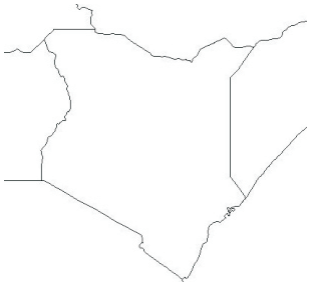
MINISTRY OF MEDICAL SERVICES
AND
MINISTRY OF PUBLIC HEALTH AND SANITATION
KENYA

PHARMACY AND POISONS BOARD

GUIDELINES FOR THE NATIONAL PHARMACOVIGILANCE SYSTEM IN KENYA

FEBRUARY 2009
Second Edition

GUIDELINES FOR THE NATIONAL PHARMACOVIGILANCE SYSTEM IN KENYA



Amongst its many functions as spelt out in the Pharmacy and Poisons Act, Cap 244, Laws of Kenya, the Pharmacy and Poisons Board (PPB) charted out a mission to regulate and control the pharmaceutical services and ensure accessibility, quality, safety and efficacy of human and veterinary medicines and medical devices. With this in mind, the Pharmacy and Poisons Board has developed this guideline for healthcare workers and the public at large on detecting and reporting Adverse Drug Reactions and poor medicinal products.

The purpose of this guideline is to help health workers to participate in the process of continuous surveillance of safety and efficacy of the pharmaceutical products which are used in clinical practice, thus help to achieve the ultimate goal to make safer and more effective treatment available to patients.

This guideline addresses specifically the issues on **what to report, why to report, when to report, where to report and how to report.**

The PPB, in consultation with various stakeholders, will review this guideline and tools periodically, to ensure that they continue to meet the goals of the Pharmacovigilance system.

All users are urged to provide feedback to PPB on the suitability and practicability of these tools.

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Foreword

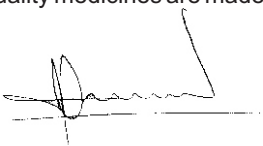
The Pharmacy and Poisons Board was established by an Act of Parliament in 1957 and one of its core mandates is to ensure that the medicines used in the country are of Good quality, safe and efficacious.

Since the enactment of the Act, the pharmaceuticals industry has been growing very fast. To date, over 10,000 products have been registered for the Kenyan market. These medicines despite their obvious benefits can also cause Adverse Drug Reactions (ADR) which can be serious or even fatal. Most often these ADRs are preventable.

Due to our nascent pharmacovigilance system it is true that the actual financial burden on our healthcare system due to treatment of ADRs, hospitalization, lost working days remains unknown but could be huge if the estimates from the countries with developed systems are anything to go by.

The department of Pharmacovigilance at the Pharmacy and Poisons Board has been actively involved in designing tools and guidelines for detection and reporting of ADRs. In December 2007, the Guidelines for the National Pharmacovigilance System in Kenya were developed followed by sensitization of healthcare workers through a national sensitization workshop in Nairobi and through ad hoc meetings as the opportunity arose. Several other tools were also developed concurrently including the form for reporting poor quality medicinal products, suspected ADR reporting form and ADR Alert Card, which have already been printed.

This Guidelines for the National Pharmacovigilance System in Kenya has been developed to complement and support the efforts of educating all healthcare workers on this important concept and enhance our efforts in ensuring that safe, efficacious and quality medicines are made available to all Kenyans.



Dr. K. C. Koskei

Registrar, Pharmacy and Poisons Board

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Acknowledgement

The Pharmacy and Poisons Board is particularly grateful to the following for their contribution in preparing this guideline:

The Ministry of Health (MOH) Kenya
The Division of Malaria Control (DoMC)
The National AIDS and STD Control Program (NASCOP)
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The Kenya Medical Supplies Agency (KEMSA)
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The Pharmaceutical Society of Kenya (PSK)
The Kenyatta National Hospital (KNH)
The School of Pharmacy, University of Nairobi (UoN)
The Health Action International- Africa (HAI- Africa)

Special thanks go to the World Health Organization- Kenya and Harare Country Offices; and Headquarters, Geneva and *the* Uppsala Monitoring Centre, Sweden for their invaluable guidance in developing this guideline.

Acknowledgement is also made to the healthcare professionals trained at the Sensitization Workshop on Pharmacovigilance held by the Pharmacy and Poisons Board for their contribution.

Gratitude is extended to the Chairman, Secretary and all members of the Pharmacy and Poisons Board and its Secretariat who offered valuable contributions towards development and production of this document.

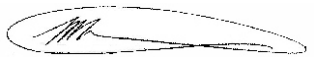
Preamble 1

Pharmacovigilance is the science and activities relating to the detection, assessment, understanding and prevention of adverse events or any other possible drug-related problems with the view to early detection of unknown adverse reactions and interactions, increase in frequency of known adverse reactions and identification of risk factors and possible mechanisms underlying adverse reactions. Medicines have significant benefits to our lives and lead to significant reduction in morbidity and mortality. However, even though they are generally seen as having beneficial effects, all medicines (including their excipients e.g. coloring agents, lubricants, preservatives, etc), have a potential for producing adverse or unwanted effects no matter how skillfully they are used.

The Ministry of Medical Services is charged with the responsibility f ensuring the availability of safe, efficacious and good quality medicines to all Kenyans. To attain the objective, the Ministry of Medical Services, through the Pharmacy and Poisons Board (the National Drug Regulatory Authority in Kenya) has been implementing strategies aimed at ensuring that products used in Kenya are safe, efficacious, of good quality and are supplied and handled by qualified personnel. Safety and efficacy surveillance of medicines has in the past not received the required attention. To address this, the Pharmacy and Poisons Board has developed a Guideline for the National Pharmacovigilance System in Kenya. The pharmacovigilance system is necessary for the prevention of drug - related illnesses, early detection and assessment of adverse drug reactions and to minimize the financial costs associated with preventable adverse events. The role out of a pharmacovigilance system is an indication of the Ministry's commitment to safeguarding the Health of all Kenyans.

The Guideline for the National Pharmacovigilance System in Kenya is to guide healthcare workers on the operations of the pharmacovigilance system. It gives an overview of what pharmacovigilance is, how to detect and classify ADR'S and the structural organization of the system in Kenya. It also describes the reporting system to the National Pharmacovigilance Centre and expected outcomes. The information obtained will guide policy particularly on the inclusion of products into the list for essential drugs and/or standard treatment guidelines.

All healthcare workers are encouraged to actively participate in pharmacovigilance and to report all suspected adverse drug reactions to help safeguard the health of all Kenyans.



Dr. Francis Kimani
Director of Medical Services
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Preamble 2

All medicines have potential risks as well as benefits. The potential risks of medicines came into sharp focus during the thalidomide tragedy of the 1950's in western Europe and North America when babies born to mothers who had taken the medicine for morning sickness presented phocomelia (shortening of the limbs), among other birth defects. The 'thalidomide tragedy' put medicine's regulation into sharp focus and in the following decades, most governments in Europe and North America put in place specific legal safeguards on the safety, quality and efficacy of medicines, heralding the age of pharmacovigilance.

Pharmacovigilance is 'the science and activities relating to the detection, monitoring, assessment, understanding and prevention of adverse effects or any other drug related problems' (WHO). The aim of Pharmacovigilance is to protect public health by identifying, evaluating and minimizing safety issues relating to medicines, to ensure that the overall benefits of medicines outweigh the risks. The focus of Pharmacovigilance is on improving patient care, public health, ensuring a favorable risk/benefit ratio for medicines and educating the professionals and public at large on how to minimize the disease and cost burden attributable to medicines use. The burden of adverse reactions is considerably high. It is estimated, for instance, that in England alone ADRs account for 6.5% of hospital admissions, 4% of hospital bed capacity with a case fatality rate of 0.15%. It is also estimated that 70% of ADRs are avoidable and are caused by commonly used medicines. The burden of ADRs in the developing world where systems for the detecion, assessment and management of ADRs could be even higher.

Pharmacovigilance in resource-limited settings such as Kenya is a challenge, none the less, there are opportunities. With the advent of new molecules for the management of HIV/AIDS, TB and Malaria, and an increasing international donor funding for vertical programs comes the opportunity to set up systems for Pharmacovigilance. Vertical programs, with their focus on patient safety can be used as a learning experience and an entry point into the training in the identification of ADR's, data collection, data processing and analysis. These activities allow for the identification of previously unsuspected adverse reactions particularly in 'special' patient populations such as children and pregnant women, among others. The information collected will provide tools for the effective management of individual patients and protect public health at large. All healthcare workers are encouraged to actively participate in this pharmacovigilance system and to report all suspected adverse drug reactions.

Dr. Shahnaaz Shariff

Ag. Director

MINISTRY OF PUBLIC HEALTH AND SANITATION

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Abbreviations

ACT	Artemisinin based Combination Therapy
ADR	Adverse Drug Reaction
DHMT	District Health Medical Team
DIT	District Investigation Team
DLTLD	Division of Leprosy, Tuberculosis and Lung Disease
DOMC	Division of Malaria Control
DPF	District Pharmacy Facilitator
EDP	Essential Drugs Program
ICH	International Conference on Harmonization
IEC	Information, Education and Communication
MMS	Ministry of Medical Services
MOH	Ministry of Health
MOPHS	Ministry pf Public Health and Sanitation
MPHS	Ministry of Public Health and Sanitation
NASCOP	National Aids and STI Control Program
OTC	Over the counter
PPB	Pharmacy and Poisons Board
PV	Pharmacovigilance
UMC	Uppsala Monitoring Centre
WHO	World Health Organization

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Introduction

With the increasing use of medicines for the management and control of diseases, there has been a mounting need to monitor adverse drug reactions (ADRs), as ADRs have been shown to rank among the top 10 leading causes of mortality in some countries despite the fact that most of the ADRs are preventable. In addition suitable services to treat ADRs impose a high financial burden on health care due to the hospital care of patients with drug related problems. It is therefore of paramount importance that a Pharmacovigilance system be set up to monitor the safety of medicines at all times and at all levels of the health care system.

How are ADRs classified?

A classification of ADRs reveals how they are related and draws attention to the common factors involved in the cause of reactions within the same group, thus enabling similar steps to be taken to treat or prevent them. Adverse Drug Reactions are categorized as either Type A or Type B reactions in this method of classification.

Type A (augmented) adverse drug reactions

These reactions are the result of an exaggerated, but otherwise normal pharmacological action of a drug given in the usual therapeutic doses.

Type A reactions are largely predictable on the basis of a drug's known pharmacology.

They are usually dose-dependant and although their incidence and morbidity in the community is often high their mortality is generally low.

- Examples include bradycardia with -adrenoceptor antagonists, haemorrhage with anticoagulants, or drowsiness with benzodiazepine anxiolytics.

Type B (bizarre) adverse drug reactions

These reactions are totally aberrant effects that are not to be expected from the known pharmacological actions of a drug when given in the usual therapeutic doses to a patient whose body handles the drug in a normal way.

They are usually unpredictable and are not observed during conventional pharmacological and toxicological screening programmes.

Although their incidence and morbidity are low, their mortality may be high.

- Examples include malignant hyperthermia of anaesthesia, acute porphyria, and many immunological reactions.

What is pharmacovigilance?

WHO defines Pharmacovigilance as the science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other medicine-related problem.

What is the importance of pharmacovigilance?

The information collected during the pre-marketing phase of drug development is inevitably incomplete with regard to possible ADRs. This is mainly because:

Tests in animals are insufficient to predict human safety;

Patients used in clinical trials are selected and limited in number, the conditions of use differ from those in clinical practice and the duration of trials is limited;

By the time of licensing a product, exposure of less than 5000 human subjects to a drug allows only the more common ADR to be detected;

At least 30,000 people need to be treated with a drug to be sure that you do not miss at least one patient with an ADR which has an incidence of 1 in 10,000 exposed individuals;

Information about rare but serious adverse reactions, chronic toxicity, use in special groups (such as children, the elderly or pregnant women) or drug interactions is often incomplete or not available; Thus, post-marketing surveillance is important to permit detection of less common, but sometimes very serious ADRs.

Therefore health professionals worldwide should report on ADRs as it can save lives of their patients and others.

What are the goals of pharmacovigilance?

The ultimate goals of Pharmacovigilance are:

The Rational and safe use of medicines

The assessment and communication of the risks and benefits of drugs on the market

Educating and informing patients on safety of medicines

What are the objectives of the pharmacovigilance system?

The objectives of Pharmacovigilance are to:

1. Improve patient care and safety in relation to the use of medicines and all medical and paramedical interventions,
2. Improve public health and safety in relation to the use of medicines,
3. Detect problems related to the use of medicines and communicate the findings in a timely manner,
4. Contribute to the assessment of benefit, harm, effectiveness and risk of medicines, leading to the prevention of harm and maximization of benefits,
5. Encourage the safe, rational and more effective (including cost effective) use of medicines,
6. Promote understanding, education and clinical training in Pharmacovigilance and its effective communication to the public.

Establishment of the pharmacovigilance system

The National Pharmacovigilance System in Kenya will be established as follows:

Where will the National Pharmacovigilance Centre be located?

1. The National Pharmacovigilance Centre (NPC) will be based within the Pharmacy and Poisons Board (PPB), located on Lenana Road, Nairobi.
2. A panel of experts (Expert Safety Review Panel) under the PPB will provide technical expertise to the PV system, and make appropriate recommendations to the Registrar. Specific Terms of References (TORs) for the ESRP will be developed.

Who should report ADRs?

All health care professionals/workers, including clinicians, pharmacists, dentists, nurses, traditional medicine practitioners and the public at large are encouraged to report.

What is to be reported?

- ❖ Report all suspected adverse reactions to allopathic (modern) medicines, traditional/alternative/herbal medicines, x-ray contrast media, medical devices and cosmetics.
- ❖ Report product quality problems such as:

- Colour change
- Separating of components
- Powdering / crumbling
- Caking
- Moulding
- Change of odour
- Mislabeling

- Incomplete pack
- Suspected contamination
- Questionable stability
- Defective components
- Poor packaging / poor labeling
- Therapeutic failures
- Receiving expired medicines

What will the pharmacovigilance system cover?

The pharmacovigilance system will cover the entire country. This includes: the public, private and NGO / Mission healthcare providers in all parts of the country to cover:

- All levels of healthcare, including the community based health care providers
- All medicines used in the country
- All disease conditions encountered in the country
- All cadres and disciplines of healthcare workers
- Any individual resident in Kenya, suspecting a reaction to a medicine

The pharmacovigilance system will work closely with other Minisry departments and programs, various organizations and institutions, to develop an effective feedback mechanism that serves the patient safety needs of the healthcare system. The PPB will endeavour to develop close links and to harmonize with other pharmacovigilance systems in the region, particularly within the East Africa Community (EAC) and COMESA.

What happens to my reported ADRs?

1. The information obtained from your report will be used to promote safe use of medicines in the local, national and international levels.
2. The report you submit will be entered into the national database of adverse drug reactions and be analyzed by expert reviewers on a regular basis.

A well - completed and duly submitted ADR reported by you may result in:

Additional investigations into the use of the medicine in Kenya

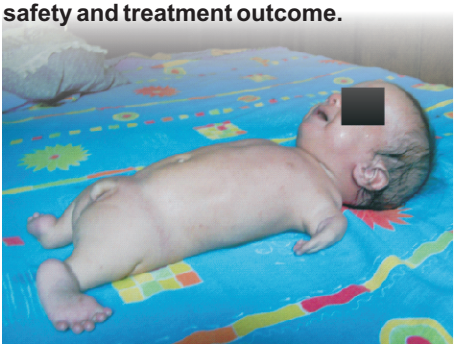
Appropriate changes in the package insert

Change the schedule of the medicine

Enhancing educational initiatives to improve the safe use of that medicine

Other regulatory and health promotion interventions as the situation may warrant including withdrawal / recall.

Thus, the ultimate purpose of ADR reporting and monitoring is to reduce risks associated with drug prescribing and administration and improve patient care, safety and treatment outcome.



Thalidomide induced phocomelia - *Birth - defects where babies are born without limbs or with serious deformities*

What are the benefits of these reports for my patients and me?

The health care provider and patient stand to benefit as:

- Improvement on the quality of care offered to patients
- Reduction of drug related problems leading to better treatment outcome
- Improved patient confidence in professional practice, hence professional growth
- Improved knowledge
- Access to feedback information on drug related problems reported within the country and internationally
- Satisfaction for the fulfillment of a moral and professional obligation

Will reporting have any negative consequences on me?

The adverse drug reaction report **does not** constitute an admission that you or any other health professional or the drug contributed to or caused the event in any way.

The outcome of the report, together with any important or relevant information relating to the reaction you have reported, will be communicated to you as appropriate.

The details of your report are stored in a confidential database at the Pharmacy and Poisons Board and the analyzed report will be sent to the Uppsala Monitoring Center (UMC).

The names of the reporters or any other health professionals named on the report and the patient will be removed before any details about a specific adverse drug reaction is used or communicated to others.

The information obtained from your report will not be used for commercial purposes. It is only meant to improve our understanding and use of medicines in Kenya.

Why are health professionals in the best position to detect and report on ADRs?

The effectiveness of a National Pharmacovigilance Program is directly dependent on the active participation of health professionals. They are in the best position to report suspected ADRs observed in their everyday patient care, because they are the people who diagnose, prescribe, dispense and monitor patients' response to the medicines.

All healthcare providers should report ADRs as part of their professional responsibility, even if doubtful about the precise relationship with the given medication.

You can reduce suffering and Save thousands of patients' lives by doing just one thing: **REPORTING ALL SUSPECTED ADVERSE DRUG REACTIONS including lack of effect.**

How do I recognize ADRs in my patient?

ADRs are difficult and sometimes impossible to distinguish from the disease being treated since they may act through the same physiological and pathological pathways. However, the following approach is helpful in assessing possible drug-related ADRs:

a. Take a proper history and do a proper examination of patient

A full drug and medical history should be taken

An ADR should be your first differential diagnosis at all times!

Ask if this adverse reaction can be explained by any other cause e.g. patient's underlying disease, other drugs including over-the-counter medicines or traditional medicines, toxins or foods

It is essential that the patient is thoroughly investigated to decide what the actual cause of any new medical problem is

A drug-related cause must be considered, especially when other causes do not explain the patient's condition

b. Establish time relationships by asking and answering the following questions:

Did the ADR occur immediately following the drug administration?

Some reactions occur immediately after the medicine has been given while others take time to develop. The time from start of therapy to the time of onset of the suspected reaction must be logical.

c. Carry out a thorough physical examination with appropriate laboratory investigations if necessary:

Remember: only a few drugs produce distinctive physical signs

Exceptions include fixed drug eruptions, steroid-induced dermal atrophy, acute extra-pyramidal reactions

Laboratory tests are important if the drug is considered essential in improving patient care or if the laboratory tests results will improve management of the patient.

Try to describe the reaction as clearly as possible- Where possible, provide an accurate diagnosis

d. Effect of Dechallenge and Rechallenge should be determined

Dechallenge (withdrawal of the suspected drug)

Positive dechallenge is the improvement / resolution of ADR when the suspected drug is withdrawn in a strong, though not conclusive indication of drug-induced reaction.

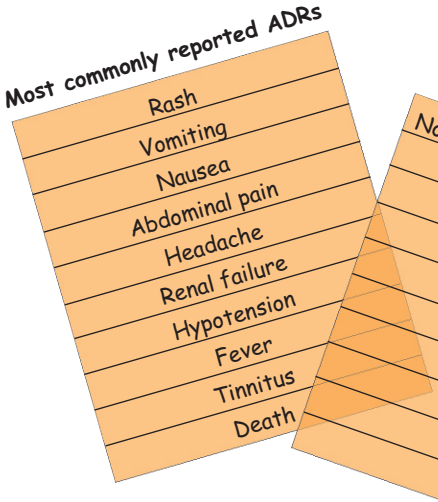
Rechallenge (re-introducing the suspected drug after a dechallenge)

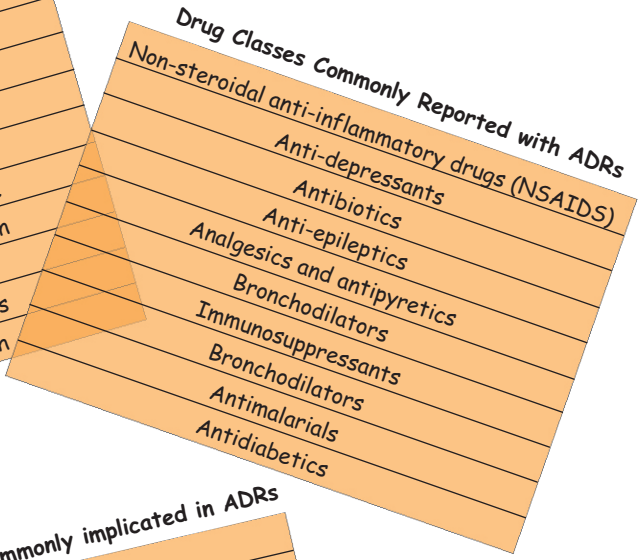
Rechallenge is only justifiable when the benefit of reintroducing the suspected drug to the patient overweighs the risk of recurrence of the reaction, which is rare. In some cases the reaction may be more severe on repeated exposure. **Rechallenge requires serious ethical considerations.**

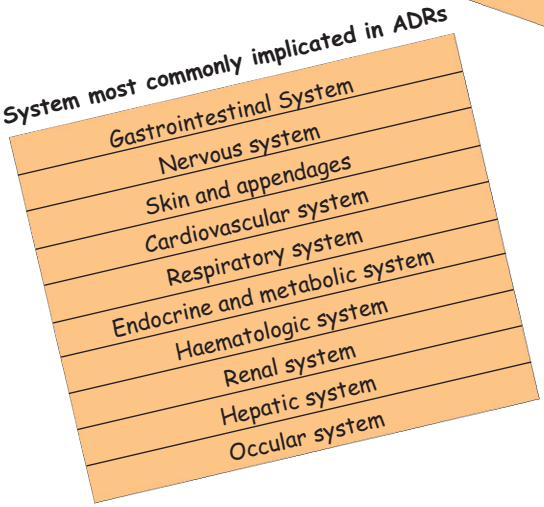
e. Check the known pharmacology of the medicine

Check if the reaction is known to occur with the particular suspected drug as stated in the package insert or other reference.

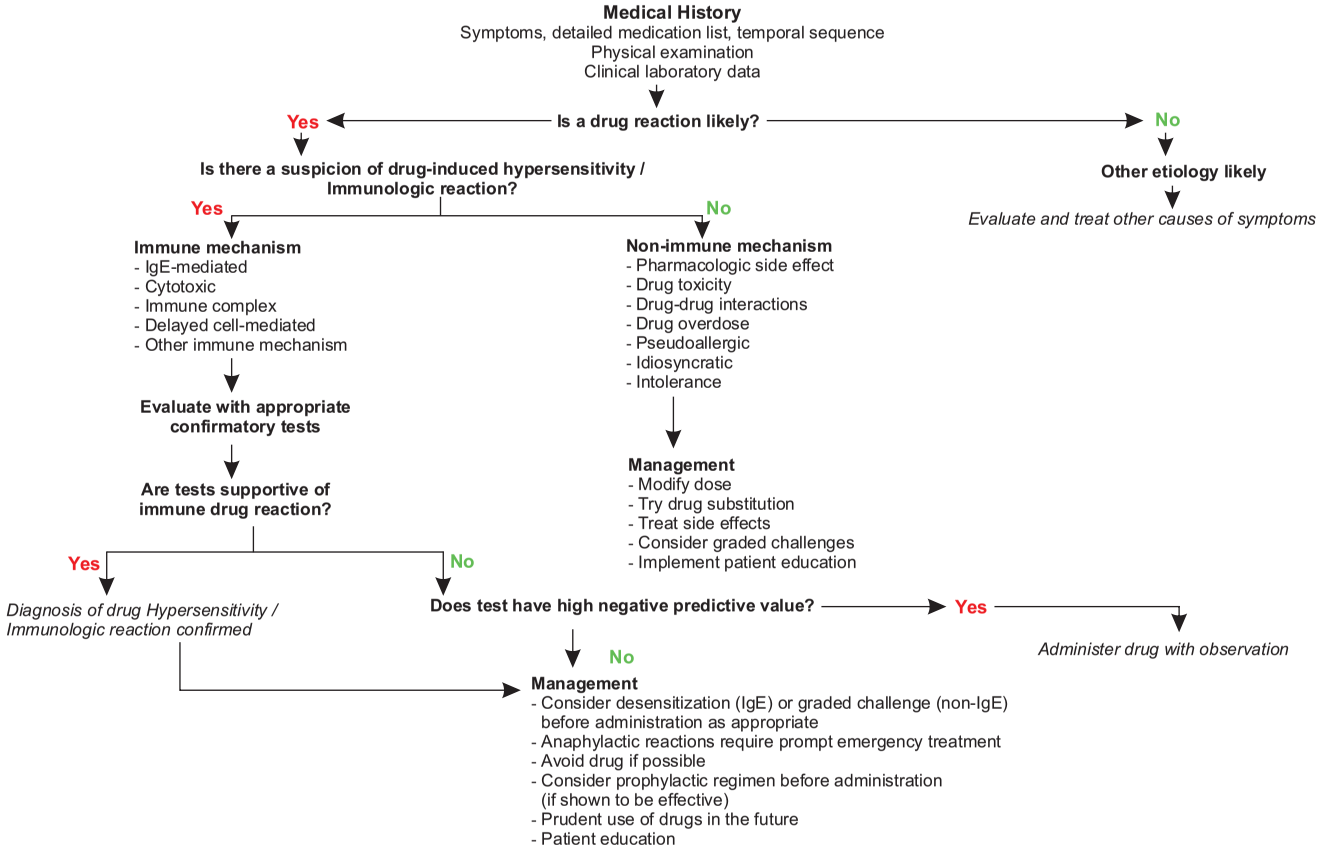
Remember: if the reaction is not documented in the package insert, it does not mean that the reaction cannot occur with that particular suspected medicine.







Suspecting Adverse Drug Reactions



Structure and Flow of Information

1. The PV Centre will link to the national health system through the District Health Management Team (DHMT), specifically the District Pharmacy Facilitator (DPF).
2. The DHMT may be required at times to form a district investigation team to investigate 'signals' and reports of ADRs in consultation with the PPB.
3. You are asked to **report ALL suspected adverse experiences with medications**, especially those where the patient outcome is:

   Death

   Life-threatening (real risk of dying)

   Hospitalization (initial or prolonged)

   Disability (significant, persistent or permanent)

   Congenital anomaly

   Required intervention to prevent permanent impairment or damage

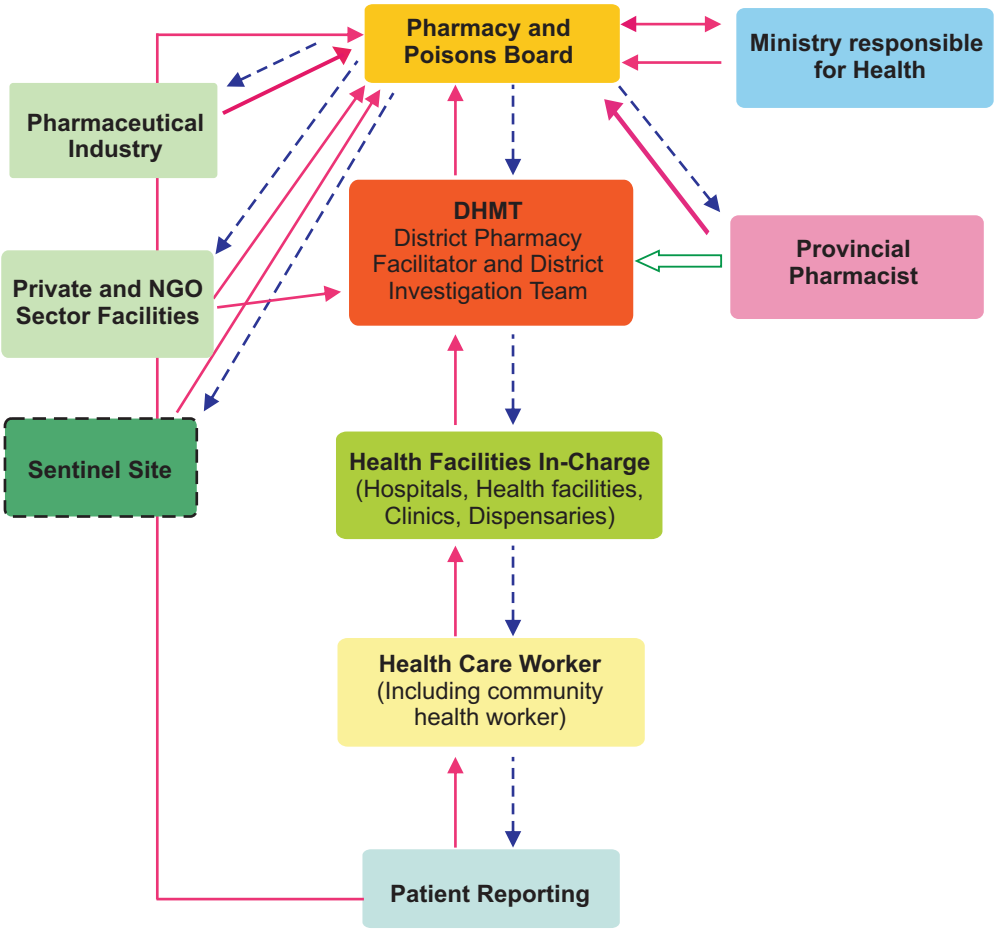
   Report even if:

   You are not certain if the drug caused the reaction

   You do not have all the details.

   4. In the public and mission sectors, health facilities will forward their reports to the DPF, who will forward them to the PPB.
5. The NGO and private sectors would report either to DPF or directly to PPB.
6. The provincial pharmacist shall oversee the entire system to ensure that it runs smoothly and shall also provide necessary supervision and training to the districts.
7. Specific sentinel sites/systems will be established, as required under authority of the PPB, to carry out any or all of the following:
   - Detailed investigations to gather specific data
   - Specific pharmacoepidemiology studies /analysis
   - Verification of specific reports / claims.
8. The data received will be entered and analysed at the National Pharmacovigilance Centre at the PPB, supported by the Expert Safety Review Panel (ESRP).
9. The Pharmacy and Poisons Board will review the reports received from all sources, and advise on or take the appropriate action.
10. Feedback to all levels of the system will be the responsibility of PPB.
11. The PV system will be based on the WHO data collection software *'Vigiflow'*, which will be adapted as appropriate to meet the needs of the system.
12. The PV system will be linked to the WHO Monitoring Centre for ADRs, based in Uppsala, Sweden.

Flow of Information



Tools for Pharmacovigilance

This pharmacovigilance guideline provides the standard process for managing the pharmacovigilance system, and provides, in the annexes, the basic tools prescribed by PPB. These include:

1.	Suspected Adverse Drug Reaction Notification Form	*Annex 1*
2.	ADR Severity Assessment Scale	*Annex 2*
3.	Causality Assessment Scale	*Annex 3*
4.	Patient Alert Card	*Annex 4*
5.	Criteria for issue of a Patient Alert Card	*Annex 5*
6.	Poor Quality Medicinal Product Reporting Form	*Annex 6*
7.	Checklist for investigation procedure by DIT	*Annex 7*
8.	Definitions in Pharmacovigilance	*Annex 8*

The Suspected ADR Notification Form *(Annex 1)* is the tool by which all suspected ADRs shall be reported. It has been designed to be short, simple and easy to fill and at the same time be able to collect important details pertaining to the suspected ADR. The form shall be the principle tool to collect data and for all reference purposes.

The severity of a reaction shall be judged according to the: **ADR Severity Assessment Scale** *(Annex 2)*. This scale categorizes each ADR broadly into 'Mild', 'Moderate' and 'Severe' and 'Fatal'.

The assessment of causality in a report is made easy using a **Causality Assessment Scale** (*Annex 3*), which is a structured tool for determining the likelihood of a causal relationship between drug exposure and adverse events. The four main considerations incorporated in a scale are:

The association in **time** between drug administration and event

Pharmacology - including current knowledge of nature and frequency of adverse reactions

Medical or pharmacological **plausibility**- signs and symptoms, laboratory tests, pathological findings, mechanism

Likelihood or **exclusion** of other causes

Thus, with causality assessment, we can assess various levels of certainty whether a suspected drug has indeed caused a specific adverse drug reaction.

The **Patient Alert Card** *(Annex 4)* is a card that alerts all health care professionals that the bearer of the card has experienced a serious ADR. The card also helps the patient to learn of his or her serious ADR. The card is expected to be carried by the patient at all times on him- or herself and be presented to his clinician, dentist, nurse, pharmacist, community health worker at the time of consultation. This will help the health care professionals identify the patient's drug-related co-morbidity and prevent the same (or similar) drug reactions.

The issue of an Alert Card is based on the **Criteria for issue of a Patient Alert Card** *(Annex 5).*

The **Poor Quality Medicinal Product Reporting Form** *(Annex 6)* is a mechanism by which institutions and health care professionals can alert the Pharmacy and Poisons Board of problems encountered with the medicines supplied to or used by them. The form has been designed to incorporate the most common pharmaceutical problems encountered and assist the PPB in addressing the same.

The **Checklist for Investigation Procedure by DIT** *(Annex 7)* has been designed to be a quick reference for the District Investigation Team to help gather more pertinent information regarding a specific suspected ADR. This way, all necessary data will be collected and further research can be carried out.

Some common words and **Definitions In Pharmacovigilance** *(Annex 8)* have also been listed for ease of understanding.

All health care professionals are encouraged to use these tools as indicated and continuously provide positive criticisms on their improvement to the PPB.

The PPB, in consultation with various stakeholders, will review these guidelines and tools periodically, to ensure that they continue to meet the goals of the PV system. Users are urged to provide feedback to PPB on the suitability and practicability of these tools.

ADR monitoring within the pharmacovigilance system

Monitoring of Adverse Drug Reactions will occur at all levels:

1. Individual patients who suspect a reaction to a medicine or other substance, will report to the nearest health care provider
2. Patients may also call PPB directly, through a dedicated number
3. At all health facilities, healthcare workers shall provide the necessary treatment to patients suspected of having an ADR
4. The healthcare worker shall record details of the suspected ADR on the ADR notification form, and forward the report to the facility in-charge
5. The facility in-charge shall forward the forms on a weekly basis to the DHMT / DPF
6. The DPF consolidates the ADR notification forms received from the district, and forwards them to the PPB every two weeks or on an *ad hoc* basis in an emergency
7. The PPB shall receive all ADR reports and enter them into the PV database. A report will be forwarded to the PV Expert Review Panel for technical analysis and appropriate recommendations
8. The PPB shall provide appropriate feedback to the DHMT / DPF
9. The PPB shall initiate any follow-up investigations in conjunction with DHMT/District Investigation Team

Roles and Responsibilities

The entire system of pharmacovigilance works with the support of each healthcare provider, the regulatory bodies, the pharmaceutical industry, other stakeholders and the public at large. Hence, each of these have an important role to play and responsibility to bear:

Patient / Public

Patients to report any unacceptable, unexpected or suspected adverse effect of medicine dispensed to them.

Health Care Worker

Patient awareness of possible serious reactions, and development of a culture to report reactions to clinics, will be essential for any pharmacovigilance system. Health facility staff provides an essential link in the detection of ADRs at the periphery of the health care system. The healthcare worker's roles in the PV system are:

1. Patient education
2. Detection and appropriate clinical management
3. Reporting
4. Documentation- to maintain accurate documents
5. Investigation, where necessary
6. Patient feedback

DHMT - District Pharmacy Facilitator (DPF)

1. Receive reports from health centres and send ADR reports from district to PPB on a monthly / weekly basis or on an ad hoc basis in an emergency.
2. Facilitate investigations initiated by PPB, where necessary.

Provincial Pharmacist

The two most important roles of the provincial pharmacist are:

1. Co-ordinate all activities of pharmacovigilance in the province
2. Training of all provincial healthcare staff.

District Investigation Team

The District Investigation Team (DIT) plays a central role in monitoring ADR's. The team ideally will comprise of clinicians, pharmacists as well as the head nurse or matron of the facility. They are responsible for following-up routinely all suspected ADRs reported from all health facilities within their district. They also play an important role in the collaboration and encouragement of reporting by hospital staff. Detailed follow-up of suspected drug reactions would be used to define causality.

The DIT team *coordinator*, will coordinate the investigations, report to the PPB, and contribute to public education on drug safety. They hence will:

1. Investigate suspected ADR reports from within the district with support from PPB
2. Follow up suspected drug reactions and ensure appropriate clinical management
3. Provide relevant reports to PPB.

The findings of investigations and the conclusions of the expert review panel (see below) in terms of causality and actions to be taken will be fed back to the reporters and patients by the DIT or other designated individuals.

Pharmacy & Poisons Board (PPB)

Once recommendations are received from the expert panel, the PPB will take responsibility for any regulatory action with respect to the implicated medicinal product/s. These actions will be officially communicated to the drug manufacturers, who have liability for the drug. The PPB will:

1. Receive reports from DPFs and other sources
2. Develop and maintain ADR database
3. Detect ADR signals and take necessary action on received reports
4. Support DIT to investigate relevant ADR reports
5. Send ADR reports to UMC
6. Provide feedback to the users on reported ADRs through quarterly newsletters
7. Establish and provide secretariat for the Expert Safety Review Panel
8. Advocacy, Training and Education
9. Provide support to whole system (DPF and health facilities)
10. Communication / IEC
11. Implement appropriate regulatory framework.

Expert Safety Review Panel

The national expert safety review panel will consist of the national coordinator, a clinical pharmacologist, a physician, a pharmacoepidemiologist, an obstetrician, a paediatrician and a pharmacist. Moreover:

1. The Panel will review all ADR Report Forms and conduct causality assessments
2. Any additional investigations required by the panel or decisions made will be communicated to the DIT by PPB

Any conclusions and recommendations arising from the assessment of such reports by the expert safety review panel shall be reported to the relevant departments / programs within the Ministries (e.g. malaria control program, National AIDS and STI control program, TB program etc); the DIT and the health facilities involved and the patient (where appropriate).

Public Heath Programs (DOMC, NASCOP, DLTLD etc.)

1. Provide public information during the launch of new drug regimens
2. Take responsibility for ensuring training of health facility staff in use of new drugs
3. When necessary, program members may be called upon by the PPB and Expert Safety Review Panel in determining the risk-benefit assessment of suspect drugs, in order to update treatment guidelines and initiate new training and communications to health providers and the general public.
4. Resource mobilization
5. Ad hoc members of Expert Safety Review Panel
6. Education, training and advocacy.

Pharmacovigilance Sentinel Sites

It is recognized that the National Pharmacovigilance System will collect, as a passive method, a wide variety of data on ADRs. However, some specific '*programmatic*' interests may not be met. Therefore sentinel sites maybe chosen for active data collection, its analysis, interpretation and investigation into specific drug - related

outcomes. By nature of this event case control studies and other methods maybe required to collect relevant information.

The protocols for such sentinel sites will be developed in conjunction with PPB, and where necessary gain the necessary scientific ethical clearance and consent of approved Ethics Committees, Institutional Review Boards and the Expert Committee on Clinical Trials (ECCT) at the PPB.

The data will be made freely available, on a regular basis, to the Department of Pharmacovigilance at the PPB. The Pharmacy and Poisons Board remains responsible for all aspects of pharmacovigilance but may work with an appropriate partner to set up relevant sentinel sites.

Technical Support

1. Technical support for design and implementation of the PV system will come from WHO, MSH, DIFD, USAID, Clobal Fund and other stakeholders.
2. The Uppsala Monitoring Centre (UMC), the WHO Collaborating Centre for International Drug Monitoring will be contacted to provide methodological support, analyses rates and risk-benefit profiles, and will inform the National Pharmacovigilance Centre of signals.
3. The World Health Organization will support international expert panels to review periodically the safety profile of all medicines and provide technical guidance and possibly training support to national programs.

Pharmaceutical Industry

Drug manufacturers have a responsibility to share post-marketing surveillance data and periodic safety update reports with public sector agencies. They may also be called upon to meet the costs of specific investigations and/or regulatory actions affecting their products. Hence, they:

1. Provide information to PPB on ADRs
2. Implement directives of the PPB
3. Fund Pharmacovigilance activities and other investigations on their products.

Training, Roll-out and Capacity Building

Staff working at peripheral health facilities require training on the PV system. Adverse drug reactions are not well understood and, in many countries, are seldom detected. Attention to monitoring also may be neglected, and thus staff need to be made aware that ADR monitoring is a part of good clinical practice. Training and capacity building is required to ensure that staff understand new prescribing practices for new drugs, the correct dosage regimen, and how treatment failures are defined. Alongside this, they need to be taught to detect ADRs, know where to refer the patients, and accurately complete the ADR report form. Clinical guidance for improved recognition of adverse reactions is required. Staff will need to feel confident in reporting and assisting the District Investigation Team. Motivation to continue monitoring over a longer time period may lapse and the PV system may require introduction of incentives together with training to sustain the activities. Common concerns and barriers to reporting by health care personnel will need to be addressed and clarified in such training activities (e.g. fear of blame etc).

In the initial stage the training is planned as:

a. A rapid cascade followed by a continuous training (with other training programs to reach out to all) for:
    1. Provincial Pharmacists
    2. Clinicians
    3. Pharmacists/ pharmaceutical technologists
    4. Nurses
    5. Clinical officers
b. Mission sector to carry out its own training, under supervision and collaboration of the PPB
c. PPB will achieve this with various programs as the system:
    i. Will be integrated with other on-going training in the sector
    ii. Should be inculcated into pre-service training of health care workers at all levels
    iii. Will use Continuous Medical Education (CME) programs through professional associations.

Basic principles of efficient reporting

- In-time reporting

  Report the suspected adverse drug reaction as soon as it occurs- the report involves less work and is more accurate

  Send the report quickly to the Pharmacy and Poisons Board

- Strong suspicion and follow-up

  Continue your strong suspicion of the drug-induced illness in the same patient and in other patients

  Keep a vigil for signs and symptoms that may now enhance or exclude the possibility of a drug induced event

  All follow - up / supplementary information should be documented and submitted to the Pharmacy and Poisons Board with "FOLLOW - UP REPORT" clearly indicated on the top right corner of the form.

  Make sure that the patient names and IP / OP numbers are the same.

  It is very important that follow-up reports are accurately identified and linked to the original report.

- Accuracy and completeness

  Ensure that each reported Suspected ADR Reporting Form is filled in accurately and with all the necessary information, as much as is available to you. This is very important for assessing the causality of the drug to have caused that reaction.

  The 5 basic components that make a report reliable are:

  - ✓ An identifiable source of information
  - ✓ An identifiable patient
  - ✓ An identifiable drug
  - ✓ An identifiable suspected drug reaction
  - ✓ A logical time-response relationship

  If the above information is missing, the report may not be useful

  Remember to fill in all information accurately and in clear legible writing

{Annex 1 (Front side)}

PV 1

MINISTRY OF HEALTH
THE PHARMACY AND POISONS BOARD
P. O. Box 27663-00506 NAIROBI
Tel: (020)-2716905 / 6 Ext 114 Fax: (020) 2713431/2713409.
Email: pv@pharmacyboardkenya.org

IN CONFIDENCE

☐ Initial Report
☐ Follow-up Report

SUSPECTED ADVERSE DRUG REACTION REPORTING FORM

NAME OF INSTITUTION: ..... **INSTITUTION CODE:** .....

ADDRESS: ..... **CONTACT:** .....

****

PATIENT'S NAME/ INITIALS: ..... **IP/OP. NO.:** ..... **D.O.B:** .....

PATIENT'S ADDRESS: ..... **WARD/CLINIC:** ..... (Name/Number) **GENDER:** ☐ Male ☐ Female

ANY KNOWN ALLERGY: ☐ No ☐ Yes (specify) .....

PREGNANCY STATUS: ☐ Not Pregnant ☐ 1st Trimester ☐ 2nd Trimester ☐ 3rd Trimester

WEIGHT (kg): .....

HEIGHT (cm): .....

DIAGNOSIS: (What was the patient treated for).....

.....

BRIEF DESCRIPTION OF REACTION: .....

.....

.....

LIST OF *ALL* DRUGS USED IN THE LAST 3 MONTHS PRIOR TO REACTION (include OTC and herbals){use rear side of this form for additional drugs}	DOSE	ROUTE AND FREQUENCY	DATE STARTED	DATE STOPPED	INDICATION	TICK (✓) SUSPECTED DRUG(S)
1						
2						
3						
4						
5						

SEVERITY OF THE REACTION: (Refer to scale overleaf)
- ☐ Mild
- ☐ Moderate
- ☐ Severe
- ☐ Fatal
- ☐ Unknown

ACTION TAKEN:
- ☐ Drug withdrawn
- ☐ Dose increased
- ☐ Dose reduced
- ☐ Dose not changed
- ☐ Unknown

OUTCOME:
- ☐ Recovering / resolving
- ☐ Recovered / resolved
- ☐ Requires or prolongs hospitalization
- ☐ Causes a congenital anomaly
- ☐ Requires intervention to prevent permanent damage
- ☐ Unknown

CAUSALITY OF REACTION: (Refer to scale overleaf)
- ☐ Certain
- ☐ Probable / Likely
- ☐ Possible / Unlikely
- ☐ Conditional / Unclassified
- ☐ Unassessable / Unclassifiable

ANY OTHER COMMENT: .....

.....

NAME OF PERSON REPORTING: .....**DATE:** .....

E-MAIL ADDRESS: .....**PHONE NO.** .....

DESIGNATION: .....**SIGNATURE:** .....

You need not be certain ... just be suspicious !

Your support in this Pharmacovigilance program is appreciated.
Submission of a complaint 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 programme staff 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

EXPLANATORY NOTES

CONFIDENTIALITY
All information collected in this form, identities of the reporter and patient, will remain confidential

WHAT TO REPORT
An Adverse Drug Reaction (ADR) is defined as a reaction that is noxious and unintended, and occurs at doses normally used in man for prophylaxis, diagnosis or treatment of a disease, or for modification of physiological function.

Report all suspected adverse experiences with medications,
especially those where the patient outcome is:

- Death
- Life-threatening (real risk of dying)
- Hospitalization (initial or prolonged)
- Disability (significant, persistent or permanent)
- Congenital anomaly
- Required intervention to prevent permanent impairment or damage

Report even if:

- You are not certain if the drug caused the reaction
- You do not have all the details

WHO CAN REPORT
All healthcare professionals (clinicians, dentists, nurses, pharmacists, physiotherapists, community health workers etc) are encouraged to report. Patients (or their next of kin) may also report.

WHAT HAPPENS TO THE SUBMITTED INFORMATION
All information submitted is handled in strict confidence. The Pharmacy and Poisons Board will assess causality and statistical analysis on each form. Data will periodically be used for review and suggest any interventions that may be required to the Ministry of Health. Data will also be submitted periodically to the Uppsala Monitoring Centre - the WHO Collaborating Center for International Drug Monitoring in Sweden.

SUBMISSION OF INITIAL OR FOLLOW-UP REPORTS
It is important to tick the appropriate box on the top-right corner of the front page to indicate whether the report is an initial (original) report or is a follow-up (subsequent) report.
It is very important that follow-up reports are identified and linked to the original report.

WHERE TO REPORT
After completing this form, please forward the same to your Pharmacy Department for onward submission, or mail directly, to:

THE PHARMACY AND POISONS BOARD
Lenana Road.
P. O. Box 27663-00506 NAIROBI
Tel: (020)-2716905 / 6 Ext 114 Fax: (020)-2713431/2713409
E-mail: pv@pharmacyboardkenya.org

Please use the space provided below for any further information. You may attach more pages to this form if required.

LIST OF ALL DRUGS USED IN THE LAST 3 MONTHS PRIOR TO REACTION (include OTC and herbals)	DOSE	ROUTE AND FREQUENCY	DATE STARTED	DATE STOPPED	INDICATION	TICK (√) SUSPECTED DRUG(S)
6						
7						
8						
9						
10						

Criteria for Assessment of Severity of an ADR

Mild	• The ADR requires no change in treatment with the suspected drug • The ADR requires that the suspected drug be withheld, discontinued or otherwise changed. No antidote or other treatment is required • No increase in length of stay.
Moderate	• The ADR requires that the suspected drug be withheld, discontinued or otherwise changed, and/or an antidote or other treatment is required. • Increases length of stay by at least one day • The ADR is the reason for admission.
Severe	• The ADR requires intensive medical care • The ADR causes permanent harm to the patient
Fatal	• The ADR either directly or indirectly leads to the death of the patient

WHO-UMC Causality Assessment Scale

Causality Term	Assessment
Certain	• Event of laboratory test abnormality, with plausible time relationship to drug intake • Cannot be explained by disease or other drugs • Response to withdrawal plausible (pharmacologically, pathologically) • Event definitive pharmacologically or phenomenologically *(i.e an objective and specific medical disorder or a recognized pharmacological phenomenon)* • Rechallenge satisfactory , if necessary.
Probable / Likely	• Event or laboratory tests abnormality, with reasonable time relationship to drug intake • Unlikely to be attributed to disease or other drugs • Response to withdrawal clinically reasonable • Rechallenge not required
Possible	• Event or laboratory tests abnormality, with reasonable time relationship to drug intake • Could also be explained by disease or other drugs • Information on drugs withdrawal lacking or unclear
Unlikely	• Event or laboratory tests abnormality, with a time to drug intake that makes a relationship improbable (but not impossible) • Disease or other drugs provide plausible explanations
Conditional/ Unclassified	• Event or laboratory test abnormality • More data for proper, assessment needed or • Additional data under examination
Unassessable/ unclassifiable	• Report suggesting an adverse reaction • Cannot be judged because of insufficient or contradictory information • Data cannot be supplemented or verified.

Your support in this Pharmacovigilance program 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 programme staff 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

{Annex 2}

ADR SEVERITY ASSESSMENT SCALE

The severity of a reaction shall be judged according to the: "ADR Severity Assessment Scale". This scale categorizes each ADR broadly into 'Mild', 'Moderate' and 'Severe', and 'Fatal'

Criteria for Assessment of Severity of an ADR

MILD

The ADR requires no change in treatment with the suspected drug

The ADR requires that the suspected drug be withheld, discontinued or otherwise changed. No antidote or other treatment is required

No increase in length of stay.

MODERATE

The ADR requires that the suspected drug be withheld, discontinued or otherwise changed, and/or an antidote or other treatment is required.

Increases length of stay by at least one day

The ADR is the reason for admission.

SEVERE

The ADR requires intensive medical care

The ADR causes permanent harm to the patient

FATAL

The ADR either directly or indirectly leads to the death of the patient.

{Annex 3}

CAUSALITY ASSESSMENT CARD

Causality term	Assessment criteria
Certain	Event or laboratory test abnormality, with plausible time relationship to drug intake Cannot be explained by disease or other drugs Response to withdrawal plausible (pharmacologically, pathologically) Event definitive pharmacologically or phenomenologically (i.e. an objective and specific medical disorder or a recognized pharmacological phenomenon) Rechallenge satisfactory, if necessary
Probable / Likely	Event or laboratory test abnormality, with reasonable time relationship to drug intake Unlikely to be attributed to disease or other drugs Response to withdrawal clinically reasonable Rechallenge not required
Possible	Event or laboratory test abnormality, with reasonable time relationship to drug intake Could also be explained by disease or other drugs Information on drug withdrawal may be lacking or unclear
Unlikely	Event or laboratory test abnormality, with a time to drug intake that makes a relationship improbable (but not impossible) Disease or other drugs provide plausible explanations
Conditional / Unclassified	Event or laboratory test abnormality More data for proper assessment needed, or Additional data under examination
Unassessable / Unclassified	Report suggesting an adverse reaction Cannot be judged because information is insufficient or contradictory Data cannot be supplemented or verified

{Annex 4}

MINISTRY OF HEALTH
PHARMACY AND POISONS BOARD
LENANA ROAD, NAIROBI P.O. BOX 27663 - 00506
TEL: (020) 2716905/6 Ext 114 Fax: (020)-2713431 / 2713409

PV 4

ADVERSE DRUG REACTION ALERT CARD

PATIENT NAME: .....

AGE: ..... **GENDER:** .....

DATE ISSUED: ..... **ADDRESS:** .....

SUSPECTED DRUG(S): .....

DESCRIPTION OF REACTION: .....

Other comments (if any): .....

.....

Tafadhali hakikisha umebeba kadi hii kila wakati. Kumbuka kumwonyesha mhudumu wa afya kadi hii unapo pata matibabu

Please carry this card with you at all times and remember to produce it to your health care professional at each time of consultation.

{Annex 5}

CRITERIA FOR ISSUE OF A PATIENT ALERT CARD

The criteria for issue of the Patient Alert Card is as follows:

The alert card is given to:

- Patients who are hypersensitive / allergic / intolerant to a particular drug
- Patients who developed a 'near-fatal' reaction to any particular drug
- Patients who had a drug-induced morbidity to any drug
- Patients who had hospital admission due to an ADR to any drug
- Patients who developed an ADR which caused increase in the health care expenditure

{Annex 6 (Rear side)}

PV 6

MINISTRY OF HEALTH
PHARMACY AND POISONS BOARD
DEPARTMENT OF PHARMACOVIGILANCE

IN CONFIDENCE

FORM FOR REPORTING POOR QUALITY MEDICINAL PRODUCTS

Name of Facility | District Name | Province Name

Facility Address | Facility Telephone

PRODUCT IDENTITY

Brand Name				Generic Name			
Batch/Lot Number		Date of Manufacture		Date of Expiry		Date of Receipt	
Name of Manufacturer				Country of Origin			
Name of Distributor/ Supplier		Distributor/ Supplier's Address					

PRODUCT FORMULATION
(Tick appropriate box)

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

COMPLAINT
(Tick appropriate box/boxes)

- ☐ Colour change
- ☐ Separating
- ☐ Powdering / crumbling
- ☐ Caking
- ☐ Moulding
- ☐ Change of oduor
- ☐ Mislabeling
- ☐ Incomplete pack
- ☐ Other .....

.....

Describe complaint in detail: .....

.....

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	

Comments (if any)

.....

.....

.....

Name of Reporter | Contact number

Cadre / Job Title | Signature | Date:

Once completed one copy of this form should be e-mailed or posted to:

Pharmacy and Poisons Board	Department of Pharmacovigilance	P. O. Box 27663-00506 NRB	Fax: 2713431	E-mail: pv@pharmacyboardkenya.org

Your support in this Pharmacovigilance program is appreciated.

Submission of a complaint does not constitute an admission that medical personnel or manufacturer or the product caused or contributed to an event.
All information is held in strict confidence and programme staff 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

{Annex 7 (Rear side)}

CHECKLIST FOR INVESTIGATION PROCEDURE FOR DIT	
Step	**Actions**
1) Confirm information in Report	☐ Obtain patient's medical file (or other clinical record) ☐ Check details about patient and event from medical file and document information ☐ Obtain any details missing from suspected ADR notification form ☐ Identify any other cases that need to be included in the
2) Investigate and collect data: About the patient:	☐ History of drug use (including over-the-counter and traditional medicine use) ☐ Medical history, including prior history of similar reactions or allergies ☐ Family history of similar events
About the event:	☐ History, clinical description, any relevant laboratory results about the suspected ADR and diagnosis of the event ☐ Treatment, whether hospitalized, and outcome
About the suspected drug(s):	☐ Brand name, generic name, batch/lot numbers ☐ Date of manufacture, date of expiry ☐ Name of manufacturer and supplier ☐ Conditions of storage at facility and expiry date ☐ Investigate the local health facility
About other people:	☐ Whether others received the same drug and developed illness (assess health facility ledgers) ☐ Whether others had same or similar illness (may need case definition); if so exposure of cases to suspect drug(s)
3) Assess the service by asking about	☐ Drug storage and prescription ☐ Details of training in diagnosis and treatment ☐ Number of therapies greater than normal
4) Formulate a working Hypothesis	☐ On the likely/possible cause(s) of the event
5) Test working hypothesis	☐ Does case distribution match working hypothesis? ☐ Occasionally, laboratory tests may help
6) Conclude investigation	☐ Assess causal association to suspected drug/s ☐ Complete suspected ADR Investigation Form ☐ Take corrective action, and recommend further action
7) Assess outcome of actions/ lack of actions taken	☐ Assess impact of any corrective action taken (where appropriate)

{Annex 8}

DEFINITIONS IN PHARMACOVIGILANCE

Adverse Event/ Adverse Experience - Any untoward medical occurrence that may present during treatment with a pharmaceutical product but which does not necessarily have a causal relationship with this treatment.

Adverse Reaction - A response to a drug which is noxious and unintended, and which occurs at doses normally used in humans for the prophylaxis, diagnosis or therapy of disease, or for the modification of physiological function.

Case Control Study - Study that identifies a group of persons with the unintended drug effect of interest and a suitable comparison group of people without the unintended effect. The relationship of a drug to the drug event is examined by comparing the groups exhibiting and not exhibiting the drug event with regard to how frequently the drug is present.

Clinical Trial - A systematic study on pharmaceutical products in human subjects (including patients and other volunteers) in order to discover or verify the effects of and/or identify any adverse reaction to investigational products, and/or to study the absorption, distribution, metabolism and excretion of the products with the objective of ascertaining their efficacy and safety. Clinical trials are generally classified into Phases: I to IV. Phase IV trials are studies performed after marketing of the pharmaceutical product. They are carried out on the basis of the product characteristics for which the marketing authorization was granted and are normally in the form of post-marketing surveillance.

Cohort Study - A study that identifies defined populations and follows them forward in time, examining their rates of disease. A cohort study generally identifies and compares exposed patients to unexposed patients or to patients who receive a different exposure.

Complementary/ Alternative Medicine - These terms are used interchangeably with traditional medicine in some countries. They refer to a broad set of healthcare practices that are not part of that country's own tradition and are not integrated into the dominant health care system. They have not usually been tested in specified clinical indications by an objective scientific discipline.

Drug/ Medicine - Any substance in a pharmaceutical product that is used to modify or explore physiological systems or pathological states for the benefit of the recipient. The term drug/medicinal product is used in a wider sense to include the whole formulated and registered product, including the presentation and packaging, and the accompanying information.

Drug Alerts - The action of notifying a wider audience than the initial information holder(s) of a suspected association between a drug and an adverse reaction. Note that the term is used in different contexts that can be confusing, for example, an alert may be from a manufacturer to a regulator or from a regulator to the public.

Lack of Efficacy - Unexpected failure of a drug to produce the intended effect as determined by previous scientific investigation.

National Pharmacovigilance Centre - A single, governmentally recognized centre (or integrated system) within a country with the clinical and scientific expertise to collect, collate, analyze and give advise on all information related to drug safety.

Pharmacoepidemiology - The study of the use and effects of drugs in large numbers of people.

Pharmacovigilance - The science and activities relating to the detection, assessment, understanding and prevention of adverse effects or any other drug-related problem.

Prescription Event Monitoring - A system created to monitor adverse drug events in a population. Prescribers are requested to report all events, regardless of whether they are suspected adverse events, for identified patients receiving a specified drug.

Record Linkage - Method of assembling information contained in two or more records, e.g., in different sets of medical charts, and in vital records such as birth and death certificates. This makes it possible to relate significant health events that are remote from one another in time and place.

Side Effect - Any unintended effect of a pharmaceutical product occurring at doses normally used in humans, which is related to the pharmacological properties of the drug.

Signal - Reported information on a possible causal relationship between an adverse event and a drug, the relationship being unknown or incompletely documented previously. Usually more than a single report is required to generate a signal, depending upon the seriousness of the event and the quality of the event and the quality of the information.

Spontaneous Reporting - A system whereby case reports of adverse drug events are voluntarily submitted from health professionals and pharmaceutical manufacturers to the national regulatory authority.

Unexpected Adverse Reaction - An adverse reaction, the nature or severity of which is not consistent with domestic labeling or market authorization, or expected from characteristics of the drug.

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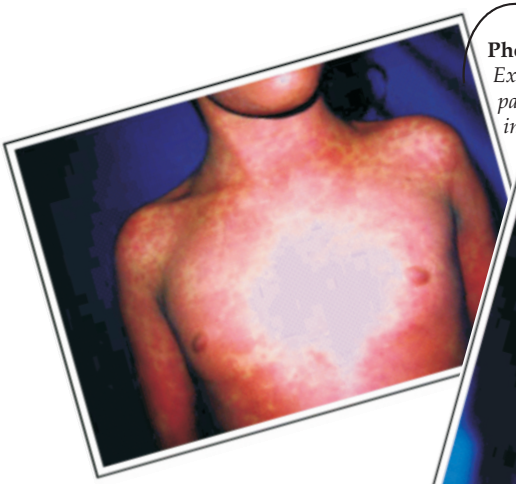
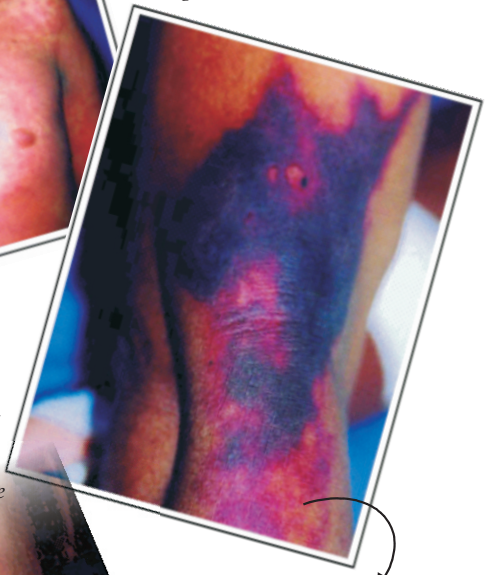
10. Guidelines for Managers of Immunization Programs on Reporting and Investigating Adverse Events Following Immunization. WPRO/EPI/99.01.

Pictorial representation of some well - known ADRs

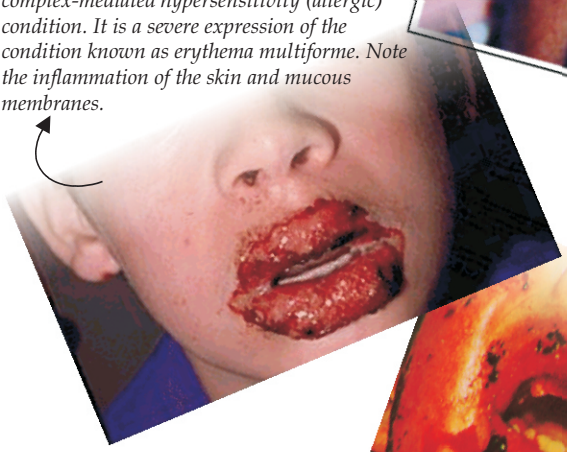


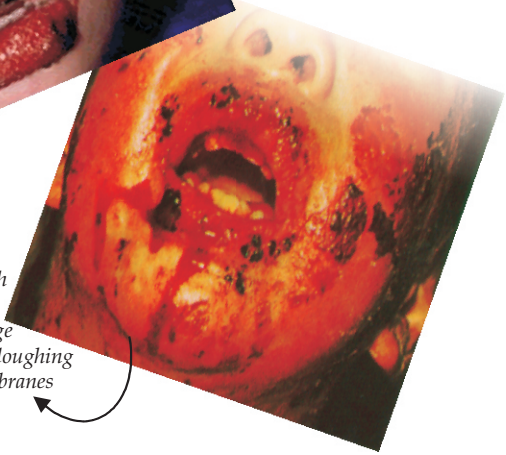
Phenobarbital hypersensitivity syndrome- *Extensive eruption of exanthematous pattern with erythema and infiltration involving the entire trunk and arms.*



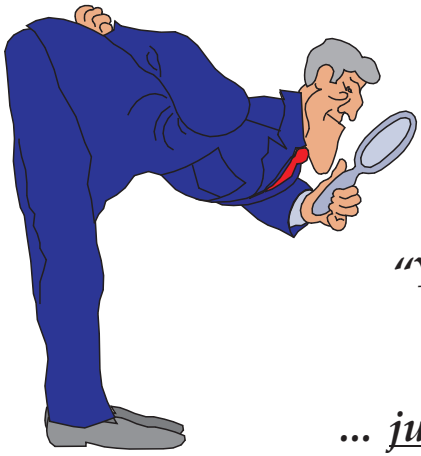
Propylthiouracil hypersensitivity vasculitis - *Observe the ecchymosis with central cutaneous necrosis in the arm.*

Stevens Johnsons Syndrome - *an immune-complex-mediated hypersensitivity (allergic) condition. It is a severe expression of the condition known as erythema multiforme. Note the inflammation of the skin and mucous membranes.*





Toxic Epidermal Necrolysis - *the most severe condition associated with immune complex hypersensitivity. This condition involves multiple large blisters that coalesce, followed by a sloughing of most of the skin and mucous membranes*



"You need not be certain…

… <u>just be suspicious</u>""

FEEDBACK FORM

For any comments, inclusions and exclusions, please fill this form and send it to.

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(This will assist in improving this guideline in its subsequent editions.)

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