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REPUBLIC OF KENYA
MINISTRY OF HEALTH

PHARMACY AND POISONS BOARD

GUIDELINE FOR POST-MARKETING SURVEILLANCE OF MEDICAL PRODUCTS AND HEALTH TECHNOLOGIES IN KENYA

January 2023

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HPT/PDS/VMS/GUD/054	**Post-Marketing Surveillance of Medical Products and Health Technologies in Kenya**	**Revision No. 1**	**Effective Date:** 01/02/2023 **Review Date:** 01/02/2028

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Abbreviations and Acronyms

APIs	Active Pharmaceutical Ingredients
CAPAs	Corrective and Preventive Actions
CEO	Chief Executive Officer
CHMTs	County Health Management Teams
COAs	Certificates of Analysis
DHCP	Direct Healthcare Professional Communication
EAC	East Africa Community
GDP	Good Distribution Practice
GMP	Good Manufacturing Practice
HCP	Health Care Professionals
HIV / AIDS	Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome
IEC	Information, Education and Communication materials
IGAD	Inter-governmental Authority on Development
INN	International Non-proprietary Name
KEMRI	Kenya Medical Research Institute
KEMSA	Kenya Medical Supplies Authority
MAH	Market Authorization Holder
MedRS tool	Medicine Risk based Surveillance tool
MEDS	Mission for Essential Drugs and Supplies
MFL	Master Facility List
MPHTs	Medical products and health technologies

NMRA	National Medicines Regulatory Authority
OOS	Out of Specification
PHPs	Public Health Programs
PIL	Product Information Leaflet
PMS	Post-marketing surveillance
POE	Port of Entry
PS	Product Safety
PV/PMS TWG	Pharmacovigilance and Post-marketing surveillance Technical Working Group
PvERS	Pharmacovigilance Electronic Reporting System
QC	Quality Control
QC	Quality Control
QSE	Quality, Safety and Efficacy Committee
SDG	Sustainable Development Goal
SF	Substandard and falsified medical products
SmPC	Summary of Product Characteristics
SOP	Standard Operating Procedure
TB	Tuberculosis
TLC	Thin Layer Chromatography
UHC	Universal Health Coverage
VMS	Division of Pharmacovigilance and Post-marketing surveillance
WHO	World Health Organization

Definition of Terms

For the purpose of this document, the following definitions are used;

"Board" The Pharmacy and Poisons Board

"Convenient Sampling" (Also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population which is conveniently available to participate in study.

"Corrective and Preventive actions" Actions taken to correct the existing product nonconformity or quality problems (corrective actions) and to prevent the recurrence of the problem (preventative actions). The actions are taken once it is discovered that there are weaknesses, including failures in the production and/or testing of medical products and, investigations are carried out to determine root cause of the quality deviation

"Falsified" Medical products that deliberately/fraudulently misrepresent their identity, composition, or source

"Field screening techniques" The qualitative and/or semi- quantitative tests that could rapidly acquire preliminary analytical information or data on the quality of medical products in the field

"Health technology" A health technology is the application of organized knowledge and skills in the form of medical devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives

"Healthcare providers/professionals" In the context of this guideline, include medical doctors, dentists, pharmacists, clinical officers, pharmaceutical technologists, nurses, community health workers and medical laboratory staff

"Invitro Diagnostic" A device, whether used alone or in combination, intended by the manufacturer for the in-vitro examination of specimens derived from the human body solely or principally to provide information for diagnostic, monitoring or compatibility purposes. This includes reagents,

calibrators, control materials, specimen receptacles, software, and related instruments or apparatus or other articles

"Manufacturer" A person or a body who sells a product under their own name, or under a trademark, design, trade name or other name or mark owned or controlled by the person or the body, and who is responsible for designing, manufacturing, assembling, processing, labelling, packaging, refurbishing or modifying the product, or for assigning to it a purpose, whether those tasks are performed by that person or on their behalf

"Marketing authorization holder (MAH)" An individual or a corporate entity/ company responsible for placing a pharmaceutical product in the market either through importation, donation, distribution or sale in Kenya. This individual or company is responsible for all aspects of the product, including quality and compliance with the conditions of the marketing authorization

"Medical product" Any substance or combination of substances which may be administered to human beings with a view to making a medical diagnosis or to restoring, correcting or modifying physiological functions in human beings

"Pharmaceutical outlet" A pharmaceutical outlet means any point (licensed or unlicensed) of sale, supply or provision of medicines for individual patients or other medicine providers

"Poor Quality Medical Product" Include substandard and falsified medical products

"Post-marketing quality survey" A systematic, structured study that is carried out to determine the quality of medical products and health technologies available to patients at a point in time. The quality surveys rely on laboratory testing to check on compliance of products with standards and/ or specifications

"Post-marketing Surveillance" Refers to all processes and activities that are carried out to continuously track / monitor quality, safety and efficacy of medical products and health technologies, post-authorization

“Quality assurance” An integrated system of activities involving planning, quality control, quality assessment, reporting, and quality improvement to ensure that a product or service meets defined standards of quality with a stated level of confidence

“Quality defects” Attributes of a medical product or component which may affect the quality, safety and/or efficacy of the product, and/or which are not in line with the approved market authorization requirements

“Random Sampling” Random sampling is a part of the sampling technique in which each sample has an equal probability of being chosen. A sample chosen randomly is meant to be an unbiased representation of the total population

“Rapid alert system” A system designed to ensure a timely, proportionate, accurate and consistent response to health events arising from sub-standard and falsified medical products which represent a significant threat to health and safety of the public

“Regulatory actions” Legal, regulatory or administrative measures applied to the manufacturers, MAHs, importers, distributors, wholesalers and other Pharmacy practitioners, in order to protect public health and safety i.e., quarantine of products, recalls and suspension of market authorization

“Sample” A product of a unique batch collected from a specific facility/site i.e., products of the same brand with the same batch number and formulation collected from two different sites would constitute two distinct samples

“Sample size” Number of unique samples targeted for collection based on statistical calculations

Sampling plan A sampling plan contains detailed identification of sites where samples will be collected, medicines to be sampled, minimum number of dosage units to be collected per sample, number of samples to be collected per medicine, and total number of samples to be collected in the area for which the sampling plan is prepared. It contains also detailed instructions for sample collectors

“Special Inspections” Carried to do spot checks, could focus on one product or group of related products or specific manufacturing processes. In cases of market complaints, special inspections are performed to investigate quality defects of products

“Stratified Sampling” In a stratified sample, researchers divide a population into homogeneous subpopulations called *strata* (the plural of *stratum)* based on specific characteristics (e.g., race, gender identity, location, etc.). Every member of the population studied should be in exactly one stratum. Each stratum is then sampled using another probability sampling method, such as cluster or simple random sampling, allowing researchers to estimate statistical measures for each sub-population

“Substandard” Also called “out of specification,” has been defined by the World Health Organization as an authorized and legitimately available medical products that fails to meet either their quality standards or specifications, or both

“Targeted Sampling” It is a purposeful, systematic method by which controlled lists of specified populations within geographical areas are developed and detailed plans are designed to collect adequate samples within each of the targets

Acknowledgements

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Preface

Medical products and health technologies (MPHTs) are essential component of healthcare service delivery. Essential medicines policies are crucial to promoting health and achieving sustainable development goals. Sustainable development goal (SDG) 3.8, specifically mentions the importance of "access to safe, effective, quality and affordable essential medicines and vaccines for all" as a central component of Universal Health Coverage (UHC) and SDG 3.b emphasizes the need to develop medicines to address persistent treatment gaps. Access to good quality MPHTs increases public confidence in healthcare systems.

Quality of MPHTs is an important factor in disease prevention and treatment. Quality is fundamental to their effectiveness and safety, hence being able to achieve desired patient outcomes. Ensuring quality requires concerted effort by all stakeholders in the entire lifecycle of MPHTs. Kenya is a vibrant generic market with a wide variety of registered MPHTs. Therefore, good laws, guidance and management processes are required to ensure effective monitoring of quality of medical products and health technologies

Dr. F.M.Siyoi
CHIEF EXECUTIVE OFFICER

1.0 INTRODUCTION

1.1 Background

Kenya is committed through Vision 2030 to become a competitive and prosperous nation with a high quality of life for all her citizens by 2030. The concept of Universal Health Coverage (UHC) embodies to provide financial risk protection, improved access to health services, and improved health outcomes to the population.

Medical products and health technologies (MPHT) in the supply chain do not necessarily retain their quality, safety, efficacy throughout their shelf life. There are several factors that affect quality, safety and efficacy of MPHTs once they are released by a manufacturer including handling and storage conditions during shipment, warehousing/storage, distribution and dispensing to patients. Some unscrupulous traders deliberately compromise the inherent quality of MPHTs by adopting unethical business practices.

In addition, varying climatic conditions in the country may have impact on the quality parameters of MPHTs. Therefore, implementing regular post-marketing surveillance is critical to ensure that MPHTs continue to meet the required standards and/ or specifications whilst in the market post-registration.

Post Market Surveillance (PMS) is the practice of monitoring quality, safety and efficacy of medical products and health technologies circulating in the market after registration. It is a critical function of Pharmacy and Poisons Board (the Board) in prevention and detection of substandard and falsified medical products and health technologies to safeguard public health. Post market surveillance is an important tool in monitoring quality of medical products and health technologies after authorization because it assures quality of medical products and prevent harm to patients.

1.2 Legal Framework

Article 43 (1) (a) of the constitution of Kenya 2010 provides that every person has the right to the highest attainable standard of health. Highest standards of health are only attainable if the quality of medical products and health technologies in the market are of the right quality.

The Pharmacy and Poisons Act, CAP 244 of laws of Kenya mandate the Pharmacy and Poisons Board to regulate the trade in MPHTs. Sections 3 (A)(f), 3B (2) (k, l and m) mandates the Board to implement post-marketing surveillance to monitor quality, safety and efficacy of MPHTs circulating in Kenya.

1.3 Scope

This guideline applies to PPB and all the stakeholders relevant to activities of Post Marketing Surveillance of HPTs in Kenya.

1.4 Vision

To be a global leader in promoting and protecting public health

1.5 Mission

To protect and promote the health of the public by regulating the profession of pharmacy and ensuring access to quality, safe, efficacious and affordable medical products and health technologies

1.6 Corporate Values and Principles

The board seeks to cultivate a conducive and responsive organisational culture for both internal and external stakeholders and enhance service delivery by embracing the following core values;

1. Commitment to public health
2. Professionalism
3. Accountability and transparency
4. Integrity and respect
5. Quality
6. Diversity and Inclusion

1.7 Core Functions

1. Ensure the quality, safety and efficacy of medical products and health technologies.
2. Regulation of training and practice of pharmacy.
3. Advising the government on any matter relating to the regulation of medical products, health technologies and pharmaceutical services.

1.8 Objectives of post marketing surveillance guideline

1. Provide guidance on monitoring quality, safety and efficacy of MPHTs
2. Provide guidance on how monitor, prevent and detect quality, safety and efficacy problems associated with marketed MPHTs
3. Promote good distribution and storage practices of MPHTs throughout the supply chain to assure their quality.
4. To monitor the status of marketing authorization of MPHTs in the market.
5. Promote understanding, education and training in PMS programs and activities and their effective communication to the public.

2.0 THE NATIONAL POST-MARKETING SURVEILLANCE SYSTEM

The function of PMS is anchored within the department of product safety of the Pharmacy and Poisons Board. The post-market surveillance system comprises of;

a) The National reporting system
b) The National Pharmacovigilance and Post-Marketing Surveillance
c) Technical Working Group (PV/PMS TWG)
d) The Quality Control testing laboratories

The National reporting system for suspected SF products has both electronic and manual platforms. The electronic system is the Pharmacovigilance Electronic Reporting System (PvERS).

The National Pharmacovigilance and Post-Marketing Surveillance Technical Working Group (PV/PMS TWG) is a caucus of the key technical stakeholders drawn from Ministry of Health, Pharmacy and Poisons Board, Public Health Programs, central procurement agencies, quality control testing laboratories, research and teaching Institutions.

The PMS system also includes the public, private, non-governmental and mission healthcare providers, public health programs, pharmaceutical industry, central procurement agencies, quality Control testing laboratories, marketing authorization holders and manufacturers. The PMS system in Kenya encompasses all levels of healthcare facilities (private, public and Faith based), all medical products and health technologies used in the country and all cadres and disciplines of healthcare providers

The PMS system works closely with other government departments and programs, various organizations and institutions, to develop an effective feedback mechanism that serves to protect health and safety of the public.

The Board endeavors to develop and sustain close collaborations and to harmonize with other market surveillance systems in the region, particularly within the Regional Economic Blocks- East African Community (EAC), Inter-Governmental Organization on Development (IGAD) Medicines Regulation Harmonization Initiatives as well as the World Health Organization.

There are two main approaches to PMS in Kenya

a) Reactive post-marketing surveillance - conducted through evaluation of feedback from stakeholders, investigation of product related market complaints and reports of poor-quality medical products and implementation of regulatory actions. Usually, an unannounced sampling to establish the severity and investigate root cause of complaints before implementation of a regulatory action is undertaken to rectify the quality defect

b) Proactive post-market surveillance: This approach entails systematic, scientific and structured quality surveys that are based on a study protocol.

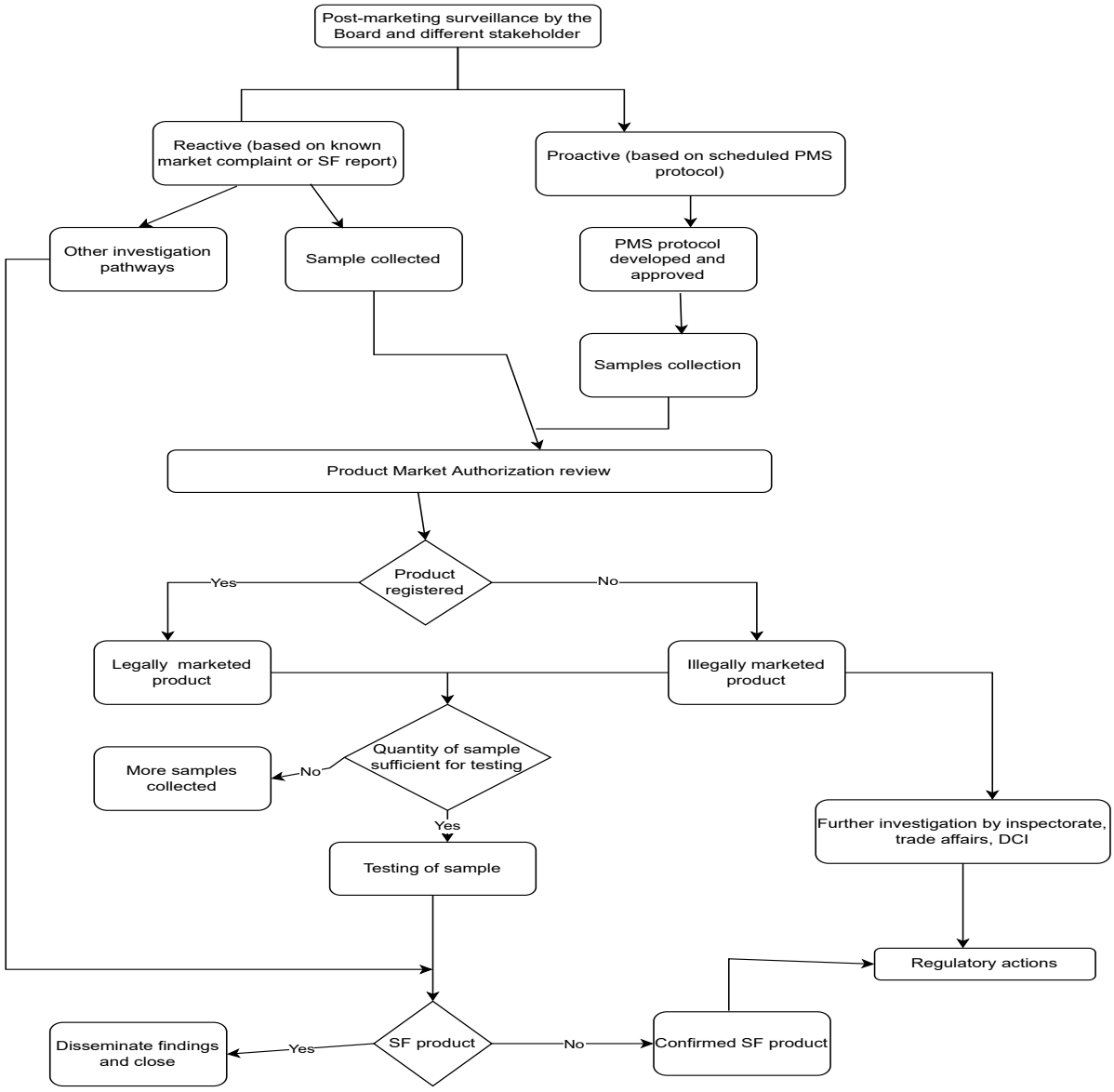

Figure 1: Flow Diagram illustrating post-marketing processes in Kenya

2.1 Roles and Responsibilities of Key Players

The PMS system works with the support of patients/ end users, healthcare professionals, the regulatory entities, the pharmaceutical industry, market authorization holders (MAHs), manufacturers, public health programs (PHPs) central procurement agencies, quality control testing laboratories, county health management teams (CHMTs) and other stakeholders. Hence, each of these stakeholders have an important role to play and responsibility to bear:

2.1.1 Patient/Public

a) Patients are encouraged to report any suspected SF medical product dispensed to them. They can report to a healthcare provider or the nearest healthcare facility or directly to the Board by telephone at 0795743049, email at *pv@pharmacyboardkenya.org* and through consumer reporting platform at ***pv.pharmacyboardkenya.org.***
b) The members of the public or patients can submit samples of suspected SF products to a healthcare provider, nearest healthcare facility or to the PPB offices.
c) Follow Good Practice Guidelines in handling and storage of medical products and health technologies
d) Reporting any deviations in handling and storage requirements to the PPB.
e) Implementing regulatory actions in collaboration with the Board, such regulatory actions include quarantine or recall of medical products.
f) Detection and reporting of suspected SF products and submitting the reports to the PPB through the electronic reporting system and copy to County Vigilance Focal Person.

2.1.2 **Health care Providers shall;**

a) Report any deviations in handling and storage requirements of medical products and health technologies to the Board.
b) Implement regulatory actions in collaboration with the Board, such regulatory actions include quarantine or recall of medical products.
c) Detect and report suspected SF products and submit the reports to the Board through the electronic reporting system and copy to county vigilance focal person.

2.1.3 **County Vigilance Focal Person**

a) Receive reports reports of suspected poor-quality medicines (SF) from healthcare facilities and members of the public and submit the reports to the Board within 24 hours of receipt of the report or immediately in cases of quality defects that have high public health impact e.g.; quality defects affecting vaccines and other biological products.
b) Participate in investigations of quality defects of medical products and health technologies
c) Co-ordinate PMS activities in the County
d) Provide summary of PMS reports to the County Health Management Team within 7 days of receipt of the report or finalizing of own report
e) Participate in training and capacity building of healthcare professional on PMS related activities in collaboration with the Board.
f) Provide feedback from the Board to healthcare professionals (HCPs) where applicable. In cases of product quarantine or recalls, the information should be relayed to HCPs within 24 hours of receipt of the communication

2.1.4 **County Health Management Team**

a) Plan and budget for PMS activities within the County in collaboration with the Board

b) Support PMS activities within the counties

c) Coordinate with the Board and participate in investigations of suspected SF products

d) Organize and conduct trainings and sensitizations on post-market surveillance activities in collaboration with Board

2.1.5 **Public Health Programs**

The Public Health Programs in Kenya include the Division of National Malaria Program (DNMP), National AIDS & STI Control Program (NASCOP), National Vaccines & Program (NMCP), National Tuberculosis, Leprosy and Lung Disease Program (NTLD-P), National Vaccines, Kenya National Blood Transfusion Service (KNBTS), Division of Family Health (DFH), Neglected Tropical Diseases Program (NTDP) and National Cancer Control Program.

The public health programs shall;

a) Take responsibility for ensuring training and sensitization of HCPs on reporting of suspected poor quality medical products (SF)

b) In collaboration with the Board, conduct post-marketing quality surveys of medical products and health technologies

c) Participate in activities of the National Pharmacovigilance and Post-marketing surveillance Technical Working Group (PV/PMS TWG)

d) Make Programmatic decisions as concerns matters related to quality of medical products and health technologies

e) Carry out resource mobilization

f) Conduct education, training and advocacy to the relevant stakeholders

2.1.6 **Market Authorization Holders**

a) The MAHs are responsible for the quality, safety and efficacy of their MPHTs in the Kenyan market
b) The MAHs have a responsibility to share post-marketing quality surveillance data, and any local reports on quality of medical products which are brought to their attention, whether reported spontaneously by healthcare professionals or consumers or occurring in the context of market surveillance study, with the Board within 72 hours of receipt of the data or report and immediately in cases where the quality defect has high public health impact.
c) MAHs may be called upon to meet the costs of specific investigations and/or regulatory actions affecting their products. Specifically, they shall implement directives of the Board on investigations of quality of the MPHTs and implementation of regulatory actions.
d) The MAH shall collaborate with the Board by providing any information or data on quality of their products when required to do so by the Board
e) Implement regulatory actions as guided by PPB and submit reports as required.
f) Shall inform the Board about product deterioration or detection of SF products within 72 hours, from the time the information becomes available
g) Shall have an emergency plan to ensure effective implementation of recalls or withdrawals of products with voluntary or statutory recalls
h) Shall have responsibility of ensuring effective and efficient recall action or withdrawal of MPHTs where applicable

i) Shall notify the Board of any quality defects and / or regulatory actions affecting their products in other markets other than Kenya. The report shall be limited to products similar to those circulating in Kenya and shall detail impact of such quality defects and regulatory actions on the quality of products circulating in Kenya. The notification shall be submitted within seven (7) days from the date the MAH becomes aware of the quality issue.

2.1.7 **Manufacturers**

a) Shall comply with the Board on matters of investigations on quality defects of medical products.

b) Such collaboration shall include but not limited to, carrying out internal investigations and preparing root cause analysis reports, submitting the reports to the Board, submitting data or information as required by PPB and implementation of the proposed CAPAs, updating the board on implementation of CAPAs and participating in special GMP inspections by the Board to investigate quality defects.

c) The root cause investigation reports shall be submitted to PPB within two (2) weeks from the date of receipt of the request from the Board

d) Shall inform the Board following detection of non-compliance during manufacturing for a product that is already in the Kenya market. The report shall be submitted to the Board within 72 hours after the information becomes available

e) Shall implement directives of the Board on investigations of quality of the products and implementation of regulatory actions.

2.1.8 **The Quality Control Testing Laboratory**

The Quality Control Laboratory shall;

a) Carry out testing of MPHTs on request by the PPB or any other entity

b) Prescribe testing methods, standards and / or specifications based on internationally acceptable standards (e.g., Pharmacopeial standards)

c) Issue certificates of analysis (COAs) on each sample tested to the clients in the prescribed format

d) Participate in development and review of PMS protocols

e) Participate in training of staff from the Board and other staff nominated by the Board on MiniLab activities

f) Participate in the activities of the National Pharmacovigilance and Post-marketing Surveillance Technical Working Group (PV/PMS TWG)

2.1.9 **Central Procurement Agencies**

They include Kenya Medical Supplies Authority (KEMSA), Mission for Essential Drugs and Supplies (MEDS) and County Central Medical Stores. They shall

a) Participate in the activities of the National Pharmacovigilance and Post-marketing Surveillance **Technical Working Group (PV/PMS TWG)**

b) Participate in matters of investigations on quality defects of MPHTs

c) Share post-marketing quality surveillance data, and any local reports on quality of MPHTs which are brought to their attention, whether reported spontaneously by HCPs or consumers or occurring in the context of market surveillance study, with the Board within 72 hours of receipt of the data or report and immediately in cases where the quality defect has high public health impact.

2.1.10 **The National PV/PMS Technical Working Group**

The PV/PMS TWG) is a caucus of the key technical stakeholders drawn from MOH, PPB, PHPs, central procurement agencies, quality control testing laboratories, research and teaching Institutions.

The PV/PMS TWG shall;

a) Provide technical guidance on the design, development and implementation of PMS guidelines in Kenya including PMS forms and SOPs

b) Oversee the development and implementation PMS strategies

c) Give technical guidance for the implementation of PMS activities to ensure quality, safe and efficacious medical products and health technologies.

d) Provide technical assistance and guidance on the development of a databases and information sharing system on quality profiles of medical products and health technologies.

e) Identify the logistical and resources needs for the implementation of PMS activities

f) Provide a forum for private and public sector groups to consider and recommend policy direction on PMS programs in Kenya

g) Participate in the review of training and sensitization materials for health care workers

h) Provide a platform for the development, review and approval of PMS messages for the health care workers and the general public

i) Mobilize partners and advocate for funds for PMS research and surveys

j) Provide a platform for the review and dissemination of reports on the status of PMS in Kenya

2.1.11 **The Pharmacy and Poisons Board**

The Board shall;

a) Receive and review reports on suspected poor quality medical products (SF) from public, HCPs, county PV focal persons, public, PHPs, central procurement agencies, MAHs, manufacturers and any other stakeholder.

b) Carry out investigations of suspected SF products

c) Implement risk based expanded post-marketing quality surveys to cover broad category of products

d) Implement, oversight and enforce regulatory actions including quarantine, recalls, suspension and revocation of marketing authorization and licenses.

e) Provide feedback to reporters of poor-quality medical products (SF) within 7 days on completion of the investigation report.

f) Develop and implement a mechanism for disseminating information on regulatory actions undertaken by the Board

g) Establish the Quality, Safety and Efficacy (QSE) committee which shall be tasked with review of investigation reports and findings of PMS activities and make recommendations for appropriate regulatory actions

h) Establish mechanisms for coordination, communication and involvement of all relevant stakeholders and various departments / units within the Board in PMS programs

i) Establish and provide secretariat to the PV/PMS TWG

j) Conduct advocacy, training, education and sensitization on post-marketing surveillance related activities

k) Develop and disseminate information, education and communication (IEC) materials

l) Carry out communication to HCPs and the public on market surveillance related activities

m) Maintain a rapid alert list

n) Notify other NMRAs and the World Health Organization (WHO) on SF products where appropriate

o) Participate in the WHO member state mechanism on SF products

p) Carry out routine analysis of quality data to inform regulatory actions and policy decisions.

2.1.12 **Academia and research institutions**

The Board shall collaborate closely with academia in developing and implementing the PMS curriculum in accredited institutions. This includes teaching, training and conducting research on quality and efficacy of medical products.

a) Jointly publish research papers with academia to provide a pool of evidence-based recommendations.

b) Collaborate with research institutions like the Kenya Medical Research Institute (KEMRI) to advance research around quality testing of MPHTs (including invitro diagnostics and medical devices)

2.1.13 **Development Partners**

The Board shall collaborate with development partners to strengthen the PMS in Kenya as well as implement best practices to assure the quality, safety and efficacy of MPHTs.

2.2 Guide to reporting suspected poor quality medical products (SF)

2.2.1 Who should report?

a) Reporters may be from the public or private health sector. They include all HCPs; medical doctors, dentists, pharmacists, clinical officers, pharmaceutical technologists and nurses. Other reporters include members of the public, staff in medical laboratories, community health workers, pharmaceutical manufacturing companies, marketing authorization holders (MAHs), central procurement agencies and parallel importers. Patients or patient representatives/guardians are also encouraged to report.

b) Whistle blowers are encouraged to report. The identify of whistle blowers shall be protected and informed shared shall be handled with utmost confidentiality.

c) Any information on the reporter and patient identities shall be kept CONFIDENTIAL and will NOT be disclosed in response to any public request.

d) Submission of a report does not in any way constitute an admission of liability.

e) It is important that any suspected poor quality medical product (SF) is reported even when not certain about the quality status.

2.2.2 What to report

It is important to report the following:

a) All suspected substandard or falsified MPHTs which include; conventional medicines, allopathic medicines, traditional/alternative/herbal medicines, biologicals, vaccines, x-ray contrast media, medical devices, invitro diagnostics and cosmeceuticals.

b) All deviations in quality parameters of products

c) All deviation in the manufacturers recommended storage conditions for products

2.2.3 **When to report**

Any suspected substandard or falsified MPHTs shall be reported as soon as possible to the Board

2.2.4 **How to report a suspected SF product to the Board**

Reporters shall use the pink form (Annex I) to report suspected poor quality medical products and health technologies (SF). The pink form is available on the PvERS platform. A follow-up report can be sent on another form, or communicated by telephone, or e-mailed to pv@pharmacyboardkenya.org or online at the Board website at www.pv.pharmacyboardkenya.org. The reports can also be submitted to PPB regional offices.

2.2.5 **Accuracy and completeness of reports**

a) Ensure that the form for reporting suspected poor quality medical product (pink form) is filled in accurately and with all the necessary information, as much as possible.

b) Product details to be filled include; product category (Medicinal product, herbal product, vaccine, blood and blood products, medical devices/invitro diagnostics and cosmeceuticals), brand name, batch number/ lot number, unique identifiers (blood and blood products), name of manufacturer, date of manufacture and expiry, date of receipt at the healthcare facility, name of distributor / supplier, country of origin, product formulation, description of the quality defect, storage conditions of the product and contacts of the reporter.

c) Details of reporter- It is important to give contact details as a reporter in case of any clarification or any additional information about the report that may be required by the Board. The reporter details include the name, email address, designation and phone number.

2.2.6 **Where to report**

a) The Board encourages reporting through the online electronic reporting system, at ***www.pv.pharmacyboardkenya.org***

b) Manual forms can be obtained from the following sources; PPB head office (headquarters) along Lenana Road, PPB regional offices across the country and healthcare facilities.

c) The reports can be hand delivered, posted or sent through the Board's address or via email as follows:

Pharmacy and Poisons Board,
P.O. Box 27663-00506, Nairobi
Tel: (020) 3562107 Ext 114, 0720608811, 0733884411
Fax: (020) 2713431/2713409
Email: pv@pharmacyboardkenya.org

2.3 Post-marketing surveillance of medical devices (including in vitro diagnostics)

The types of medical devices or IVDs include all products classified as per the different classes based on a risk assessment and intended use.

Medical device means any instrument, apparatus, implement, machine, appliance, implant, reagent for in vitro use, software, material or other similar or related article, intended by the manufacturer to be used, alone or in combination, for human beings, for one or more of the specific medical purposes(s) of;

a) diagnosis, prevention, monitoring, treatment or alleviation of disease, diagnosis, monitoring, treatment, alleviation of or compensation for an injury,

b) investigation, replacement, modification, or support of the anatomy or of a physiological process,

c) supporting or sustaining life,

d) control of conception,

e) disinfection of medical devices,

f) providing information by means of in vitro examination of specimens derived from the human body;

g) disinfection substances,

h) aids for persons with disabilities,

i) devices incorporating animal and/or human tissue and

j) devices for in-vitro fertilization or assisted reproduction technologies and does not achieve its primary intended action by pharmacological, immunological or metabolic means, in or on the human body, but which may be assisted in its intended function by such means.

2.3.1 All medical devices supplied in the Kenyan market shall continue to meet all the market authorization and performance requirements and any applicable standards.

2.3.2 Whenever there is doubt, MAHs, importers and other regulated entities are advised to consult the Board for confirmation and/or clarification regarding reporting and other regulatory requirements for market surveillance related activities

2.3.3 If there is a problem with a medical device or the way in which it is being used, the MAH, importers and the licensed manufacturer or licensed distributor shall conduct an analysis and decide on the appropriate action. One of these

actions may require notifying or obtaining further advice from the Board.

2.3.4 The actions that shall be implemented following quality defects or problems with use of a medical device include;

2.3.5 follow corrective actions / preventive actions procedures under the manufacturer 's / distributor's quality management system,

a) inform the users of the device or IVD,
b) make corrections to the device or IVD and
c) removal i.e., recall the medical device or IVD from the market.

2.3.6 Quality defects of medical devices (including invitro Diagnostics)

The MAH, importer or distributor of medical device shall notify the Board where the following actions need to be taken;

a) correcting product on the market
b) removing product from the market, or
c) advising users of an issue with a medical device
d) Where the recall of a medical device is required, the MAH, importer or distributor of the medical device shall be responsible for the removal of the of the devices from the market and/ or use.

2.3.7 The guidelines on recall and withdrawal of MPHTs shall apply for recall or withdrawal of medical products and health technologies

2.3.8 Non-recall actions for medical devices

a) The MAH, importer or distributor shall notify the Board in cases where quality defects or problems with use of medical device present risk to safety and health of the public.
b) The following actions may be implemented voluntarily by the MAH, importer or distributor, that is not considered recall action.

Table 1: Summary of non-recall actions for medical devices

Action	Description
Safety Alert	Intended to provide information on safe use of devices, as distinct from recall action, which addresses product deficiencies. Issued to provide additional advice to health care professionals in situations where the device, although meeting all specifications and therapeutic indications, its use could present an unreasonable risk of substantial harm if certain specified precautions or advice are not observed. For example, specific precautions about the longevity of an implanted medical device.
Product Notification	Issue of precautionary information about a device in a situation that is unlikely to involve significant adverse health consequences.
Product Withdrawal	The MAH, manufacturers, importers, and distributors removal from supply or use of devices for reasons not related to their quality, safety or performance.
Product Recovery	The MAH, manufacturer, importer or l distributor recovers devices that have been manufactured or imported but not yet supplied to the market. For example, recovery of devices in a warehouse.
User information	Generally conducted by the MAH, manufacturer, importer or distributor in response to issues with the use of a medical device. Includes in-house sessions, seminars and improved educational materials such as posters.

2.3.9 Notification of quality defects and/ or deficiencies of medical devices

a) where there is a reasonable probability that the use of, or exposure to, a defective medical device will cause serious adverse health consequences or death, the MAH, manufacturer, importer or distributor shall notify the Board within 24 hours from the date when the information becomes available

b) where the use of, or exposure to a defective medical device may cause temporary adverse health consequences, or where the probability of serious adverse health consequences is remote, the MAH, manufacturer, importer

or distributor shall notify the Board within seven (7) days from the date when the information becomes available.

c) where the use of, or exposure to a defective product is not likely to cause adverse health consequences, the MAH, manufacturer, importer or distributor shall notify the Board within fourteen (14) days from the date when the information becomes available.

2.4 Communication of market surveillance related activities

The goal of communication is to provide timely, meaningful, relevant and accurate information, in clear and understandable terms targeted to a specific audience for minimizing the public health risk or health hazard that may be posed by quality defects (SF) medical products. The Board shall communicate the risk related to the quality, efficacy of medical products and health technologies guided by SOP on communication of market surveillance related activities

The Board shall establish a portal where it shall disseminate regulatory actions implemented in relation to quality and efficacy of MPHTs.

2.4.1 Target audience

a) The primary target audience for communication on quality of MPHTs, issued by the Board shall be patients, care givers and healthcare professionals who use (i.e., prescribe, handle, dispense, administer or take) medical products and health technologies.

b) The media is also a target of communication on quality issues due to its capacity to reach out to patients, healthcare workers and the general public. Communication through the media influences public perception. It is therefore important that media receives information directly from the Board in addition to any information received from other sources.

2.4.2 **Content of communication on quality of MPHTs**

The information on quality of MPHTs shall not be misleading and shall be presented objectively.

The communication shall contain;

a) Important new information on quality of any authorized MPHTs which has an impact on risk-benefit balance under any conditions of use;

b) any recommendations to healthcare professionals and patients on how to deal with the quality concern;

c) when applicable, a statement on the agreement between the MAH and the Board on the information on quality of the medical product

d) any additional information about the use of the MPHT and other data that may be relevant for tailoring the message to the targeted audience

e) In cases of class I recalls, the HCPs and the public will be advised on the recall strategy and the timelines

f) a list of literature references, when relevant or a reference where more detailed information can be found, and any other background information considered relevant.

g) A reminder of the need to report suspected SF medical products and health technology in accordance with reporting system for suspected poor quality medical products (SF)

2.4.3 **Communication channels**

The Board shall use relevant communication tools and channels when issuing communication related to quality of MPHTs. They shall include but not limited to the following:

a) Direct healthcare professional communication (DHCP)

b) Communication materials targeted at healthcare workers

c) IEC materials to patients and the general public e.g., brochures, flyers, public alerts

d) Press communication e.g., press releases, press briefing

e) Website

f) Social media and other online communications

g) Inter-NMRA communication

h) Responding to enquiries from the public

i) Other means such as publications, scientific and professional journals

2.4.4 **Exchange of quality information produced by third parties**

There are situations where new information on quality of medical products is published (e.g., by other NRAs, WHO, scientific journals, or any other parties). Where the new information impacts on quality of MPHTs circulating in Kenyan market and after evaluation, the Board shall act accordingly to protect health and safety of the public.

2.4.5 **Rapid Alert System**

2.4.5.1 The Board shall set up and implement a system designed to ensure a timely, proportionate, accurate and consistent response to health events arising from sub-standard and falsified MPHTs which represent a significant threat to health and safety of the public

2.4.5.2 Rapid alert system shall be applied to transmit alerts which CANNOT permit any delay.

2.4.5.3 Rapid alert system shall be triggered after new information on public health is received from any source, reviewed and validated and determined that the quality issue presents critical risk to public health. These sources may include MAH, public, media, HCPs,

manufacturers, other National Regulatory Authorities, Literature review or international organizations like the World Health Organization (WHO)

2.4.5.4 Effective implementation of a rapid system is useful to protect safety and health of the public in situations where there are quality risks that have high public health impact or they pose significant health hazard.

2.4.5.5 They include class I recalls of one or more defective batches of MPHTs and for investigational products during a quality failure in the clinical trial stage.

2.4.5.6 The purpose of the rapid alert system is to cover transmission of information to relevant parties, stakeholders and targeted audiences in a timely manner when the nature of the quality defect poses a serious risk to public health and safety and urgent action is required to protect public health.

Such information shall include;

a) Quality defects and medical device deficiencies identified by the Board that requires urgent regulatory actions e.g., class I recalls, product withdrawal, product quarantine
b) Quality defects for medical products of high public health impact including vaccines, parenteral formulations, male latex condoms, female condoms, surgical gloves, sutures etc.
c) WHO alerts of finished products and Active Pharmaceutical Ingredients (API) regarding safety issues
d) Follow up actions on rapid alert notification

2.4.6 **Responsibilities**

a) The head of VMS shall be responsible for review and investigation of the quality defect and prepare a

comprehensive report and brief for the CEO before rapid alert is issued

b) The Board shall receive quality defect information (From Board market surveillance team, healthcare facilities, healthcare professionals, quality control laboratories, central procurement agencies, MAHs, manufacturers, other National regulatory authorities, WHO, Ministry of Health, Public Health Programs, other government regulatory entities and any other players in the pharmaceutical industry)

c) The head VMS shall review and investigate the information on the quality defect/ quality issue and prepare comprehensive report and brief for the CEO as well as table the report for consideration by the QSE committee

d) The report and brief shall be finalized not later than 24 hours following receipt of the information on quality defect/ quality issue

e) The head VMS shall classify the seriousness of the defect / quality issue (class I, II, III) based on the level of risk to public health.

f) The CEO or their delegate shall approve the rapid alert communication before issue

g) The CEO or their delegate shall issue rapid alert to the relevant parties, stakeholders or target audience as prescribed in the format *in Annex II*

2.4.7 **Communication timelines and channels**

Class I – Within 24 hours (telephone, SMS, email, publish in print media)

Class II – Within 24 hours up to maximum of 72 hours (telephone, SMS, Email)

Class III – No need to send through rapid alert system

2.4.7.1 All alerts shall be published in the PPB website real time

2.4.7.2 Relevant parties / stakeholders shall inform the Board of follow up actions using the standard format (Annex III)

2.5 Procedure for post-market surveillance activities

2.5.1 The Board shall implement a system of collection of reports and market complaints on suspected SF as per the SOP on handling product related market complaints.

2.5.2 The Board shall carry out investigations of suspected SF products and implement appropriate regulatory actions

2.5.3 The Board shall develop PMS survey protocols and implement the sampling and testing of medical products and health technologies using risk-based approaches.

2.5.4 The PMS activities shall be implemented annually using risk-based approach to determine sampling and testing priorities across different medical products in public, private and unregulated supply chains

2.5.5 Post-marketing surveillance activities shall also include public reporting of suspected substandard and falsified medical products, handling of market complaints, prevention, detection and response to risk of SF products, removal and disposal of defective and non-compliant products and implementation of corrective and preventive actions.

2.5.6 The planning and protocol development shall be coordinated with other stakeholders including the national PV/PMS TWG.

An Outline of The PMS planning Process shall at minimum have the following steps

a) Protocol Development: highlighting the scope and objectives of the post-market surveillance, responsibilities of different stakeholders involved all stages of the post-

market surveillance process, describe the method of data collection and analysis.

b) Planning for sampling
c) Coordination of sampling exercise
d) Testing
e) Validation of the results
f) Regulatory action plans
g) Dissemination of PMS results.
h) Follow-up of regulatory actions

2.5.7 The nominated officers shall carry out sampling according to the approved PMS protocol and sampling plan

2.5.8 The quality control laboratory shall carry out testing of MPHTs based on prescribed standards and / or specifications (Pharmacopeial methods or official validated test methods)

2.5.9 The laboratory testing results shall be submitted to the department of Product Safety (PS), which is responsible for review of the data and communicating the information to relevant stakeholders including manufacturers and Marketing Authorization Holders (MAHs)

2.5.10 The Departments of Product Safety, Inspectorate and Enforcement, Product Evaluation and Registration, Export Import Unit, drug crime investigation unit, ports of entry shall follow up on implementation and enforcement of regulatory actions as appropriate

2.5.11 The PPB shall carry out dissemination of findings from post-market surveillance activities to the relevant stakeholders

2.6 **Sampling and testing priorities**

Risk based approaches shall be applied to sampling and testing of MPHTs. Some of the factors to be considered in risk-based sampling include;

2.6.1 Monitoring of MPHTs that are new to the market.

2.6.2 Batchwise sampling and testing of products of high public health impact based on risk (e.g., male latex condoms, surgical gloves, sutures and others which shall be determined from time to time)

2.6.3 Monitoring MPHTs based on the risks associated with manufacturing complexity, dosage form, stability (e.g., temperature sensitivity), safety/efficacy (e.g., narrow therapeutic window), demand (e.g., high-burden diseases), therapeutic indication (e.g., infectious diseases), or other factors.

2.6.4 Monitoring the quality of MPHTs at key ports of entry. This type of monitoring serves as a first-line intervention, and is effective in preventing SF products from gaining access to Kenyan market and requires close collaboration among the regulatory authorities, customs, and law enforcement agencies.

2.6.5 Coordinating with ongoing sampling and testing initiatives, such as: Sampling and testing activities conducted by national public health programs (e.g., Anti malaria, TB, HIV/AIDS, family health and the National Cancer Control Program).

2.6.6 Information / Data required for risk-based sampling and testing

a) **Selection Region / County / Sub-County to sample from** -Updated Master Facility List (MFL) and list of registered pharmaceutical outlets, updated demographic information, disease prevalence, medicines supply chain, pharmaceutical sector information (number of outlets for each sector).

b) Selection of MPHTs- Extent of use and availability based on the Kenya essential medicines list, market complaints and other quality reports, high quality risk medicines (stability, storage), new MPHTs on the market, medicines used by

vulnerable populations e.g., the children, elderly, psychiatric disorders)

c) Selection of Sampling sites- Complete and up-to date information about the pharmaceutical sector in the area (number of outlets, levels of distribution, type of outlets, availability of the targeted products at the facilities, geographical and administrative structure (e.g., Counties and sub-counties), demographic information, Government health sector e.g., government hospitals, Government central procurement agency, regional and County Medical stores, private sector institutions (e.g., wholesale pharmacies and community/retail pharmacies and dispensaries at private hospitals).

d) The quantity of dosage units per sample, number of samples per region / County, Total number of samples for the quality survey -Based on the objectives of the PMS protocol, testing methodology, and availability at sampling sites

e) Sample testing- The number and type of test parameters to be conducted shall be determined in consultation with the QC laboratory based on objectives of the PMS activity and in accordance with pharmacopeial specifications or manufacturers in house specifications. Manufacturer's/MAHs shall provide necessary information related to the quality of their products when required to do so.

f) The summary of information required for risk-based sampling and testing is provided in Annex IV

2.6.7 Sampling plan.

a) The sampling sites will be determined by risk-based methodology. Scientific tools shall be applied to determine the sampling sites e.g., the Medicines Risk-based Surveillance (MedRS tool). The tool may be applied to

determine regions, sub-counties and names of healthcare facilities to be visited

b) As far as possible stratified sampling shall be applied based on different levels of healthcare facilities and pharmaceutical outlets (tiered facility sampling)

c) Convenient, random or targeted sampling techniques may be applied when deemed necessary by the Board

d) The sample size shall be determined by scientific methods. The sample size may be determined on case-to-case basis in some circumstances depending on quantity of pharmaceutical dosage units required for testing, Number of presentations of dosage forms required in the protocol, and availability of the samples required.

e) The Board shall prepare a sampling plan detailing identification and number of sampling sites, product categories and drug products or molecules to be sampled, minimum quantity of dosage units required for testing per sample, number of samples per medicine or medical device (Sampling matrix), total number of samples to be collected from each region / County / Sub- County and total number of samples for that particular PMS activity. In addition, the sampling plan shall contain detailed instructions for sample collectors

2.6.8 Handling, storage, and transportation of samples

a) Authorized officers from the Board and nominated officers from other institutions who are involved in sampling and sending samples to the laboratory shall observe the following best practices throughout the chain of custody of the samples;

b) Maintain integrity of samples throughout handling and transportation of samples

c) Maintain the cold chain throughout transportation and storage for products that require cold chain storage.

Calibrated data loggers shall be used to monitor the cold chain.

d) Store samples in original containers, where available, and label accordingly.
e) Store samples in accordance with manufacturers recommended storage conditions
f) Collect information and data required for each sample with details of sampling site, quantity of dosage units collected per sample, brand and INN, manufacturing and expiry dates of the sample, pack size and any observation at the time of collection. The information shall be recorded in the prescribed forms (Sample collection form and the Facility form)- Annexes V and VI
g) In cases where samples collectors are not delivering samples directly to the laboratory, the samples together with the forms shall be shipped by courier service with required storage conditions to the required storage sites.
h) For each shipment it should be clearly indicated that samples are sent for laboratory testing purposes only, will not be used on humans or animals, have no commercial value and will not be placed on the market.

2.6.9 Testing

The Quality Control (QC) laboratory staff shall be involved in the planning of market surveillance activities. The role of the QC laboratory is to provide all technical information about the tests to be carried out, the specifications of the products, the number of units per sample to collect for each MPHT and key information related to the stability and proper handling of medical products during sampling.

The QC laboratory staff shall contribute and review the sampling form and ensure that all technical information to be collected per each sample is complete and accurate.

a) The QC testing laboratory shall be capable and competent to perform tests required by the testing protocol;
b) The laboratory shall have sufficient capacity and agree to test the required number of samples within the specified period for the cost within the available budget.
c) The selection of the testing laboratory/ies shall be explained in the survey protocol and reports. Whenever two or more laboratories are used for testing of samples collected within the survey, the collected samples shall be divided among the laboratories in a way that all samples containing the same APIs are assigned for testing to one laboratory.
d) Appropriate arrangement shall be made with the laboratory in advance. Within the usual selection procedure and the resulting agreement, the following shall be clearly specified in addition to the usual elements of such agreements (such as timelines and financial arrangements)
e) Number of product samples to be tested, tests to be conducted and specifications to be used according to the testing protocol.
f) Responsibilities of the laboratory during the survey including confidentiality declaration of the laboratory
g) Acceptance of a possible audit of the laboratory, access to records and retained samples.
h) The laboratory shall start testing only when all samples containing the same API in the same dosage form are received. Therefore, it is important to set and adhere to the deadline for submitting samples to the testing laboratory.
i) Risk-based approach to testing may utilize field screening techniques for level II testing. The field screening technologies shall include but not limited to MiniLab techniques, Infrared and Near Infrared spectroscopies.

2.6.10 Tests to be conducted

a) The testing of all collected samples shall be performed according to the testing protocol, which shall be part of the survey protocol and should be agreed with the testing laboratory/ ies.

b) Depending on the survey objectives, target medicines and available resources, the tests to be applied to samples collected in the survey shall include: verifying the identity; performing complete pharmacopeial testing; performing special or specific tests.

c) In the case that testing should provide a full picture of the quality of target medicines, it shall be performed according to a pharmacopeial or analogous monograph and the following tests shall be included; appearance, visual inspection;

identity; assay for APIs declared on the label; test for related substances; for solid dosage forms – dissolution or disintegration, uniformity of dosage units (by mass or content), fineness of dispersion in case of dispersible tablets;

for liquid dosage forms – pH value and volume in containers/extractable volume; for parenteral products – sterility and bacterial endotoxins test

d) Inclusion of uniformity of content for single-dose dosage forms, or sterility and bacterial endotoxins tests, shall be considered in relation to target medical products and available resources.

2.6.11 Testing methods and specifications

Test methods and specifications shall be selected in a way to serve best to the survey objectives. In general, when samples from different manufacturers are collected within a quality survey, all samples containing the same APIs in the same dosage form shall be tested using the same method and

specification to enable comparison of samples from different manufacturers.

a) The specification shall be used to decide on compliance or non-compliance of tested samples for the purposes of the survey.
b) Individual manufacturers may use different specifications and different methods for testing of their products and those specifications and methods shall be approved by the Board.
c) As far as possible, pharmacopeial methods and specifications should be used.
d) When a monograph for the particular medical product is available in more than one pharmacopoeia, the ability of the respective methods and specifications to reveal quality problems shall be considered and the monograph selected accordingly.
e) If no monograph for the target medical product exists in pharmacopoeias or the existing monographs do not apply for the desired tests, a validated method of the laboratory shall be used.
f) If a sample suspected to be SF need to be tested, pharmacopeial methods may not be sufficient and further examination shall be conducted
g) Once tests to be performed, methods and specifications to be used are selected, the testing protocol shall be finalized. For each of the target medical product it shall contain the list of tests to be conducted,
h) The QC laboratory shall carry out tests in accordance with pharmacopeial standards / validated methods submitted in market authorization dossiers and ensure reliability and accuracy of test results
i) Out of specification (OOS) investigations shall be carried out for non-compliant results

j) The QC laboratory shall issue a certificate of analysis for each sample tested in the prescribed format.

k) Authorized officers or officers appointed by the Board to carry out field screening of medical products shall be trained appropriately before the field activities

Three step tiered risk-based testing shall be applied. Table 2 provides summary of the three steps testing and Figure 2 shows the risk-based approach to testing

In cases where the MiniLab monograph does not exist or Raman spectral library is not available and in cases where the Board deems appropriate, samples shall be subjected to compendial testing without following the three-step tiered testing approach

Table 2: Summary of the three steps testing approach

Level	Test	Testing scope	Specification
I	Labelling Visual inspection Physical Inspection	All samples collected must go through visual inspection to determine registration and package integrity, among others, at the time of sample collection	Registration/ Retention specifications
II	Identification (TLC), Disintegration test	Samples complying to level I go for further screening at level II, at regional or sentinel sites.	Minilab protocol, Field screening technologies
	Verification	Samples not complying at sentinel sites will be subjected for further screening at PPB QC lab	Minilab protocol
III	Compendial	1. All samples that do not comply at level I and II. 2. 20% of all samples that comply at level II. 3. All samples that lack Minilab protocol.	Pharmacopeial Monograph

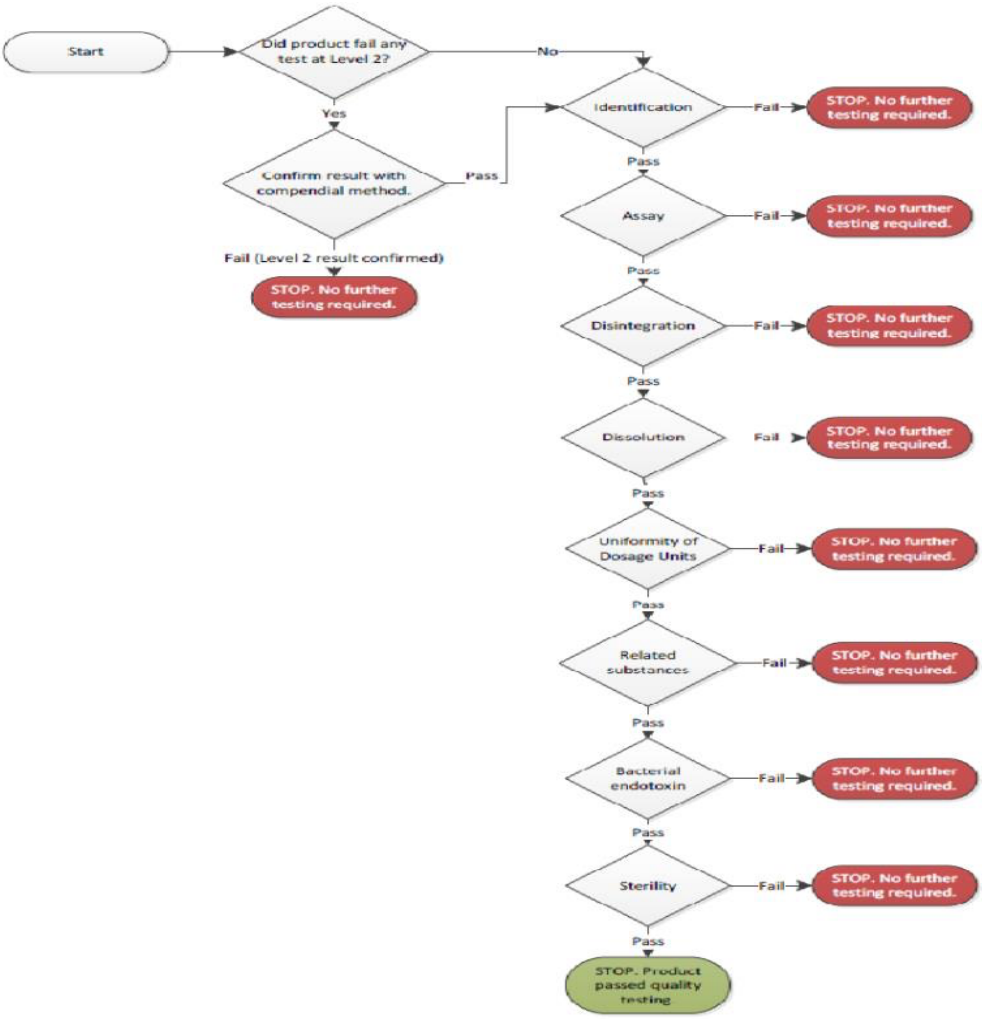

Figure 2: shows the risk-based approach to testing

2.7 Data management, data analysis and reporting

2.7.1 Data quality shall be assured through provision of training to sample collectors and by use of a standard sample collection form as well as facility detail form with close supervision of the sample and data collection process.

2.7.2 All hard copies of recorded documents will be compiled excel aggregation tool cleaned and prepared for data analysis.

2.7.3 All effort shall be made to fill data collection forms (Sample collection forms and facility detail forms, visual and physical inspection form, product information review form, analysis request forms)

2.7.4 Results from field screening activities shall be entered in the excel aggregation tool

2.7.5 The filled forms and excel aggregation tool shall be stored securely for a period of one year from the date of sampling.

2.7.6 The GDP and POE inspectors and QC laboratory shall report results to the department of product safety as soon as confirmed data or results are available

2.7.7 Depending on the data received by the Board and the potential public health impact of the findings, the Board may take a variety of actions, including request for further testing of samples and request for additional information or clarification from market authorization holders, or other appropriate regulatory action as deemed appropriate such as quarantine or recall of impacted batches.

2.7.8 The Board shall notify the respective manufacturers and MAHs of the results of the post-market surveillance activities within 7 days of receiving them.

2.7.9 Data interpretation: Poor quality medicines may be substandard or falsified. The WHO's definition will be used to classify medicines as "Substandard or Falsified medicine". The regulatory status of products will be evaluated based on the Board's policy.

2.7.10 Data dissemination: A detailed technical report of the study will be prepared, and results provided to the Quality, Safety and Efficacy committee of PPB for discussions and recommendations. Non-compliant results will be investigated and appropriate regulatory actions taken in-line with good regulatory practices. The Board will take appropriate regulatory actions in- line with its mandate of protecting the public from SF medicines.

2.7.11 Report Dissemination: The final report will be disseminated to all relevant stakeholders and published on the PPB's web portal or through its knowledge management platforms like

conferences, publications, and workshops. The dissemination shall be done within three (3) months after the PMS report has been finalized.

3.0 REFERENCES

1. WHO Guideline on the Conduct of Surveys of the Quality of Medicines (WHO-TRS number 996, 2016, Annex 7). World Health Organization: http://www.who.int/medicines/publications/pharmprep/WHO_TRS_996_web.pdf
2. Promoting the Quality of Medicines (PQM) Program: Guidance for implementing Risk-Based Post-Marketing Quality Surveillance in Low- and -Middle -Income -Countries: https://www.usp-pqm.org/sites/default/files/pqms/article/risk-based-post-marketing-surveillance-feb-2018.pdf
3. WHO Guidelines for Sampling of Pharmaceutical Products and Related Materials (WHO 631 Technical Report Series, No. 929, 2005, Annex 4). World Health Organization: http://apps.who.int/medicinedocs/en/d/Js21440en/.
4. Promoting the Quality of Medicines (PQM) Program. 2010. Strengthening National Capacity in Medicines Quality: Five-year Summary (2005-2009) Promoting the Quality of Medicines Program in Southeast Asia and the Philippines. Rockville, Md.: The United States Pharmacopeial Convention. Accessed: 09 Nov.2018. Available at: http://www.usp-pqm.org/sites/default/files/pqms/article/rdmareport.pdf.
5. Good practices for pharmaceutical quality control laboratories. In: WHO Expert Committee on Specifications for Pharmaceutical Preparations: forty-fourth report. Geneva: World Health Organization; 2010: Annex 1 (WHO Technical Report Series, No. 957 (http://www.who.int/prequal/info_general/documents/TRS957/GPCL_TRS957_Annex1.pdf, accessed 30 October 2018)
6. Prequalification of quality control laboratories: procedure for assessing the acceptability, in principle, of quality control laboratories for use by

United Nations agencies: http://www.who.int/medicines/areas/quality_safety/quality_assurance/trs1003_annex3.pdf

7. A Risk-based Identification of Essential Medicines for Local Manufacturing in Low- and Middle-Income Countries. World Health Organization: http://www.who.int/medicines/areas/quality_safety/quality_assurance/Local-manufacturing-risk-QAS16-682_24082016.pdf?ua=1
8. A Risk-Based Resource Allocation Framework for Pharmaceutical Quality Assurance for Medicines Regulatory Authorities in Low- and Middle-Income Countries: https://www.usp-pqm.org/sites/default/files/pqms/article/risk-based_resource_allocation_framework_june2018.pdf
9. The World Health Organization (2017). Definitions of substandard and falsified (SF) medical products. Available online from: *https://www.who.int/news-room/fact-sheets/detail/substandard-and-falsified-medical-products*.Geneva , Switzerland.

Newton PN, Lee SJ, Goodman C, et al. Guidelines for field surveys of the quality of medicines: a proposal. *PLoS medicine*. 2009;6(3):e1000052.

10. Newton PN, Lee SJ, Goodman C, et al. Guidelines for field surveys of the quality of medicines: a proposal. PLoS medicine. 2009;6(3):e1000052.
11. Nkansah P, Smine K, Pribluda V, et al. Guidance for implementing risk-based post-marketing quality surveillance in low-and middle-income countries. In: *Rockville, MD: US Pharmacopeial Convention. The Promoting the Quality of Medicines Program.* ; 2017.

4.0 REVISION HISTORY

Pharmacy and Poisons Board	**Revision History**			**HPT/PDS/VMS/GUD/054** Rev No.1
Revision No:	**Date**	**Prepared by**	**Section (s) revised**	**Description of change**
1	10/01/2023	Karim Wanga	All sections	Editorial, formatting and typo-gramatical corrections to align with QMS requirements

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6.0 ANNEXES

5.1 **Annex I:** Form for reporting suspected poor quality medical products and health technologies

(FOM001/MIP/PMS/SOP/001)

IN CONFIDENCE

MINISTRY OF HEALTH
PHARMACY AND POISONS BOARD
P.O. Box 27663-00506 NAIROBI
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FORM FOR REPORTING SUSPECTED POOR-QUALITY MEDICAL PRODUCTS AND HEALTH TECHNOLOGIES

Product category (Tick appropriate box):

☐Medicinal product ☐Blood and blood products. ☐Other.....
☐Herbal product ☐Medical device/ Invitro Diagnostics
☐Vaccine ☐Cosmeceuticals

Name of Facility: County: Sub- County:
Facility Address. Facility Telephone:

PRODUCT IDENTITY

Bran Name			Generic Name		
Batch/Lot Number/ Unique identifiers (blood & blood products)		Date of Manufacture		Date of Expiry	Date of Receipt
Name of Manufacturer		Address		Country of Origin	
Name of Distributor/ Supplier		Distributor/ Supplier's Address		Telephone	

PRODUCT FORMULATION (Tick appropriate box)

☐Oral tablets/capsules ☐Powder for reconstitution of injection
☐Oral suspension/syrup ☐Eye drops
☐Injection ☐Ear drops
☐Diluent ☐Nebulizer solution
☐Powder for reconstitution of suspension
☐Cream / Ointment / Liniment / Paste
☐Other .....

COMPLAINT (Tick appropriate box/boxes)

☐Color change ☐Moulding
☐Separating ☐Change of Oduor
☐Powdering / crumbling ☐Mislabeling
☐Caking ☐Incomplete pack
☐Therapeutic ineffectiveness
☐Other.....

FOR MEDICAL DEVICE AND INVITRO DIAGNOSTIC

☐Packaging	☐Mechanism	☐Data	☐Failure to Calibrate
☐Labelling	☐Electrical	☐Software	☐Results
☐Sampling	☐Data	☐Environmental	☐Readings

Describe complaint in detail.....

Was the cold chain maintained for both transportation and storage?.....(Attach sample for physical evaluation)

Storage Conditions

Does the product require refrigeration?	☐ Yes	☐ No	Other details (if necessary):
Was product available at facility?	☐ Yes	☐ No	
Was product dispensed and returned by client?	☐ Yes	☐ No	
Was product stored according to manufacturer / MoH recommendations?	☐ Yes	☐ No	

Reporter Details

Name of Initial Reporter:	Cadre/Designation:	Mobile no: Email :
Name of Person Submitting to PPB if different from reporter:	Cadre/Designation:	Mobile no: Email :

FOR OFFICIAL (PPB) USE ONLY

Report No: ...../...../..... Date Received ...../...../.....

Your support towards the National Pharmacovigilance system is appreciated

Submission of a report does not constitute an admission that medical personnel or manufacturer or the product caused or contributed to the event. Patient's identity is held in strict confidence and program staff is not is not expected to and will not disclose reporter's identity in response to any public request.

Information supplied by you will contribute to the improvement of drug safety and therapy in Kenya. Once completed please send to: The Pharmacy and Poisons Board on the above address

NB: THE BOARD WILL CONTACT YOU INCASE MORE SAMPLES ARE REQUIRED FOR ANALYSIS. IN SUCH SITUATIONS THISIS AN INDICATIVE GUIDE ON THE NUMBER OF SUSPECTED POOR QILAOTY SAMPLES TOBE SUBMITTED

FORMULATION	PACK SIZE	MINIMUM NO. OF SAMPLES REQUIRED
Tablets/ capsules	All	100 Tablets/Capsules
Suspension/Syrups	≤ 50mL	20 Bottles
	10 – 100mL	
	> 10mL	
	≥ 100mL	
Injectables	≤ 10mL	100 Vials/Ampoules
	10 – 100mL	50Vials/Ampoules/Bottles
	≥ 100mL	10 Bottles
Creams/Ointments	≤ 5g	50 Tubes
	5 – 50g	20Tubes/Jar
	≥ 50g	5Tubes/Jars
Eye/Ear Drops	< 10mL	100 Bottles
	≥ 10mL	50 Bottles
Inhalers	All	10 Packs
Raw material	All	5g
Medical Devices /Invitro Diagnostics	ALL	As shall be advised

EXPLANATION FOR PRODUCT PROBLEMS FOR MEDICAL DEVICES AND DIAGNOSTICS

- Packaging – damaged, defective, suspect tampered
- Labelling– insufficient instructions for use, illegible
- Sampling – device doesn't collect/transfer specimen
- Liquid – leak, splash
- Mechanical – misalignment, jam
- Electrical - unable to charge, power loss or fluctuation
- Data – capture, display, or storage affecting product functionality
- Software – network, program, algorithm, or security affecting product functionality
- Environmental – noise, temperature, humidity/ moisture, fungal/bacterial growth, or dust affecting product functionality
- Failure to calibrate
- Results- Increased rate of invalid or unreturnable test results
- Reading-Obviously incorrect, inadequate or imprecise result or readings, Unable to obtain reading

5.2 **Annex II:** Form for rapid alert notification of a quality defect

Pharmacy and Poisons Board	**Form for rapid alert notification of a quality defect**	**FOM042/HPT/PDS/VMS/SOP/013**
		Rev No. 0

	PPB letter head	
	Reference Number	
1	To (see attached list, if more than one addressee)	
2	Product class of defect	I II *(Circle one)*
3	INN Name of product	
4	Brand Name	
5	Strength	
6	Dosage form	
7	Batch number	
8	Date of manufacture	
9	Date of expiry	
10	Name & Address of manufacturer	
11	Market Authorization Holder	
12	Details of quality defect	
13	Information on distribution including exports	
14	Action taken by issuing Authority	
15	Contact Person details	
16	Signature & Date	

5.3 **Annex III:** Form for follow up on rapid alert and non-**urgent** information

Pharmacy and Poisons Board	**Form for follow up on rapid alert and non-urgent information**	**FOM041/HPT/PDS/VMS/SOP/013**
		Rev No. 0

	Add letter head of sender
1	To:
2	Reference Number of sender
3	Rapid alert reference number assigned:
4	IINN Name of product
5	Brand Name
6	Strength
7	Dosage form
8	Batch number
9	Date of manufacture
10	Date of expiry
11	Name & Address of manufacturer

12	Market Authorization Holder
13	Subject title
14	From (Issuing Authority)
15	Details of quality defect
16	Contact Person details
17	Signature & date

5.4 **Annex IV**: Table on summary of information required for risk-**based** sampling and testing

	Selection of region, County, Sub-County to sample from	**Selection of medicines**	**Selection of sampling sites / facilities**	**Selection of sampling method**	**No. of dosage units / Number of samples**	**Sample testing**
Information Required	MFL, updated demographic information, disease prevalence, medical product supply chain, pharmaceutical sector information (number of outlets for each sector). disease situations (MOH, WHO), concept notes, and country strategies, assessment reports from the pharmaceutical sector (PPB, MOH), climatic and seasonal information related to	Most-used medical product, most-sold medical product, higher- risk medical product (stability, storage). Cost of medical product per unit, locally produced vs. imported, generics vs. brand names, medicines imported from countries with stringent regulations, supply system of targeted medicine, known points of distribution Registration dossiers from PPB; import	Complete data on supply chain of targeted medical product Complete and up-to-date information about the pharmaceutical sector in the area (number of outlets, levels of distribution, type of outlets, type of available sectors for supplies, Number of Counties and Sub-Counties, demographic information and Master Facility List PPB shall provide most information about pharmaceutical sector, central	Sampling methods depend on the type of medical product, its supply chain and the objectives of sampling and testing activity. Data and knowledge of the pharmaceutical sector, the supply chain systems, and the known practices and behaviors of consumers and dispensers are required. PPB (pharmaceutical sector information and data, such as assessment reports and studies sponsored by government and supporting partners); information	Based on the objectives and testing methodology in the survey protocol or the PMS activity, data on the specifications for the medical product and its dosage form are required and should be available, the number of samples is determined based on the objectives and information about the area dossier of registration at PPB and pharmacopeial monographs (e.g., USP,	QC test to be applied or selected shall be determined by QC experts based on objectives of the sampling and testing activity. Requires understanding of medicine specifications as prescribed in pharmacopeia or manufacturers' dossiers. QC laboratory, pharmacopeial monographs, manufacturer's dossier of registration (validated test methods). Data on the capacity of the laboratories

	incidence of certain diseases, (e.g., malaria) and seasonal distribution challenges (e.g., no roads during rainy season).	information from importers and wholesalers; supply and stick management from wholesalers and central medical stores; reports from central procurement agencies; disease profiles and country health indicators (MOH); compendial and other information about medicines efficacy, safety, and quality issues from literature.	procurement agency, wholesalers shall provide information about supply chain (often different among public, private, and informal). Administrative and health structure data are available at MOH and public health programs. The best sources for demographic information is from Kenya National Bureau of statistics	from other surveys; data from supply systems in the country; data from development partners, the supply system will define the levels of sampling	British Pharmacopeia, International Pharmacopeia); WHO and other existing guidelines on sampling; other surveys and literature data, which could be used to apply a risk-based approach to sampling.	where the tests will be performed should also be considered.

5.5 **Annex V:** Sample Collection Form

MINISTRY OF HEALTH

PHARMACY AND POISONS BOARD

Pharmacy and Poisons Board	**Sample collection checklist**	**FOM045/HPT/PDS/VMS/SOP/011**
		Rev No. 0

Sample Collection Form

Unique Sample Code ____

Transcribe the appropriate sample code in the following format: Region Initials / Molecule code/ Date samples were collected/three-digit serial number)

e.g., NAI/GENT/05.05.2021/002

(The last 3 digits represent serialization of Samples with the first sample collected being 001, 2nd 002 etc.)

Origin of Sample

Facility Name:		Facility Code: **(Mandatory)**	

Product Details

Active Pharmaceutical Ingredient (API)/ INN Name: e.g., Amoxicillin			
Brand (Product name): (If applicable e.g., Amoxil)			
Dosage Form: (E.g., tablets/dispersible tablets, capsules, oral solution, *N/A* for medical devices)		Strength (e.g., 500 mg)	
Pack Size (e.g., 60s blister pack, 60ml bottle,100s loose)		No. of units per sample collected	
Name of Manufacturer: (e.g., Novartis Pharma Ltd.)			
Manufacturer Address (Site of Manufacture): (e.g., Suffern, New York, USA)			
Batch or Lot #: (e.g., CF2012A4)		Date of Manufacture: (mmm/yyyy e.g., Mar/2015)	

Expiry Date: (mmm/yyyy e.g., Mar/2019)		Patient Information Leaflet Present? Yes/ No	
Manufacturer storage requirements (°C)			

5.6 **Annex VI:** Facility Details Form

MINISTRY OF HEALTH
PHARMACY AND POISONS BOARD

Pharmacy and Poisons Board	**Facility Details form**	**FOM037/HPT/PDS/VMS/SOP/011** Rev No. 0

Facility Code **(MANDATORY)**			
County:			
Name of Facility: (Use name in MFL list if applicable)			
Sector of Facility (Public, Private, Informal)			
Type of Facility (Hospital, Health Center)			
Contact Person: (Name of respondent at facility)			
E-mail address of contact Person:		Mobile number of contact person:	
Date samples were collected at this facility (e.g., 10. 09. 2018)			

Where was the sample stored (Refrigerator, cabinet, shelf?)	
Did the fridge have fridge thermometer? YES ☐ NO ☐	
What was the temperature recording?	
Did the storage area have a wall thermometer or thermohygrometer? YES ☐ NO ☐	
Storage Temperature: (In area/ room where sample was picked e.g., 26.5° Celsius	
% Relative Humidity: (In area/ room where sample was picked e.g., 56.5%)	
Did the storage area have the temperature chart YES ☐ NO ☐	

Name & Signature of sample collectors:

1._____

2. _____

Note:

Samples collected must remain in their original containers intact and unopened.
The sample collection form should always be kept with the sample collected.
Proper sampling procedures should be followed.
The excel database should be filled properly

5.7 **Annex VII**: Sample visual and physical inspection form

PHYSICAL/VISUAL INSPECTION FORM: FOM046/HPT/PDS/VMS/SOP/011	
Description of dosage form	
Shape (circular, oval, flat sides, other)	
Uniformity of shape	
Uniformity of color	
No physical damage (cracks, breaks, erosion, abrasion, sticky)	
Other observations (no foreign contaminant, dirty marks, proper seal - for capsule)	

5.8 **Annex VIII**: Product information review (PIR) form

Pharmacy and Poisons Board	**Product information review (PIR) form**	**FOM047/HPT/PDS/VMS/SOP/011**
		Rev No. 0

Unique sample code

Product name:

INNs:

1- External packaging	**Information present on the label**	
Product name	YES ☐	NO ☐
INN	YES ☐	NO ☐
Strength	YES ☐	NO ☐
Batch number	YES ☐	NO ☐
Manufacturing date	YES ☐	NO ☐
Expiry date	YES ☐	NO ☐
Manufacturer Name & Physical address	…… …… ……	
Storage conditions	……	

2- Primary packaging	**Information present on the label**	
Product name	YES ☐	NO ☐
Strength	YES ☐	NO ☐
Unit dose per blister or container stated	YES ☐	NO ☐
Batch number	YES ☐	NO ☐
Manufacturing date	YES ☐	NO ☐
Expiry date	YES ☐	NO ☐

Manufacturer name (Specify only if different from the external packaging under point 1)	YES ☐ NO ☐ …………………………………………………………………
3- Package leaflet	
Presence of the leaflet	YES ☐ NO ☐
Language(s) of the leaflet	…………………………………………………………………
Composition	YES ☐ NO ☐
Manufacturer name & physical address (Specify only if different from the external packaging under point 1)	YES ☐ NO ☐ ………………………………………………………………… …………………………………………………………………
Storage conditions (Specify only if different from the external packaging under point 1)	YES ☐ NO ☐ ………………………………………………………………… …………………………………………………………………

4- Observation on any discrepancy between the above points 1, 2 or 3 or non-compliance, if any (such as uniformity of words and font size used in labeling, color of packaging materials etc)

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5.9 **Annex IX:** Analysis Request Form

Pharmacy and Poisons Board	**Laboratory analysis request form**	**FOM009/HPT/PDS/VMS/SOP/011** Rev No. 0

5.10 **Annex X**: Form for notification of suspected poor-quality medical products in the Kenyan market

PPB Letter head

Reference No.

NOTIFICATION OF SUSPECTED POOR-QUALITY MEDICAL PRODUCTS IN THE KENYAN MARKET

MAH / LTR

ADDRESS

ATTN: Company Pharmacist

Product Details

INN / Generic name	.....	Batch number	.....
Product name / brand name	.....	Date of manufacture	.....
Formulation	.....	Expiry date	.....
Strength	.....	Name and address of the manufacturer	.....

Nature of complaint / Quality defect_____

Your obligation: Following market complaint / poor quality medical report for the product in Kenyan market, you are required to provide a comprehensive root cause investigation report to the Pharmacy and Poisons Board NOT later than fourteen (14) days from date of receipt of this notification. The report should include;

a. Details of similar complaints on the product received by your company, both from the Kenyan market and other markets
b. Root cause analysis report
c. Proposed corrective and preventive actions

In the meantime, the Board has initiated market surveillance to determine the extent of the suspected quality defect and public health risk evaluation in view of implementing proportionate and appropriate regulatory actions in order to protect safety and health of the public.

Deputy Director
PRODUCT SAFETY

END OF DOCUMENT