National Agency for Food & Drug Administration & Control (NAFDAC)

Pharmacovigilance and Post Marketing Surveillance (PV/PMS)
Directorate

NAFDAC GOOD DISTRIBUTION PRACTICES GUIDELINES FOR PHARMACEUTICAL PRODUCTS

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ACRONYMNS

CAPA	Corrective and Preventive Action
DFID	UK Department for International Development
FEFO	First-Expired, Firs-t-Out
GDP	Good Distribution Practice
GMP	Good Manufacturing Practice
GPS	Global Positioning System
ICH	International Conference on Harmonization
INN	International Non-proprietary Name
NAFDAC	National Agency for Food and Drug Administration and Control
PATHS2	Partnership for Transforming Health Systems
PIC/S	Pharmaceutical Inspection Co-Operation Scheme
PPMVL	Patent and Proprietary Medicine Vendors' License
SOP	Standard Operating Procedure
WHO	World Health Organization

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INTRODUCTION

The distribution of pharmaceutical products is an important activity in the Supply chain and involves several players. It consists of procuring, holding, supplying, importing, and exporting of pharmaceutical products. Distribution activities are carried out by manufacturers, importers, wholesalers/distributors, retailers, and other persons authorized to supply pharmaceutical products in the public and private sectors.

The Good Distribution Practice (GDP) guidelines are intended to help players in the supply chain of pharmaceutical products comply with NAFDAC Good Distribution Practice Regulations. The GDP regulations prescribe the minimum requirements for good distribution of pharmaceutical products. The GDP guidelines provide appropriate tools to assist all categories of distributors in conducting their activities in order to maintain the quality of pharmaceutical products and prevent counterfeits from entering the legal supply chain.
They are intended to help minimize the inherent risks in distribution such as mix-ups, adulteration, contamination, cross-contamination, and diversions.

These guidelines apply to persons and entities involved in any aspect of the Distribution of pharmaceutical products from the manufacturing site to the point of sale or use. The guidelines apply but are not limited to governments at all levels, non-governmental organizations, public and private health and storage facilities, manufacturers of finished pharmaceutical products, importers, exporters, wholesalers/distributors, suppliers, and pharmacy retailers.

Some sections of these guidelines also apply to other entities involved in the Distribution of pharmaceutical products such as clearing and forwarding agents, freighters, and transporters. The guidelines also apply to distributors that are established or operating in Customs areas, such as free zones or free warehouses. The guidelines do not apply to holders of Patent and Proprietary Medicine

Vendors' License (PPMVL) as the activities of this group are covered under Good Dispensing Practices
The document is to be used in conjunction with other existing relevant.
Pharmaceutical product statutes in the country. The good practices outlined.
Below are to be considered general guides, and they may be adapted to meet individual needs
as the distributor achieves compliance with regulatory Objectives.

All stakeholders are encouraged to send their comments to the Agency
(pharmacovigilance@nafdac.gov.ng) during the use of these guidelines in other to improve future editions.

CHAPTER 1:

1.0 GENERAL PRINCIPLES

1.1 All parties involved in the distribution of pharmaceutical products have a responsibility to ensure that the quality of pharmaceutical products and the integrity of the distribution chain are maintained throughout the distribution process from the site of the manufacturer to the entity responsible for dispensing or providing the product to the patient.

1.2 The principles of good distribution practice (GDP) are applicable both to pharmaceutical products moving forward in the distribution chain from the manufacturer to the entity responsible for dispensing or providing the product to the end user; and to products that are moving backward in the chain such as it obtains in return and recall.

1.3 The principles of GDP are also applicable to donated pharmaceutical products.

1.4 All distributors should apply due diligence with adherence to the principles of GDP, for example, in procedures relating to traceability and in recognition of security risks.

1.5 All distributors should comply with the extant national legislation on pharmaceutical products.

1.6 All distributors should be appropriately authorized and can be held accountable for all the activities that relate to the distribution of pharmaceutical products.

1.7 Only entities which have marketing authorization for pharmaceutical products, or their agents are entitled to import or export pharmaceutical products.

1.8 Pharmaceutical products may be distributed within or to a country or territory if a marketing authorization or similar authorization has been granted, which allows the use of that pharmaceutical product in that country or territory.

1.9 Holders of an authorization to distribute pharmaceutical products should obtain their supplies only from persons or entities that are in possession of the applicable authorization to sell or supply such products.

1.10 Distributors or their agents should supply pharmaceutical products only to

persons or entities that are themselves authorized to acquire such products either in terms of an authorization to act as a distributor or to sell or supply products directly to a patient.

1.11 Some duties and responsibilities may be delegated or contracted out to suitably designated persons or entities as authorized and as necessary. Duties and responsibilities may only be delegated to entities that are suitably authorized. There should be no gaps or unexplained overlaps with regard to the application of GDP. These delegated and contracted-out activities should be documented in agreements or contracts. There should be a periodic audit of such activities with regard to the application of GDP.

1.12 A system should be put in place to monitor transactions and investigate any irregularity in the sales patterns of narcotics, psychotropic substances, or other controlled substances. Unusual sales patterns that may constitute diversion or misuse of pharmaceutical products should be investigated and reported to the Agency where necessary. Steps should be taken to ensure the fulfilment of the regulatory requirements of the Agency

CHAPTER 2:

2.0 ORGANIZATION AND PERSONNEL

Principle

The correct distribution of pharmaceutical products relies upon people. For this reason, there must be a sufficient number of competent personnel to carry out all tasks for which the distributor is responsible. Individual responsibilities should be clearly understood by employees and be recorded.

2.1 There should be an adequate organizational structure defined with the aid of an organizational chart for each distributor. The responsibility, authority, and interrelationships of all personnel should be clearly indicated.

2.2 duties and responsibilities should be clearly defined and understood by the individuals concerned and recorded as written job descriptions. The position of the superintendent pharmacist as required by law for the supervision of activities should be well defined. At every level of the supply chain, employees should be fully informed and trained in their duties and responsibilities.

2.3 A designated person should be appointed within the organization, who has defined authority and responsibility for ensuring that a quality management system is implemented and maintained.

2.4 Managerial and technical personnel must have the authority and resources needed to carry out their duties and to set up and maintain a quality management system, as well as to identify and correct deviations from the established quality management system (see Chapter 3: Quality Management System).

2.5 The responsibilities placed on any one individual should not be so extensive as to present any risk to product quality.

2.6 There should be arrangements in place to ensure that management and personnel are not subject to commercial, political, financial, and other pressures or conflict of interest that may have an adverse effect on the quality of service provided or on the integrity of pharmaceutical products.

2.7 Safety procedures relating to all relevant aspects including the safety of personnel and property, environmental protection and product integrity should be in place.

Personnel

2.8 Key personnel involved in the distribution of pharmaceutical products should have the ability and experience appropriate to their responsibility for ensuring that pharmaceutical products are distributed properly.

2.9 Personnel involved in the distribution of pharmaceutical products should wear garments suitable for the activities that they perform. Personnel dealing with hazardous pharmaceutical products including products

containing materials that are highly active, toxic, infectious, or sensitizing, should be provided with Personal Protective Equipment (PPE) as necessary.

2.10 Procedures and conditions of employment for employees, including contract and temporary staff, and other personnel having access to pharmaceutical products must be designed and administered to assist in minimizing the possibility of such products coming into the possession of unauthorized persons or entities.

2.11 Codes of practice and punitive procedures should be in place to prevent and address situations where persons involved in the distribution of pharmaceutical products are suspected of, or found to be implicated in, any activities relating to the misappropriation, tampering, diversion, or counterfeiting of any product.

2.12 Appropriate procedures relating to personnel hygiene, relevant to the activities being carried out, should be established and observed. Such procedures should cover health, hygiene, and clothing.

Responsible person

2.13 All distributors must designate a person as responsible person who is the superintendent pharmacist. The responsible person should have appropriate competence and experience as well as knowledge of and training in GDP.

2.14 The responsible person should fulfil their responsibilities personally and should be continuously contactable. The responsible person may delegate duties but not responsibilities.

2.15 The written job description of the responsible person should define their authority to make decisions with regard to their responsibilities. The distributor should give the responsible person the defined authority, resources, and responsibility needed to fulfil their duties.

2.16 The responsible person should carry out their duties in such a way as to ensure that the distributor can demonstrate GDP compliance and that obligations to the public are met. The responsibilities of the responsible person include.

a. Ensuring that a quality management system is implemented and maintained.
b. Focusing on the management of authorized activities, the accuracy and quality of records.
c. Ensuring that initial and continuous training programmes are implemented and maintained.
d. Coordinating and promptly performing any recall operations for pharmaceutical products.

e. Ensuring that relevant customer complaints are dealt with effectively.
f. Ensuring that suppliers and customers in the distribution chain are approved.
g. Approving any subcontracted activities which may impact on GDP.
h. Ensuring that self-inspections are performed appropriately. regular intervals following a prearranged programme and necessary corrective measures are put in place.
i. Keeping appropriate records of any delegated duties.
j. Deciding on the final disposition of returned, rejected, recalled, or falsified products;
k. Approving any returns to saleable/useable stock.
l. Ensuring that any additional regulatory requirements imposed on certain products are adhered to.

Training

2.17 All personnel involved in distribution activities should be trained on the requirements of GDP. They should have the appropriate competence and experience prior to commencing their tasks. Training should be based on written standard operating procedures (SOPs).

2.18 Personnel should receive initial and continuing training relevant to their role, based on written procedures and in accordance with a written training program. The responsible person should also maintain their competence in GDP through regular training.

2.19 In addition, training should include aspects of product security, as well as aspects of product identification, the detection of counterfeits, and the avoidance of counterfeits entering the supply chain.

2.20 Personnel dealing with any products that require more stringent handling conditions should receive specific training. Examples of such products include hazardous products, radioactive materials, products presenting special risks of abuse (including narcotic and psychotropic substances), as well as time and temperature-sensitive products.

2.21 A record of all training should be kept, and the effectiveness of training should be periodically assessed and documented.

CHAPTER 3:

3.0 QUALITY MANAGEMENT SYSTEM

Principle

Distributors of Pharmaceutical products should maintain a quality system setting out responsibilities, processes, and risk management principles in relation to their activities. All distribution activities should be clearly defined in procedures and systematically reviewed. All critical steps of distribution are processed, and significant changes should be justified and where relevant, validated. The quality system is the responsibility of the organization's management and requires their leadership and active participation and should be supported by staff commitment.

3.1. The management of all distributors should establish, implement, and maintain a quality management system appropriate to the scope of its activities.

3.2. The quality management system should include an appropriate organizational structure, procedures, processes, resources, and systematic actions necessary to ensure adequate confidence that a product and its documentation will satisfy given requirements for quality, and integrity and remain within the legal supply chain during storage and/or transportation

3.3. The documentation used in the quality management system should be communicated, available to, understood, and implemented by the appropriate personnel.

3.4. A responsible person should be appointed by the management, who should have clearly specified authority and responsibility for ensuring that a quality management system is maintained.

3.5. The management should ensure that all parts of the quality management system are adequately resourced with competent personnel, suitable premises, equipment, and facilities.

3.6. A quality manual or equivalent documentation that states the company’s quality policy and goals should be established. It should contain a detailed description of its quality assurance system that includes staff roles and relationships, procedures, systems and any other resources that assure the distribution of quality pharmaceutical products. The quality manual should contain the following:

a. A documented quality policy statement describing the overall intentions and requirements of the organization regarding quality as formally expressed and authorized by management. The quality policy statement, which is usually displayed within the organization should include at least the following:

i. A statement of the management's intentions with respect to the standard of service it will provide.

ii. A commitment to establishing, implementing, and maintaining an effective quality management system,

iii. The management's commitment to good professional practice.

iv. The management's commitment to compliance with Good Distribution Practices.

b. A requirement that all personnel involved with distribution activities familiarize themselves with the documentation concerning quality and the implementation of the policies and procedures in their work.
c. The organizational structure.
d. The operational and functional activities pertaining to quality, so that the extent and the limits of the responsibilities are clearly defined.
e. Outline of the structure of documentation used in the quality management system.
f. References to approved procedures for specific activities.
g. Information on the appropriate qualifications, experience, and competencies that personnel are required to possess.
h. Information on initial and in-service training of staff;
i. Conduct of internal and external audits;
j. A formal process for performing management reviews of the quality management system.
k. A policy for implementing and verifying corrective and preventive actions;
l. A policy for dealing with complaints and recalls;
m. A policy for maintaining appropriate records.
n. A policy for investigation of deviations from GDP or in-house procedures.
o. A policy for management of outsourced activities related to procurement, storage, supply, or export of pharmaceutical products as applicable to the organization.

3.7 All distributors of pharmaceutical products should establish, implement, and maintain authorized written procedures for all administrative and technical activities.

Standard operating procedures should include, but not limited to, the following:

a. Personnel matters, including training, clothing, and hygiene;
b. Change management and risk assessment.
c. Internal audit;
d. Handling of complaints;
e. Implementation and verification of corrective and preventive actions;
f. The procurement, storage, inventory management, stock rotation, sale, supply, importation, exportation and transportation of pharmaceutical products;
g. Internal labelling of shelves, facilities, etc.;
h. Segregation of pharmaceutical products such as rejects, recalls, quarantine, inflammable, and controlled substances.
i. Preventive maintenance, qualification, calibration, and validation of instruments and equipment e.g. Thermos hygrometers, air conditioners, alarm systems;
j. Handling of deviations;
k. Cleaning of storage facilities;
l. Monitoring of storage environmental conditions, e.g. temperature and humidity;
m. Safety, health and environment measures.

3.8 For facilities distributing temperature and time-sensitive pharmaceutical products, the following additional SOPs should be maintained:

a. Temperature monitoring and mapping
b. Management of temperature excursions.

c. Temperature-controlled packaging and route qualification.
d. Temperature-controlled vehicle operation, including management of security locks and seals;
e. Emergency response procedures

3.9 The activities of the company should be systematically and periodically audited (internally and, where appropriate, by external audits or inspections) to verify compliance with the requirements of the quality management system and to apply corrective and preventive actions, if necessary. The audits should be carried out by trained and qualified personnel, who are independent of the activity to be audited. The Responsible Person is responsible for planning and organizing internal audits addressing all elements of the quality management system. Such audits should be recorded, together with details of any corrective and preventive action taken.

3.10 The quality management system should ensure that:

a. Pharmaceutical products are procured, held, supplied or exported in a way that is compliant with the requirements of GDP;
b. Management responsibilities are clearly specified;
c. Products are delivered to the right recipients within a satisfactory time period;
d. Records are made at the time each operation is undertaken;
e. Deviations from established procedures are documented and investigated;
f. Appropriate corrective and preventive actions (CAPA) are taken to correct deviations and prevent them in line with the principles of quality risk management.

3.11 *A* change control system should be in place. This system should Incorporate quality risk management principles and be proportionate and effective.

3.12 The management should have a formal process for reviewing the quality management system on a periodic basis. The review should include:

a. Measurement of the achievement of quality objectives;
b. Assessment of performance indicators that can be used to monitor the effectiveness of processes within the quality management system, such as complaints, deviations, CAPA, changes to processes; feedback on outsourced activities; self• assessment processes including risk assessments and audits; and
c. external assessments such as inspections, findings and customer audits;
d. Emerging regulations, guidance and quality issues that can impact the quality management system;
e. Innovations that might enhance the quality management system;
f. Changes in business environment and objectives

3.13 The outcome of each management review of the quality management system should be documented in a timely manner and effectively communicated internally.

Documentation

Principle

Good documentation constitutes an essential part of the quality management system. Written documentation should prevent errors from spoken communication and permits the tracking of relevant operations during the distribution of pharmaceutical products. Records should be made at the time each operation is undertaken.

3.14 Documentation comprises all written procedures, instructions, contracts, records, and data, in paper or in electronic form. Reports from internal (and external if performed) audits and management reviews, as well as records of all complaints and their investigations, including records of possible corrective and preventive actions are also part of documentation. Documentation should be readily available and retrievable.

3.15 Documentation should be sufficiently comprehensive with respect to the scope of the distributor's activities and in a language understood by personnel. It should be written in clear, unambiguous language and be free from errors.

3.16 Documentation should be approved, signed and dated by appropriate authorized persons, as required and should not be changed without the necessary authorization. It should not be hand-written; although, where it is necessary, sufficient space should be provided for such entries.

3.17 Any alteration made in the documentation should be signed and dated; the alteration should permit the reading of the original information. Where appropriate, the reason for the alteration should be recorded.

3.18 Documents should be retained for at least ten years or as required in specific sections of these guidelines. Personal data should be deleted or anonymized as soon as their storage is no longer necessary for the purpose of distribution activities.

3.19 Each employee should have ready access to all necessary documentation for the tasks executed.

3.20. Attention should be paid to using valid and approved procedures. Documents should have unambiguous content; title, type and purpose should be clearly stated. Documents should be laid out in an orderly fashion and be easy to check. Documents should be reviewed regularly and kept up to date. Version control should be applied to procedures. After revision of a document, a system should exist to prevent inadvertent use of the superseded version. Superseded or obsolete procedures should be removed from workstations and archived.

3.21 Written instructions and records which document all activities relating to the distribution of pharmaceutical products, including all applicable receipts and invoices should be available. Records should be kept for ten years.

3.22 Distributors should keep records of all pharmaceutical products received.

Records should contain at least the following information:

a. Date;
b. Brand name, Generic name, Strength of the pharmaceutical product;
c. Quantity received, or supplied;
d. Name and address of the supplier;
e. Batch number and corresponding date markings;

3.23 Procedures should be established and maintained for the preparation, review, approval, use of and control of changes to all documents relating to the distribution process. Procedures must be in place for both internally generated documents and those from external sources.

3.24 Documents, and in particular instructions and procedures relating to any activity that could have an impact on the quality of pharmaceutical products, should be designed, completed, reviewed and distributed with care.

3.25 The nature, content and retention of documentation relating to the distribution of pharmaceutical products and any investigations conducted and action taken, should be retained for at least one year after the expiry date of the product concern.

3.26 The distributor must establish and maintain procedures for the identification, collection, indexing, retrieval, storage, maintenance, disposal of and access to all applicable documentation.

3.27 All quality records should be legible, readily retrievable, and be stored and retained using facilities that are safeguarded against unauthorized modification, damage, deterioration and/or loss of documentation.

2.28 Mechanisms should exist to allow for transfer of information, including quality or regulatory information, between a distributor and a customer, as well as the transfer of information to the Agency as required.

2.29 Permanent records, written or electronic, should exist for each stored product indicating recommended storage conditions, any precautions to be observed and retest dates. Pharmacopoeia! and labelling requirements of the Agency should be respected at all times.

3.30 Where the records are generated and kept in electronic form, back• ups should be maintained within and outside the facility to prevent any accidental data loss.

3.31 The conditions under which all original records are stored should be such as to ensure their security and confidentiality and access to them should be restricted to authorized personnel.

3.32 Electronic storage and signatures may also be employed but with restricted access and in conformance with requirements for electronic records

Control of documentation

3.33. Documentation is an essential part of the quality management system. The organization should establish and maintain procedures to control and review all documents (both internally generated and from external sources) that form part of the quality documentation.

3.34 *A* master list identifying the current version status and distribution of documents should be established and readily available.

3.35 The document control procedures should ensure that:

a. Each quality document, has a unique identifier, version number and date of implementation;
b. Appropriate and authorized SOPs are available;
c. Documents are kept up to date and reviewed as required;
d. Any obsolete document is removed and replaced with the authorized, revised document with immediate effect;
e. *A* revised document includes references to the previous document;
f. Obsolete documents are retained in the archives to ensure traceability of the evolution of the procedures; any copies are destroyed;
g. All relevant staff are trained for the new and revised SOPs; and
h. Quality documentation, including records, is retained for a minimum of ten years.

3.36. *A* system of change control should be in place to inform staff of new and revised procedures. The system should ensure that revised documents are prepared by the initiator, or a person who performs the same function, reviewed and approved at the same level as the original document and subsequently released by the Responsible person.

Deviations, investigations, and corrective and preventive actions

Principle

The handling of deviations is important in assuring quality in pharmaceutical products and contributing to continuous improvement. The deviation system should identify non-conformances and potential non-conformances and define when and how corrective and preventive actions (CAPA) should be undertaken. Once a deviation is detected, it needs to be contained with immediate actions, the root causes identified as necessary, and systemic actions implemented in order to prevent same or similar non-conformances in the future.

3.37 A procedure should be in place outlining the process for identifying, documenting, investigating and closing deviations and the timeline involved.

3.38 The Responsible Person should be notified of deviations and an assessment should be performed to determine product quality implications and/or impact on the quality system.

3.39 Immediately a potential deviation or incident is identified, the documentation of investigations should be commenced. Should the outcome of an investigation conclude that no deviation has occurred then the documentation of the investigation should still be maintained and available to an inspector. An example of this may be where an investigation is commenced into stock discrepancies identified during stock counts where the outcome of the investigation is the location of the missing stock.

3.40 Deviation investigations should aim to identify the root cause of the deviation.

3.41 Corrective and preventive actions (CAPAs) may arise as a result of deviations, self-inspections, observations or from other incidents.

3.42 A log of deviations and suspected deviations should be maintained and all investigations, root cause identifications and resulting CAPAs documented.

3.43 CAPAs should be subjected to regular review to ensure their full implementation and effectiveness.

3.44 The principles of quality risk management should be built into the deviation process. Each deviation should be considered, and a decision taken as to whether a risk assessment is required. The requirement for a risk assessment to be considered should be documented on the deviation form.

Quality risk management

3.45 Quality risk management is a systematic process for the assessment, control, communication and review of risks to the quality of pharmaceutical products. It can be applied both proactively and retrospectively.

3.46 Quality risk management should ensure that the evaluation of the risk to quality is based on scientific knowledge, experience with the process and ultimately links to the protection of the end-user. The level of effort, formality and documentation of the process should be commensurate with the level of risk.

Traceability of Pharmaceutical Products

Principle

Traceability ensures that the distribution of pharmaceutical products including transportation and storage conditions from the point of supply to the end-user can be tracked. This is essential to demonstrate that pharmaceutical products have been correctly distributed and to facilitate product recalls and detect theft and fraud.

3.47 All distributors of pharmaceutical products should foster a safe, transparent and secure distribution system which includes product traceability throughout the supply chain.

3.48 All parties involved in the supply chain should be identifiable.

3.49 Measures should be in place to ensure that pharmaceutical products have documentation that can be used to permit traceability and recall of the products throughout distribution channels from the manufacturer /importer to the entity responsible for selling or supplying the product to the patient. Records including expiry dates and batch numbers may be part of a secure distribution documentation enabling traceability.

Where electronic commerce (e-commerce) is used for any of the distribution steps, defined procedures and adequate systems should be in place to ensure traceability and confidence in the quality of the pharmaceutical products concerned.

4.0 PREMISES, WAREHOUSING AND STORAGE FACILITIES

Principle

Distributors must have suitable and adequate premises to ensure proper storage and distribution of pharmaceutical products. In particular, the premises should be clean, dry and maintained within acceptable temperature limits.

Storage areas

4.1. Precautions must be taken to prevent unauthorized persons from entering storage areas. Employees should comply with the company policies to maintain a safe, secure and efficient working environment.

4.2. Storage areas should be of sufficient capacity to allow the orderly storage of the various categories of pharmaceutical products, namely commercial and non-commercial products, quarantined, quarantined and released, rejected, returned or recalled products as well as those suspected to be counterfeits.

4.3. Storage areas should be designed or adapted to ensure appropriate and good storage conditions. In particular, they should be clean and dry and maintained within acceptable temperature limits. Pharmaceutical products should be stored off the floor and suitably spaced to permit cleaning and inspection. Pallets should be kept in good state of cleanliness and repair.

4.4. Storage areas should be clean and free from accumulated waste and vermin. Distributors must ensure that premises and storage areas are cleaned regularly. There should also be a written programme for pest control. The pest control agents used should be safe and there should be no risk of contamination of pharmaceutical products. There should be appropriate procedures for clean-up of spillage to ensure complete removal of any risk of contamination.

4.5. Receiving and dispatch bays should protect pharmaceutical products from the weather. Receiving areas should be designed and equipped to allow incoming containers of pharmaceutical products to be cleaned, if necessary, before storage.

4.6. Where quarantine status is ensured by storage in storage areas, these areas must be clearly marked, and access restricted to unauthorized personnel.

4.7. Any system replacing physical quarantine should provide equivalent security. For example, computerized systems can be used, provided that they are validated to demonstrate security of access.

4.8 Physical or other equivalent (e.g., electronic) segregation should be provided for the storage of rejected, expired, recalled or returned products and suspected counterfeits. The products and the areas concerned should be appropriately identified.

4.9 Unless there is an appropriate alternative system to prevent the unintentional or unauthorized use of quarantined, rejected, returned, recalled or suspected

counterfeit pharmaceutical products, separate storage areas should be assigned for their temporary storage until a decision as to their future has been made.

4.10 Radioactive materials, narcotics and other hazardous, sensitive and/or controlled pharmaceutical products, as well as products presenting special risks of abuse, fire or explosion (e.g., combustible or flammable liquids and solids and pressurized gases) should be stored in a dedicated area(s) that is subject to appropriate additional safety and security measures.

4.11 Pharmaceutical products should be handled and stored in such a manner as to prevent contamination, mix-ups and cross-contamination.

4.12 Storage areas should be provided with adequate lighting to enable all operations to be carried out accurately and safely.

Storage conditions

4.13 Storage and handling conditions should comply with applicable national regulations.

4.14 Storage conditions for pharmaceutical products should be in compliance with the recommendations of the manufacturer.

4.15 Facilities should be available for the storage of all pharmaceutical products under appropriate conditions (e.g. environmentally controlled when necessary). Records should be maintained of these conditions if they are critical for the maintenance of the characteristics of the pharmaceutical product stored.

4.16 Records of temperature monitoring data should be available for review. There should be defined intervals for checking temperature. The equipment used for monitoring should be checked at suitable predetermined intervals and the results of such checks should be recorded and retained. All monitoring records should be kept for at least the shelf-life of the stored pharmaceutical product plus one year.

4.17 Temperature mapping should show uniformity of the temperature across the storage facility and at different seasons (dry and rainy). It is recommended that temperature monitors be located in areas that are most likely to show fluctuations.

4.18 Equipment used for monitoring of storage conditions should also be calibrated at defined intervals.

4.19 The storage conditions for products should follow the required storage specification of the product. Where temperature is not stated (in terms of range) on the label of the products, the following definition should be used as seen below:

Freezer	The temperature is thermostatically controlled between – 25°C and –10°C
Refrigerator	The temperature is thermostatically controlled between 2°C and 8°C
Cold place	The temperature does not exceed 8°C
Cool Place	The temperature is between 8°C and 15°C
Room Temperature	°C and 30°C
Ambient temperature	The required storage temperature of non-refrigerated pharmaceutical product; usually stated on the product as 'store below 25 °C' or 'store below 30 °C'.
Warm	The temperature is between 30°C and 40°C
Excessive heat	The temperature is above 40°C
Do not store over 30°C	The temperature is between 2°C and 30°C
Do not store over 25°C	The temperature is between 2°C and 25°C
Do not store over 15°C	The temperature is between 2°C and 15°C
Do not store over 8°C	The temperature is between 2°C and 8°C
Do not store below 8°c	The temperature is between 8°C and 25*C
Protect from moisture	Not more than 60% relative humidity in normal Storage conditions to be provided to a patient in a Moisture resistant container
Protect from light	To be provided to the user in a light resistant container

5.0 VEHICLESEQUIPMENT AND

Principle

It is the responsibility of the distributor of pharmaceutical products to ensure that vehicles and equipment used to distribute, store or handle pharmaceutical products are suitable for their use and appropriately equipped to prevent exposure of the products to conditions that could affect their quality and integrity.

General principles

5.1 Vehicles and equipment used to distribute, store or handle pharmaceutical products should be suitable for their purpose and appropriately equipped to prevent exposure of the products to conditions that could affect their stability and packaging integrity, and to prevent contamination of any kind.

5.2. The design and use of vehicles and equipment must aim to minimize the risk of errors and permit effective cleaning and/or maintenance to avoid contamination, build-up of dust or dirt and/or any adverse effect on the quality of the pharmaceutical products being distributed.

5.3. Dedicated vehicles and equipment should be used, where possible, when handling pharmaceutical products.

5.4 Where non-dedicated vehicles and equipment are used, procedures should be in place to ensure that the quality of the pharmaceutical product will not be compromised. Appropriate cleaning should be performed, checked and recorded.

5.5. There should be written procedures in place for the operation and maintenance of all vehicles and equipment involved in the distribution process, including cleaning and safety precautions.

5.6. Defective vehicles and equipment should not be used and should either be labelled as such or removed from service.

5.7. Vehicles, containers and equipment should be kept clean and dry and free from accumulated waste. All distributors of pharmaceutical products must ensure that vehicles used are cleaned regularly.

5.8. Vehicles, containers and equipment should be kept free from rodents, vermin, birds and other pests. There should be written programmes and records for such pest control. The cleaning and fumigation agents used should not have any adverse effect on product quality.

5.9. Measures should be in place to prevent unauthorized persons from entering and/or tampering with vehicles and/or equipment, as well as to prevent the theft or misappropriation thereof.

Vehicles

5.10. Procedures should be in place to ensure that the integrity of the products is not compromised during transportation.

5.11. Vehicles and containers should be of sufficient capacity to allow orderly storage of the various categories of pharmaceutical products during transportation.

5.12. Where possible, mechanisms should be available to allow for the segregation during transit of rejected, recalled and returned pharmaceutical products as well as those suspected of being substandard or counterfeit. Such pharmaceutical products should be securely packaged, clearly labelled, and be accompanied by appropriate supporting documentation.

5.13. In order to ensure that temperature sensitive pharmaceutical products are safely transported within the transport temperature profile defined for each product and that compliance can be demonstrated to the Agency and other interested parties. Vehicles used for the distribution of such products should be:

a. Capable of maintaining the temperature range defined by the system set points over the full annual ambient temperature range experienced over known distribution routes and when the vehicle is in motion, or parked with the main engine stopped;

b. Equipped with calibrated temperature monitoring devices with sensors located at points representing temperature extremes;

c. Equipped with alarms to alert the driver in the event of temperature excursions and/or refrigeration unit failure;

d. Fitted with doors with security seals and/or security that protect against unauthorized access during transit;

e. Qualified and regularly calibrated and maintained and records kept to demonstrate compliance.

5.14. Where feasible, consideration should be given to adding technology, such as global positioning system (GPS), electronic tracking devices and engine-kill buttons to vehicles, which would enhance the security of pharmaceutical products while in the vehicle.

5.15. Where third-party carriers are used, all distributors of pharmaceutical products should develop written agreements with carriers to ensure that appropriate measures are taken to safeguard pharmaceutical products, including maintaining appropriate documentation and records. Such agreements should be in line with the requirements of the Agency.

5.16. Equipment chosen and used for the cleaning of vehicles should not constitute a source of contamination. Agents used for the cleaning of vehicles should not affect the quality of the pharmaceutical product.

Equipment

5.17. All equipment impacting on storage and distribution of pharmaceutical products should be designed, located and maintained to a standard which suits its intended purpose.

5.18. Temperature monitoring systems and devices should be provided for all temperature-controlled rooms, cold rooms, freezer rooms, refrigerators and freezers while humidity monitoring devices and systems should also be provided in rooms where pharmaceutical products which are adversely affected by high relative humidity are stored.

5.19. Appropriate temperature and humidity alarm systems should be in place to provide alert where there are excursions from predefined storage conditions. Alarm levels should be appropriately set and alarms should be regularly tested to ensure adequate functionality at least once in 6 months. An automatic telephone dial-up or SMS text warning system should be installed to alert on-call personnel when an alarm is triggered outside working hours.

5.20. Equipment used to control or to monitor the environment (e.g. temperature and humidity) within vehicles, containers and storage areas should be calibrated at least once a year.

5.21. A preventive and emergency maintenance programme should be in place and should be implemented for temperature-controlled rooms, cold rooms, freezer rooms, refrigerators, freezers, and all other equipment vital to the maintenance of the quality of pharmaceutical products in storage or in transit.

5.22. All calibration of equipment should be traceable to international measurement standard.

5.23. Appropriate alarm systems should be in place to provide alerts when there are excursions from pre-defined storage conditions. Alarms should be appropriately set and alarms should be regularly tested to ensure adequate functionality.

5.24. Equipment repair, maintenance and calibration operations should be carried out in such a way that the integrity of the pharmaceutical products is not compromised.

5.25. Adequate records of repair, maintenance and calibration activities for key equipment should be made and the results should be retained. Key equipment would include for example cold stores, monitored intruder alarm and access control systems, refrigerators, thermohydrometers, or other temperature and humidity recording devices, air handling units and any equipment used in conjunction with the onward supply chain.

5.26. Where special storage conditions (e.g. temperature and/or relative humidity), different from, or limiting, the expected environmental conditions, are required during transportation, these should be provided, checked, monitored and recorded. All monitoring records should be kept

for a minimum of the shelf-life of the product distributed plus one year. Records of monitoring data should be made available for inspection by the Agency.

5.27. Special attention should be paid to the design, use, cleaning and maintenance of all equipment used for the handling of pharmaceutical products which are not in a protective shipping carton or case.

Computerised systems

5.28. Before any computerised system is used in pharmaceutical product distribution operations (e.g. inventory management, environmental monitoring) it should be demonstrated, through appropriate validation or verification studies, that the system is capable of achieving the desired results accurately, consistently and reproducibly.

5.29. A written, detailed description of the system should be available (including diagrams where appropriate). This should be kept up- to• date. The document should describe principles, objectives, security measures, system scope and main features, how the computerised system is used and the way it interacts with other systems.

5.30. Data should only be entered into the computerised system or amended by persons authorised to do so.

5.31. Data should be secured by physical or electronic means and protected against accidental or unauthorised modifications. Stored data should be checked periodically for accessibility. Data should be protected by backing up at regular intervals. Back up data should be retained for at least ten years at a separate and secure location.

5.32. Procedures to be followed if the system fails or breaks down should be defined. This should include systems for the restoration of data.

Qualification and validation of equipment

5.33. All distributors of pharmaceutical products should identify what key equipment qualification and/or key process validation is necessary to ensure correct installation and operation. The scope and extent of such qualification and/or validation activities (such as storage, pick and pack processes) should be determined using a documented risk assessment approach.

5.34. Equipment and processes should be respectively qualified and/or validated before commencing use and after any significant changes, e.g. repair or maintenance.

5.35. Validation and qualification reports should be prepared summarising the results obtained and commenting on any observed deviations. Deviations from established procedures should be documented and further actions decided to correct deviations and avoid their reoccurrence. The principles of CAPA should be applied where necessary. Evidence of satisfactory

validation and acceptance of a process or piece of equipment should be produced and approved by the responsible person.

Shipment containers and container labelling

5.36. Pharmaceutical products should be stored and distributed in shipment containers that have no adverse effect on the quality of the products, and that offer adequate protection from external influences, including contamination.

5.37. Products and shipment containers should be secured to prevent or provide evidence of unauthorized access.

5.38. Packaging materials and shipment containers should be of suitable design to prevent damage of pharmaceutical products during transport. Seal control programmes should be in place and managed properly.

5.39. Selection of a container and packaging should be based on the storage and transportation requirements of the pharmaceutical products; the space required for the amount of medicines; the anticipated external temperature extremes; the estimated maximum time for transportation including transit storage at customs; the qualification status of the packaging and the validation status of the shipping containers.

5.40. Shipping containers should bear labels providing sufficient information on:

a. Identification of the product in accordance with national and international labelling requirements relevant to the container content, source, transport route and modes
b. Identification of hazardous products in accordance with relevant international labelling conventions.
c. Handling and storage conditions and precautions to ensure that the products are properly handled and secure at all times.

5.41. The need for any special transport and/or storage conditions should be stated on the shipment container label. If a pharmaceutical product is intended for transfer to areas outside the control of the manufacturer's products management system, the name and address of the manufacturer, special transport conditions and any special legal requirements, including safety symbols, should also be included on the container label.

5.42. Internationally accepted abbreviations, names or codes should be used in the labelling of shipment containers.

5.43. Special care should be taken when using dry ice in shipment containers. In addition to safety issues, it must be ensured that the pharmaceutical product does not come into contact with the dry ice, as it may have an adverse effect on the quality of the product.

5.44. Written procedures should be available for the handling of damaged and/or broken shipment containers. Particular attention should be paid to those containing potentially toxic and hazardous products

6.0 OPERATION MANAGEMENT

Principle

All actions taken by distributors should ensure that the identity of the pharmaceutical product is not lost, and that the distribution of pharmaceutical products is performed according to the information on the outer packaging. The distributor should use all means available to minimize the risk of falsified pharmaceutical products entering the legal supply chain. All pharmaceutical products distributed in the intended market by a distributor must be appropriately authorized. All key operations described below should be fully described in the quality system in appropriate documentation.

Qualification of suppliers and customers

6.1 There must be a system to ensure that suppliers and customers are duly authorized to supply or receive pharmaceutical products and comply with the principles and guidelines of good distribution practices.

6.2 Appropriate qualification and approval of suppliers, should be performed prior to any procurement of pharmaceutical products. This should be controlled by a procedure and the results documented and periodically reassessed.

6.3 When entering into a new contract with new suppliers, the distributor should carry out 'due diligence' checks in order to assess the suitability, competence and reliability of the supplier. Attention should be paid to:

(a) The reputation and reliability of the supplier;
(b) Pharmaceutical products more likely to be falsified;
(c) Large offers of pharmaceutical products which are generally only available in limited quantities; and
(d) Out-of-range prices

6.4. Distributors should monitor their transactions and investigate any irregularity in the sales patterns of narcotics, psychotropic substances or other controlled substances. Unusual sales patterns that may constitute diversion or misuse of pharmaceutical product should be investigated and reported to the Agency were necessary.

Dispatch and receipt

6.5. Pharmaceutical products should only be sold and/or distributed to persons or entities that are authorized to acquire such products in accordance with the national requirements. Written proof of such authority must be obtained prior to the distribution of products to such persons or entities.

6.6. There should be a system in place to ensure that pharmaceutical products received which are intended for supply to the Nigerian market are authorised for sale/use in the country. This may be by checking for the presence and validity of NAFDAC authorisation and keeping the record.

6.7. Prior to the dispatch of the pharmaceutical products, the supplier should ensure that the person or entity, e.g. the contract acceptor for transportation of the

pharmaceutical products, is aware of the products to be distributed and complies with the appropriate storage and transport conditions.

6.8. The dispatch and transportation of pharmaceutical products should be undertaken only after the receipt of a valid delivery order or material replenishment plan, which should be documented.

6.9. Written procedures for the dispatch of pharmaceutical products should be established. Such procedures should take into account the nature of the product as well as any special precautions to be observed.

6.10 Pharmaceutical products under quarantine will require release for dispatch by the person responsible for quality (see section 2.13).

6.11 Records for the dispatch of pharmaceutical products should be prepared and should include at least the following information:

a. Date of dispatch;
b. Complete business name and address (no acronyms), the entity responsible for the transportation, telephone number and names of contact persons;
c. Complete business name, address (no acronyms), and status of the addressee (e.g. retail pharmacy, hospital or clinic);
d. A description of the products including, e.g. name, dosage form and strength (if applicable);
e. Quantity of the products, i.e. number of containers and quantity per container (if applicable);
f. Applicable transport and storage conditions;
g. A unique number to allow identification of the delivery order; and
h. Assigned batch number and expiry date (where not possible at dispatch, this information should at least be kept at receipt to facilitate traceability).

6.12. All records should be readily available and accessible on request

6.13. Records of dispatch should contain enough information to enable traceability of the pharmaceutical product. Such records should facilitate the recall of a batch of a product, if necessary, as well as the investigation of counterfeit or potentially counterfeit pharmaceutical products.

6.14. In addition, the assigned batch number and expiry date of pharmaceutical products should be recorded at the point of receipt to facilitate traceability.

6.15. Care should be taken to ensure that the volume of pharmaceutical products ordered does not exceed the capacity of storage facilities at the destination.

Vehicles and containers should be loaded carefully and systematically, where applicable on a first-out/last-in basis, to save time when unloading, prevent physical damage and reduce security risks. Extra care should be taken during loading and unloading of cartons to avoid damage.

6.16. Pharmaceutical products requiring special storage or security measures should be prioritized and once appropriate checks have been conducted, they should be immediately transferred to appropriate storage facilities.

6.17. Pharmaceutical products should not be supplied or received after their expiry date, or so close to the expiry date that this date is likely to be reached before the products are used by the consumer.

6.18. Incoming shipments should be examined to verify the integrity of the container/ closure system, ensure that tamper-evident packaging features are intact, and that labelling appears intact.

Transportation and products in transit

It is the responsibility of the distributor to protect pharmaceutical products against breakage, adulteration, theft and to ensure that temperature conditions are maintained within acceptable limits during transport. Regardless of the mode of transport, it should be possible to demonstrate that the pharmaceutical products have not been exposed to conditions that may compromise their quality and integrity. *A* risk-based approach should be utilised when planning transportation.

6.20 Methods of transportation, including vehicles to be used, should be selected with care, and local conditions should be considered, including the climate and any seasonal variations experienced. Delivery of products requiring controlled temperatures should be in accordance with the applicable storage and transport conditions.

6.21 Delivery schedules should be established and routes planned, taking local needs and conditions into account. Such schedules and plans should be realistic and systematic. Security risks should also be taken into account when planning the schedules and routes of the delivery.

6.22 The required storage conditions for pharmaceutical products should be maintained during transportation within the defined limits as described by the manufacturers or on the outer packaging.

6.23 If a deviation such as temperature excursion or product damage has occurred during transportation, this should be reported to the distributor and recipient of the affected pharmaceutical products. A procedure should also be in place for investigating and handling temperature excursions.

6.24 In cases where the recipient notices the deviation, it should be reported to the distributor. Where necessary, the manufacturer of the pharmaceutical product should be contacted for information about appropriate steps to be taken.

6.25 Written procedures should be in place for investigating and dealing with any non-compliance with storage requirements, e.g. temperature deviations.

6.26 Drivers of vehicles should identify themselves and present appropriate documentation to demonstrate that they are authorized to transport pharmaceutical products. This is to ensure that they have received appropriate training and briefing on the peculiarities of pharmaceutical product transportation.

6.27 Products containing narcotics and other dependence-producing substances should be transported in safe and secure containers and vehicles and be stored in safe and secure areas. In addition, applicable international agreements and national legislation should be complied with.

6.28 Deliveries should be made to the address stated on the delivery note and into the care of the consignee. Pharmaceutical products should not be left on alternative premises.

6.29 For emergency deliveries outside normal business hours, persons should be designated writ ten procedures should be available.

6.30 Where transportation is performed by a third party, the contract in place should encompass the requirements of sections 6.95 to 6.111.

6.31 Transportation providers should be made aware by the distributor of the relevant transport conditions applicable to the consignment. Where the transportation route includes unloading and reloading or transit storage at a transportation hub, particular attention should be paid to temperature monitoring, cleanliness and the security of any intermediate storage facilities. Provision should be made to minimise the duration of temporary storage while awaiting the next stage of the transportation route.

6.32 Spillages should be cleaned up as soon as possible to prevent possible contamination, cross-contamination and hazards. Written procedures should be in place for the handling of spillages.

6.33 Product shipments should be secured and include the appropriate documentation to facilitate identification and verification of compliance with regulatory requirements. Policies and procedures should be followed by all persons involved in the transportation, to secure pharmaceutical products.

6.34 Vehicles and operators should be provided with additional security, as appropriate, to prevent theft and other misappropriation of products during transportation.

6.35 Physical or other equivalent (e.g. electronic) segregation should be provided for the storage and distribution during transit of rejected, expired, recalled or returned pharmaceutical products and suspected counterfeits. The products should be appropriately identified, securely packaged, clearly labelled and be accompanied by appropriate supporting documentation.

6.36 The interiors of vehicles and containers should remain clean and dry while pharmaceutical products are in transit.

Products requiring special conditions

6.37 Where special conditions are required during transportation that are different from or limit the given environmental conditions (e.g. Temperature and humidity) these should be provided by the manufacturer on the labels, monitored and recorded.

6.38 Measures should be in place to prevent theft and misappropriation well as ensure the security and safety of drivers of vehicles transporting controlled pharmaceutical products (such as narcotics and psychotropic substances). These should include but not limited to the following:

a. Vehicles should be equipped with lockable doors and an intruder alarm.
b. Vehicles should use unique seal lock indicating devices such as cable seal locks with unique identifiers that are tamper• resistant to protect against unauthorized access during transit.
c. Security-cleared delivery drivers are employed.
d. All deliveries are documented and tracked.
e. Signed dispatch and arrival records are kept.
f. Shipments are fitted with security equipment appropriate to the product being transported and the assessed security risk, such as global positioning system (GPS) devices located in the vehicle and/or hidden in the product.

6.39 Pharmaceutical products containing hazardous substances, such as toxic, radioactive material, and other controlled pharmaceutical products presenting special risks of abuse (e.g. narcotics and psychotropic substances), fire or explosion (e.g. combustible or flammable liquids, solids and pressurized gases) should be transported in safe, suitably designed, secured containers and vehicles. In addition, the requirements of the Agency and applicable international agreements should be met. There should be additional control systems in place for delivery of these products and procedures to address the occurrence of any theft.

6.40. For temperature-sensitive products, qualified equipment (e.g. thermal packaging, temperature-controlled containers or temperature-controlled vehicles) should be used to ensure correct transport conditions are maintained between the manufacturer, distributor and customer.

6.41 *A* formal service agreement drawn up by both parties should ensure that any carrier contracted to transport time and temperature sensitive pharmaceutical products by air, land or sea is made responsible for maintaining load temperature within the transport temperature profile and the compliance should be clearly demonstrated to the Agency.

6.42 Damage to containers and any other event or problem that occurs during transit must be recorded and reported to the relevant department, entity or authority, and investigated.

Storage

6.43 Pharmaceutical products should be stored separately from other products likely to alter them and should be protected from the harmful effects of light, temperature, moisture and other external factors. Particular attention should be paid to products requiring specific storage conditions.

6.44 Incoming containers of pharmaceutical products should be cleaned, if necessary, before storage.

6.46 Broken or damaged items should be withdrawn from usable stock and stored separately.

6.47. If sampling is performed in the storage area, it should be conducted in such a way as to prevent contamination or cross-contamination. Adequate cleaning procedures should be in place for the sampling areas.

6.48 system should be in place to ensure that the pharmaceutical products due to expire first are distributed first (first expiry/first out (FEFO)). Exceptions may be permitted as appropriate, provided that adequate controls are in place to prevent the distribution of expired products. Exceptions should be documented.

6.49 Pharmaceutical products should be handled and stored in such a manner as to prevent spillage, breakage, contamination and mix-ups. Pharmaceutical products should not be stored directly on the floor unless the package is designed to allow such storage (such as for some pharmaceutical gas cylinders).

6.50 Pharmaceutical products that are nearing their expiry date/shelf life should be withdrawn immediately from saleable/useable stock either physically or through other equivalent electronic segregation.

6.51 Periodic stock reconciliation should be performed by comparing the actual and recorded stocks. This should be done at defined intervals. Stock irregularities should be investigated and documented.

6.52 Stock discrepancies should be investigated in accordance with a specified procedure to check that there have been no inadvertent mix• ups, incorrect issues and receipts, thefts and/or misappropriations of pharmaceutical products. Documentation relating to the investigation should be kept for at least ten years.

Repackaging and Relabelling

6.52. Repackaging and relabelling of pharmaceutical products should be discouraged unless or otherwise, exceptional cases may be considered by the Agency

6.53. Where they do occur, they should only be performed by entities appropriately authorized to do so and in compliance with NAFDAC Good Manufacturing Practice for Pharmaceutical Products Regulations.

6.54. In the event of repackaging by companies other than the original manufacturer, these operations should result in at least equivalent means of identification and authentication of the products; such activities should be carried out under the supervision of the Agency.

6.55. Procedures should be in place for the secure disposal of original packaging.

Complaints

6.56. There should be a written procedure in place for the handling of complaints. A distinction should be made between complaints related to the quality of the product or its packaging and those related to distribution. In the case of a complaint about the quality of a product or its packaging, the original manufacturer and/or marketing authorization holder should be informed as soon as possible while the complaints on distribution should be managed by the distributor and records kept.

6.57. All complaints and other information concerning potentially defective and potentially counterfeit pharmaceutical products should be reviewed carefully according to written procedures describing the action to be taken, including the need to consider a recall where appropriate.

6.58. Any product complaint should be recorded and thoroughly investigated to identify the origin of or reason for the complaint (e.g.
repackaging procedure or original manufacturing process). The remedial actions taken should also be recorded and trends in the complaint records analysed and monitored.

6.59. If a defect relating to a pharmaceutical product is discovered or suspected, consideration should be given to whether other batches of the product should also be checked.

6.60. Where necessary, appropriate follow-up action (including CAPA) should be taken after investigation and evaluation of the complaint. There should be a system in place to ensure that the complaint, the response received from the original product manufacturer, or the results of the investigation of the complaint, are shared with all the relevant parties.

6.61. Product quality problems or suspected cases of counterfeit pharmaceutical products should be documented and the Agency immediately notified.

6.62 A person should be appointed to handle complaints and allocated sufficient support personnel.

Recalls

6.63. There should be a system, which includes a written procedure, to effectively and promptly recall pharmaceutical products known or suspected to be defective or counterfeit, with a designated person(s) responsible for recalls. The system should comply with the recall requirements of the Agency. This procedure should be checked regularly and updated as necessary.

6.64. The original manufacturer and/or marketing authorization holder should be informed in the event of a recall. Where a recall is instituted by an entity other than the original manufacturer and/or marketing authorization holder, consultation with the original manufacturer and/or marketing authorization holder should, where possible, take place before the recall is instituted.

6.65. The Agency must be notified in the event of any recall. If a recall of the original product is necessary because of a counterfeited product which is not easily distinguishable from the original product, the manufacturer of the original product should also be informed.

6.66. The recall procedure should be regularly challenged (at least once per year) to ensure that the process is effective and capable of tracing all customers and products in the event of a recall in a timely manner. This challenge may involve identifying a particular batch of a product and reconciling quantities received with those in stock and distributed to customers. *A* mock recall need not be carried out where the company has participated in an actual recall during the previous year which has utilised the same traceability system.

6.67. All recalled pharmaceutical products should be stored in a secure, segregated area pending appropriate action.

6.68. Recalled pharmaceutical products should be segregated during transit and clearly labelled as recalled products. Where segregation in transit is not possible, such pharmaceutical products must be securely packaged, clearly labelled, and be accompanied by appropriate documentation

6.69 The particular storage conditions applicable toa pharmaceutical product which is subject to recall should be maintained during storage and transit until such time as a decision has been made regarding the fate of the product in question.

6.70 All customers and regulatory authorities of all countries to which a given pharmaceutical product may have been distributed (including promotional samples by sales representatives) should be informed promptly of any intention to recall the product because it is, or is suspected to be, defective or counterfeit.

6.71 Any recall operation should be recorded at the time it is carried out. Records should be made readily available to the Agency.

6.72 The distribution records should be readily accessible to the person(s)responsible for the recall, and should contain sufficient information on distribution entities (with addresses, phone and/or fax numbers inside and outside working hours, batch numbers and quantities delivered), including those for exported products and promotional samples.

6.73 The progress of a recall process should be recorded and a final report issued, which includes reconciliation between delivered and recovered quantities of products.

6.74. When necessary, emergency recall procedures should be implemented.

Returned products

6.75. *A* distributor should receive pharmaceutical product returns or exchanges pursuant to the terms and conditions of the agreement between the distributor and the recipient. Both distributors and recipients should be accountable for administering their returns process and ensuring that the aspects of this operation are secure and do not permit the entry of counterfeit products.

6.76. Pharmaceutical products which have left the premises of the distributor should only be returned to saleable/useable stock if all of the following are confirmed:

a. The pharmaceutical products are in their unopened and undamaged secondary packaging and are in good condition; have not expired and have not been recalled;

b. It has been demonstrated by the customer that the pharmaceutical products have been transported, stored and handled in compliance with their specific storage requirements;

c. They have been examined and assessed by a sufficiently trained and competent person authorised to do so.

d. The distributor has reasonable evidence that the product was supplied to that customer (via copies of the original delivery note or by referencing invoice numbers, etc.) and the batch number for products bearing the safety features is known, and that there is no reason to believe that the product has been falsified.

6.77. Pharmaceutical products requiring specific temperature storage conditions such as low temperature can only be returned to saleable/useable stock if there is documented evidence that the product has been stored under the authorized storage conditions throughout the entire time. If any deviation has occurred, a risk assessment has to be performed, on which basis the integrity of the product can be demonstrated. The evidence should cover: a. Delivery to customer;

b. Examination of the product;

c. Opening of the transport packaging;

d. Return of the product to the packaging;

e. Collection and return to the distributor;

f. Return to the distribution site refrigerator.

g. Products returned to saleable/useable stock should be placed such that the 'first expired first out' (FEFO) system operates effectively.

6.78 Stolen products that have been recovered cannot be returned to saleable stock and sold to customers

6.79 Provision should be made for the appropriate and safe transport of returned products in accordance with the relevant storage and other requirements.

6.80 Rejected pharmaceutical products and those returned to a distributor should be appropriately identified and handled in accordance with a procedure which involves at least:

a. The physical segregation of such pharmaceutical products in quarantine in a dedicated area; or

b. Other equivalent (e.g., electronic) segregation.

This is to avoid confusion and prevent distribution until a decision has been taken with regard to their disposition. The particular storage conditions applicable to a pharmaceutical product which is rejected or returned should be maintained during storage and transit until such time as a decision has been made regarding the product in question.

6.81 Provision should be made for the appropriate and safe transport of rejected pharmaceutical products prior to their disposal.

6.82 Destruction of pharmaceutical products should be done in accordance with the requirements of the Agency and other national and international requirements regarding disposal of such products, and with due consideration to protection of the environment

6.83 Records of all returned, rejected and/or destroyed pharmaceutical products should be kept for at least ten years.

Counterfeit pharmaceutical products

6.84. Provision should be made for a visual and/or analytical identification of potential counterfeit and substandard products. The procedure to be followed when a suspected product is identified should include provisions for notification, as appropriate, of the holder of the marketing authorization, entity identified on the label (if different from the manufacturer) and the Agency.

6.85. Counterfeit pharmaceutical products found in the distribution chain should be physically segregated and stored in a dedicated area away from all other pharmaceutical products to avoid any confusion. They should be clearly labelled as not for sale.

6.86. The sale and distribution of a suspected counterfeit pharmaceutical product should be suspended, and the source of the counterfeit thoroughly investigated. The Agency and the marketing authorization holder must be notified without delay.

6.87. Upon confirmation of the product being counterfeit a formal decision should be taken on its disposal, ensuring that it does not re-enter the market, and the decision recorded.

6.88. All relevant activities in relation to such products should be documented and records retained.

Disposal of pharmaceutical products

6.89. The distributor should notify the Agency of all pharmaceutical products requiring disposal such as counterfeit, expired, damaged products.

Contract activities

6.90. Any activity relating to the distribution of a pharmaceutical product that is outsourced should be correctly defined, agreed and controlled in order to avoid misunderstandings which could affect the integrity of the product.

6.91. Any activity relating to the distribution of a pharmaceutical product which is outsourced to another person or entity should be performed by parties appropriately authorized for that function and in accordance with the terms of a written contract.

6.92 There must be a written contract between the contract giver and the contract acceptor which clearly defines the responsibilities of each party and the communication processes including observance of the principles of GDP and relevant warranty clauses. The contract agreement must state that the contract giver and the Agency have the right to audit the facilities of the contract acceptor.

6.93. It should also include the responsibilities of the contractor for measures to avoid the entry of counterfeit pharmaceutical products into the distribution chain, such as by suitable training programs.

Contract giver

6.94. The contract giver is responsible for the activities contracted out.

6.95. The contract giver is responsible for assessing the competence of the contract acceptor to successfully carry out the work required and ensure by means of the contract and through audits that the principles of GDP are followed.

6.96. An audit of the contract acceptor should be performed before the commencement of, and whenever there has been a change to, the outsourced activities.

6.97. The frequency of audits should be defined based on risk depending on the nature of the outsourced activities. Audits should be permitted at any time.

6.98. The contract giver should provide the contract acceptor with all the information necessary to carry out the contracted operations in accordance with the specific product requirements and any other relevant requirements.

Contract acceptor

6.99. The contract acceptor should have adequate premises and equipment, procedures, knowledge and experience, and competent personnel to carry out the work ordered by the contract giver.

6.100. The contract acceptor should refrain from any activity which may adversely affect the quality of the product(s) handled for the contract giver.

6.101. The contract acceptor must forward any information that can influence the quality of the product(s) to the contract giver in accordance with the requirements of the contract.

6.102. All contract acceptors should comply with the requirements in these guidelines.

6.103. Contract acceptors should be audited periodically.

6.104. The contract acceptor should not pass to a third party any of the work entrusted to him under the contract without the contract giver's prior evaluation and approval of the arrangements and an audit of the third party by the contract giver or the contract acceptor.

6.105. The third party or subcontractor should be authorized for the function.

6.106. Arrangements made between the contract acceptor and any third party should ensure that the distribution information is made available in the same way as between the original contract giver and contract acceptor.

CHAPTER 7

7.0 DONATED PHARMACEUTICAL

7.1 Donations of pharmaceutical products should benefit the recipient in Nigeria to the maximum extent possible.

7.2. All donations should be based on an expressed nee as unsolicited pharmaceutical product donations are prohibited.

7.3. Donations should conform with regulations of the Agency.

7.4. There should be effective coordination and collaboration between the donor and the recipient, with all donations made according to a plan formulated by both parties.

7.5. All pharmaceutical product donations should be relevant to the disease pattern in Nigeria, and quantities should be agreed between donor and the recipient.

7.6. All donated pharmaceutical products or their generic equivalents should be approved for use in Nigeria unless specifically requested and provided with a justification by the recipient.

7.7. The presentation, strength, and formulation of donated pharmaceutical products should, as far as possible, be similar to those of pharmaceutical products commonly used in Nigeria.

7.8. All donated pharmaceutical products should be obtained from a quality-assured source and should comply with quality standards in both the donor country and Nigeria.

7.9. Pharmaceutical products that have been issued to patients and then returned to a pharmacy or elsewhere, or that have been given to health professionals as free samples should not be imported into Nigeria as donated products

7.10. On arrival in Nigeria, all donated pharmaceutical products should have a remaining shelf-life of at least 6 months. Quantities of donated pharmaceutical products should be based on the national consumption, available quantities in stock or in the supply chain," pipeline and should match the needs to be consumed before they are expired.

7.11. All donated pharmaceutical products should be labelled in English language. The label on each container should contain at least the International Non-proprietary Name (INN) or generic name, batch number, dosage form, strength, name and address of manufacturer country of manufacture, quantity in the container, storage conditions, dates of manufacture and expiry.

7.12. Donated pharmaceutical products should be presented in pack sizes that are suitable for the recipient and appropriate to the setting in which they will be distributed or dispensed.

7.13. All pharmaceutical product donations should be packed in accordance with international shipping requirements and should be accompanied by a detailed packing list that specifies the contents. The weight per carton should preferably not exceed 30 kilograms.

7.14. Shipments of pharmaceutical products should not be mixed with other supplies, unless they are shipped as kits with predetermined contents.

7.15. Pharmaceutical product donations should be jointly planned, and collaboration between donors and recipients should begin early. Pharmaceutical products should not be sent without prior consent of the recipient.

7.16. The declared value of a pharmaceutical product donation should be based on the wholesale price of its generic equivalent in Nigeria, or, if this information is not available, on the wholesale world-market price for its generic equivalent.

7.17. Costs of international and local transport, warehousing, port clearance and storage, handling and disposal or reverse logistics of expired donated products should be paid for by the donor, unless specifically agreed otherwise in advance.

CHAPTER 8

8.0 SELF-INSPECTION

Principle

Self-inspections should be conducted in order to monitor implementation and compliance with GDP principles and to propose necessary corrective measures.

8.1. The quality system should include self-inspections. These should be conducted to monitor implementation and compliance with the principles of GDP and, if necessary, to trigger corrective and preventive measures.

8.2. A self-inspection programme should be implemented covering all aspects of GDP and compliance with the regulations, guidelines and procedures within a defined time frame. Self- inspections may be divided into several individual self- inspections of limited scope.

8.3 Self-inspections should be conducted in an independent and detailed way By a designated, competent person. Audits by independent external experts may also be useful but may not be used as a substitute for self- inspection.

8.4. The results of all self-inspections should be recorded. Reports should contain all observations made during the inspection and a copy of the report should be provided to the management and other relevant persons.

8.5. In the event that irregularities and/or deficiencies are observed, their cause should be determined and the corrective and preventive actions (CAPA) should be documented.

8.6. There should be an effective follow-up programme and the management should evaluate the inspection report and the records of any corrective actions taken.

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FURTHER READING

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GLOSSARY

The definitions provided below apply to the words and phrases used in these guidelines. Although an effort has been made to use standard definitions as far as possible, they may have different meanings in other contexts and documents.

Agency	National Agency for Food and Drug Administration and Control
Agreement	See service agreement
Audit	An independent and objective activity designed to add value and improve an organization's operations by helping the organization to accomplish its objectives by using a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.
Batch	A defined quantity of pharmaceutical products processed in a single process or series of processes son that it is expected to be homogenous.
Batch number	A distinctive combination of numbers and/or letters which uniquely identifies a batch, for example, on the labels, its batch records and corresponding certificates of analysis.
Calibration	The set of operations which establishes, under specific conditions, the relationship between values indicated by a measuring instrument or measuring system, or values represented by a material measure and the corresponding known values of a reference standard.
Change control	The processes and procedures to manage system changes.
Computerized system	A system including the input of data, electronic processing and the output of information to be used either for reporting or automatic control
Consignment	The quantity of pharmaceutical products supplied at one time in response to a particular request or order. A consignment may comprise one or more packages or containers and may include pharmaceutical products belonging to more than one batch.

Container	The material employed i9n the packaging of a pharmaceutical product. Containers include primary, secondary and transportation containers. Containers are referred to as primary if they intend to be in direct contact with the product. Secondary containers are not intended to be in direct contact with the product.
Contamination	The undesired introduction of impurities of a chemical or microbiological nature, or of foreign matter, into or onto a starting material, intermediate or pharmaceutical product during handling, production, sampling, packaging or repackaging, storage or transportation.
Contract	Service agreement for the supply of goods or performance of work at a specified price
Controlled or hazardous pharmaceutical products	Poisons, narcotics, psychotropic products, inflammable or explosive substances, and radioactive materials.
Counterfeit pharmaceutical product	A pharmaceutical product which is deliberately and fraudulently mislabelled with respect to identity and/or source. Counterfeiting can apply to both branded and generic products, and counterfeit pharmaceutical products may include products with the correct ingredients, with the wrong ingredients, without active ingredients, with an incorrect quantity of active ingredients or with fake packaging.
Cross-contamination	Contamination of a starting material, intermediate product or finished pharmaceutical product with another starting material or product during production, storage and transportation.
Deviation	Departure from an approved instruction or an established standard.
Distribution	The procuring, purchasing, holding, storing, selling, supplying, importing, exporting, or movement of pharmaceutical products.

Distributor	A person or organization who receives, stores, warehouses, handles, holds, offers, markets or displays pharmaceutical products. A distributor shall be an entity that is appropriately authorized to perform the intended function as prescribed in the NAFDAC good distribution practice (GDP) for pharmaceutical product regulations, and which can be held accountable for its activities. These include but not limited to governments at all levels, bilateral and multilateral agencies, non-governmental organizations, public and private health and storage facilities, manufacturers of finished products, importers, exporters, distributors, wholesalers, suppliers, retailers.
Falsified pharmaceutical product	Any pharmaceutical product with a false representation of (a) Its identity, including its packaging and labelling, its name or its composition as regards any of the ingredients including excipients and the strength of those ingredients; (b) Its source, including its manufacturer, its country of manufacturing, its country of origin or its marketing authorization holder; or its history including the records and documents relating to the distribution channels used.
First expiry/first (FEFO)	A distribution procedure that ensures that the stock with the earliest expiry date is distributed and/or used before an identical stock item with a later expiry date distributed
Good Distribution Practice (GDP)	That part of quality assurance that ensures that the quality of pharmaceutical product is maintained by means of adequate control of the numerous activities which occur during the distribution process as well as providing a tool to secure the distribution system from unapproved, illegally imported, stolen, counterfeit, substandard, adulterated, and/or misbranded pharmaceutical products.

Good Manufacturing Practice (GMP)	That part of quality assurance which ensures that pharmaceutical products are consistently produced and controlled to the quality standards appropriate to their intended use and as required by the marketing authorization
Holding Importation	Storing pharmaceutical products The act of bringing or causing any pharmaceutical products to be brought into a customs territory (national territory, excluding any free zone).
Labelling	Process of identifying a pharmaceutical product including the following information, as appropriate: name of the product; active ingredient(s), type and amount; batch number; expiry date; special storage conditions or handling precautions; directions for use, warnings and precautions; names and addresses of the manufacturer and/or the supplier.
Marketing	A legal document issued by the Agency for the purpose of marketing or free authorization distribution of a product after evaluation for safety, efficacy and quality. It specifies the information on which authorization is based and its period of validity. Market authorization may occasionally also be referred to as a “licence”, “product licence” or “registration certificate”.
Pests	Includes birds, bats, rodents and insects whose uncontrolled presence effects hygiene and cleanliness.
Pharmaceutical product	Any product intended for human use of veterinary product intended for product administration to food-producing animals, presented in its finished dosage form, that is subject to control by pharmaceutical legislation in either the exporting or the importing state and includes products for which a prescription is required, products which may be sold to patients without a prescription, medical devices, biologicals and vaccines Procuring Obtaining, acquiring, purchasing or buying pharmaceutical products from manufacturers, importers or other wholesale distributors.
Recall	A process for withdrawing or removing a pharmaceutical product from the pharmaceutical distribution chain because of defects in the product, complaints of serious adverse reactions to the

	products and/or concerns that the product is or may be counterfeit. The recall might be initiated by the manufacturer, importer, wholesaler, distributor or the Agency
Qualification	Documented testing that demonstrates, with a high degree of assurance, that a specific process or entity will meet predetermined acceptance criteria.
Quality assurance	A wide-ranging concept covering all matters that individually or collectively influence the quality of a product. It is the totality of the arrangements made with the object of ensuring that pharmaceutical products are of the quality required or the intended use.
Quality risk management	A systematic process for the assessment, control, communication and review of risks to the quality of the pharmaceutical product across the product lifecycle.
Quality system	An appropriate infrastructure encompassing the organizational structure, procedures, processes and resources, and systematic actions necessary to ensure adequate confidence that a product (or services) will satisfy given requirements for quality.
Quarantine	The status of pharmaceutical products isolated physically or by other effective means while a decision is awaited on their release, rejection or reprocessing
Service agreement	A service agreement or contract is a negotiated agreement between the customer and service provider that defines the common understanding about materials or service quality specifications, responsibilities, guarantees and communication mechanisms. It can either be legally binding, or an information agreement. The service agreement may also specify the target and minimum level performance, operation or other service attributes.
Shelf-life	The period of time during which a pharmaceutical product, if stored correctly, is expected to comply with the specification as determined by stability studies on a number of batches of the product. The shelf-life is used to establish the expiry date of each batch.
Standard operating procedure (SOP)	An authorized, written procedure giving instructions for performing operations not necessarily specific to a given product but of a more general nature (e.g. equipment operation, maintenance and cleaning,

	validation, cleaning of premises and environmental control, sampling and inspection).
Storage	The storing of pharmaceutical products up to the point of use.
Storage temperature	The temperature range listed on the product label for storage.
Supplier	A person or entity engaged in the activity of providing products and/or services.
Supplying	All activities of providing, selling, donating pharmaceutical products to wholesalers, pharmacists, or persons authorized or entitled to supply pharmaceutical products.
Temperature excursion	An excursion event in which a pharmaceutical product is exposed to temperatures outside the range(s) prescribed for storage and/or transport. Temperature ranges for storage and transport may be the same or different; they are determined by the product manufacturer, based on stability data.
Temperature- controlled	Includes any environment in which the temperature is actively or passively controlled at a level different from that of the surrounding environment within precise predefined limits.
Time- and temperature sensitive pharmaceutical product (TTSPP)	Any pharmaceutical good or product which, when not stored or transported within predefined environmental conditions and/or within predefined time limits, is degraded to the extent that it no longer performs as originally intended.
Transit	The period during which pharmaceutical products are in the process of being carried, conveyed, or transported across, over or through a passage or route to reach the destination.
Transport	Moving pharmaceutical products between two locations without storing them for unjustified periods of time.
Temperature profile (transport)	Anticipated ambient temperature variation and duration to which a pharmaceutical product may be exposed during transport.
Validation	Documented testing performed under highly controlled conditions, demonstrating that processes,

	methods and systems consistently produce results meeting predetermined acceptance criteria.
Vehicles	Trucks, vans, buses, minibuses, cars, trailers, aircraft, railway carriages, boats and other means which are used to convey pharmaceutical products.
Vermin	See pests