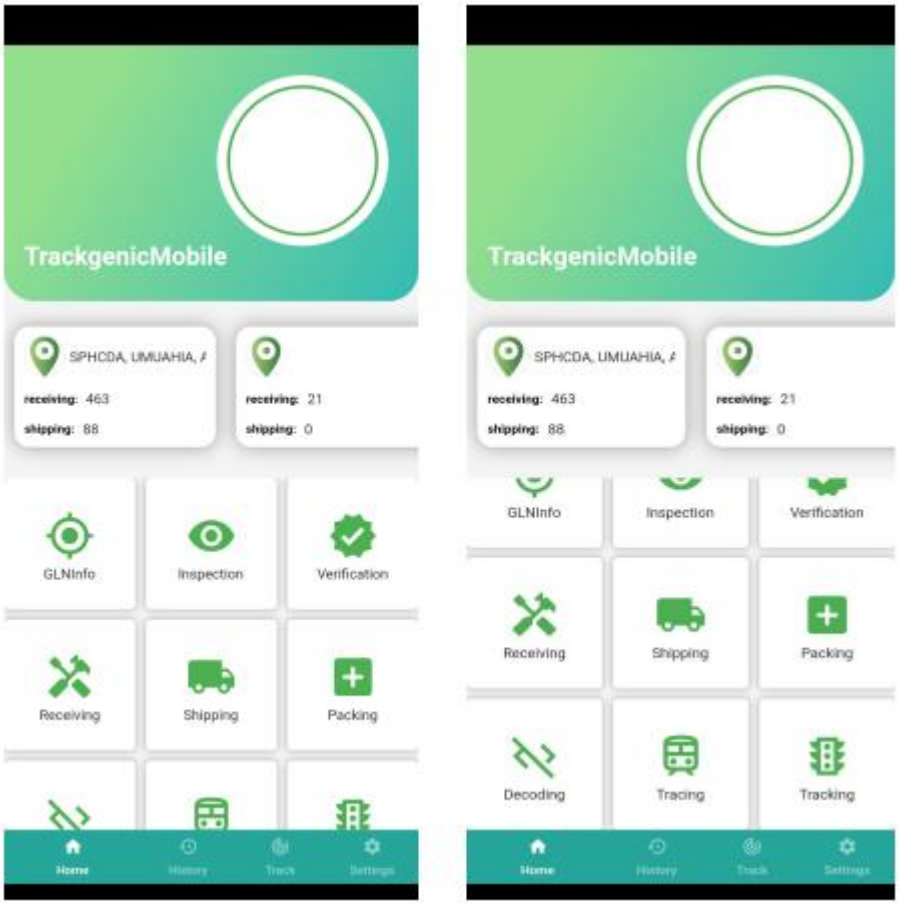


After registration, the application will be approved and activated by NAFDAC before user can log in. The user will be contacted after the above process to proceed to login.

10. The user will log in with the same name and email address provided during the registration.

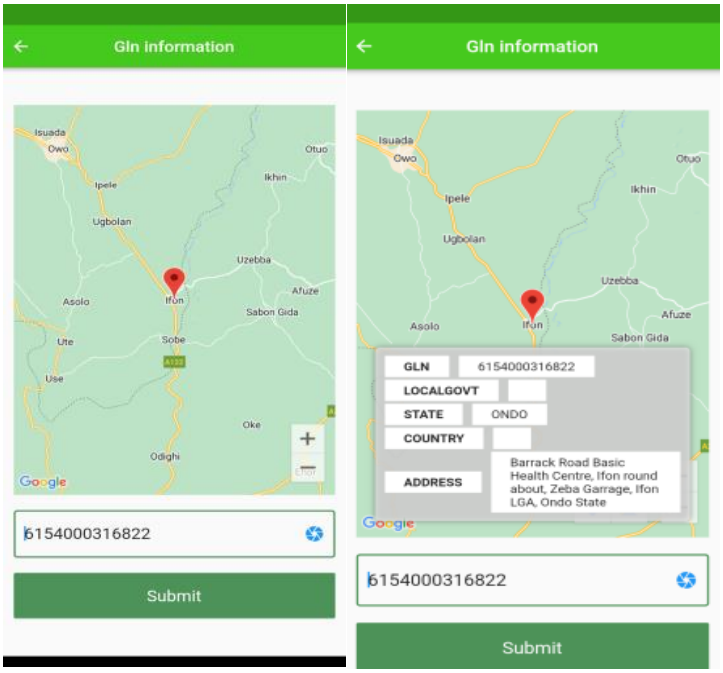


11. On successful login, the user will be directed to the Trackgenic home screen



12. The user will click on the GLNInfo tab. The user will then click on the doughnut icon inside the GLNInfo box if using a mobile phone to scan to capture the GLN into the info box. If the user is using a scanner, s/he will press the yellow button on the side of the user's dedicated hardware scanner to capture and input the GLN into the info box. The user will see the following information-the GLN and a marker denoting the location attached to the URL. By clicking on the marker, the user will be able to see exact location information.

13. The User will click submit.

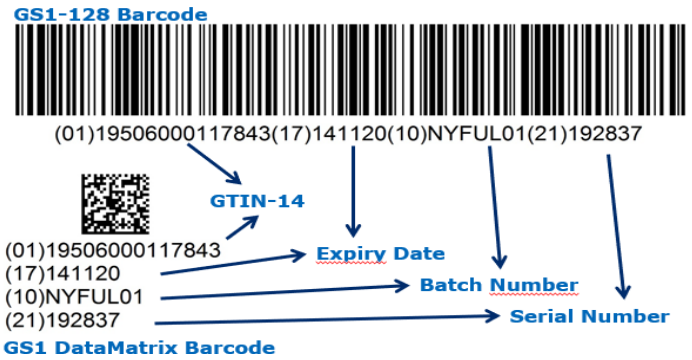


14. Creating and sharing traceability events

a) Check for Required Traceability Information on Secondary and Aggregate (Tertiary) Packs of for pharmaceuticals, medical devices, sterile kits, and laboratory reagents:

The required information for creating and sharing traceability events is the warehouse Location GLN and products with traceability information as follows:

I. Product Secondary pack with traceability information consisting of a 2D-Datamatrix or GS1 128 Barcode containing a globally unique product identifier(GTIN which may be expressed as PC), the batch number, the expiry date and a unique serial number encoded in a barcode with human readable Interpretation (HRI) below or beside it for Secondary packs as follows:



II. For aggregate packs established for the purpose of transport and storage, a Serial Shipping Code Identification Key encoded in GS1-128 barcode symbology encoded with and printed as HRI:(00) SSCC Identification key will be required in the following format:

(00) 0 0123456 000000001 8 .

b) Check for Required Traceability Information on for long-lasting insecticide-treated nets (LLINs):

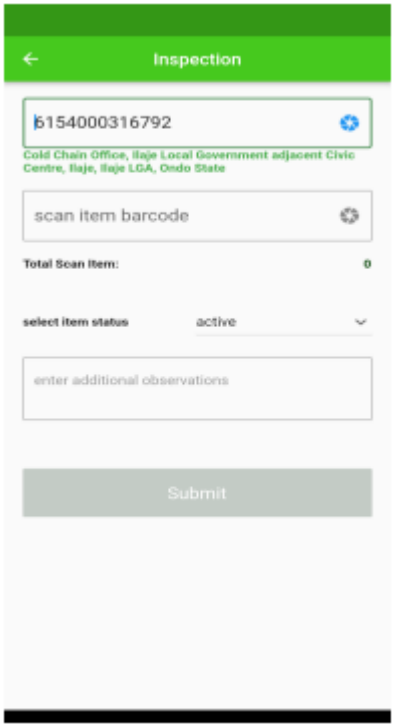
The required information for creating and sharing traceability events is the warehouse Location GLN and Traceability information as follows:



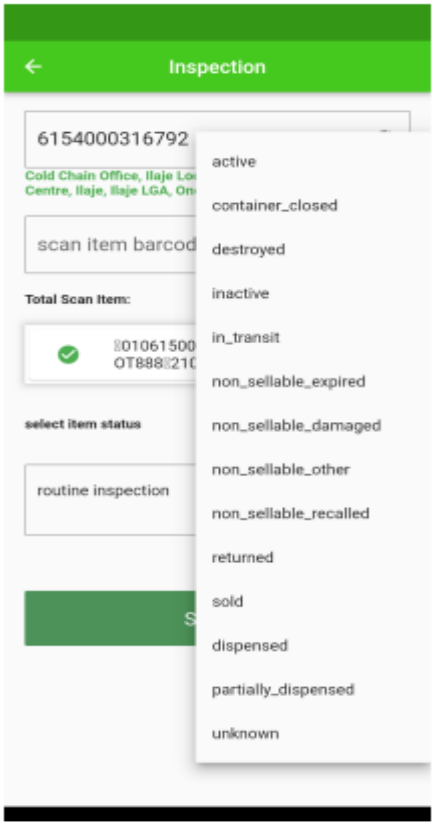
a. The warehouse staff will ensure that all the features above are on the product pack
b. The warehouse staff will ensure Global location number is available in the event generation location before scanning.
c. Creating Inspection events
   - The User will go back to the home screen and click on the inspection tab.



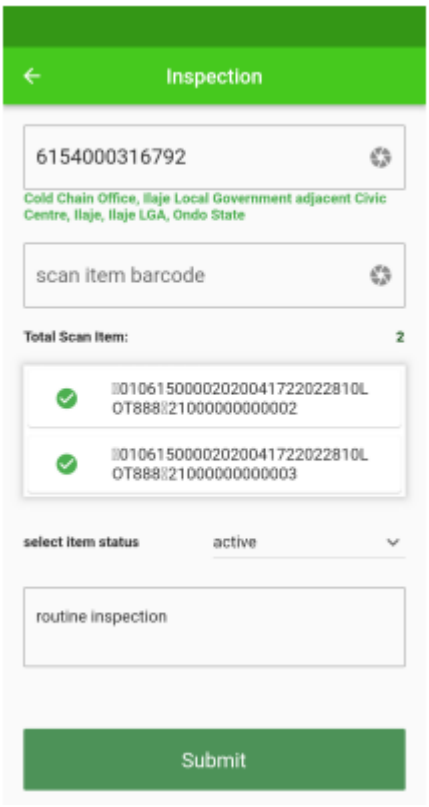
- The following screen will appear. You will then scan the GLN Barcode to input the GLN into the GLN Info box.



- You will then scan the item barcode and determine the status of the event you are creating whether active, expired, destroyed, part dispensed etc.. and enter any additional observations where necessary.



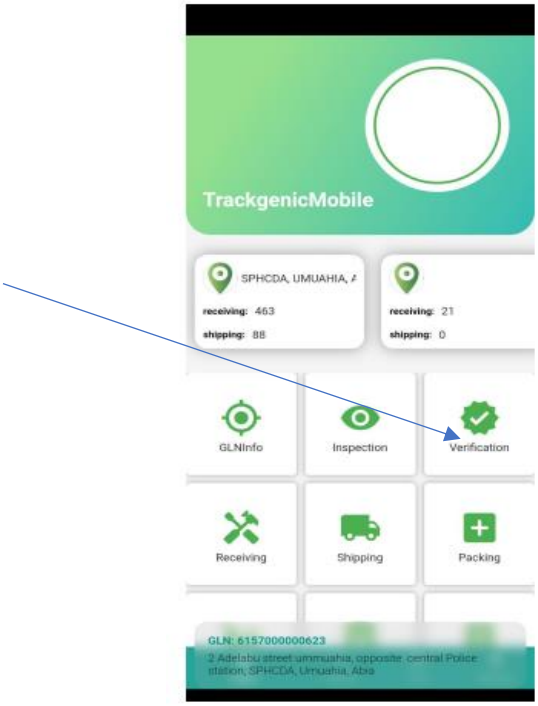
- After supplying all the necessary information, your screen should look like below:



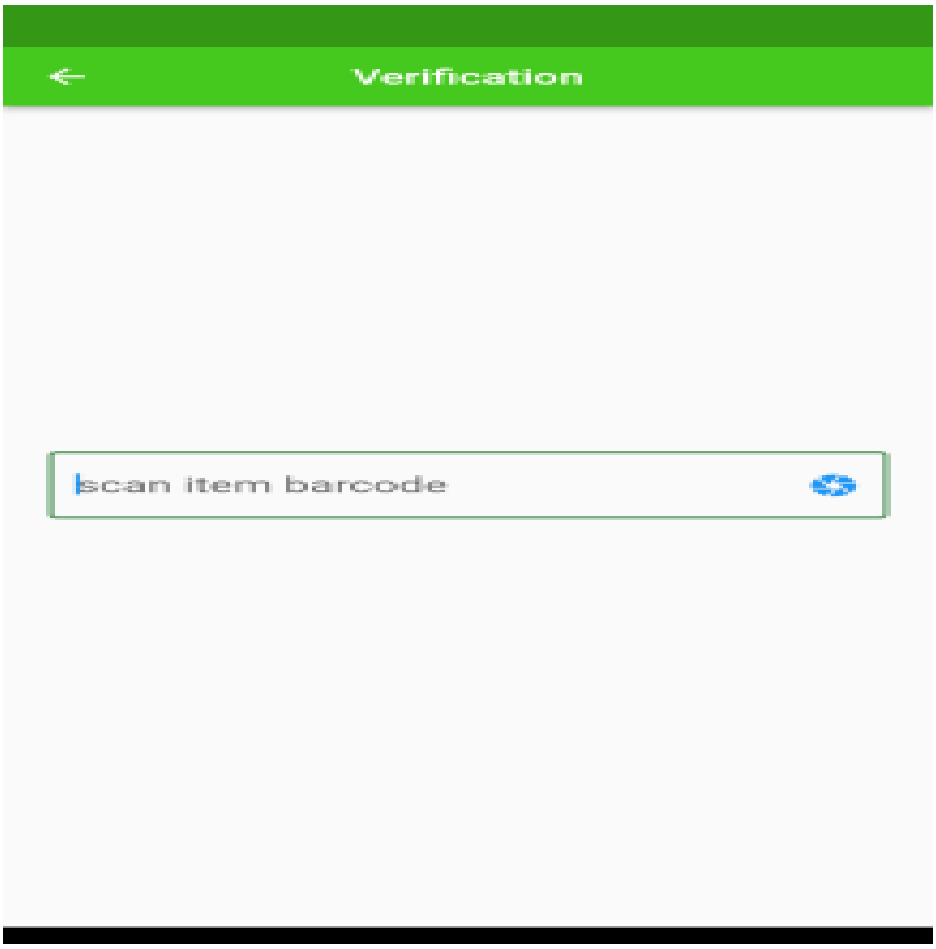
- You will then click submit.

d. Verification of a barcode

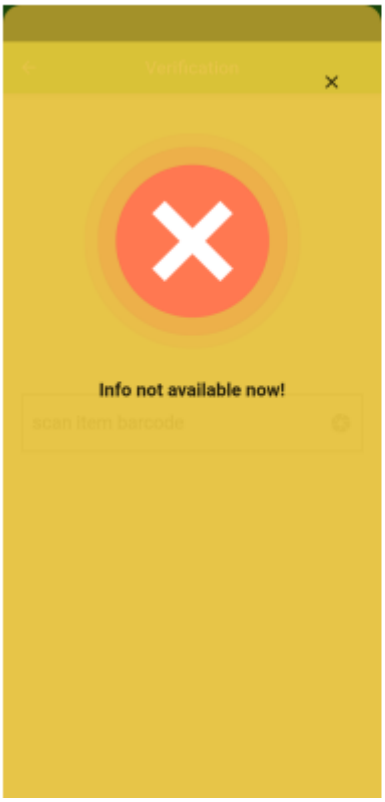
- Open the verification tab

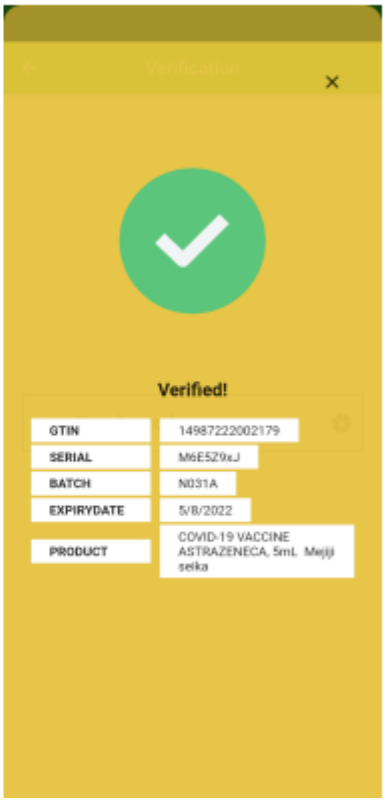


- The following screen will show. You will then scan the item barcode:



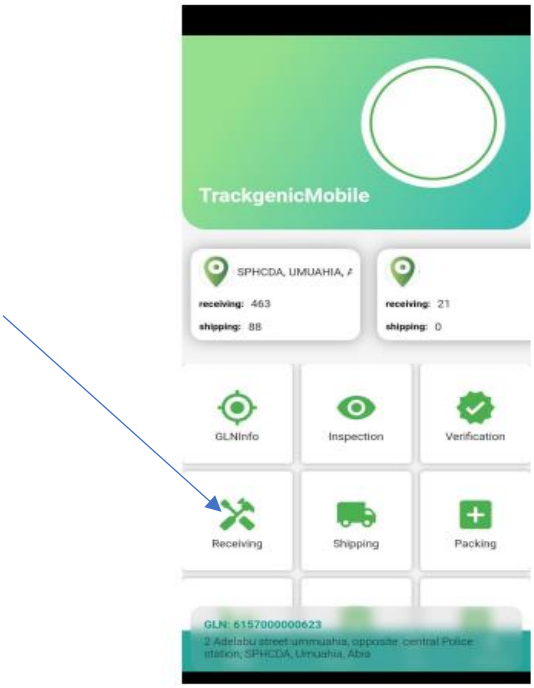
- Either of the following screens will show if the process is successful or unsuccessful.



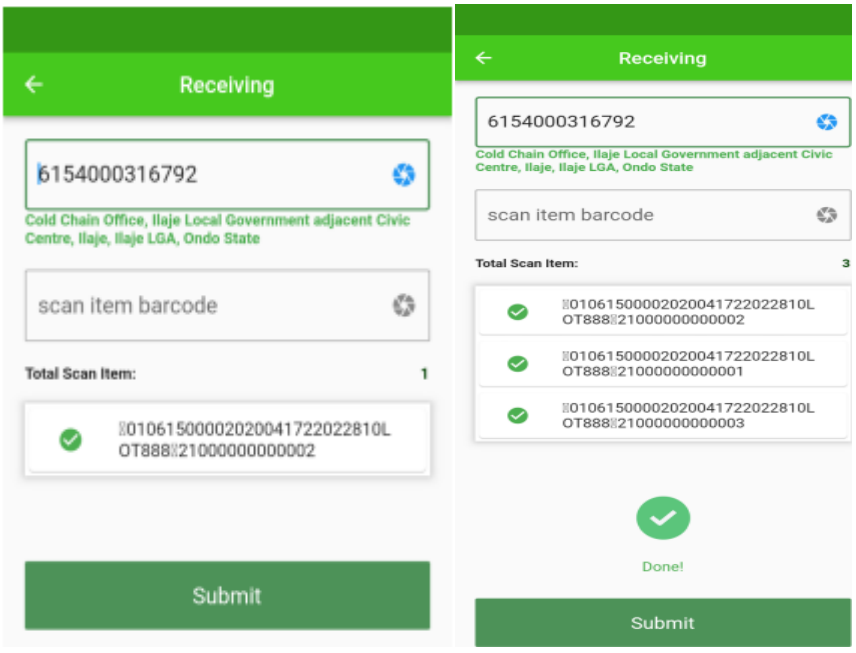


e. Creating a receive event

- Open the receiving tab.

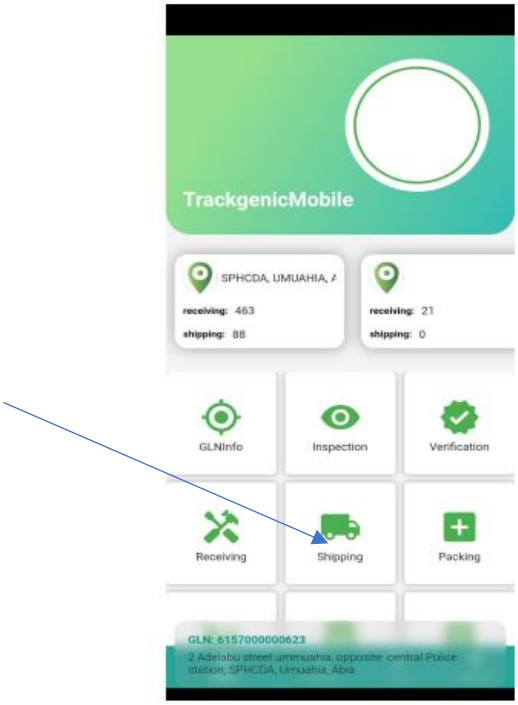


- The User will open the receive tab, scan the GLN barcode. The GLN and GLN address will be displayed. The item barcode will then be scanned. Several Barcodes may be scanned before clicking submit.

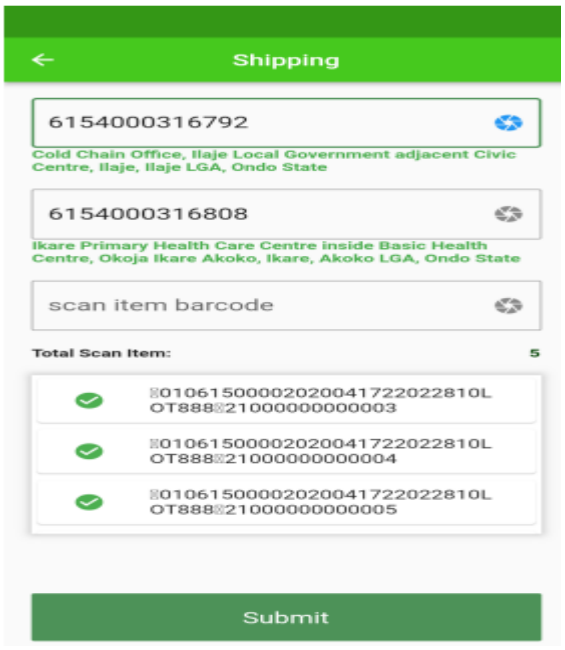


f. Creating a shipping event

- Shipping is the processes of transferring supply chain item from one location to the other and will require the warehouse Location GLN and the Destination location GLN. Scanning to create shipping events will follow the steps highlighted in the diagram below:
- Open the Shipping Tab

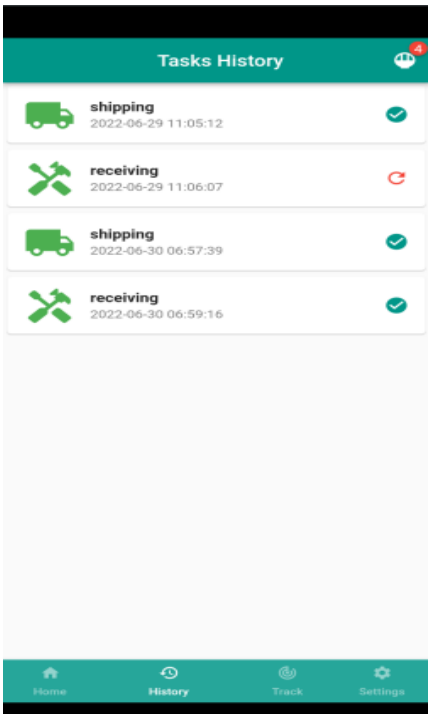


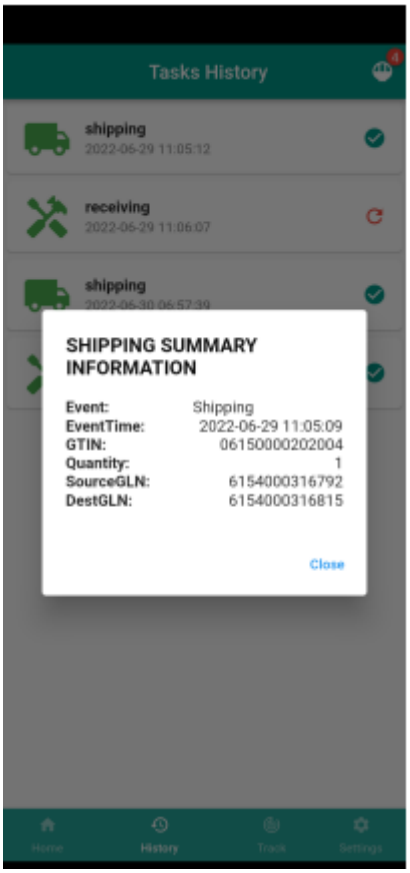
- The User will scan the sender's GLN barcode. The GLN and GLN address will be displayed. The User will also scan the receiver's GLN barcode. The GLN and GLN address will be displayed. The item barcode will then be scanned. Several Barcodes may be scanned before clicking submit.

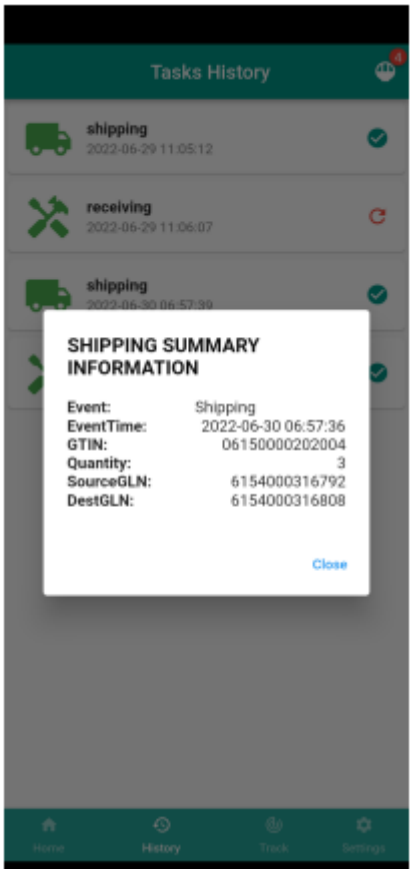


Multiple barcodes can be scanned at the same time to create shipping events

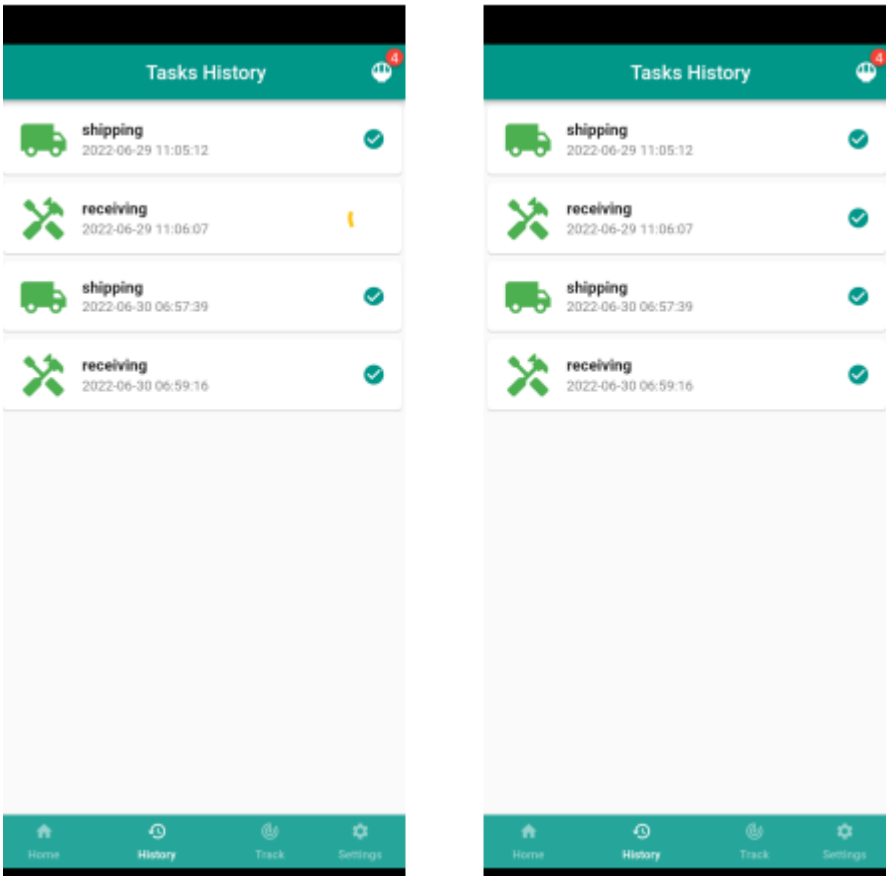
g. To retrieve historical information about previously posted shipping or receiving event, the user will click on the History icon of the home tab to get to task history. To retrieve information about previously posted shipping or receiving event, the user will click on the event icon.







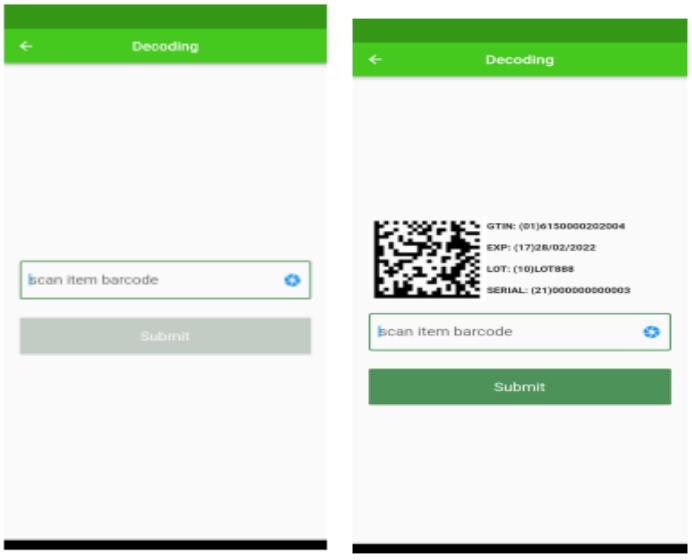
h. Where there is no network and an event may have not been sent but is still saved on the device, it can be resent. By clicking on resend icon, the user will be able to resend a failed event.



i. Decoding

The Purpose of decoding task is to view the HUMAN READABLE information encoded on the GS1 Datamatrix.

Click on the decode Icon in the Home tab and scan the item barcode and submit. You will view the Human Readable Information.



Performance Indicators: Creating Events for Traceability

1. Traceability events will be created across the entire supply chain from point of receipt into the national or state warehouses to the point where the products are received by the healthcare facilities.

APPENDIX1: SHELF LIFE POLICY EXTRACT		
No	**Policy**	**Action Owner**
1.0	**General**	
1.1	Products with a total shelf life of more than 1.5 years (18 months) shall have atleast 75% remaining shelf life or 1.5 years on arrival whichever is greater.	SP/WM
1.2	Products with a total shelf-life of 1 year or less shall have at least 80% shelf life on arrival. This policy shall apply only to a list of products that shall be annually agreed upon within the programs	SP/WM
1.3	Products from local suppliers that do not conform to the specified shelf life limitsshall be rejected on arrival unless prior written notification has been received.	SP/WM
1.4	For foreign products that do not conform to the specified shelf life limits, a queryshall be raised by RDC as per Receiving Procedure (SOP001/01)	SP/WM
2.0	**Variations**	
2.1	The supplier shall be required to communicate about products that do not conform to these specifications to the Programs and seek for approval andwaiver before the products are shipped.	SP/WM
2.2	Procurement Agency, SP/WM and the PTL shall evaluate each case depending on the availability of product, consumption patterns and quality control analysis and decide on whether to receive the stock or not. In case of failure to reach a compromise, the DFDS shall intervene.	SP/WM

Appendix 2: Warehousing System Monitoring and Evaluation Checklist

Date from: _____ Name:_

Date to: _____ Designation:_____

*NS = Not Sure, *NA = Not Applicable

S.No	Warehousing Monitoring & Evaluation	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
1	Designated staff receives the stock and places it per the FEFO system.								
2	For received stock, all shipment documents are properly reviewed and put into the file.								
3	Received stock is physically checked for quantity, quality, and packing.								
4	For received stock, barcodes on the cartons are scanned; updates are made in the NHLMIS.								
5	For received stock, physical count is reconciled with the shipment documents.								
6	For received stock, damages, losses, errors, and discrepancies are reported.								

S.No	Warehousing Monitoring & Evaluation	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
7	For received stock, racks, and items are named and reported in the IM.								
8	Received stock is entered in the IM per location, racks, and pallets.								
9	Received stock is entered in the correct quantity and product name in the bin cards and stock cards.								
10	Designated staff receiving the stock understand the receiving procedures and systems.								
11	Designated staff are properly trained in receiving stock and reporting.								
12	Designated staff understand the loss and damage policy for reporting.								
13	Designated staff has all required stationery and equipment to do their work efficiently.								

S.No	Warehousing Monitoring & Evaluation	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
14	Designated staff have the proper manuals and warehouse operating forms.								
15	Stock requisitions are received promptly for further action.								
16	Stock is dispatched per the requested item and quantity.								
17	Stock is dispatched per the FEFO system.								
18	Stock is dispatched; a physical count is reconciled with the dispatched requisition.								
19	Stock dispatched is properly reported in the NHLMIS.								
20	Designated Staff take precautionary measures to safeguard stock from rodents, insects, loss, and damages.								
21	Stock dispatched is updated in the bin cards and stock cards.								

S.No	Warehousing Monitoring & Evaluation	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
22	Stock dispatched has proper stock issuing vouchers and gate passes.								
23	Designated staff report and update the NHLMIS regularly.								
24	Designated staff manage stock in the IM per the FEFO system.								
25	Designated staff manage inventory by location, rack, and pallet.								
26	Designated staff can report and print stock sufficiency reports through the NHLMIS daily.								
2	Designated staff can show the stock location, rack, and pallet for each item in the warehouse in the NHLMIS.								
29	Designated staff can report dispatched stock by stakeholder, district, and province in the NHLMIS.								

S.No	Warehousing Monitoring & Evaluation	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
30	Designated staff can report the received quantity by product, lot, location, and rack in the warehouse, using the NHLMIS								
31	All stock received and dispatched is correctly reported on the NHLMIS.								
32	All warehouse operating equipment: stackers, fork lifters, computers, etc., are in working condition and are maintained.								

Appendix 3: Warehouse Safety and Security Evaluation Checklist

Date from: _____ Date to: _____

Name:_____ Designation:_____

Next inspection date: *NS = Not Sure, *NA = Not Applicable

S.No	Warehouse Safety and Security	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
1	Are all warehouse exits clearly marked and clear of obstructions (barriers)?								
2	Are the warehouse aisles clear of storage?								
3	Are all pallets, racks, and shelving undamaged?								
4	Are all materials stacked properly and not leaning?								
5	Are all materials secure and not leaning off the edge of the racks?								
6	Are guardrails (sign of dangerous area) present in areas with overhead storage above offices or platform?								

S.No	Warehouse Safety and Security	Responsible Person		Evidence	Yes	No	*NS	*NA	Conclusion / Remarks
		Name	Designation						
7	Do stacker operators get proper training to operate the stacker or forklift?								
8	Are forklift horns used during backing, blind corners, and other potentially dangerous situations?								
9	Do forklifts travel at safe speeds?								
10	Do operators wear seat belts?								
11	Are keys removed and forks lowered when forklifts are parked?								
12	Are stacks in a place free from combustibles and with adequate ventilation?								
13	Are fire extinguishers placed in each area of the warehouse and are they accessible?								
14	Are fire extinguishers checked monthly?								

15	Are flammable and combustible materials stored in flame-proof storage cabinets?								
16	Is there adequate equipment to minimize employee lifting of heavy or awkward objects?								
S.No	**Warehouse Safety and Security**	**Responsible Person**		**Evidence**	**Yes**	**No**	***NS**	***NA**	**Conclusion / Remarks**
		Name	**Designation**						
17	Are electrical outlets, junction boxes, and other electrical components properly covered?								
18	Are extension cords in good repair, properly grounded, etc.?								
19	Are panel boxes doors labeled and closed?								
20	Are individually keyed locks and tags available for lock and lockout tags for the equipment?								
21	Are equipment-specific lock and lockout tag procedures available?								
22	Is PPE available?								
23	Do employees know when to wear PPE?								

24	Is PPE in good repair?								
25	Is PPE available in appropriate sizes?								
26	Do designated staff randomly check the								
S.No	**Warehouse Safety and Security**	**Responsible Person**		**Evidence**	**Yes**	**No**	***NS**	***NA**	**Conclusion / Remarks**
		Name	**Designation**						
	warehouse fire-fighting system?								
27	Do designated staff keep the warehouse building in good condition?								
28	Do designated staff monitor security guards night and day to ensure warehouse security?								
29	Do designated staff properly lock the warehouse main doors and main exit gate?								
30	Does the gate keeper/guard register visitor's information, as required?								
31	Does the gate keeper/guard check incoming and outgoing stock documentation and registering information?								

Appendix 4: Warehouse Staff Health Safety and Security Checklist

Staff health and safety remains a concern of paramount importance in any warehouse. Warehouses must be committed to ensure workplace safety and security. The goal is to avoid workplace violence and to ensure a safe and healthy work environment for all warehouse staff. The safety and security guidelines provided in this section lay out strict measures for compliance to ensure a safe work environment for all warehouse staff. With a zero-tolerance policy, these measures mitigate and prevent workplace health and safety hazards to a considerable extent. Therefore, understanding and implementing these guidelines is important for staff to avoid direct and indirect risks to their lives.

These guidelines also include a workplace safety and security checklist to guide the teams and individuals on how to carry out a self-assessment of their surroundings. This will also be very beneficial for each warehouse department (store, administration, transport, and finance) to do a hazard assessment against specific workplace safety and security issues, as indicated in the checklist. The safety and security checklist assessment helps determine the risks for the warehouse employees, supplies, and assets, as well as to evaluate their susceptibility to workplace violence by sharing their findings and observations with the responsible departmental heads or managers. It is also the responsibility of every warehouse manager to review the checklist and to counter all the safety and security hazards that threaten staff health and safety, as well as the warehouse assets and supplies.

*NS = Not Sure, *NA = Not Applicable

No.	Warehouse Safety and Security Activity	Evidence	Yes	NO	*NS	*NA	Conclusion / Remarks
1	Are all warehouse exits clearly marked and clear of obstructions (barriers)?						
2	Are the warehouse aisles clear of storage?						
3	Are all pallets, racks, and shelving in good condition and undamaged?						
4	Are all materials stacked properly and not leaning?						

5	Are all materials secure and not leaning off the edges of the racks?						
6	Are guardrails (sign of dangerous area) present in areas of overhead storage above offices or platform?						

No.	**Warehouse Safety and Security Activity**	**Evidence**	**Yes**	**NO**	***NS**	***NA**	**Conclusion / Remarks**
7	Do stacker operators have proper training to operate the stacker or forklift?						
8	Do operators use horns during backing, blind corners, or other potentially dangerous situations?						
9	Do forklifts travel at a safe speed?						
10	Do operators wear seat belts?						
11	Are stackers charged in a place free from combustibles and with adequate ventilation?						
12	Are fire extinguishers placed in each area of the warehouse and are they accessible?						
13	Are fire extinguishers checked monthly?						

14	Are flammable and combustible materials stored in flame-proof storage cabinets?						
15	Is adequate equipment available to minimize employee lifting heavy or awkward objects?						

No.	Warehouse Safety and Security Activity	Evidence	NO	*NS	*NA	Conclusion/ Remarks
16	Are electrical outlets, junction boxes, and other electrical components properly covered?					
17	Are extension cords in good repair, properly grounded, etc.?					
18	Are panel box doors labeled and closed?					
19	Are individually keyed locks and tags available for lockout/tagout of equipment?					
20	Are equipment- specific lockout/tagout procedures available?					
21	Is PPE available— helmets, safety shoes, goggles, masks, and protective suits?					
22	Do employees know when to wear PPE?					
23	Is PPE in good repair?					
24	Is PPE available?					

Appendix 5: Warehouse Self-Assessment Tool

The warehouse self-assessment tool has seven sections:

No.	Warehouse Safety and Security Activity	Evidence	Yes	NO	*NS	*NA	Conclusion/ Remarks
25	Is a first aid kit available in all sections of the warehouse working area?						
26	Are the warehouse main blower fans in working condition?						

a.
b.
c.
d.
e.
f.
g.

h. Warehouse Infrastructure
i. Layout Planning and Operations
j. Warehouse Equipment
k. Special Storage
l. Security and Safety
m. Human Resources.

Each section targets a specific and important aspect of warehousing. While this assessment is as comprehensive as possible, some areas may not apply, such as the cold chain. This assessment will help you understand what any weaknesses so you can focus on improving those areas. It will also help you understand where you need to divert resources or ask for more resources. In addition, it can help highlight some strengths of your warehouse so you and others understand what you are doing well.

Complete the assessment, as much as it is applicable, when you are physically in the warehouse.

At the end of each section, add the numbers and calculate a score. To calculate a percentage, divide the score by the total number of questions in the section.

At the end of the assessment is a scoring sheet that you can use to compile scores for each section, as well as an area to summarize key strengths and weaknesses for each section.

SECTIONA: WAREHOUSE INFRASTRUCTURE PLANNING				Maximum Score
A1.	Is the ceiling in good condition (not warped, free of holes)?	Yes No		1
A2.	Do the ceiling or walls show any staining, indicating a leak?	Yes No		1
A3.	Is the floor in good condition, level, free of dust, and free of holes?	Yes No		1
A4.	Are the walls in good condition; are they clean and painted?	Yes No		1
A5.	Is the lighting adequate throughout, without too much direct sunlight?	Yes No		1
A6.	Is the storeroom fitted with air-conditioners or ventilation /fans that can maintain a temperature of <24Cº at midday?	Yes No		1
A7.	Is a working thermometer installed and are temperature charts used?	Yes No		1
A8.	Is the storage area visually free from harmful insects and rodents?	Yes No		1
A9.	Are there frequent interruptions to the main electrical supply (more than 2 times a week)?	Yes No (No = 1)		1
A10.	Does staff report breakers tripping when it rains or when the air-conditioners are on full load?	Yes No (No = 1)		1
A11.	Does the warehouse have a generator?	Yes No		1
A12.	Can the generator handle the full site load?	Yes No		1
A13.	Is the budget sufficient for purchasing generator fuel?	Yes No		1
A14.	Is a maintenance plan on file for the generator?	Yes No		1
TOTAL				___/14
SCORE FOR THE SECTION				____%

SECTION B: LAYOUT PLANNING AND OPERATIONS EFFICIENCY				Maximum Score
B1.	In an average week, are there any days when orders are not processed?	Yes No (No = 1)		1
B2.	In an average week, are there any days when receipts are not processed?	Yes No (No = 1)		1
B3.	Can delivery vehicles access loading/receiving bays?	Yes No		1
B4.	Are receiving and dispatch areas separated?	Yes No		1
B5.	In the receiving area, is there sufficient secure space to arrange and sort an incoming delivery?	Yes No		1
B6.	Is there a designated space for expired or damaged Health products?	Yes No		1
B7.	Is there sufficient secure space to assemble outgoing deliveries?	Yes No		1
B8.	Is the existing floor space for pallet stacking, shelving, or racking less than 75% full?	Yes No		1
B9.	Are the aisles between the stacked pallets or racking clear of stored commodities?	Yes No		1
TOTAL				___/9
SCORE FOR THE SECTION				____%

Additional Notes

SECTION C: WAREHOUSE EQUIPMENT				Score	Maximum Score
C1.	Are sufficient pallets available?	Yes	No		1
C2.	Are sufficient pallet jacks available?	Yes	No		1
C3.	If pallet racks are available, is an operable fork truck with a maintenance schedule also available?	Yes	No		1
C4.	Is a storage system used (shelving, racks, or pallet stacking); is it in good condition?	Yes	No		1
C5.	Is there adequate aisle space and clearance for material handling equipment?	Yes	No		1
C6.	If commodities are stored on the floor, are they stacked less than 2.5 meters high?	Yes	No		1
C7.	Are cartons in good condition, (not crushed from mishandling or poor stacking.)?	Yes	No		1
C8.	Are cartons and products off the floor and protected from water and dust?	Yes	No		1
TOTAL					___/8
SCORE FOR THE SECTION					____%

Additional Notes

SECTION D: SPECIAL STORAGE REQUIREMENTS			Maximum Score
D1.	Does the location store products that require cold chain; does it have designated cold chain facilities?	Yes No	1
D2.	Is the capacity sufficient for cold chain products?	Yes No	1
D3.	Are all refrigerators and cold rooms operational?	Yes No	1
D4.	Are temperatures monitored for each discreet storage unit?	Yes No	1
D5.	Do the refrigerators run on solar power?	Yes No	1
D6.	If the cold chain facilities run on electricity, is there a back-up source of power (i.e., generator)?	Yes No	1
D7.	Is funding available for the back-up source of power?	Yes No	1
D8.	Is an area designated for flammable hazardous items?	Yes No	1
D9.	Are flammable/hazardous items kept in a separate area away from the main buildings?	Yes No	1
D10.	Are high-value commodities kept in a locked or caged area?	Yes No	1
TOTAL			___/10
SCORE FOR THE SECTION			____%
Additional Notes			

SECTION E: INVENTORY MANAGEMENT			Score	Maximum Score
E1.	Are paper or electronic inventory records updated for each receipt and issue?	☐ Yes ☐ No		1
E2.	Are ledgers maintained and are corresponding bin cards maintained in the storerooms?	☐ Yes ☐ No		1
E3.	Are ledgers legibly and accurately maintained—audit a sample and cross-check the same sample on the corresponding bin card?	☐ Yes ☐ No		1
E4.	Is a process in place to investigate and resolve discrepancies on records?	☐ Yes ☐ No		1
E5.	Is a system of rolling stock checks in place?	☐ Yes ☐ No		1
E6.	Are full physical inventory stock counts done at least every 3 months?	☐ Yes ☐ No		1
E7.	Is the write off and destruction of damaged or expired stock processed regularly?	☐ Yes ☐ No		1
E8.	Are products organized according to FEFO?	☐ Yes ☐ No		1
TOTAL				___/8
SCORE FOR THE SECTION				____%
Additional Notes				

SECTION F: SECURITY AND SAFETY			Score	Maximum Score
F1.	Is the building perimeter surrounded by a high wall or fence, with t he entry guarded?	☐ Yes ☐ No		1
F2.	Is access to the warehouse limited to designated staff only?	☐ Yes ☐ No		1
F3.	Are windows intact and burglar-proof?	☐ Yes ☐ No		1
F4.	Are the doors and windows solid and well secured?	☐ Yes ☐ No		1
F5.	Is the store secured with a lock and key, but accessible during normal working hours?	☐ Yes ☐ No		1
F6.	Is firefighting equipment available; do the labels on the firefighting equipment indicate that it was serviced within the last year?	☐ Yes ☐ No		1
F7.	Are staff trained on how to use the firefighting equipment?	☐ Yes ☐ No		1
F8.	Are items of personal protective equipment being used (gloves, boots, etc.)?	☐ Yes ☐ No		1
TOTAL				___/8
SCORE FOR THE SECTION				____%

Additional Notes

SECTION G: HUMAN RESOURCES			Score	Maximum Score
G1.	Does the facility have personnel responsible for warehouse management (supervisor); are they present and accountable?	☐ Yes ☐ No		1
G2.	Is an organizational structure and chart posted that shows each warehouse-related post?	☐ Yes ☐ No		1
G3.	Are enough staff available to run the warehouse; do they have authority to oversee warehouse management?	☐ Yes ☐ No		1
G4.	Are records of external visits or audits maintained?	☐ Yes ☐ No		1
G5.	Are job descriptions posted for all positions at the warehouse?	☐ Yes ☐ No		1
G6.	Are up-to-date SOPs for all functions and processes posted onsite?	☐ Yes ☐ No		1
G7.	Is active on-the-job training available for staff?	☐ Yes ☐ No		1
G8.	Is a process in place for new hire orientation?	☐ Yes ☐ No		1
TOTAL				___/8
SCORE FOR THE SECTION				____%

Additional Notes

Warehouse Assessment Questionnaire Scoring Sheet Results

SECTION	KEY STRENGTHS	KEY WEAKNESSES	SECTION SCORE
A. Warehouse Infrastructure Planning			
B. Layout Planning and Operations Efficiency			
C. Warehouse Equipment			
D. Special Storage Requirements			
E. Inventory Management			
F. Security and Safety			
G. Human Resources			

APPENDIX 6: WAREHOUSE PERFORMANCE MATRIX

The four categories of performance measurement include—

- quality
- response time
- cost
- productivity.

In each category, we define the metrics, provide a formula, and described the purpose and issues related to the metric, as well as the sources needed to obtain data for the metric and requirements for the data.

To help relate the 13 metrics back to the warehouse self-assessment, they are organized to match the categories reviewed in the self-assessment.

If a certain category in the assessment has a low score, use the metrics listed here to show how any interventions in this area have improved the performance.

1. Infrastructure
    a. Total Warehousing Cost
2. Layout and Operations Capacity
    a. Warehouse Order Processing
    b. Put-away Time
    c. Put-away Accuracy
    d. Picking Accuracy Rate
    e. Percentage of Storage Space Dedicated for Handling
3. Warehouse Equipment and Storage:
    a. Storage Space Utilization
    b. Value of Product Damaged in the Warehouse
4. Special Storage
5. Inventory Management
    a. Inventory Accuracy
6. Security & Safety
    a. Warehouse Accident Rate
    b. Defined Security Measures

7. Human Resources

a. Units Moved Per Person Per Hour

Warehousing/Storage:

QUALITY

1. Inventory Accuracy Rate

Definition:

This indicator measures the percentage of warehouse or storage locations that did not have inventory discrepancies when stock cards were compared to a physical inventory count out of the total number of locations under review, during a defined period of time. Alternatively, this indicator can be calculated for a single facility as the percentage of months or quarters with no inventory discrepancies out of the total number of months or quarters in the review period (e.g., annual).

Formula:

Alternatively, this indicator can be calculated for a single facility as the percentage of months or quarters with no inventory discrepancies out of the total number of months or quarters in the review period (e.g., annual).

$$\frac{\text{number of storage locations with no inventory discrepancies}}{\text{total number of storage conditions under review}} *100$$

$$\frac{\text{number of months/quarters with no inventory discrepancies}}{\text{total number of months/quarters in review period}} *100$$

Purpose and Issues:

The inventory accuracy rate can be used to assess the overall inventory control performance for a group of storage facilities or for one storage facility over a set of review periods. Inventory accuracy is critical for managers to know how much they have in stock at any given point in time and to know when a new order must be placed to replenish stock. This discrepancy analysis can help managers identify storage locations that are having problems with inventory management; the analysis can lead to opportunities for improvement.

Data Sources	Data Requirements
• Stock cards and inventory reports from information systems, etc. • Physical inventory report • Storage location listing.	• Inventory discrepancy calculations for each storage facility included in review • Total number of storage locations under review • Total number of months/quarters in review period.

2. Put-away accuracy

Purpose and Issues:

This indicator measures a facility's ability to stock items in the correct location so they can be quickly and easily located. This can indicate whether staff is practicing good warehousing practices and guidelines.

This indicator can be measured during a site visit or during periodic checks at the facility over a specified length of time. For example, during a quarterly period, the number of times items were found in the wrong location.

Data Sources	Data Requirements
• Site visits for visual inspection of location of items • Map or guidelines of intended storage locations for products.	• Number of items in their correct location in the storage area • Total number of items in storage area under review.

This indicator is the percentage of items placed in the correct location or bin in a warehouse or storage area.

Formula:

$$\frac{\text{number of items in correct location}}{\text{total number of items}} * 100$$

Related Indicators:

~~number of items in correct location and also in the correct quantities~~/ total number of items *100

3. Picking Accuracy Rate Definition:

This indicator is defined as the percentage of items or lines picked accurately (i.e., the correct items and quantities) from storage, based on a request or packing list, and then placed into the appropriate container.

Formula:

number of items of lines picked without errors with correct items and quantities / total number of items or lines picked *100

Purpose and Issues:

This indicator measures whether items are accurately selected from storage and placed into a container to be shipped to the requesting facility. It can reveal the ability of the facility to pick requests correctly in terms of quantity and item. Errors can result in stockouts or overstocks at the ordering facility. To collect data for this indicator, a review of items just before they are loaded for transporting can be conducted to determine the accuracy of picked items compared against an invoice or requisition form. It can be calculated for a single order or for all orders during a defined period of time.

Data Sources	**Data Requirements**
• Order requests • Packing list • Physical count.	• Quantities ordered • Quantities picked.

4 Warehouse Accident Rate

Definition:

This indicator measures the total number of accidents occurring in a warehouse or other storage facility during a defined period of time.

Formula:

Number of accidents occurring at the storage location per hour/day/week/month/quarter

Purpose and Issues:

This indicator can reveal poor warehouse management and practices, untrained staff, unclear safety guidelines, faulty equipment, or poor conditions. It can help pinpoint areas that need improvement by determining the cause of the accidents—because of human error or other reasons. With intervention, accidents should decrease in frequency.

Data Sources	Data Requirements
•Interviews with warehouse staff •Incident reports •Visit of warehouses.	•All accident reports during a specified period of time.

Related Indicators:

- Average number of accidents per hour/day/week/month/quarter.

5 **Defined Security Measures**

Definition:

This indicator measures whether guidelines or standard operating procedures (SOPs) are in place that provide instructions to prevent theft or leakage at a given storage location.

Formula:

Are warehouse guidelines or standards in place that define the security measures? (yes/no)

Purpose and Issues:

Implementing proper security measures at storage facilities will help prevent theft and leakage of products, thus saving money and increasing the availability of commodities. The program should have defined and detailed instructions for facilities to follow to ensure that the facility is secure and the products protected. Evaluators should also assess the quality or thoroughness of these guidelines or SOPs and the facilities' level of adherence.

Data Sources	Data Requirements
• Security measures • Interviews with staff.	• Warehouse or storage location SOPs and/or security guidelines.

B. RESPONSE TIME

1. Warehouse Order Processing Time

Definition:

This indicator measures the average amount of time (e.g., minutes, hours, days, weeks) from the moment an order is received at the storage facility until the time the order is actually shipped to the client. The order processing time can be calculated for a specific shipping facility averaged across orders or, on average, for orders to a specific client or for a specific product.

Formula:

$$\frac{\sum (\text{date \& time order is shipped} - \text{date and time shipping order was received})}{\text{total number of orders processed}}$$

Purpose and Issues:

This indicator helps monitor the order processing performance and the efficiency of a shipping facility. It also helps identify opportunities for improving staff performance in order management and a facility's response time.

Data Sources	Data Requirements
• Order requests • Shipping log reports.	• Date and time shipping order was received • Date and time order is shipped • Total number of orders processed.

2. Customs Clearance Cycle Definition

This indicator measures the amount of time (e.g., minutes, hours, days, weeks) from the moment the cargo arrives in the port or airport until the moment that it clears customs, arrives at the warehouse, and is ready to be put away. This indicator can be calculated by product or supplier, or the average across products or suppliers, during a specified period of time. If other factors affect getting the product from the port to the warehouse, such as a lack of equipment at the port facility, evaluators can scale this calculation down to the specific amount of time that the products were sent to the customs office until the customs office cleared and released them.

Formula:

Warehouse arrival date and time port/airport arrival date and time

Purpose and Issues:

The indicator can help identify delays in customs clearance and, with additional research, the

causes involved—such as incomplete paperwork, poor material description, missed certificate of origin, etc. Based on the result, opportunities for improvement can be identified and actions taken to minimize the amount of time required for products to clear customs and to be made available at the warehouse.

Data Sources	Data Requirements
• Packing lists, invoices, entry notice • Receiving report • Customs reports.	• Cargo arrival date at the port/airport • Cargo arrival date at the warehouse.

Related Indicators:

- Average customs clearance time per month/quarter/year
- Average customs clearance time for a specific product per month/quarter/year.

3. Put-Away Time Definition:

This indicator measures the amount of time it takes from when a product(s) is unloaded from a truck, after arriving at a warehouse or other storage location, to when it is stored in its designated place and is ready for picking. This indicator can be calculated by product, or by shipment, or as an average across products or shipments, during a specified period of time.

Formula:

Date and time product(s) unloaded date and time product(s) stored in designated spot

Purpose and Issues:

Measuring the put-away time can help improve productivity by monitoring the efficiency of the put-away processes and the staff responsible for the task. It can help managers identify work conditions or processes that need improvement, as well as the need for staff training.

Data Sources	Data Requirements
• Shipment receipt vouchers • Time sheet for put-away activity per employee • Number of employees.	• Put-away time in hours • Quantity of pallets or volume in cubic meters.

Related Indicators:

- Average put-away time for all products per month/quarter/year
- Average put-away time for a specific product or shipment per month/quarter/year.

C. COST/FINANCIAL

1. Total Warehousing Cost

Definition:

The total warehousing costs collect all costs related to warehousing, such as labor costs and warehouse rent; or mortgage payments, utility bills, equipment, material- and information- handling systems, etc. It also includes costs related to systems, supplies, and any other material used specifically in warehousing. This indicator is usually measured annually.

This indicator can also be calculated as the total warehousing cost per piece/stockkeeping unit (SKU)/product/line by dividing the total warehousing cost by the quantity of stocked units or by the volume of stocked items in cubic meters (m^3), per storage area (m^2), or program.

Formula:

Total warehousing cost = sum (labor, space, utilities, material, equipment, information systems, etc.)

$$\frac{\text{total warehousing cost}}{\text{quantities of stocked units or } m^3 \text{ or } m^2}$$

Purpose and Issues:

Using this indicator, managers can monitor the costs of different components in a warehouse, as well as compare costs between different warehouses. It can help identify the most cost-effective warehouses, and can also lead to an analysis of best practices.

Dividing total warehousing costs by units or area can also indicate storage usage, cost effectiveness, etc. By dividing the warehousing costs per SKU, this indicator provides the management team with excellent detailed cost visibility.

Data Sources	Data Requirements
• Yearly accounting sheets • Payroll.	• Labor cost • Warehousing space cost (per m^2) • Cost of warehousing material • Equipment costs • Total inventory on hand in units (or volume m^3).

Related Indicators:

2. Average inventory cost per storage point.
3. Value of Product Damaged in the Warehouse **Definition:**

This indicator calculates the value of products damaged, during a defined period of time (usually one year), in the warehouse, as a percentage of the value of all shipped products during that period.

Formula:

$$\frac{\text{total value of damaged products}}{\text{value of shipped products}} * 100$$

Purpose and Issues:

Inappropriate warehousing conditions or handling of products can lead to inventory damage. This indicator can help put the value of products damaged into perspective and can be used to help identify the causes, as well as, the actions needed to avoid such damages, including better infrastructure, manpower, training, etc.

Data Sources	Data Requirements
• Invoices from vendors • Inventory reports, issue vouchers • Stock records • Accident reports • Damage reports.	• Value of damaged products • Value of shipped products.

D. PRODUCTIVITY

1. Storage Space Utilization

Definition:

Storage space utilization indicates the percentage of the total storage space actually being used out of the total storage space available.

Formula:

$$\frac{\text{total storage space in use } (m^3)}{\text{total storage space available}(m^3)} * 100$$

Purpose and Issues:

Based on this indicator, managers can monitor storage capacity and utilization at a warehouse. By assessing storage space utilization, managers can look for opportunities to improve storage capacity (e.g., remove expired products, dejunking, reorganizing) and maximize the use of the storage space, or request a re-evaluation of layout, material flow, shelves disposition, etc.

Data Sources	Data Requirements
• Inventory reports • Warehouse floor plan • Site visit.	• Total in use storage area: volume of inventory in stock (m^3) • Total storage space capacity (m^3).

2. Units Moved Per Person Hour Definition:

This indicator measures the number of units (e.g., boxes, pallets) or weight moved during a defined period of time, per person hour, for each person working during that period. It can be considered both when receiving and shipping inventory.

$$\frac{\text{total number of units moved (or weight)}}{\text{total number of person-hours}}$$

Purpose and Issues:

This indicator helps measure material handling productivity for a period of time (hours, days, or months). It helps compare productivity levels in different working shifts or different warehousing locations. It can be a source for identifying needs for training and measuring its effectiveness.

Data Sources	Data Requirements
• Receiving reports, invoices, packing lists • Time sheets, punch cards.	• Number of units moved (receiving or shipping) during a specified time period, per person • Total persons and hours spent moving material during a specified time period.

3. Percentage of Storage Space Dedicated to Product Handling

Definition:

This indicator measures the percentage of total storage area that is dedicated specifically to product handling (receiving, unloading, packing, loading, and dispatching).

Formula:

$$\frac{\text{storage area dedicated to product handling } (m^2)}{\text{total storage area } (m^2)} * 100$$

Purpose and Issues:

For an average volume of products, it is recommended that a certain percentage of the storage area be dedicated specifically to product handling. The amount of handing space needed depends on the volume of product moving through the storage area and the

equipment required to move the products. This dedicated area is critical for the efficient operations of the storage facility as it allows for organized and efficient receiving, unloading, packing, loading, and dispatching of products; and it protects products from the elements during receiving and packing.

APPENDIX 7: STORAGE GUIDELINES

1. Clean and disinfect the storeroom regularly. Take precautions to prevent harmful insects and rodents from entering the storage area.	Rodents and some insects—for example, termites and roaches—like to eat certain health commodities, like oral contraceptives. They also eat shipping cartons and inner packaging. Pest-proof your store to stop the pests from getting in. If your store becomes infested, use appropriate pesticides and also cats, which are effective against termites, rodents, roaches, etc. After you clear pests from the store, keep it clean. A clean store keeps pests away. Food and drinks in the warehouse increase the risk of pests.

2. Store health commodities in a dry, well lit, well-ventilated storeroom— out of direct sunlight.	A hot store may cause damage to some of the commodity supplies, which will *decrease shelf life.* For example, the shelf life of oral contraceptives and condoms is usually 4 to 5 years. However, the shelf life, particularly for condoms, will probably be much shorter if the temperature inside the warehouse rises above 40°C. Use ceiling fans and/or forced ventilation. Direct exposure to sunlight can also reduce the shelf life of commodities. Use roofing and windows that shade the interior of the store from sunlight. Store supplies in their shipping cartons.
3. Protect storeroom from water penetration.	Water can destroy commodity supplies or their packaging. If packaging is damaged, the customer will not want the product, even if the commodity is undamaged. Repair the warehouse so water cannot enter. Stack commodity supplies off the floor on pallets (at least 10 cm off the floor and 30 cm away from walls), because moisture can seep through walls and floors and into the commodity supplies.
4. Keep fire safety equipment available, accessible, and functional. Train employees to use it.	Stopping a fire before it spreads can save considerable money in stored commodities and save the storage space. Keep fire extinguishers accessible and in working order. Keep one extinguisher near the door and others throughout the inside of larger warehouses. Ensure that the right equipment is available—use water on wood and paper fires but do not use it on an electrical or chemical fire.

5. Store latex products away from electric motors and fluorescent lights.	Latex products, including condoms, can be damaged if they are directly exposed to fluorescent lamps. The lamps and electric motors produce a chemical called ozone, which can rapidly deteriorate condoms. Move condom boxes away from these sources. Leave condoms in paper boxes and cartons.
6. Maintain cold storage, including a cold chain, as required.	Cold storage, including the cold chain, is essential for maintaining the shelf life of certain drugs. After these items are removed from cold storage, they become irrevocably damaged. If electricity is unreliable, bottled gas or kerosene-powered refrigeration may be needed. For immunization campaigns, cold boxes or insulated coolers may be sufficient for rapid transport.

7. Limit storage area access to authorized personnel. Lock up controlled substances.	To ensure that all stock movement is authorized, lock the storeroom, limit access to persons other than the storekeeper and his/her assistants, and verify that both incoming and outgoing stock matches the documentation. Periodically perform a systematic physical inventory to verify inventory records.
8. Stack cartons at least 10 cm off the floor, 30 cm away from the walls and other stacks, and no more than 2.5m high. Note: This may not be possible in all health centers.	Use pallets to keep products off floors where they will be less susceptible to pest, water, and dirt. Stack pallets away from walls to promote circulation and prevent cartons from moisture damage; place them far enough apart so an employee can walk completely around each pallet. This promotes air circulation and facilitates movement of stock, cleaning, and inspection.
9. Arrange cartons with arrows pointing up (⍰), with identification labels, expiry dates, and manufacturing dates clearly visible.	Arrows indicate that the commodity should be stored with the arrows pointing up. If shipping cartons do not show either a date of manufacture or an expiration date, clearly mark the date of receipt of supplies at the receiving warehouse on the cartons and bin cards. Write large, easy-to-read numbers with a marking crayon. If the original markings are small or difficult to read, rewrite the manufacturing or expiration dates in large numbers.
10. Store health commodities to facilitate FEFO procedures and stock management.	Ensure FEFO is followed; recently received commodity supplies may sometimes be *older* than the store's existing stock.
11. Store health commodities away from insecticides, chemicals, flammable products, hazardous materials, old files, office supplies, and equipment; always use appropriate safety precautions.	Insecticides and other chemicals may affect the shelf life for many products. Storing old junk may slow down access to products. Some medical procedures require the use of flammable products. Bottled gas or kerosene is used to power refrigerators, alcohol is used in sterilization, and mineral spirits is used to power Bunsen burners. Store these products away from other products, near a fire extinguisher.
12. Separate damaged and expired health commodities from usable commodities, remove them from inventory immediately, and use established procedures to dispose of them.	By separating these products, it is easier to implement FEFO. By destroying damaged products immediately, more space will be available.

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Standard Operating Procedures

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Appendixes

1. Medical Store Depot Warehousing Manual Pakistan: USAID | DELIVER PROJECT, Task Order 4, for the Medical Store Depot Department of Health Government of Punjab, Lahore Pakistan, 2016.