CONTROLLED COPY

MCAZ Medicines Control Authority of Zimbabwe

MCAZ/LED/GL-08

GOOD STORAGE AND DISTRIBUTION PRACTICES FOR MEDICAL PRODUCTS IN ZIMBABWE

EFFECTIVE DATE:

Medicines Control Authority of Zimbabwe

106 Baines Avenue

P O Box 10559

Harare

Email: mcaz@mcaz.co.zw

Website: www.mcaz.co.zw

Reviewed by:	..... Signature	21/08/2023 ..... Date
Checked by HoD/HoU:	..... Signature	21/08/2023 ..... Date
Approved by QM:	..... Signature	22/08/2023 ..... Date
Authorised for use by: Director-General	..... Signature	25/8/2023 ..... Date

CONTENTS

1.0 APPLICATION

These guidelines apply to all individuals that deal in the storage and distribution of medicinal products from the manufacturer of medicinal products to the person dispensing or providing medicines directly to the patient. This includes all parties involved in different stages of the supply chain of medical products (list not exhaustive); manufacturers and wholesalers, Port Authorities, as well as brokers, suppliers, distributors, logistics providers, traders, transport companies, forwarding and clearing agents and their employees.

2.0 PURPOSE

Storage and distribution are important activities in the supply chain management of medicinal products. Medicinal products are subject to various risks at different stages of the supply chain, for example, when purchasing, storing, repackaging, relabelling, and during transportation and distribution. These guidelines were developed to assist in the various responsibilities involved at the different stages of the supply chain and to avoid associated risks such as deterioration of product quality and introduction of substandard and falsified medicinal products into the supply chain.

3.0 BACKGROUND / INTRODUCTION

Wholesale distribution forms part of the supply chain of manufactured medicinal products. Wholesalers are responsible for the effective, efficient, and safe handling, storage and distribution of such products. These guidelines set out appropriate steps for meeting this responsibility. Except for a brief mention under "storage", the guidelines do not deal with either common or statute law requirements such as the obligations of contractors, Occupational Health and Safety, Customs and Excise, or the many legal requirements surrounding building construction. These must be understood by and met by the wholesaler. Although this guideline refers to wholesaling, the scope includes medicine distributors and all premises that store medicinal products before distribution to other facilities.

4.0 DEFINITIONS

4.1 In these guidelines the word "**should**" indicates requirements that are expected to apply unless shown to be inapplicable or replaced by an alternative demonstrated to provide at least an equivalent level of quality assurance.

4.2 The word "**goods**" as used in this document refers to medicinal products.

4.3 **Good distribution practices (GDP):-** That part of quality assurance that ensures that the quality of a 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 falsified, unapproved, illegally imported, stolen, substandard, adulterated and/or misbranded medicinal products.

4.4 **Good storage practices (GSP):** That part of quality assurance that ensures that the quality of medical products is maintained by means of adequate control systems throughout the storage thereof.

4.5 **Expiry date:** The date given on the individual container (usually on the label) of a medical product, up to and including the date on which the product is expected to remain within specifications if stored correctly. It is established for each batch by adding the shelf-life to the date of manufacture.

4.6 **Falsified product:** A product that has been deliberately and/or fraudulently misrepresented as to its identity, composition or source. Such deliberate/raudulent misrepresentation refers to any substitution, adulteration or reproduction of an authorized product, or the manufacture of a product that is not an authorized product.

4.7 **Identity:** shall refer to the name, labelling or packaging or to documents that support the authenticity of an authorized product. "Composition" shall refer to any ingredient or component of the product in accordance with applicable specifications authorized/recognized by the national regulatory authority (NRA).

4.8 **Source:** shall refer to the identification, including name and address, of the marketing authorization holder, manufacturer, importer, exporter, distributor or retailer, as applicable.

4.9 **Substandard products:** "Substandard" medical products (also called "out of specification") are authorized by the Authority but fail to meet either national or international quality standards or specifications – or, in some cases, both.

4.10 **Medicinal products:**

4.10.1 Any substance or combination of substances presented as having properties for treating or preventing disease in human beings; or

4.10.2 Any substance or combination of substances which may be used in or administered to human beings either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis.

4.10.3 However, a number of products are becoming difficult to classify as they fall within the scope of two definitions of a medicinal product on one hand and also of food supplements/food products, medical devices, biocides or cosmetics on the other hand. In such cases the stricter regime of medicinal products applies, with the ultimate aim being to protect the user.

4.11 **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 medical products are of the quality required for their intended use.

4.12 **Quality risk management:** A systematic process for the assessment, control, communication and review of risks to the quality of medical products in the supply chain.

4.11 Quality system:- An appropriate infrastructure, encompassing the organizational structure, procedures, processes, resources and systematic actions necessary to ensure adequate confidence that a product (or services) will satisfy given requirements for quality.

4.12 Quarantine: The status of medical products isolated physically or by other effective means while a decision is awaited on their release, rejection or reprocessing.

5.0 GUIDELINES

5.1 . Premises and Grounds

5.1.1 Premises should be suitably located, designed, constructed and maintained, to ensure appropriate operations such as receiving, storage, picking, packing and dispatch of medical products.

5.1.2 The grounds should be established and maintained so as to minimize ingress into the buildings of dust, soil or other contaminants and should be maintained in an orderly condition. They should be free of accumulated waste, dirt and debris. Waste should be collected in designated closed containers and disposed of at frequent intervals.

5.1.3 Premises should be protected from the entry of birds, rodents, insects and other animals. A rodent and pest control programme should be in place.

5.1.4 Premises should provide protection for the medicinal products from contamination and deterioration, including protection from excessive local heating or undue exposure to direct sunlight. The medicinal products received or dispatched at receiving or dispatch bays, platforms or areas should also be protected from dust, dirt and rain.

5.1.5 Premises should have sufficient security systems to help prevent misappropriation of the medicinal products.

5.1.6 Sufficient space should be provided for the orderly receipt, warehousing and dispatch of medicinal products and, in particular, a quarantine area for isolation when necessary, including isolation of faulty packs and recalled goods. There should be a logical flow of medicinal products within the premises and each area in the wholesale should be physically separated and demarcated.

5.1.7 Premises and fixtures should be kept clean and well maintained. Cleaning equipment should be stored in hygienic conditions.

5.1.8 Sufficient lighting should be provided to enable all operations to be carried out accurately and safely.

5.1.9 Toilets, washing, rest and canteen facilities should be separate from areas where products are handled. Food, eating, drinking and smoking should be prohibited in all areas where medical products are stored or handled.

5.2 Facilities

5.2.1 Storage facilities should protect goods from deterioration. The conditions of storage for the goods should be compatible with the storage conditions specified on their labels. All medicinal products should be stored off the floor.

5.2.2 Controlled storage environments, e.g. deep freeze, refrigeration, should be monitored, using suitable temperature recording devices and the records reviewed and filed. Refrigerated and freezing storage environments should be fitted with signals to indicate that refrigeration has failed. The signal should permit resetting only by an authorized person.

5.2.3 Temperatures in other areas where goods requiring specific storage conditions are held should be monitored and the results tabulated and analyzed so as to demonstrate the suitability of these areas for their purposes.

5.2.4 If any temperature is found to have deviated outside the relevant recommended conditions for an extended time, the manufacturer or supplier of the goods should be consulted and the suitability of the product for use resolved. Further requirements for temperature sensitive medicinal products are provided for in the Guideline for handling of Temperature and Time Sensitive Pharmaceutical Products (TTSPP).

5.2.5 Mapping studies for temperature, and relative humidity where appropriate, should be done, for example in storage areas, refrigerators and freezers.

5.2.6 Special storage facilities should be provided for drugs of addiction, "Dangerous Drugs" , that is, a fixed lockable cupboard as detailed in the Dangerous Drugs Regulations (RGN 1111 of 1975).

5.2.7 Incompatible activities such as manufacture (including repackaging) or the handling of toxic chemicals should be avoided in areas in which medicinal products are handled by wholesale.

5.2.8 A written programme should be available indicating the frequency of cleaning and the methods to be used to clean the premises and storage areas.

5.3 Temperature Mapping of Storage Areas

5.3.1 Temperature mapping studies describes a systematic mapping procedure in a cold room, freezer room or other temperature-controlled room.

5.3.2 The temperature mapping procedures should:

i. Demonstrate the air temperature profile throughout the storage area, when empty and in a normal loaded condition.

ii. Define zones which should not be used for storage of TTSPPs (for example areas in close proximity to cooling coils, cold air streams or heat sources); and

iii. If required, demonstrate the time taken for temperatures to exceed the designated limits in the event of a power failure.

5.3.3 Depending upon the routine monitoring strategy, subsequent mapping exercises may also be required periodically – for example, every three years – in order to demonstrate continuing compliance fixed monitors, provide continuous data, a periodic re-evaluation which assesses all aspects of system performance since the initial mapping may be more appropriate. In addition, mapping should be carried out whenever significant modifications are made to the store. Examples include changes in the pattern of use that may increase loading or affect air circulation, or changes to the refrigeration equipment, such as an alteration to the set point. Finally, re-mapping may be justified whenever an analysis of temperature and/or humidity monitoring records shows unexplained variability outside normal operating limits. All mapping exercises should be fully documented in order to demonstrate compliance to management, clients and the regulatory authorities.

5.3.4 Temperature mapping should include the following stages:

i. Preparing a mapping protocol.
ii. Carrying out the mapping exercise.
iii. Preparing a mapping report.
iv. Implementing the recommendations by carrying out the remedial and other actions identified in the mapping report. A follow-up mapping exercise may then be needed to verify the effectiveness of the remedial actions.

5.3.5 The mapping exercise should be conducted in accordance with the protocol. Personnel in the store should be fully briefed so as to avoid inadvertent disruption or deactivation of the EDLMs. At the end of the study period, all the devices should be collected, deactivated, and the data downloaded for analysis. If the mapping exercise does not include automatic logging of door openings, an access log should be kept during the study so that any temperature excursions caused by personnel movement can easily be identified. Power outages should similarly be recorded.

5.3.6 A mapping study measures temperature fluctuations. From these data, the analyst can identify the minimum and maximum temperatures that occur in the mapped area during the study period.

5.3.7 A cold spot refers to the lowest temperature(s) recorded in the space over the study period, but these lowest temperature(s) remain within the specified temperature range (e.g., cold spots identified between +15.0 °C and +17.5 °C in a room with a specified temperature range of +15.0 °C to +25.0 °C).

5.3.8 A hot spot refers to the highest temperature(s) recorded in the area studied over the study period, but these highest temperature(s) remain within the specified temperature range (e.g., hot spots identified between +23.0 °C and +25.0 °C in a room with a specified temperature range of +15.0 °C to +25.0 °C).

5.3.9 The purpose of determining hot and cold spots is to identify the locations where the monitoring system sensors should preferentially be located. Hot and cold spots need to be determined seasonally as they may be significantly different in summer and in winter

5.4 Equipment

5.4.1 Equipment, including computerized systems, should be suitable for their intended use. All equipment should be appropriately designed, located, installed, qualified and maintained.

5.4.2 Instruments or equipment used for monitoring temperature (e.g. thermometers and integrated environmental management systems) should be calibrated on a regular basis to ensure their accuracy. Records for the calibration should also be kept on the premises.

5.4.3 Where electronic commerce (e-commerce) is used, i.e. electronic means for any other steps, defined procedures and adequate systems should be in place to ensure traceability and confidence in the supply chain and products.

5.5 Quality Management

5.5.1 Entities involved in the storage and distribution of medical products should have a comprehensively designed, documented and correctly implemented quality system

that incorporates GSP, GDP, principles of quality risk management and management review.

5.5.2 Senior management has the ultimate responsibility to ensure that an effective quality system is established, resourced, implemented and maintained.

5.5.3 The quality system should ensure that:

i. GSP and GDP are adopted and implemented to ensure that the quality of medical products is maintained throughout their shelf life in the supply chain; and medical products are appropriately procured, stored, distributed and delivered to premises by the Authority.
ii. operations are clearly specified in written procedures;
iii. responsibilities are clearly specified in job descriptions;
iv. all risks are identified and necessary effective controls are implemented;
v. processes are in place to assure the management of outsource activities;
vi. there is a procedure for self-inspection and quality audits;
vii. there is a system for quality risk management;
viii. there are systems for managing returns, complaints and recalls; and
ix. there are systems to manage changes, deviations and corrective and preventive actions (CAPAs).

5.5.4 There should be an authorized, written quality policy describing the overall intentions and requirements regarding quality. This may be reflected in a quality manual.

5.5.5 There should be an appropriate organizational structure. This should be presented in an authorized organizational chart. The responsibility, authority and interrelationships of personnel should be clearly indicated.

5.5.6 Roles and responsibilities should be clearly defined and understood by the individuals concerned, and recorded as written job descriptions.

5.5.7 The quality system should include appropriate procedures, processes and resources.

5.5.8 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.

5.6 Quality Risk Management

5.6.1 There should be a system to assess, control, communicate and review risks identified at all stages in the supply chain.

5.6.2 The evaluation of risk should be based on scientific knowledge and experience and ultimately be linked to the protection of the patient.

5.7 Personnel

5.7.1 Pharmacists or Pharmacy Technicians bearing the responsibility for ensuring that products/materials are correctly handled, stored and distributed, should have the education, training experience or combination of these elements that will allow them to effectively discharge this responsibility.

5.7.2 Operating personnel should be trained to perform assigned duties and functions at an acceptable level. Records of any training relevant to their functions should be kept.

5.7.3 All personnel involved in distribution activities should be trained and qualified in the requirements of GDP, as applicable. Personnel should receive initial and continued training in accordance with a written training programme. The training should cover the requirements of GSP and GDP (as applicable), as well as on-the-job training. Other topics should be included, such as product security, product identification and the detection of falsified products.

5.7.4 Procedures and job descriptions for employees and other persons having access to the products must be designed and administered to minimize the possibility of unauthorized possession of medicinal products.

5.7.5 During operating hours, the business must at all times be conducted under the continuous personal supervision of a licensed pharmacist or licensed pharmacy technician.

5.7.6 Premises dealing in dangerous drugs should be under the supervision of a licensed pharmacist.

5.8 Stock Handling and Stock Control

5.8.1 Handling and storage of medicinal products should be in accordance with established procedures designed to prevent contamination or deterioration, damage to packs or confusion of products. Particular care should be given to maintaining the integrity of seals on packs of sterile medicinal products. Attention should be paid to any special instructions from the manufacturer relating to handling or storage of the medicinal products.

5.8.2 Importers including port authorities, cargo handling company personnel and clearing agents, should to take all reasonable steps to ensure that products are not mishandled or exposed to adverse storage conditions at ports of entry e.g. airports.

5.8.3 Records of stock levels for all medical products in store should be maintained, in either paper or electronic format. These records should be updated after each operation (e.g. entries, issues, losses, adjustments). These records should be kept for a suitable period of time (5years). Periodic stock reconciliation should be performed at defined intervals, by comparing the actual and recorded stock.

5.8.4 The root cause for stock discrepancies should be identified and appropriate CAPAs taken to prevent recurrence.

5.8.5 Storage, supply, distribution and recording of drugs of addiction, such as narcotics, must be kept in accordance with the Dangerous Drugs Regulations, 1975 RGN No. 1111 of 1975.

5.8.6 Storage areas should be adequate and organized to permit segregation and identification of the various materials and products stored and should enable stored goods to be easily maintained in a clean, dry and orderly condition. Particular care should be taken to avoid mold growth in refrigerated rooms or cabinets.

5.8.7 There should be a system to ensure stock rotation, with frequent regular checks that the system is operating correctly. The system should ensure that pharmaceutical products due to expire first are sold and/or distributed first (FEFO). Where no expiry dates exist for the products, the FIFO principle should be applied. Products beyond their expiry date or shelf-life should be removed from usable stock and neither sold nor supplied.

5.8.8 Spilled substances should be cleaned up promptly and rendered safe as quickly as practicable and under the supervision of a responsible person. A written procedure for dealing with spillage of items of special hazard, such as cytotoxic drugs, should be available.

5.8.9 Measures should be taken to demonstrate that restricted goods are not misappropriated.

5.8.10 Goods bearing an expiry date must not be received or supplied after their expiry date or so close to their expiry date that this date is likely to occur before the goods are used by the consumer. Such goods must be withdrawn from sale and quarantined pending disposal in accordance with agreements between the wholesaler and the supplier.

5.8.11 Precautions must be taken to prevent unauthorized persons from entering storage areas. Areas with medicines should be kept locked in the absence of the supervisor to restrict access by unauthorized persons.

5.9 Inwards Goods - From Suppliers

5.9.1 Each incoming delivery should be checked against the relevant documentation, to ensure that the correct product is delivered from the correct supplier. This may include, for example, the purchase order, containers, label description, batch number, expiry date, product and quantity.

5.9.2 The consignment should be examined for uniformity of the containers and, if necessary, should be subdivided according to the supplier's batch number should the delivery comprise more than one batch. Each batch should be dealt with separately.

5.9.3 Each consignment should be carefully checked for possible contamination, tampering and damage. A representative number of containers in a consignment should be sampled and checked according to a written procedure. Any suspect containers or, if necessary, the entire delivery, should be quarantined for further investigation.

5.9.4 Materials and products requiring transport and storage under controlled conditions of temperature and relative humidity, as applicable, should be handled as a priority. The transportation temperature data, where appropriate, should be reviewed upon receipt, to ensure that the required conditions had been maintained. Where applicable, cold-chain materials and products should be handled according to the approved conditions by the Authority, or as recommended by the manufacturer, as appropriate.

5.9.5 Medical products should not be transferred to saleable stock until an authorized release is obtained.

5.10 Damaged Goods from Stock

5.10.1 Stock which has been damaged or withheld from sale and which is not immediately destroyed should be placed in quarantine until disposal so that it cannot be sold in error or, in the case of liquid leakage, cause contamination of other goods.

5.10.2 Stocks of products with broken seals, damaged packaging or suspected of possible contamination must not be sold or supplied.

5.11 Returned Goods from Customer

5.11.1 All returned goods should be kept in quarantine. Goods which have left the care of the wholesaler should only be returned to saleable stock if:

i. They are in their original unopened containers, in good condition and bear valid expiry date

ii. It is not evident that they have been subject to adverse conditions;

iii. They are packed separately from other goods and accompanied by a separate returns note; and

iv. They have been examined and assessed by a person authorized to do so. Such assessment should take into account the nature of goods, and any special storage conditions they may require. If necessary, advice should be sought from the person responsible for the quality assurance of the manufactured product.

v. Reconditioning or repackaging (including relabeling) of medicinal products must not be carried out by wholesalers unless such activity is specifically exempted from the requirement to hold a manufacturers license.

5.12 Returned Goods - From Recall

5.12.1 There should be a written procedure detailing the action to be taken in recalling goods on behalf of their manufacturer or sponsor, subject to any amendment necessary in specific circumstances. This procedure should be consistent with the "Recall Procedure for Pharmaceutical Goods" issued by the Authority. The wholesaler should be able to facilitate a recall procedure relative to the area to which goods have been supplied. Recalls carried out should be documented and records of all recalled goods received into the warehouse should be kept. A person should be designated as responsible for execution and co-ordination of recalls.

5.13 Rejected Goods

5.13.1 Rejected pharmaceutical products should be identified and controlled under a quarantine system designed to prevent their use until a final decision is taken on their fate.

5.14 Dispatched Goods - To Customers

5.14.1 There should be a written procedure detailing the action to be taken in dispatching goods to customers.

5.14.2 This procedure should ensure that orders are collected by recognized and approved persons only, regardless of the means of settlement of the account (cash or credit). The procedure should also have provisions for the recording of collector's national identification details.

5.14.3 Wholesale dealers shall encourage their customers to have representatives authorized to collect orders on behalf of the approved person/premises. The

wholesaler shall maintain a list of the approved representatives in the dispatch area as an attachment to the Standard Operating Procedure on dispatching orders.

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

i. Date of dispatch;
ii. Name and address of the entity responsible for the transportation;
iii. Name, address and status of the addressee (e.g. retail pharmacy, hospital, community clinic);
iv. A description of the products including, e.g. name, dosage form and strength; and quantity of the products, i.e. number of containers and quantity per container;
v. Assigned batch number and expiry date;
vi. Applicable transport and storage conditions; and
vii. A unique number to allow identification of the delivery order.
viii. 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. Each party involved in the distribution chain has a responsibility to ensure traceability.

5.15 Transportation of Medicinal Products

5.15.1 Containers for delivery of goods should be clean and provide adequate protection for the goods delivered.

5.15.2 During transportation, the required storage conditions should be maintained and recorded.

5.15.3 Written procedures should be in place for investigating and dealing with any violations of storage requirements, e.g. temperature violations.

5.15.4 Goods labelled to require refrigerated storage should, where appropriate, be transported in insulating containers with ice or other cooling agent. The agent should not cause freezing of goods marked 'Refrigerate - do not freeze'. Goods labelled to require frozen storage should be transported in such a way that they remain frozen. Where appropriate, the transport packaging should be fitted with devices to detect exposure to conditions outside specific limits.

5.15.5 Delivery of other goods requiring controlled temperatures should be carried out by the fastest practical means. These goods may, in suitable circumstances, remain temporarily outside the specified temperature range while delivery is in progress. However, in assessing suitable conditions for delivery in any particular case, due account should be taken of the time required for delivery, prevailing or likely weather conditions and the nature of goods and their labeled storage requirements. Special procedures should be established for goods likely to be exposed to unfavourable environments over holiday periods.

5.15.6 Vehicles used in transportation of medicinal products should be suitable for their purpose, with adequate space and appropriately equipped to protect the integrity of these medical products. Dedicated vehicles and equipment should be used where possible, where non-dedicated vehicles and equipment are used, procedures must be in place to ensure that the quality of the pharmaceutical product will not be compromised. Appropriate cleaning should be performed, checked and recorded.

5.15.7 The personnel responsible for the transportation of pharmaceutical products should be informed about all relevant conditions for storage and transportation. These requirements should be adhered to throughout transportation and at any intermediate storage stages.

5.16 Complaints

5.16.1 Complaints regarding the product or its packaging, as distinct from those relating solely to matters within the wholesalers control, must be notified promptly to the manufacturer or supplier of the goods. Complaints relating to the wholesalers' own activity should be evaluated and measures taken, where appropriate, to prevent their recurrence.

5.17 Documentation and Records

5.17.1 Written procedures should describe the different operations which may affect the quality of the products or of the distribution activity: receipt and checking of deliveries, storage, cleaning and maintenance of the premises, (including pest control), recording storage conditions, security of stocks and on site, consignments in transit, withdrawal from saleable stock records, including records of clients orders, returned products, recall plans, etc. These procedures should be approved, signed and dated by the person responsible for the quality system.

5.17.2 Invoices or packaging slips should be issued for each delivery and accompany the goods.

5.17.3 Clear and readily available records should be maintained showing the receipt and disposal of all products purchased and sold. Such records should be kept in an accessible form and place for the appropriate legislated period. (Currently five years).

5.17.4 An updated list of all premises allowed to store, dispense or sell drugs should be available at all premises to ensure medicines are only sold to these persons or premises.

5.17.5 Keep records of each sale or purchase, showing date of purchase (supply), name of medicinal product, quality received (or supplied) name and address of suppliers or consignee. Records should ensure traceability of the origin and destination of products, e.g. by use of batch numbers in-order that they can be identified. This information is detailed in the legislation.

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

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

5.17.8 Records should be accurate, legible, traceable, attributable and unambiguous. Electronic data should be backed-up in accordance with written procedures.

5.17.9 Records should be maintained for the back-up and restoration of data.

5.18 Outsourced Activities

5.18.1 Any activity relating to the storage and distribution of a medical product that is delegated to another person or entity should be performed by the appropriately authorized parties, in the terms of a written contract. There should be a written contract between the entities. The contract should define the responsibilities of each entity (contract giver and contract acceptor) and cover at least the following:

- **i.** compliance with this guideline and the principles of GSP and GDP;
- **ii.** the responsibilities of all entities for measures to avoid the entry of substandard and falsified products into the distribution chain;
- **iii.** training of personnel;
- **iv.** conditions of subcontracting subject to the written approval of the contract giver; and periodic audits.

5.18.2 The contract giver should assess the contract acceptor before entering into the contract, e.g. through on-site audits, documentation and licensing status review.

5.18.3 The contract giver should provide to the contract acceptor all relevant information relating to the material and medical products. The contract acceptor should have adequate resources (e.g. premises, equipment, personnel, knowledge, experience and vehicles, as appropriate) to carry out the work.

5.19 Substandard and/or Falsified Medicinal Products

5.19.1 Should be kept in a designated area apart from other medicinal products to avoid confusion. Clearly labeled as "NOT FOR SALE". The MCAZ and the holder of the products` registration should immediately be informed.

5.20 Sale of Unregistered Medicinal Products

5.20.1 This is not allowed, but should written permission under the appropriate provisions be given by the MCAZ e.g. Section 75 of the Medicines and Allied Substances Act *(Chapter 15:03)* the following should be observed:

5.20.2 Records of sales should be kept as in Section 5.16 above. This may also include special conditions imposed by the MCAZ on giving the permission; and

5.20.3 The medicines should be stored separately from other registered medicines.

5.20.4 The area should be clearly indicated as to its use to ensure adequate controls of sales.

5.20.5 The current registers of approved medicines and approved persons should be available to avoid selling unregistered medicines and/or to unlicensed premises.

5.21 Minimum Dimensions of Premises

5.21.1 The minimum area of the different areas of the wholesale should be as follows:

i. Receiving area: 10 square metres
ii. Quarantine area: 5 square metres
iii. Warehouse area: 15 square metres
iv. Dispatch area: 10 square metres

5.22 Importation

5.22.1 All reasonable steps should be taken by importers including port authorities, cargo handling company personnel and clearing agents, to ensure that products are not mishandled or exposed to adverse storage conditions at ports of entry or airports.

5.22.2 Import documentation for all consignments should be kept at the premises for the legislated period of time. (Currently five years)

6.0 KEY RELEVANT DOCUMENTS

6.1 Medicines and Allied Substances Control Act (Chapter 15:03)
6.2 Medicines and Allied Substances Control (General Regulations), SI 150 of 1991
6.3 Good Storage and Distribution Practices for Medical Products (WHO TRS 1025, Annex 7)
6.4 Medicinal Products in the European Union, The legal framework for medicines for human use (2015)
6.5 Temperature mapping of storage areas, WHO Technical Report Series, No. 961, 2011 May 2015 Annex 9: Model guidance for the storage and transport of time- and temperature-sensitive pharmaceutical products

7.0 HISTORY

DOCUMENT HISTORY		
Revision Number	Date Approved	Reason for Change and Amendments
4	October 2014	**Date Reviewed:** December 2019 **Reason for change and amendments** Rolling Review and Continuous Improvement aligning the guideline to the requirements of the new template The following changes were done from **Revision 4** to **Revision 5** **Description of Changes** **Added** **4.0 DEFINITIONS** **4.3 Good distribution practices (GDP)** - That part of quality assurance that ensures that the quality of a 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 falsified, unapproved, illegally imported, stolen, substandard, adulterated and/or misbranded medicinal products. **4.4 Medicinal products**: 4.4.1 Any substance or combination of substances presented as having properties for treating or preventing disease in human beings; or 4.4.2 Any substance or combination of substances which may be used in or administered to human beings either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis. 4.4.3 However, a number of products are becoming difficult to classify as they fall within the scope of two definitions of a medicinal product on one hand and also of food supplements/food products, medical devices, biocides or cosmetics on the other hand. In such cases the stricter regime of medicinal products applies, with the ultimate aim being to protect the user. **3.6 changed from** Sufficient space should be provided for the orderly receipt, warehousing and dispatch of pharmaceuticals and, in particular, a quarantine area for isolation when necessary, including isolation of faulty packs and recalled goods. Each area in the wholesale should be physically separated and demarcated

		To **5.1.2** Sufficient space should be provided for the orderly receipt, warehousing and dispatch of medicinal products and, in particular, a quarantine area for isolation when necessary, including isolation of faulty packs and recalled goods. Each area in the wholesale should be physically separated and demarcated **Added** **5.2 FACILITIES** **5.2.3 (New)** Special storage facilities should be provided for drugs of addiction, "Dangerous Drugs" , that is, a fixed lockable cupboard as detailed in the Dangerous Drugs Regulations (RGN 1111 of 1975) **5.2.4 (New)** Incompatible activities such as manufacture (including repackaging) or the handling of toxic chemicals should be avoided in areas in which medicinal products are handled by wholesale. **5.2.5 (New)** A written programme should be available indicating the frequency of cleaning and the methods to be used to clean the premises. **6.1.1 changed from** Handling and storage of pharmaceuticals should be in accordance with established procedures designed to prevent contamination or deterioration, damage to packs or confusion of products. Particular care should be given to maintaining the integrity of seals on packs of sterile pharmaceuticals. Attention should be paid to any special instructions from the manufacturer relating to handling or storage of the pharmaceuticals. **To** **5.5.1** Handling and storage of medicinal products should be in accordance with established procedures designed to prevent contamination or deterioration, damage to packs or confusion of products. Particular care should be given to maintaining the integrity of seals on packs of sterile medicinal products. Attention should be paid to any special instructions from the manufacturer relating to handling or storage of the medicinal products. **6.1.2 changed from** Importers should take all reasonable measures to ensure that pharmaceuticals are not mishandled or exposed to adverse storage conditions at ports of entry e.g. airports. **To** **5.5.2** Importers should take all reasonable measures to ensure that medicinal products are not mishandled or exposed to adverse storage conditions at ports of entry e.g. airports. **6.5.2 changed from** Reconditioning or repackaging (including relabeling) of pharmaceuticals goods must not be carried out by wholesalers

		unless such activity is specifically exempted from the requirement to hold a manufacturers license. **To** **5.8.2** Reconditioning or repackaging (including relabeling) of medicinal products must not be carried out by wholesalers unless such activity is specifically exempted from the requirement to hold a manufacturers license. **10.0 changed from** **COUNTERFEIT MEDICINAL PRODUCTS** **To** **5.17 SUBSTANDARD AND/OR FALSIFIED MEDICINAL PRODUCTS** **12.0 changed from** **12.0 MINIMUM DIMENSIONS OF PREMISES** **12.1** The minimum area of the different areas of the wholesale should be as follows: Receiving area: 10 square metres Quarantine area: 5 square metres Warehouse area: 15 square metres Dispatch area: **To** **5.19 MINIMUM DIMENSIONS OF PREMISES** 5.19.1 The minimum area of the different areas of the wholesale should be as follows: 5.19.1.1 Receiving area: 10 square metres 5.19.1.2 Quarantine area: 5 square metres 5.19.1.3 Warehouse area: 15 square metres 5.19.1.4 Dispatch area: 10 square metres **Added 6.0(New)** **6.0 KEY RELEVANT DOCUMENTS** **6.1 Medicines and Allied Substances Control Act (Chapter 15:03)** **6.2 Medicines and Allied Substances Control (General Regulations), SI 150 of 1991** **6.3 Good Storage and Distribution Practices for Medical Products (WHO)** **6.4 Medicinal Products in the European Union, The legal framework for medicines for human use (2015)**

5	February 2020	**Date Reviewed:** July 2021 **Reason for change and amendments** Rolling Review and Continuous Improvement aligning the guideline to the WHO GSDP Guidelines TRS 1025 Annex 7 The following changes were done from **Revision 5** to **Revision 6** **Description of Changes** **Title Changed from** Zimbabwe Guidelines for Good Wholesaling Practice of Medicinal Products **To** Good Storage And Distribution Practices For Medical Products In Zimbabwe **Added** **1.0 APPLICATION** This includes all entities involved in different stages of the supply chain of medical products; manufacturers and wholesalers, as well as brokers, suppliers, distributors, logistics providers, traders, transport companies and forwarding agents and their employees. **4.0 DEFINITIONS** **4.4 Good storage practices (GSP).** That part of quality assurance that ensures that the quality of medical products is maintained by means of adequate control throughout the storage thereof. **4.5 Expiry date.** The date given on the individual container (usually on the label) of a medical product, up to and including the date on which the product is expected to remain within specifications if stored correctly. It is established for each batch by adding the shelf-life to the date of manufacture. **4.6 Falsified product.** A product that has been deliberately and/or fraudulently misrepresented as to its identity, composition or source. Such deliberate/ fraudulent misrepresentation refers to any substitution, adulteration or reproduction of an authorized product, or the manufacture of a product that is not an authorized product. "Identity" shall refer to the name, labelling or packaging or to documents that support the authenticity of an authorized product. "Composition" shall refer to any ingredient or component of the

		product in accordance with applicable specifications authorized/recognized by the national regulatory authority (NRA). "Source" shall refer to the identification, including name and address, of the marketing authorization holder, manufacturer, importer, exporter, distributor or retailer, as applicable. **4.7 Substandard products.** "Substandard" medical products (also called "out of specification") are authorized by NRAs but fail to meet either national or international quality standards or specifications – or, in some cases, both. **4.9 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 medical products are of the quality required for their intended use. **4.10 Quality risk management.** A systematic process for the assessment, control, communication and review of risks to the quality of medical products in the supply chain. **4.11 Quality system.** An appropriate infrastructure, encompassing the organizational structure, procedures, processes, resources and systematic actions necessary to ensure adequate confidence that a product (or services) will satisfy given requirements for quality. **4.12 Quarantine.** The status of medical products isolated physically or by other effective means while a decision is awaited on their release, rejection or reprocessing. **5.1 Changed from** **BUILDINGS & GROUNDS** **To** **PREMISES & GROUNDS** **5.1.3 Changed from** Buildings should be kept free of rodents, vermin, birds, pets and pests **To** Premises should be protected from the entry of birds, rodents, insects and other animals. A rodent and pest control programme should be in place. **5.1.4. Changed from**

		Buildings should provide protection for the medicinal products from contamination and deterioration, including protection from excessive local heating or undue exposure to direct sunlight. **To** Premises should provide protection for the medicinal products from contamination and deterioration, including protection from excessive local heating or undue exposure to direct sunlight **Added** 5.1.5. Premises should be suitably located, designed, constructed and maintained, to ensure appropriate operations such as receiving, storage, picking, packing and dispatch of medical products. 5.1.6. Premises should be protected from the entry of birds, rodents, insects and other animals. A rodent and pest control programme should be in place. **5.1.5.. Changed from** Buildings should have sufficient security to help prevent misappropriation of the medicinal products. **To** Premises should have sufficient security systems to help prevent misappropriation of the medicinal products. **5.1.6.. Changed from** Each area in the wholesale should be physically separated and demarcated. **To** There should be a logical flow of medicinal products within the premises and each area in the wholesale should be physically separated and demarcated. **Added** 5.1.9.. Toilets, washing, rest and canteen facilities should be separate from areas where products are handled. Food, eating, drinking and smoking should be prohibited in all areas where medical products are stored or handled. **Added** **5.4. QUALITY MANAGEMENT** 5.4.1 Entities involved in the storage and distribution of medical products should have a comprehensively designed, documented

		and correctly implemented quality system that incorporates GSP, GDP, principles of quality risk management and management review. 5.4.2 Senior management has the ultimate responsibility to ensure that an effective quality system is established, resourced, implemented and maintained. 5.1.7. The quality system should ensure that: • GSP and GDP are adopted and implemented to ensure that the quality of medical products is maintained throughout their shelf life in the supply chain; and medical products are appropriately procured, stored, distributed and delivered to premises by the Authority. • Operations are clearly specified in written procedures; • Responsibilities are clearly specified in job descriptions; • All risks are identified and necessary, effective controls are implemented • Processes are in place to assure the management of outsourced activities; • There is a procedure for self-inspection and quality audits; • There is a system for quality risk management; • There are systems for managing returns, complaints and recalls; and • There are systems to manage changes, deviations and corrective and preventive actions (CAPAs). 5.4.4 There should be an authorized, written quality policy describing the overall intentions and requirements regarding quality. This may be reflected in a quality manual. 5.4.5 There should be an appropriate organizational structure. This should be presented in an authorized organizational chart. The responsibility, authority and interrelationships of personnel should be clearly indicated. 5.4.6 Roles and responsibilities should be clearly defined and understood by the individuals concerned, and recorded as written job descriptions. 5.4.7 The quality system should include appropriate procedures, processes and resources. **5.4 Changed from PERSONNEL**

		To **QUALITY MANAGEMENT** **5.5.. Changed from** **STOCK HANDLING AND STOCK CONTROL** **To** **QUALITY RISK MANAGEMENT** **Added 5.6.3.** All personnel involved in distribution activities should be trained and qualified in the requirements of GDP, as applicable. Personnel should receive initial and continued training in accordance with a written training programme. The training should cover the requirements of GSP and GDP (as applicable), as well as on-the-job training. Other topics should be included, such as product security, product identification and the detection of falsified products. **Added** **5.5.. QUALITY RISK MANAGEMENT** 5.5.1 There should be a system to assess, control, communicate and review risks identified at all stages in the supply chain. 5.5.2 The evaluation of risk should be based on scientific knowledge and experience and ultimately be linked to the protection of the patient. **Changed from** 5.6.1 Stock should be received and examined for correctness against order, for expiry date and for absence of damage. **To** 5.8.1 Each incoming delivery should be checked against the relevant documentation, to ensure that the correct product is delivered from the correct supplier. This may include, for example, the purchase order, containers, label description, batch number, expiry date, product and quantity. **Added** 5.7.3.. Records of stock levels for all medical products in store should be maintained, in either paper or electronic format.

		These records should be updated after each operation (e.g. entries, issues, losses, adjustments). These records should be kept for a suitable period of time (5years). Periodic stock reconciliation should be performed at defined intervals, by comparing the actual and recorded stock. 5.7.4.. The root cause for stock discrepancies should be identified and appropriate CAPAs taken to prevent recurrence. 5.7.5.. Storage, supply, distribution and recording of drugs of addiction, such as narcotics, must be kept in accordance with the Dangerous Drugs Regulations, 1975 RGN No. 1111 of 1975. **Changed from** 5.6.3 Goods from suppliers rejected by the wholesaler because of error, breakage, leaking containers or other faults should be placed in quarantine until the matter is resolved with the supplier **To** **5.3.10** Each consignment should be carefully checked for possible contamination, tampering and damage. A representative number of containers in a consignment should be sampled and checked according to a written procedure. Any suspect containers or, if necessary, the entire delivery, should be quarantined for further investigation. **Added** 5.8.4.. Materials and products requiring transport and storage under controlled conditions of temperature and relative humidity, as applicable, should be handled as a priority. The transportation temperature data, where appropriate, should be reviewed upon receipt, to ensure that the required conditions had been maintained. Where applicable, cold-chain materials and products should be handled according to the approved conditions by the Authority, or as recommended by the manufacturer, as appropriate. 5.8.5.. Records Medical products should not be transferred to saleable stock until an authorized release is obtained. 5.16.8.. Records should be accurate, legible, traceable, attributable and unambiguous. Electronic data should be backed-up in accordance with written procedures. 5.16.9 Records should be maintained for the back-up and restoration of data.

		Added **5.17OUTSOURCED ACTIVITIES** 5.17.1 Any activity relating to the storage and distribution of a medical product that is delegated to another person or entity should be performed by the appropriately authorized parties, in accordance with national legislation and the terms of a written contract. 5.17.2 There should be a written contract between the entities. The contract should define the responsibilities of each entity (contract giver and contract acceptor) and cover at least the following: • compliance with this guideline and the principles of GSP and GDP; • the responsibilities of all entities for measures to avoid the entry of substandard and falsified products into the distribution chain. • training of personnel; • conditions of subcontracting subject to the written approval of to contract giver; and periodic audits. 5.17.3 The contract giver should assess the contract acceptor before entering into the contract, e.g. through on-site audits, documentation and licence status review. 5.17.4 The contract giver should provide to the contract acceptor all relevant information relating to the material and medical products. The contract acceptor should have adequate resources (e.g. premises, equipment, personnel, knowledge, experience and vehicles, as appropriate) to carry out the work.
6	August 2023	**Date Reviewed:** August 2023 **Reason for change and amendments** Rolling Review and Continuous Improvement aligning the guideline to the requirements of the new template. The following changes were done from **Revision 6** to **Revision 7** **Description of Changes** **Added** **5.4 Temperature Mapping of Storage Areas** **5.3.11** Temperature mapping studies describes a systematic mapping procedure in a cold room, freezer room or other temperature-controlled room. **5.3.12** The temperature mapping procedures should:

		i. Demonstrate the air temperature profile throughout the storage area, when empty and in a normal loaded condition. ii. Define zones which should not be used for storage of TTSPPs (for example areas in close proximity to cooling coils, cold air streams or heat sources); and iii. If required, demonstrate the time taken for temperatures to exceed the designated limits in the event of a power failure. **5.3.13** Depending upon the routine monitoring strategy, subsequent mapping exercises may also be required periodically – for example, every three years – in order to demonstrate continuing compliance fixed monitors, provide continuous data, a periodic re-evaluation which assesses all aspects of system performance since the initial mapping may be more appropriate. In addition, mapping should be carried out whenever significant modifications are made to the store. Examples include changes in the pattern of use that may increase loading or affect air circulation, or changes to the refrigeration equipment, such as an alteration to the set point. Finally, re-mapping may be justified whenever an analysis of temperature and/or humidity monitoring records shows unexplained variability outside normal operating limits. All mapping exercises should be fully documented in order to demonstrate compliance to management, clients and the regulatory authorities. **5.3.14** Temperature mapping should include the following stages: i. Preparing a mapping protocol. ii. Carrying out the mapping exercise. iii. Preparing a mapping report. iv. Implementing the recommendations by carrying out the remedial and other actions identified in the mapping report. A follow-up mapping exercise may then be needed to verify the effectiveness of the remedial actions. **5.3.15** The mapping exercise should be conducted in accordance with the protocol. Personnel in the store should be fully briefed so as to avoid inadvertent disruption or deactivation of the EDLMs. At the end of the study period, all the devices should be collected, deactivated, and the data downloaded for analysis. If the mapping exercise does not include automatic logging of door openings, an access log should be kept during the study so that any temperature excursions

		caused by personnel movement can easily be identified. Power outages should similarly be recorded. **5.3.16** A mapping study measures temperature fluctuations. From these data, the analyst can identify the minimum and maximum temperatures that occur in the mapped area during the study period. **5.3.17** A cold spot refers to the lowest temperature(s) recorded in the space over the study period, but these lowest temperature(s) remain within the specified temperature range (e.g., cold spots identified between +15.0 °C and +17.5 °C in a room with a specified temperature range of +15.0 °C to +25.0 °C). **5.3.18** A hot spot refers to the highest temperature(s) recorded in the area studied over the study period, but these highest temperature(s) remain within the specified temperature range (e.g., hot spots identified between +23.0 °C and +25.0 °C in a room with a specified temperature range of +15.0 °C to +25.0 °C). **5.3.19** The purpose of determining hot and cold spots is to identify the locations where the monitoring system sensors should preferentially be located. Hot and cold spots need to be determined seasonally as they may be significantly different in summer and in winter **Added** **6.5** Temperature mapping of storage areas, WHO Technical Report Series, No. 961, 2011 May 2015 Annex 9: Model guidance for the storage and transport of time- and temperature-sensitive pharmaceutical products.