

Ministry of Health



Republic of Uganda

**Case Definitions and Epidemic Thresholds
For
Integrated Disease Surveillance and Response
(IDSR)**

A working guide for Health Workers

September, 2012



These guidelines should be used alongside other guidelines like:

1. Uganda Clinical Guidelines
2. IMCI guidelines
3. Other Disease specific guidelines/ textbooks

Foreword

Effective communicable disease control relies on effective disease surveillance. Surveillance for communicable diseases is necessary to monitor diseases with a high burden, detect outbreaks of epidemic prone disease and monitor progress towards national or international control/ eradication targets.

The core functions in surveillance of any health event are case detection, reporting, investigation and confirmation, analysis and interpretation and action (control/ response, policy and feedback). These functions are made possible by support functions that improve core surveillance functions which include setting of standards such as developing or updating case definitions that can be used in the detection of the country priority diseases.

The first edition of the case definitions booklet was released in 2004 following the adoption of the IDSR strategy by Uganda. The case definitions were widely used by the peripheral level health care workers and were found to be very useful in the rapid detection of new disease outbreaks in the years that followed.

Several changes in the recent years have necessitated the revision of the case definitions booklet. In the recent years, the surveillance scope has expanded greatly to include emerging diseases like pandemic influenza, severe acute respiratory syndrome, nodding disease syndrome, non communicable disease, and new initiatives like the IHR (2005) and the one-health strategy, which all need to be incorporated in the second edition of the case definitions booklet.

This second edition of the case definitions and epidemic thresholds booklet has been developed/ updated to help health workers at all levels and other stakeholders involved in surveillance, detect and report the country's priority diseases for appropriate and timely action. It is hoped that the handbook will go a long way in improving surveillance activities in an integrated manner.

I would therefore like to implore all health workers and IDSR stakeholders to utilize the updated case definitions and action thresholds in this booklet to attain detection of all priority disease conditions/events in real-time to allow immediate response.



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1.0 Introduction

Uganda is currently using the IDSR strategy to improve the National disease and events surveillance system. Using standard case definitions to identify priority diseases and events of public health importance is one of the core functions of surveillance under the IDSR strategy. Applying the same case definitions throughout the country ensures efficient tracking of priority diseases and events and guarantees that data from different areas of the country is comparable.

The revision of case definitions booklet was undertaken to improve surveillance of diseases and events of public health importance on the updated national priority list. The national list of priority diseases and events of public importance was updated to include emerging and re-emerging diseases that have appeared both nationally and internationally in the recent years. In addition, the list had to be updated to include diseases and events which countries are required to notify to the WHO under the International Health Regulations (IHR (2005) to which Uganda is signatory. This revised edition will therefore go along way in strengthening IDSR and ensuring that the country attains the IHR (2005).core capacities for surveillance and response.

2.0 Key surveillance tasks at different levels

Community level

Community-based surveillance is the detection and reporting of diseases from within the community usually by local people or leaders who have received basic instruction on how to recognize priority conditions. **M**embers of the community may be the first ones to notice an unusually high number of cases or deaths of a notifiable disease, a mysterious illness, or an event of public health importance in the area. In that case, this observation should be reported to a community resource person who may be a community leader e.g. Village Health Team member (VHT), Community Medicine Distributor (CMD), Local council leader (LCs), teachers, religious leaders, Parish Development Committee's etc. The community resource persons shall be sensitized on the community case definitions for detecting and reporting new events of priority conditions to the in-charge of the peripheral health unit or health assistant for further investigation.

Peripheral health facility level

This is the first point of contact of an ill person with the health services. The patient is usually seen by a medical officer, clinical officer or nurse. It is normally at this level that the first opportunity for epidemiological surveillance occurs. The staff at this level should have access to standard case definitions to facilitate detection of priority conditions. All suspect cases of priority conditions detected at this level should be reported to the health sub-district (HSD) or District Health Office (DHO) for forward submission to the national level.

Key tasks at this level include:

- Case detection (diagnosis)
- Case management
- Verification of events reported from the community
- Reporting of cases to HSD/ DHO
- Simple tabulation and graphing of data
- Initial case investigation

Health sub-district/ District Health Office level

At these levels, data are received from the peripheral level health facilities with the aim of conducting ongoing analysis of data from the periphery in order to recognize outbreaks or changes in disease trends. These analyses must be associated with responses such as detailed case investigation/ verification and intervention. Effectiveness of interventions can be monitored using the same data sources.

Tasks at HSD/ DHO level:

- These support the peripheral health facilities.
- Case management (general hospital or HCIV) which can not be done at the peripheral level
- Analysis of data from the peripheral level for:
 - epidemiological links
 - trends versus disease specific thresholds
 - achievement of control targets for programs
- Provision of supportive laboratory data (or laboratory diagnosis if possible)
- Investigation of suspected outbreaks within 48hours of notification
- Feedback of information to the peripheral level including communities
- Regular reporting of data and suspected/confirmed outbreaks to ESD-MoH level

Ministry of Health (MoH) – Regional Level

The community health departments in the regional referral hospitals will continue to support the implementation of the integrated disease surveillance and response strategy in all the districts within their respective catchment areas. The community health departments at the regional levels will therefore be responsible for supporting these districts to implement the IDSR strategy, ensure the application of IDSR standards, and guidelines and build capacities for IDSR implementation in their respective regions.

The regional teams will also support the districts by providing other services that are not available in the districts, including high level epidemiological skills and reference laboratory facilities at the regional level. These teams will also support investigation and response to disease outbreaks in their respective regions with guidance from the National Epidemic Preparedness and Response Committee/Task Force and in collaboration with the respective District Epidemic Preparedness and Response Committees/Task Force and as spelled out in the national guidelines for epidemic preparedness and response.

Ministry of Health (MoH) – National level

The MoH is responsible for supporting all districts and developing a surveillance policy, standards, guidelines and capacity building at all levels. The current policy of Integrated Disease Surveillance and Response (IDSR) is based on the WHO strategy for improving disease surveillance in the AFRO region using the available resources effectively. The MoH supports the districts by providing services that are not available in the districts, such as high level epidemiological skills and reference laboratory facilities. The MoH in addition is mandated to deal with outbreaks of national importance in a coordinated fashion through the National Epidemic Preparedness and Response Task Force. In addition, overall disease trends are analyzed in ESD-MoH and RC-MoH so that resources for disease control are targeted to high-risk areas. The MoH in addition liaises with other countries and international agencies in the response to outbreaks of international significance and in the management of diseases subject to the International Health Regulations (IHR (2005)), or to agreed targets for control or elimination. The MoH has access to data from national reference laboratories where the identification of unusual organisms usually triggers a response.

Tasks at MoH level:

- Overall technical support and coordination of, national surveillance activities
- Provision of laboratory diagnosis data if not available at district level (use regional or international reference laboratories if required)
- Analysis of data from district level for:
 - epidemiological links
 - trends
 - achievement of control targets
- Support to districts for outbreak control
 - case management
 - laboratory
 - epidemiology
 - education including social support
 - logistics
- Feedback to district level, and possibly to the peripheral health facility level and community level.
- Report to WHO, as required (IHR (2005), specific needs of control programs)
- Collaboration with non-medical sectors such as agriculture, veterinary medicine, and environment where appropriate (e.g. water or food borne diseases, vector-borne diseases, human Zoonoses).

Other surveillance attributes required at all levels

Zero Reporting:

All the data on priority conditions should move smoothly through the above system triggering the appropriate responses throughout. Each site is required to

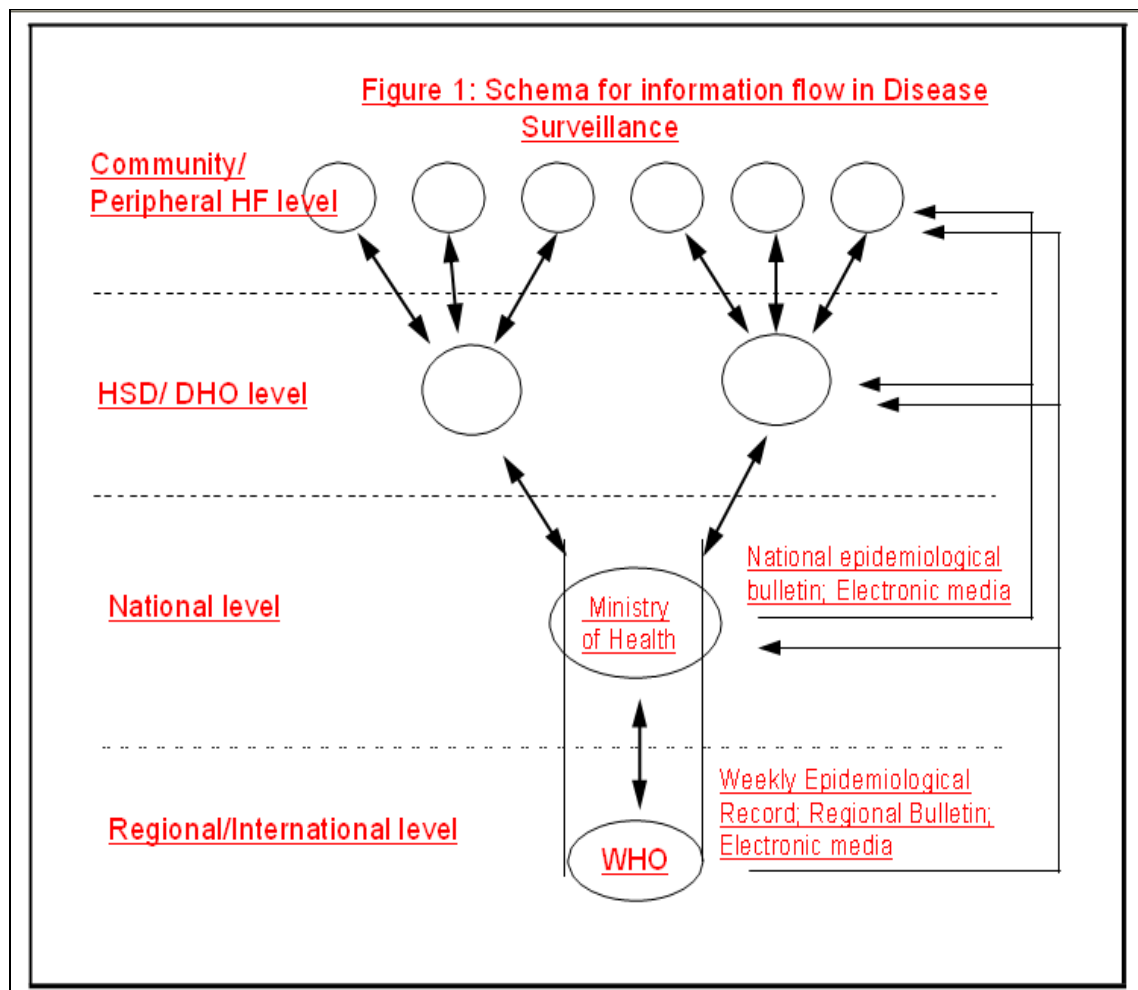
report for each reporting period even if that means reporting zero cases. This avoids the confusion of equating “no report” with any cases.

Quality Surveillance Performance indicators

All the health facilities, HSD, DHOs and MoH are supposed to monitor completeness and timeliness of reports as a way of assessing the performance of the surveillance system. This should also include monitoring of other disease specific entities such as AFP.

Feedback:

This is done through regular epidemiological bulletins and newsletters with tables and graphs showing trends and progress towards targets and reports on the investigation and control of outbreaks.



3.0 List of priority diseases/ events

One of the important components of the national IDSR strategic plan is a list of priority diseases/ events for surveillance. The list was established with the close participation of national health authorities. The rationale for prioritizing these selected diseases/ events was based on the following:

The diseases selected included those that are known to result in high disease impact in Uganda (morbidity, disability, mortality) e.g. malaria, pneumonia, TB and HIV/ AIDS.

There are diseases that have a significant epidemic potential and have occurred in the country in the past e.g. cholera, meningococcal meningitis and viral hemorrhagic fevers.

The other category of diseases included those that are targeted nationally for elimination (Leprosy, Onchocerciasis, lymphatic filariasis) and eradication (Polio, Neonatal Tetanus).

Diseases with specific target of a national, regional or international control program e.g. diseases targeted for surveillance by WHO-AFRO Regional Plan, notifiable disease according to IHR (2005) were also incorporated.

Also considered were disease for which the information collected would lead to significant public health action e.g. immunization campaign, other specific control measures to be provided by the MoH, international reporting).

As a national requirement, e.g. in 2008, there was a Presidential directive for all maternal and perinatal deaths that occur in health facilities, to be notifiable. Purpose is for all the levels to keep track of these deaths by location, the health facilities to ensure auditing is done to identify avoidable underlying causes, thereby improving quality of care to reduce deaths due to similar causes.

3.1 Revised List of IDSR priority diseases & events in Uganda

Epidemic prone diseases/ conditions	Diseases/ conditions targeted for eradication or elimination	Other major diseases/ conditions of public health importance
Cholera Bacterial Meningitis ¹ Diarrhea with blood (<i>Shigella</i>) Acute hemorrhagic Fever Syndrome* Malaria Typhoid fever Yellow fever Chikungunya Dengue Measles Influenza-like illness Severe Acute Respiratory Infection (SARI) Plague Human Rabies Anthrax (human) Acute viral hepatitis Maternal deaths Perinatal deaths	Dracunculiasis Leprosy Neonatal tetanus Poliomyelitis (AFP) Onchocerciasis Buruli ulcer Lymphatic Filariasis Noma	Diarrhoea with dehydration <5 Severe pneumonia <5 New Advanced HIV/AIDS Tuberculosis STIs Human African Trypanosomiasis (HAT) Trachoma Schistosomiasis Diphtheria Pertussis (Whooping cough) Brucellosis Kala azar Nodding Syndrome Injuries Hypertension Diabetes mellitus Adverse Drug Reactions (ADR) Adverse events following immunization (AEFI)
	Diseases or events of international concern In addition to those noted in other columns	
*Ebola, Marburg, Rift Valley, Lassa, Crimean Congo, West Nile Fever ¹ Includes <i>Haemophilus influenzae</i> type b (Hib), <i>Neisseria meningitidis</i> , and <i>Streptococcus pneumoniae</i>	Human influenza due to a new subtype Severe Acute Respiratory Syndrome (SARS) Smallpox Any public health event of international or national concern (infectious, zoonotic, foodborne, chemical, radio nuclear, or due to unknown condition)	

4.0 Community case definitions

These should be used by Village Health Teams or other community owned resource persons or any community member to notify diseases/ events occurring in the communities to the peripheral level health facilities.

DISEASE/CONDITION	CASE DEFINITION
Diseases Targeted for Eradication or Elimination	
Acute Flaccid Paralysis (AFP)	Any sudden lameness in a child less than 15 years of age
Guinea Worm Disease (Dracunculiasis)	Any person with swelling, blisters and eventual emerging long worm from his/her skin/body
Leprosy	Any person with skin patches on any part of the body that have lost feeling (sensation) to touch or pain
Neonatal Tetanus (NNT)	Any newborn who is normal at birth, and then after 2 days, becomes stiff and unable to suck or feed or has convulsions.
Onchocerciasis/ River blindness	Any person in an endemic area with fibrous nodules under the skin
Buruli ulcer	Large ulcers with a whitish yellowish base found on the hands or legs of children living near wet lands.
Lymphatic filariasis	Swelling of the testicle(s) or the lower limbs(s) in a resident of an endemic area
Noma (Cancrum oris)	Wounds in the mouth with bad smelling pus discharge that eventually form holes destroying the mouth and face of affected children.
Epidemic Prone Diseases	
Diarrhea with blood (Shigella)	Any person with diarrhea with visible blood in stools
Cholera	Any person with lots of watery stools.
Typhoid Fever	Any person with a prolonged fever during the previous 3 weeks or more
Measles	Any person with fever and a skin rash
Meningococcal meningitis	Any person with fever and neck stiffness
Plague	Any person with painful swelling under the arms or in the groin area. In an area known to have plague, any person with cough, chest pain and fever.
Human Rabies	Any person bitten by a mad or abnormally behaving animal
Viral Hemorrhagic Fever (VHF)- Ebola, Marburg and others	Any person who has an unexplained illness with fever and bleeding or who died after an unexplained severe illness with fever and bleeding
Yellow fever	Any person with fever and yellowing of eyes or bleeding
Cutaneous Anthrax	Skin lesion the changes within a week to form a black depressed wound on the skin with swollen surroundings
Acute viral hepatitis	Sudden onset of yellowing of eyes
Small pox	An individual of any age presenting with sudden onset of fever and a rash
Influenza Like Illness (ILI)	A person with sudden onset of fever and cough
New, unknown or mysterious	Any two or more cases/ deaths presenting with similar symptoms

DISEASE/CONDITION	CASE DEFINITION
illness	occurring in the same place and during a short time period.
Maternal death	Death of a woman while pregnant or during labor, or within 6 weeks of terminating the pregnancy through delivery or abortion.
Perinatal death	A baby born dead after 7 months of pregnancy or death of newborn within the first week after being born
Diseases of Public Health Importance	
Diarrhea in children < 5 yrs	Any child with three or more loose stools in a day.
Diarrhea with blood	Any person having diarrhea with visible blood.
Malaria	Any person who presents with fever
Pneumonia	Any child less than 5 years of age with cough and fast breathing or difficulty in breathing.
Schistosomiasis	Painless passing of blood in urine or stool
Sexually Transmitted Infections (STI)	Any person male or female who has an urethral/vaginal discharge or genital ulcer
Trypanosomiasis/ Sleeping Sickness	A person in an endemic area having fever and severe headache for more than three weeks without responding to anti-malarial, has a painful swelling at the fly bite site, and experiences excessive sleepiness during the day.
Tuberculosis (TB)	Any person with cough for 3 weeks or more
Trachoma	An eye infection of more than two weeks that is characterized by reddening, itching, grain-like growth in the eye and scarring of the eyelids that eventually leads to blindness.
Brucellosis	Persistent fever not responding to antimalarials
Nodding Syndrome	Any person with observed or reported repetitive involuntary drops of the head towards the chest.
Kala azar (Visceral Leishmaniasis)	An illness with prolonged irregular fever, splenomegaly and weight loss
Hypertension	Any person with headache, palpitations, dizziness, blurred vision with or without shortness of breath
Diabetes Mellitus	Any person with excessive thirst, excessive food intake and excessive urination
Adverse Events Following Immunization (AEFI)	Medical conditions or suspected side effects observed within (2-4) weeks following immunization.
Adverse Drug Reactions (ADR)	Medical conditions or suspected side effects observed within (2-4) weeks following drug administration.
Events of Public Health Importance	
Chemical events	An uncontrolled release (accidental spill or deliberate) of a chemical from its usual storage site (e.g. factory) that either threatens to, or does, expose people to a chemical hazard
Radiological events	An uncontrolled release (accidental spill or deliberate) of a radioactive substance from its containment (e.g. x ray room, nuclear power plant, industrial plant) that either threatens to, or does, expose people to nuclear or radiological hazards
Foodborne illness	A disease usually either infectious or toxic in nature, caused ingestion of contaminated food with nausea, vomiting, abdominal cramps and diarrhea being the frequent symptoms

4. Standard Case Definitions

This is a set of diagnostic criteria used to detect and classify cases of a particular disease or condition for purposes of reporting, investigation and control. A standard case definition can be clinical or surveillance:

Clinical case definition: a set of criteria used by clinicians to assign a diagnosis & may include (history, clinical examination & other investigations for the purpose of providing appropriate treatment for patients.

A clinical case definition incorporates both the clinical description (symptoms and signs) and laboratory evidence of the disease or condition. A clinical case definition is vital for initial confirmation of an outbreak. Hence the “confirmed case classification” in the table below is actually a clinical case definition.

Surveillance case definition: is a simplified criterion for identifying cases with a particular disease or condition. It’s usually used in an epidemic setting for purposes of case finding after the initial laboratory confirmation of the outbreak has been undertaken.

The surveillance case definition usually incorporates the clinical description only (i.e. symptoms and signs). The “suspect case classification” in the table below is therefore a surveillance case definition.

Disease/Condition	Standard case definition for suspected cases
Acute haemorrhagic fever syndrome	<p>Suspected case: Acute onset of fever of less than 3 weeks duration in a severely ill patient AND any 2 of the following; haemorrhagic or purpuric rash; epistaxis (nose bleed); haematemesis (blood in vomit); haemoptysis (blood in sputum); blood in stool; other haemorrhagic symptoms <u>and</u> no known predisposing factors for haemorrhagic manifestations.</p> <p>Confirmed case: A suspected case with laboratory confirmation or epidemiologic link to confirmed cases or outbreak.</p> <p><i>Note: During an outbreak, case definitions may be changed to correspond to the local event.</i></p>
Acute viral hepatitis	<p>Suspected case: Any person with acute illness typically including acute jaundice, dark urine, anorexia, malaise, extreme fatigue, and right upper quadrant tenderness. (Note: infected children are often asymptomatic.)</p> <p>Confirmed case: A suspected case that is laboratory confirmed</p>
Adverse Drug Reaction (ADR)	<p>Suspected case: Any person with a response to a medicine that is noxious and unintended, and which occurs at doses normally used in man for the prophylaxis, diagnosis or treatment of a disease or for the modification of physiological function.</p> <p>Confirmed case: A suspected case that is confirmed following investigations by the Pharmacovigilance teams at national or district level.</p>

Disease/Condition	Standard case definition for suspected cases
	<p>least two supportive laboratory tests.</p> <p>Note: <i>It may not be possible to demonstrate B. anthracis in clinical specimens if the patient has been treated with antimicrobial agents.</i></p>
Brucellosis	<p>Suspected case: Acute or insidious onset of fever AND ONE OR MORE of the following: night sweats, arthralgia, headache, fatigue, anorexia, myalgia, weight loss, arthritis/spondylitis, meningitis, or focal organ involvement (endocarditis, orchitis/epididymitis, hepatomegaly, splenomegaly).</p> <p>Confirmed case: A suspected case with confirmatory laboratory diagnosis by way of: culture and identification of <i>Brucella</i> spp. or evidence of a fourfold or greater rise in <i>Brucella</i> antibody titer.</p>
Buruli ulcer (<i>Mycobacterium ulcerans</i> disease)	<p>Suspected case: A person presenting a painless skin nodule, plaque or ulcer, living or having visited a BU endemic area</p> <p>Confirmed case: A suspected case confirmed by at least one laboratory test (ZN for AFB, PCR, culture or histology)</p>
Chikungunya	<p>Suspected case: Any person with acute onset of fever >38.5°C and severe arthralgia/arthritis not explained by other medical conditions.</p> <p>Confirmed case: A suspected case with laboratory confirmation.</p>
Cholera	<p>Suspected case: In a patient age 5 years or more, severe dehydration or death from acute watery diarrhoea.</p> <ul style="list-style-type: none"> ▪ If there is a cholera epidemic, a suspected case is any person age 2 years or more with acute watery diarrhoea, with or without vomiting. <p>Confirmed case: A suspected case in which <i>Vibrio cholerae</i> O1 or O139 has been isolated in the stool.</p>
Dengue Fever Dengue, continued	<p>Dengue Fever Suspected case: Any person with acute febrile illness of 2-7 days duration with 2 or more of the following: headache, retro-orbital pain, myalgia, arthralgia, rash, haemorrhagic manifestations, leucopenia.</p> <p>Dengue Fever Confirmed case: A suspected case with laboratory confirmation (positive IgM antibody, rise in IgG antibody titres, positive PCR or viral isolation).</p> <p>Dengue Haemorrhagic Fever: A probable or confirmed case of dengue with bleeding tendencies as evidenced by one or more of the following: positive tourniquet test; petechiae, ecchymoses or purpura; bleeding: mucosa, gastrointestinal tract, injection sites or other; haematemesis or melaena; <u>and</u> thrombocytopenia (100 000 cells or less per mm³) <u>and</u> evidence of plasma leakage due to increased vascular permeability, manifested by one or more of the following: 20% rise in average haematocrit for age and sex, 20% drop in haematocrit following volume replacement therapy compared to baseline, signs of plasma leakage</p>

Disease/Condition	Standard case definition for suspected cases
	<p>(pleural effusion, ascites, hypo-proteinaemia).</p> <p>Dengue Shock Syndrome: All the above criteria, <u>plus</u> evidence of circulatory failure manifested by rapid and weak pulse, and narrow pulse pressure (≤ 20 mm Hg) or hypotension for age, cold, clammy skin and altered mental status.</p>
Diabetes	<p>Suspected new case: Any person presenting with the following symptoms:</p> <ul style="list-style-type: none"> • Increased thirst • Increased hunger • Frequent urination <p>Confirmed new case: Any person with a fasting venous plasma glucose measurement of ≥ 7 mmol/L (126 mg/dl) or capillary glucose ≥ 6.1 mmol/L (110 mg/dl)</p> <p>Or</p> <p>Any person with a non-fasting venous plasma glucose measurement of ≥ 11.1 mmol/L (200 mg/dl) or capillary glucose ≥ 11.1 mmol/L (200 mg/dl)</p> <p><i>*Report only the first lab-confirmed diagnosis of the patient</i></p>
Diarrhoea with blood (dysentery)	<p>Suspected case: A person with diarrhoea lasting less than 14 days with visible blood in stool.</p> <p>Confirmed case: Suspected case with stool culture positive for <i>Shigella dysenteriae</i> type 1.</p>
Diphtheria	<p>Suspected case: A person with an illness of the upper respiratory tract characterized by laryngitis or tonsillitis, AND adherent membranes of tonsils, pharynx and/or nose.</p> <p>Confirmed case: A suspect case that is lab-confirmed through isolation of <i>Corynebacterium diphtheria</i>, or a fourfold or greater rise in serum antibody or linked epidemiologically to a lab-confirmed case.</p>
Dracunculiasis	<p>Suspected case: A person presenting a skin lesion with itching or blister living in endemic area of Guinea worm.</p> <p>Confirmed case: At the last phase of the programme, confirmation of last cases by knowledgeable health worker is required.</p>
Ebola or Marburg viral hemorrhagic Fevers	<p>Suspected case: Illness with onset of fever and no response to usual causes of fever in the area, and at least one of the following signs: bloody diarrhoea, bleeding from gums, bleeding into skin (purpura), bleeding into eyes and urine.</p>

Disease/Condition	Standard case definition for suspected cases
	<p>Confirmed case: A suspected case with laboratory confirmation (positive IgM antibody, positive PCR or viral isolation), or epidemiologic link to confirmed cases or outbreak.</p> <p>Note: <i>During an outbreak, these case definitions may be changed to correspond to the local event.</i></p>
Foodborne illnesses	<p>Suspected case: 2 or more people present with similar symptoms who consumed common food or drink</p> <p>Confirmed case: A laboratory confirmed case of a specific agent with a link to a common food or drink source.</p> <p>Note: <i>A foodborne illness is defined according to the specific agent causing the disease (for example, cholera, hepatitis A, salmonellosis, shigellosis).</i></p>
Human influenza caused by a new subtype	<p>Suspected H5N1 case: Any person presenting with unexplained acute lower respiratory illness with fever (>38 °C) and cough, shortness of breath or difficulty breathing</p> <p>AND one or more of the following exposures within the 7 days prior to symptom onset:</p> <ul style="list-style-type: none"> a) Close contact (within 1 meter) with a person (e.g. caring for, speaking with, or touching) who is a suspected, probable, or confirmed H5N1 case; b) Exposure (e.g. handling, slaughtering, de-feathering, butchering, preparation for consumption) to poultry or wild birds or their remains or to environments contaminated by their faeces in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month; c) Consumption of raw or undercooked poultry products in an area where H5N1 infections in animals or humans have been suspected or confirmed in the last month; d) Close contact with a confirmed H5N1 infected animal other than poultry or wild birds; e) Handling samples (animal or human) suspected of containing H5N1 virus in a laboratory or other setting. <p>Confirmed H5N1 case: A person meeting the criteria for a suspected case AND positive laboratory results from a laboratory whose H5N1 test results are accepted by WHO as confirmatory.</p> <p>Suspected pandemic (H1N1) 2009 virus infection: An individual presenting with influenza-like-illness (sudden onset of fever > 38 °C and cough or sore throat in the absence of another diagnosis) with a history of</p>

Disease/Condition	Standard case definition for suspected cases
	<p>exposure to a pandemic (H1N1) 2009 virus.</p> <p>Confirmed pandemic (H1N1) 2009 virus infection: An individual with a laboratory-confirmed pandemic (H1N1) 2009 virus infection by one or more of the following tests: PCR; viral culture; 4-fold rise in pandemic (H1N1) 2009 virus-specific neutralizing antibodies.</p>
Hypertension	<p>Suspected new case at first visit: Any individual presenting with a resting blood pressure measurement (based on the average of 3 readings) at or above 140 mm Hg for systolic pressure, or greater than or equal to 90 mm Hg for diastolic pressure.</p> <p>Confirmed case: Any individual presenting on at least two occasions with a resting blood pressure measurement (based on the average of 3 readings) at or above 140 mm Hg for systolic pressure, or greater than or equal to 90 mm Hg for diastolic pressure.</p>
Influenza-like illness (ILI)	<p>Influenza-like illness: A person, child or adult with:</p> <ul style="list-style-type: none"> ▪ Sudden onset of fever > 38 °C AND ▪ Cough or sore throat in the absence of other diagnoses. <p>A confirmed case of influenza is a case that meets the clinical case definition and is laboratory confirmed (laboratory results must be positive for influenza virus).</p>
Injuries	<p>Road traffic accidents: Any person who sustains injuries or dies immediately or within 30 days as a result of road traffic crash presenting for the first time.</p> <p>Due to gender based violence: Any woman who sustains physical injuries due to violence perpetuated by a man and which is derived from unequal power relationships between men and women.</p> <p>Trauma due to other causes: Any person who sustains physical injuries from causes other than road traffic accidents or gender based violence.</p>
Kala azar (Visceral Leishmaniasis)	<p>Suspected case: A person presenting with prolonged irregular fever, splenomegally and weight loss as its main symptoms from a known endemic area</p> <p>Confirmed case: A suspect case with serological and/or parasitological confirmation of the diagnosis.</p>
Lassa and Crimean-Congo Haemorrhagic Fevers (CCHF)	<p>Suspected case of CCHF: Illness with sudden onset of fever, malaise, weakness, irritability, headache, severe pain in limbs and loins and marked anorexia. Early development of flush on face and chest and conjunctival infection, haemorrhagic enanthem of soft palate, uvula and pharynx, and often fine petechial rash spreading from the chest and abdomen to the rest of the body, sometimes with large purpuric areas.</p> <p>Confirmed case of CCHF: A suspected case with laboratory confirmation (positive IgM antibody, PCR, viral isolation or IgG seroconversion by</p>

Disease/Condition	Standard case definition for suspected cases
	<p>ELISA or IFA) or epidemiologic link to confirmed cases or outbreak.</p> <p>Suspected case of Lassa Fever: Illness with gradual onset with one or more of the following: malaise, fever, headache, sore throat, cough, nausea, vomiting, diarrhoea, myalgia, chest pain hearing loss and a history of contact with excreta of rodents or with a case of Lassa Fever</p> <p>Confirmed case of Lassa Fever: A suspected case that is laboratory confirmed (positive IgM antibody, PCR or virus isolation) or epidemiologically linked to a laboratory confirmed case.</p>
Leprosy	<p>Suspected case: A person showing one of three cardinal signs of leprosy: hypo-pigmented or reddish skin lesion, loss or decrease of sensations in skin patch, enlargement or peripheral nerve.</p> <p>Confirmed case: A person showing at least two cardinal signs of leprosy and who has not completed a full course of treatment with Multi Drug Therapy (MDT).</p>
Lymphatic Filariasis	<p>Suspected case: Resident of an endemic area with a clinical sign of hydrocoele or lymphoedema for which other causes of these findings have been excluded.</p> <p>Confirmed case: A person with positive laboratory diagnosis of microfilaremia in blood smear, filarial antigenaemia or positive ultrasound test.</p>
Malaria	<p>Uncomplicated malaria: Any person with fever or history of fever within 24 hours; without signs of severe disease (vital organ dysfunction) is diagnosed clinically as malaria.</p> <p>Confirmed uncomplicated malaria: Any person with fever or history of fever within 24 hours; and with laboratory confirmation of diagnosis by malaria blood film or other diagnostic test for malaria parasites.</p> <p>Unconfirmed severe malaria Any patient hospitalised with severe febrile disease with accompanying vital organ dysfunction diagnosed clinically.</p> <p>Confirmed severe malaria Any patient hospitalized with <i>P. falciparum</i> asexual parasitaemia as confirmed by laboratory tests with accompanying symptoms and signs of severe disease (vital organ dysfunction) diagnosed through laboratory.</p>
Malaria, continued	
Malnutrition	<p>Low birth weight newborns: Any new born with a birth weight less than 2500 grams (or 5.5 lbs)</p> <p>Malnutrition in children:</p> <ul style="list-style-type: none"> - Children under five who are underweight (indicator: weight for age<-2 Zscore) - Children 6 to 59 months with MUAC<11.5 cm (high risk of

Disease/Condition	Standard case definition for suspected cases
	<p>mortality)</p> <ul style="list-style-type: none"> - Bilateral pitting oedema <p>Malnutrition in pregnant women: Pregnant women given birth to low birth weight babies (birth weight < 2.5 Kg) (poor nutritional and health status of the women, can predict which population groups may benefit from improved antenatal care of women and neonatal care for infants).</p>
Maternal Deaths	The death of a woman while pregnant or within 42 days of the delivery or termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.
Measles	<p>Suspected case: Any person with fever and maculopapular (non-vesicular) generalized rash and cough, coryza or conjunctivitis (red eyes) or any person in whom a clinician suspects measles.</p> <p>Confirmed case: A suspected case with laboratory confirmation (positive IgM antibody) or epidemiological link to confirmed cases in an outbreak.</p>
Meningococcal Meningitis	<p>Suspected case: Any person with sudden onset of fever (>38.5°C rectal or 38.0°C axillary) and one of the following signs: neck stiffness, altered consciousness or other meningeal signs.</p> <p>Confirmed case: A suspected case confirmed by isolation of <i>N. Meningitides</i> from CSF or blood.</p>
Neonatal tetanus	<p>Suspected case: Any newborn with a normal ability to suck and cry during the first two days of life, and who, between the 3rd and 28th day of age, cannot suck normally, and becomes stiff or has convulsions or both.</p> <p>Confirmed case: No laboratory confirmation recommended.</p>
New AIDS Cases	WHO/AFRO recommends that countries use either Bangui or Abidjan HIV/AIDS case definitions. A positive ELISA for confirming HIV and a rapid test for confirming the positive results are sufficient for an epidemiologic case definition for HIV Infection.
Nodding Syndrome	<p>Suspected case: Any person (usually child or adolescent) who was normal prior to being reported with head nodding that manifests with repetitive involuntary drops of the head towards the chest on two or more occasions.</p> <p>Probable case: suspect case of head nodding, with</p> <p>Both Major Criteria</p> <ul style="list-style-type: none"> - Age of onset of nodding between 3-18 y - Frequency of nodding 5-20/minute <p>Plus at least one of the following Minor Criteria</p> <ul style="list-style-type: none"> - Other neurological abnormalities (cognitive decline, school dropout due to cognitive / behavioral problems, other seizures or neurological abnormalities) - Clustering in space or time with similar cases - Triggering by food, cold weather

Disease/Condition	Standard case definition for suspected cases
	<ul style="list-style-type: none"> - Stunting or wasting - Delayed sexual or physical development - Psychiatric symptoms <p>Confirmed case: A probable case of head nodding with a documented nodding episode by a trained health care worker or videotaped nodding episode, or video/EEG/EMG</p>
Noma	<p>Suspected new case: Any child with a mouth ulcer and other warning signs such as; malnutrition, poor hygiene, recent illness from; measles, persistent diarrhoea, or malaria should be regarded as a potential noma case.</p> <p>Confirmed new case: Any person with a gangrenous disease which starts as gingival ulceration and spreads rapidly through the tissues of the mouth and face, destroying the soft and hard tissues.</p>
Onchocerciasis	<p>Suspected case: In an endemic area, any person with fibrous nodules in subcutaneous tissues.</p> <p>Confirmed case: A suspected case that is laboratory confirmed by presence of one or more of the following: microfilariae in skin snips, adult worms in excised nodules, or typical ocular manifestations (such as slit-lamp observations of microfilariae in the cornea, the anterior chamber, or the vitreous body).</p>
Perinatal death	<p>Death of a baby that occurred around the time of birth, including both:</p> <ul style="list-style-type: none"> - Death of a newborn occurring during the first seven days of life - Stillbirth (death prior to the complete expulsion or extraction from its mother of a fetus/baby of 1000 grams or 28 weeks gestation; indicated by failure to breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord or definite movement of voluntary muscles after such separation of the fetus).
Pertussis (Whooping cough)	<p>Suspected case: A person with cough lasting at least two weeks with <u>AT LEAST ONE</u> of the following symptoms</p> <ul style="list-style-type: none"> - Paroxysms (i.e. fits) of coughing - Inspiratory whooping - Post-tussive vomiting (i.e. vomiting immediately after coughing) without any other apparent <p style="text-align: center;"><u>OR</u></p> <p>A case diagnosed as Pertussis by a physician</p> <p>Confirmed case: A suspect case that is laboratory confirmed by isolation of <i>Bordetella pertusis</i> or PCR or positive paired serology (two samples taken 4 weeks apart).</p>
Plague	<p>Suspected case: Any person with sudden onset of fever, chills, headache, severe malaise, prostration and very painful swelling of lymph nodes, or cough with blood stained sputum, chest pain, and difficulty in breathing.</p> <p>Confirmed case: Suspected case confirmed by isolation of <i>Yersinia pestis</i> from blood or aspiration of buboes, or epidemiologic link to confirmed cases or outbreak.</p>

Disease/Condition	Standard case definition for suspected cases
Poliomyelitis (Acute flaccid paralysis)	<p>Suspected case: Any child under 15 years of age with acute flaccid paralysis or any person with paralytic illness at any age in whom the clinician suspects poliomyelitis.</p> <p>Confirmed case: A suspected case with virus isolation in stool.</p>
Rabies	<p>Suspected: A person with one or more of the following: headache, neck pain, nausea, fever, fear of water, anxiety, agitation, abnormal tingling sensations or pain at the wound site, when contact with a rabid animal is suspected.</p> <p>Confirmed: A suspected case that is laboratory confirmed</p>
Rift Valley Fever (RVF)	<p>Suspected case:</p> <p>Early disease :</p> <ul style="list-style-type: none"> ▪ Acute febrile illness (axillary temperature >37.5 °C or oral temperature of >38.0°C) of more than 48 hours duration that does not respond to antibiotic or antimalarial therapy, and is associated with: <ul style="list-style-type: none"> ▪ Direct contact with sick or dead animal or its products AND / OR: ▪ Recent travel (during last week) to, or living in an area where, after heavy rains, livestock die or abort, and where RVF virus activity is suspected/confirmed AND / OR: ▪ Abrupt onset of any 1 or more of the following: exhaustion, backache, muscle pains, headache (often severe), discomfort when exposed to light, and nausea/vomiting AND / OR: ▪ Nausea/vomiting, diarrhoea OR abdominal pain with 1 or more of the following: <ul style="list-style-type: none"> - Severe pallor (or Hb < 8 gm/dL) - Low platelets (thrombocytopenia) as evidence by presence of small skin and mucous membrane haemorrhages (petechiae) (or platelet count < 100x10⁹ / dL) - Evidence of kidney failure (edema, reduced urine output) (or creatinine > 150 mol/L) AND / OR: - Evidence of bleeding into skin, bleeding from puncture wounds, from mucous membranes or nose, from gastrointestinal tract and unnatural bleeding from vagina AND / OR: - Clinical jaundice (3-fold increase above normal of transaminases)

Disease/Condition	Standard case definition for suspected cases
Rift Valley Fever, continued	<p>Late stages of diseases or complications (2-3 weeks after onset)</p> <ul style="list-style-type: none"> ▪ Patients who have experienced, in the preceding month a flu-like illness, with clinical criteria, who additionally develop the following: ▪ CNS manifestations which resemble meningo-encephalitis <p>AND/OR</p> <ul style="list-style-type: none"> ▪ Unexplained visual loss <p>OR</p> <ul style="list-style-type: none"> ▪ Unexplained death following sudden onset of acute flu-like illness with haemorrhage, meningo-ecephalitis, or visual loss during the preceding month. <p>Confirmed case: Any patient who, after clinical screening, is positive for anti-RVF IgM ELISA antibodies (typically appear from fourth to sixth day after onset of symptoms) or tests positive on Reverse Transcriptase Polymerase Chain Reaction (RT-PCR).</p>
Schistosomiasis	<p>URINARY SCHISTOSOMIASIS ENDEMIC AREAS Confirmed: A person with visible haematuria (blood in urine) or with positive reagent strip for haematuria or with eggs of <i>S. haematobium</i> in urine (microscope). NON-ENDEMIC AREAS Suspected: A person with visible haematuria or with positive reagent strip for haematuria. Confirmed: A person with eggs of <i>S. haematobium</i> in urine (microscope).</p> <p>INTESTINAL SCHISTOSOMIASIS ENDEMIC AREAS Suspected: A person with chronic or recurrent intestinal symptoms (blood in stool, bloody diarrhea, diarrhea, abdominal pains) or, at a later stage, hepatosplenomegaly. Confirmed: A person with eggs of <i>S. mansoni</i>, or <i>S. japonicum</i> in stools (microscope).</p> <p>NON-ENDEMIC AREAS Suspected: A person with chronic or recurrent intestinal symptoms (blood in stool, bloody diarrhoea, diarrhea, abdominal pains) or, at a later stage, hepatosplenomegaly. Confirmed: A person with eggs of <i>S. mansoni</i> or <i>S. japonicum</i> in stools (microscope). A person with positive reaction to immunoblot test.</p>
Severe Acute Respiratory Infections (SARIs)	<p>Severe acute respiratory infection (persons ≥ 5 years old): A person with an acute respiratory illness with fever (>38°C) and cough and requiring hospital admission</p> <p style="text-align: center;">OR</p> <p>Severe acute respiratory infection (child 2-5years): A child (2-5yrs) with fast breathing and cough or difficulty in breathing.</p>

Disease/Condition	Standard case definition for suspected cases
	<p style="text-align: center;">OR</p> <p>Any person who died of an unexplained respiratory illness.</p>
Severe Acute Respiratory Syndrome (SARS)	<p>Suspected case of SARS: An individual with:</p> <ol style="list-style-type: none"> 1. A history of fever, or documented fever $\geq 38\text{ }^{\circ}\text{C}$ AND 2. One or more symptoms of lower respiratory tract illness (cough, difficulty breathing, shortness of breath) AND 3. Radiographic evidence of lung infiltrates consistent with pneumonia or ARDS or autopsy findings consistent with the pathology of pneumonia or ARDS without an identifiable cause AND 4. No alternative diagnosis can fully explain the illness. <p>Confirmed case of SARS: An individual who tests positive for SARS-CoV infection by the WHO recommended testing procedures.</p>
Severe Pneumonia in Children under 5	<p>Clinical case definition (IMCI) for pneumonia:</p> <p>A child presenting with cough or difficult breathing and:</p> <ul style="list-style-type: none"> ▪ 50 or more breaths per minute for infant age 2 months up to 1 year ▪ 40 or more breaths per minute for young child 1 year up to 5 years. <p><i>Note: A young infant age 0 up to 2 months with cough and fast breathing is classified in IMCI as “serious bacterial infection” and is referred for further evaluation.</i></p> <p>Clinical case definition (IMCI) for severe pneumonia:</p> <p>A child presenting with cough or difficult breathing and any general danger sign, or chest indrawing or stridor in a calm child. General danger signs for children 2 months to 5 years are: unable to drink or breast feed, vomits everything, convulsions, lethargy, or unconsciousness.</p> <p>Confirmed case: Radiographic or laboratory confirmation of pneumonia may not be feasible in most districts.</p>
Sexually transmitted infections	<p>Genital ulcer syndrome (non-vesicular):</p> <p>Suspected case: Any male with an ulcer on the penis, scrotum, or rectum, with or without inguinal adenopathy, or any female with ulcer on labia, vagina, or rectum, with or without inguinal adenopathy.</p> <p>Confirmed case: Any suspected case confirmed by a laboratory method.</p> <p>Urethral discharge syndrome:</p>

Disease/Condition	Standard case definition for suspected cases
	<p>Suspected case: Any male with urethral discharge with or without dysuria.</p> <p>Confirmed case: <i>Urethral discharge syndrome:</i> A suspected case confirmed by a laboratory method (for example Gram stain showing intracellular Gram-negative diplococci).</p>
<p>Smallpox (<i>Variola</i>)</p>	<p>Suspected case: An illness with acute onset of fever $\geq 38.3^{\circ}\text{C}$ (101°F) followed by a rash characterized by vesicles or firm pustules in the same stage of development without other apparent cause.</p> <p>Probable case: A case that meets the clinical case definition, is not laboratory confirmed, but has an epidemiological link to a confirmed or probable case.</p> <p>Confirmed case: A clinically compatible case that is laboratory confirmed.</p>
<p>Trachoma</p>	<p>Suspected case: Any patient with red sticky eyes who complains of pain and itchiness of the eyes.</p> <p>Confirmed case: Any patient with red sticky eyes who complains of pain and itchiness of the eyes where examination of the eyes confirms one of the stages of Trachoma infection according to the WHO Simplified Trachoma Grading System.</p>
<p>Trypanosomiasis</p>	<p>Suspected case:</p> <p>Early stage: Any one with a persistent fever, with intense headache, insomnia, painless lymphadenopathy, anemia, local edema and rash. A painful chancre originating as a papule and then evolving into a nodule at the primary fly bite site may be seen.</p> <p>Late stage: cachexia, somnolence, and central nervous system signs.</p> <p>Probable case (<i>t.b. gambiense</i>): Any person with or without the suspect case symptoms above with a positive CATT agglutination test.</p> <p>Confirmed case: A suspected or probable case confirmed by a positive slide for trypanosomes on microscopy from blood, lymph node aspirate or cerebrospinal fluid.</p>
<p>Tuberculosis</p>	<p>Suspected case: Any person with a cough of 3 weeks or more.</p> <p>Confirmed case:</p> <p>Smear-positive pulmonary TB: a) a suspected patient with at least 2 sputum specimens positive for acid-fast bacilli (AFB), or b) one sputum specimen positive for AFB by microscopy and radiographic abnormalities consistent with active PTB as determined by the treating medical officer, or c) one positive sputum smear by microscopy and one sputum specimen positive on culture for AFB.</p>

Disease/Condition	Standard case definition for suspected cases
	<p>Smear negative PTB: a patient who fulfils all the following criteria: a) two sets taken at least 2 weeks apart of at least two sputum specimens negative for AFB on microscopy, radiographic abnormalities consistent with PTB and a lack of clinical response despite one week of a broad spectrum antibiotic, a decision by a physician to treat with a full course of anti-TB chemotherapy, or b) a patient who fulfils all the following criteria: severely ill, at least two sputum specimens negative for AFB by microscopy, radiographic abnormalities consistent with extensive pulmonary TB (interstitial and miliary), a decision by a physician to treat with a full course of anti-TB chemotherapy, or c) a patient whose initial sputum smears were negative, who had sputum sent for culture initially, and whose subsequent sputum culture result is positive.</p> <p>Extra-pulmonary TB: Any person who presents with fever, loss of weight, loss of appetite, night sweats, and localized swelling such as lymph nodes in the neck, axilla, abdomen or other body area and is judged to have extrapulmonary TB (through biopsy or otherwise) and upon ruling out other possible causes.</p> <p>TB in Children <5 years: All the above also apply to children with or without the following;</p> <ul style="list-style-type: none"> – History of contact with a TB patient or parent – Weight loss or failure to thrive, persistent fevers, wheeze with failure to respond to antibiotic treatment for ARI, – Failure of the child to return to normal health after treatment of measles or whooping cough or malnutrition. <p>Multi-drug resistant TB (MDR-TB) Any patient who has confirmed drug resistance to Rifampicin and Isoniazid.</p> <p>Extensively Drug Resistant TB (XDR-TB) Any patient with resistance to Rifampicin and Isoniazid and who is found to be resistant to one flouroquinolone and one aminoglycoside such as Kanamycin that is used to treat drug resistant TB cases. NB: Drug resistance determined by doing culture and sensitivity tests usually is a TB reference laboratory.</p>
<p>Typhoid Fever</p>	<p>Suspected case: Any person with gradual onset of steadily increasing and then persistently high fever, chills, malaise, headache, sore throat, cough, and, sometimes, abdominal pain and constipation or diarrhoea.</p> <p>Confirmed case: Suspected case confirmed by isolation of <i>Salmonella typhi</i> from blood, bone marrow, bowel fluid or stool.</p>
<p>Undiagnosed illness/outbreak of unknown cause (New/ unknown or mysterious illness)</p>	<p>Any cluster of two or more cases/ deaths presenting with similar symptoms with negative laboratory tests for common local diseases and which fail to respond to treatment for the usual cause of the symptoms and occurring in a given place and during a short time period.</p>

Disease/Condition	Standard case definition for suspected cases
	<p>consumed common food or drink</p> <p>Confirmed case: A laboratory confirmed case of a specific agent with a link to a common food or drink source.</p> <p>Note: <i>A foodborne illness is defined according to the specific agent causing the disease (for example, cholera, hepatitis A, salmonellosis, shigellosis).</i></p>
<p>- Botulism (Foodborne)</p>	<p>Clinical description</p> <p>An illness of variable severity that is characterized by diplopia (double vision), blurred vision, and bulbar weakness (bulbar are muscles of the jaw, face, palate, pharynx, larynx, tongue). Symmetric descending paralysis may progress rapidly.</p> <p>Laboratory diagnosis</p> <ul style="list-style-type: none"> • Detection of botulinum toxin in serum, stool, or patient's food, or • Isolation of <i>Clostridium botulinum</i> from stool <p>Case classification</p> <p><i>Probable:</i> a clinically compatible case with an epidemiologic link (e.g., ingestion of a home-canned/ preserved food within the previous 48 hours)</p> <p><i>Confirmed:</i> a clinically compatible case that is laboratory confirmed or that occurs among persons who ate the same food as persons who have laboratory-confirmed botulism.</p>
<p>Methanol poisoning</p>	<p>Clinical description</p> <p>Any person who develops vomiting, lethargy, visual impairment and coma following the ingestion of methanol or adulterated alcohol.</p> <p>Laboratory criteria for diagnosis</p> <ul style="list-style-type: none"> – <i>Biologic:</i> A case in which methanol in whole blood is detected, as determined by hospital or commercial laboratory tests. <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> – <i>Environmental:</i> Detection of methanol in environmental samples, as alcohol samples <p>Case classification</p> <ul style="list-style-type: none"> – <i>Suspected:</i> A case in which a potentially exposed person is being evaluated by health-care workers or public health officials for methanol poisoning but no specific credible threat exists. – <i>Probable:</i> A clinically compatible case in which a high index of suspicion (credible threat or patient history regarding location and

Disease/Condition	Standard case definition for suspected cases
	<p>time) exists for toxic alcohol exposure or an epidemiologic link exists between this case and a laboratory-confirmed case.</p> <ul style="list-style-type: none"> <li data-bbox="496 421 1366 477">– Confirmed: A clinically compatible case in which laboratory tests have confirmed exposure.

6.0 Action / Alert Threshold for Priority Diseases/Condition

Disease specific thresholds are markers that indicate when there is need for a health system to pay particular attention to a specific disease or condition. The MOH recommends two types of thresholds:

Alert threshold: if surpassed, suggests that immediate investigation for the suspect disease/ event is needed. Other response actions by health staff should include: reporting the suspected problem to the next level; reviewing data; requesting laboratory confirmation; and enhancing surveillance (conducting active case search).

Action/ epidemic threshold: if surpassed, triggers a definite response from the HSD, district or national level. It marks the specific data or investigation finding that signals an action beyond confirming or clarifying the problem. Possible actions include communicating laboratory confirmation to affected health centers, implementing an emergency response such as mass vaccination, community awareness campaign, or improved infection control practices in the health care or community setting. The suggested thresholds that should alert a health worker to a possible are listed in the table below.

DISEASE NAME / CONDITION	ALERT THRESHOLD ¹	ACTION THRESHOLD ¹
Acute Flaccid paralysis (AFP) / Polio	1 suspected case	1 confirmed case of Polio
Bacillary dysentery ²	An unusual clustering of cases (5 or more) in a parish in a week	Two consecutive weeks with cases above the alert threshold Any increase in number of deaths due to bloody diarrhea
Cholera ²	1 suspected case in the area or in the neighborhood	1 confirmed case (where it has not been reported before)
Diarrhea under five	Increasing number of cases in a short time	Increasing number of cases in a short time
Guinea worm	1 suspected case	1 confirmed case
Anthrax	1 suspected case	1 confirmed case
Acute Viral Hepatitis	1 suspected case for the epidemic prone types	1 confirmed case for the epidemic prone types
Small pox	1 suspected case	1 confirmed case
Influenza Like Illness (ILI)	A cluster of suspect cases	1 confirmed case with influenza due to a new sub-type
Severe Acute Respiratory Syndrome (SARS)	1 suspected case	1 confirmed case
Injuries		RTA: 50 case fatalities per 100,000 population. (District specific threshold required) Burns: One severe burn Poisoning: 2 cases Drowning: 2 cases
Leprosy	1 suspected case	1 confirmed case per 10,000 population (for

DISEASE NAME / CONDITION	ALERT THRESHOLD ¹	ACTION THRESHOLD ¹
		elimination purpose)
Malaria	Increasing cases above the median (refer to appendix 1 on normal channel)	Number of cases that is above the 3rd quartile (the upper Limit of the expected number of cases Or A 2-fold increase in the number of cases compared to an expected number usually seen in previous season – specific time period
Measles ²	1 suspected case	.A cluster of 5 or more suspected cases OR at least three measles IgM positive cases in a district within 30 days Refugee camps, schools, in-patient, within a health facility: 1 case
Meningococcal meningitis ²	2 cases in the HF/same community in one week or an increase in the number of cases over previous non epidemic years.	a) Doubling (a 2-fold increase in) the number of cases for 2 consecutive weeks or 5 cases in the same week for population <30,000 b) In population greater than 30,000: 15 cases/100,000 inhabitants per week, in one week is epidemic threshold.
Neonatal tetanus (NNT)	1 suspected case	1 confirmed case
Onchocerciasis		A 2 fold increase in the number of cases
Plague ²	1 suspected case	1 confirmed case
Pneumonia under five	Increasing number of cases in a short time	Increasing number of cases in a short time
Human Rabies (suspected rabid bites)	Any bite from suspected rabid animal	Any bite from suspected rabid animal
Schistosomiasis		Increasing number of cases over a short period of time
STI	Not applicable	Not applicable
Trypanosomiasis		1 case in an area that is not endemic or For endemic areas 3 cases per 100,000
Tuberculosis ³	1 smear positive case	25 smear positive cases per 100,000
Typhoid fever	Increasing cases	5 suspected cases per 50,000 population or 20 suspected cases per District's catchment area or any 1 confirmed case by blood culture
Viral Hemorrhagic Fever	1 suspected case	1 confirmed case
Yellow Fever	1 suspected case	1 confirmed case
Adverse Events Following Immunization (AEFI)	1 suspected case	1 confirmed case irrespective of the classification
Adverse Drug Reactions (ADR)	1 suspected case	1 confirmed case irrespective of the classification
Outbreak of unknown cause		Any cluster of cases or deaths that had similar symptoms over a short period of time and fail to respond to treatment for the usual causes of the symptoms.

DISEASE NAME / CONDITION	ALERT THRESHOLD ¹	ACTION THRESHOLD ¹
Chemical events	1 suspect case of chemical poisoning	1 confirmed case
Radiological events	1 suspected case	1 confirmed case
Food safety events	≥2 persons with a similar illness after ingestion of the same food (except for botulism – 1 suspect case)	≥2 persons with a confirmed with similar illness after ingestion of the same food (except for botulism – 1 confirmed case)

7.0 Determining malaria epidemic thresholds

The IDSR provides weekly data for the early detection of malaria epidemics. In order to confirm the existence of a malaria epidemic at an early stage there is a need to compare the observed numbers to what can be considered **“EXPECTED”** for a particular health facility or district during a similar period of the year based on the data from the recent past. In order to do this, one has to obtain the data on malaria cases for the most recent 5 years. These data are then used to determine the expected cases also commonly referred to as the **“NORMAL CHANNEL”**.

Two methods are proposed; A) for the national, district and HSD level and
B) For the HCII and III level.

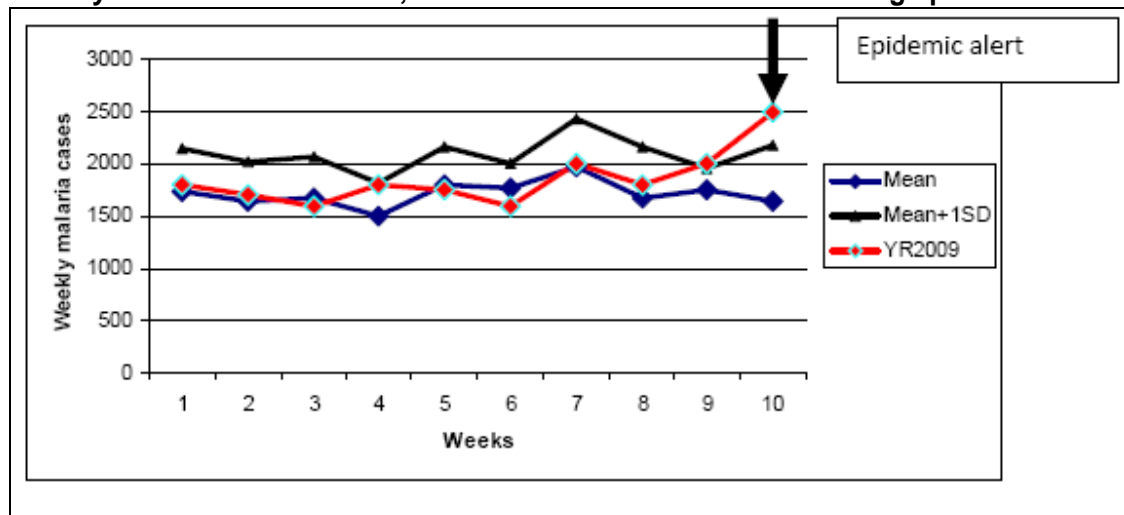
A) Epidemic threshold alert for the national, District and HSD level

1. Using MS EXCEL tabulate the malaria cases for each of the 52 weeks in a year for the most recent five (5) years.
2. Derive the mean (average) for the five years using the AVERAGE function in MS EXCEL as follows: if the cases are in cells A1–A5, the mean is generated by typing in a cell bellow AVERAGE (A1:A5).
3. Derive the standard deviation for each week using the STDEV function in MS EXCEL as follows STDEV (A1:A5).
4. Plot the means (the expected) for each week.
5. Plot the mean + 1SD – This is the upper normal.
6. The area between the mean and the mean+1SD is the expected malaria cases (NORMAL CHANNEL).
7. Compare by plotting the observed weekly malaria cases to the NORMAL CHANNEL
8. If the observed weekly malaria cases are above the upper plot of the Normal channel an epidemic alert exists and should be investigated within 24–48 hours.

Weekly malaria cases for the period 2004-2008, mean, SD and mean+1 SD

Year	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10
2004	1527.0	1851.0	1855.0	1183.0	2015.0	1800.0	1849.0	1455.0	1559.0	1530.0
2005	1979.0	2192.0	1900.0	1792.0	1868.0	2171.0	2550.0	2257.0	1683.0	2024.0
2006	2345.0	1540.0	2000.0	1240.0	1458.0	1678.0	2345.0	1278.0	2000.0	2280.0
2007	1339.0	1415.0	1600.0	1390.0	1425.0	1526.0	1490.0	1267.0	1613.0	1490.0
2008	1459.0	1234.0	1016.0	1876.0	2247.0	1637.0	1653.0	2128.0	1943.0	907.0
Mean	1729.8	1646.4	1674.2	1496.2	1802.6	1762.4	1977.4	1677.0	1759.6	1646.2
SD	420.6	379.0	396.4	318.9	356.4	248.5	453.4	478.6	199.4	531.2
Mean+1 SD	2150.4	2025.4	2070.6	1815.1	2159.0	2010.9	2430.8	2155.6	1959.0	2177.4
YR2009	1800.0	1700.0	1600.0	1800.0	1750.0	1600.0	2000.0	1800.0	2000.0	2500.0

Weekly malaria cases in 2009, mean and mean+1 SD demonstrating epidemic alert



B) Epidemic threshold alert for the health centre II and III

1. Tabulate the observed weekly malaria cases at the health facility for the most recent five (5) years for each of the 52 weeks in a year.
2. Sort the weekly cases in ascending order i.e. from the lowest to highest.
3. The number in the middle of the list is the median.
4. The fourth highest number [the fourth from the bottom], represents the 3rd quartile ((75th percentile). This is considered as the upper limit of the expected normal number of cases.
5. Plot the 3rd quartile (75th percentile) for each week and connect the points with a line. This forms the upper normal limit.
6. Plot the median for each week and connect the points with a line. This gives the normal trend.

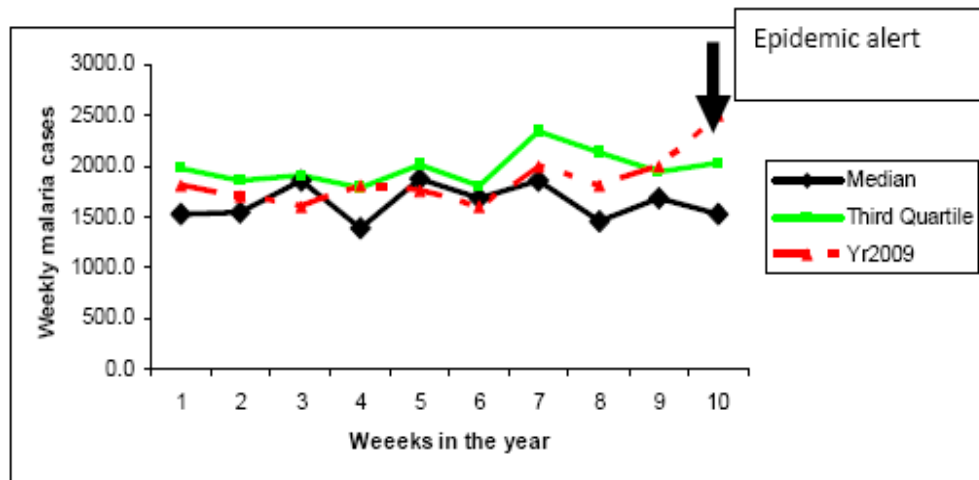
7. The area between the two lines is the expected (**Normal Channel**).

If the number of currently observed cases falls between the two lines, this is considered normal. If, however, the number is above the line of the 3rd quartile [upper limit], this may be an indication of an epidemic and must therefore be reported within 24–48 hours to the District Health Office.

Weekly malaria cases in ascending order for the period 2004–2008, Median and Third quartile

	WK1	WK2	WK3	WK4	WK5	WK6	WK7	WK8	WK9	WK10
	1339.0	1234.0	1016.0	1183.0	1425.0	1526.0	1490.0	1267.0	1559.0	907.0
	1459.0	1415.0	1600.0	1240.0	1458.0	1637.0	1653.0	1278.0	1613.0	1490.0
	1527.0	1540.0	1855.0	1390.0	1868.0	1678.0	1849.0	1455.0	1683.0	1530.0
	1979.0	1851.0	1900.0	1792.0	2015.0	1800.0	2345.0	2128.0	1943.0	2024.0
	2345.0	2192.0	2000.0	1876.0	2247.0	2171.0	2550.0	2257.0	2000.0	2280.0
Median	1527.0	1540.0	1855.0	1390.0	1868.0	1678.0	1849.0	1455.0	1683.0	1530.0
Third Quartile	1979.0	1851.0	1900.0	1792.0	2015.0	1800.0	2345.0	2128.0	1943.0	2024.0
Yr2009	1800.0	1700.0	1600.0	1800.0	1750.0	1600.0	2000.0	1800.0	2000.0	2500.0

Weekly malaria cases in 2009, median & third quartile, demonstrating epidemic alert



For a malaria epidemic to be detected early, each health unit or selected sentinel site is required to develop their normal channels as detailed above using data collected by the Health Management Information System [HMIS] and the integrated disease surveillance and response (IDSR) weekly reports. The health workers will then be required to plot the current (observed) weekly cases on a graph with the normal channel and observe any deviations from the normal or acceptable transmission channel.

5. DEFINITIONS OF OTHER HMIS 105 REPORTED DISEASES/ CONDITIONS

OTHER INFECTIOUS/ COMMUNICABLE DISEASES

Diarrhea Acute

Any person presenting with history of 3 or more loose watery stools in 24 hours. Other clinical features include abdominal cramps and signs of dehydration (thirst, sunken eyes, loss of skin elasticity, failure to pass urine etc).

Diarrhea Persistent

Any person presenting with history of 3 or more loose watery stools in 24 hours that has lasted more than 14 days. Other clinical features include signs of dehydration (thirst, sunken eyes, loss of skin elasticity, failure to pass urine etc), signs of malnutrition (wasting, edema of both feet and weight below 3 standard deviations)

ENT conditions

- i) **Otitis externa:** Infection of the external ear canal that is characterized by pain and tenderness on pulling the pinna, itching, swelling and pus discharge.
- ii) **Suppurative otitis media:** Acute or chronic infection of the middle ear occurring mainly in children < 2 years and is characterized by pain in the ear that is of acute onset, redness, fever, bulging of the ear drum and pus discharge <14 days (acute) or >14 days (chronic).
- iii) **Mastoiditis:** Inflammation of the mastoid bone and is characterized by fever and pain or tender swelling felt over the mastoid bone with or without pus discharge from the ear.
- iv) **Epistaxis:** bleeding from the nostrils.
- v) **Acute sinusitis:** Inflammation of the air sinuses of the skull and is characterized by throbbing head ache above the eyes, sinus tenderness, discharge from the nostrils into the throat, with or without nasal blockage.
- vi) **Pharyngitis (sore throat):** Inflammation of the throat that is characterized by pain on swallowing, fever, tender neck glands and exudates on the tonsils.
- vii) **Tonsillitis:** Inflammation of the throat that is most common in children and is characterized by fever, shivering, headache, vomiting, sore throat and enlarged tonsils and cervical lymph nodes

Ophthalmia neonatorum

Purulent discharge from the eyes of babies < 1month and is characterized by reddening of the eyes, and swelling of the eyelids.

Other eye conditions

- i. **Cataract:** Is opacity of the lens inside the eye and patients typically present with reduced vision and a pupil that is grey, whitish, brown or reddish in color.
- ii. **Conjunctivitis:** Is inflammation of the conjunctiva of the eye and is characterized by eye discharge, swelling, cornea is clear with normal visual acuity and redness that is more marked at the outer edge of the eye.
- iii. **Keratitis:** Is inflammation of the cornea characterized by eye discharge, swelling, cornea isn't clear, visual acuity is reduced and the eye is painful.
- iv. **Xerophthalmia:** Dryness of the exposed part of the eyeball due to vitamin A deficiency that typically starts with night blindness, followed by dryness of the conjunctiva and cornea and eventually the cornea melts away, the eye perforates and total blindness occurs.

Urinary Tract Infections (UTI)

- I. **Urethritis:** Any person of any age presenting with mucus or pus in the genital area or staining of the underwear, burning pain on passing urine (dysuria).
- II. **Cystitis:** Any person of any age presenting with lower abdominal pain (usually burning in nature), tenderness in the hypogastrium, urgency of passing urine, frequent passing of small amounts of urine. Other clinical features include painful passing of urine (dysuria), pus in the urine making it appear cloudy (pyuria) and/ fever
- III. **Pyelonephritis:** Any person presenting with fever, pains in the loins (renal angles), painful passing of urine (dysuria), desire to pass urine even when the bladder is empty (strangury) and frequent passage of small amounts of cloudy urine. Other clinical features include vomiting generalized body tremors. In children, diarrhea, convulsions or fever without any other symptoms.

Intestinal Worms

- i. **Ascariasis (Round Worms):** Any person presenting with history of passing out live worms through the mouth, nose or anus. Other clinical features include loeffer's syndrome (pneumonitis), nutritional deficiencies, obstruction of the bowel, bile duct, pancreatic duct or appendix.
- ii. **Enterobiasis (Threadworms):** Any person presenting with intense itching in the anal orifice where the female usually lays the ova.
- iii. **Hookworms:** Any person presenting with dermatitis (ground itch), cough and inflammation of the trachea (tracheitis). Other clinical features include iron deficiency anemia and reduced blood proteins in heavy infestations

Other types of meningitis

- i. **Cryptococcal meningitis:** Any person with signs and symptoms of HIV/AIDS presenting with insidious headache and neck stiffness that is on and off and progressively increasing in intensity, frequency and duration.
- ii. **Streptococcal meningitis:** Any person presenting with rapid onset fever, severe headache and neck stiffness or pain, convulsions with or without altered mental state, confusion or coma and a positive CSF culture for *Streptococcus pneumoniae*.
- iii. **Haemophilus Influenzae Meningitis:** Any child presenting with rapid onset fever, severe headache and neck stiffness or pain, convulsions with or without altered mental state, confusion or coma and a positive CSF culture for *Haemophilus Influenza type b*.
- iv. **Listeria Monocytogenes Meningitis:** Any person presenting with rapid onset fever, severe headache and neck stiffness or pain, convulsions with or without altered mental state, confusion or coma.
- v. **TB Meningitis:** Any person presenting with fever, severe headache and neck stiffness or pain, convulsions with or without altered mental state, confusion or coma. Other clinical features include excessive sweating and/ history of features suggestive of TB primary focus

No pneumonia – cough or cold

Any child aged 2months to 5 years presenting with cough or difficulty in breathing in the absence of any general danger sign (unable to feed, vomiting everything, convulsions or unconsciousness/ lethargy), chest in-drawing, stridor, or fast breathing.

Pneumonia

Cough or difficult breathing and fast breathing (>50/minute for infant aged 2 months to <1year or >40/minute for child aged 1 to 5 years) without chest indrawing, stridor or any danger signs.

Severe pneumonia

Cough or difficult breathing plus any danger sign (unable to drink or breast feed, vomits everything, convulsions, lethargic or unconscious) or chest in drawing or stridor in a calm child.

Skin Diseases

- i. **Boils (Furunculosis):** Any person presenting with one or more acute tender, painful swellings on the neck, breasts, face and buttocks. Other clinical features include pointing after three days and fluctuance of the swelling
- ii. **Cellulitis:** Any person presenting with warm, tense and shiny, painful and tender localized inflammation of any part of body.

- iii. **Eczema:** Acute or chronic superficial inflammation of the skin. Presents with vesicles, itchy rash commonly with dry rough scaly skin. Other clinical features include lesions that ooze to become wet and regional lymph nodes enlargement with or without fever when secondary infections occur
- iv. **Fungal Skin infections:** Any person presenting with an itchy skin lesions (desquamation, discoloration, erythematous and dry scaling with or without skin cracks and ulceration)
- v. **Herpes Simplex:** Any person presenting with fever, malaise, gingivostomatitis and vesicular lesions in the oropharynx.
- vi. **Herpes Zoster:** Viral infection of the dorsal root ganglia that presents with chills, fever and malaise preceding characteristic crops of vesicles that are painful, typically unilateral and involve the side supplies by the affected nerve.
- vii. **Scabies:** Contagious skin disease that presents with intense pruritic eruptions of wheals, papules, vesicles and thread like burrows common in the flexural areas (wrists, inter-digital creases, axillae, nipples, buttocks and genitalia).
- viii. **Tropical Ulcer:** An acute ulcerative skin disease which occurs in the lower third of the leg and is characterized by trauma, painful swelling, blister with blood stained discharge leading to an oval lesion with necrotic yellowish/black necrotic sloughs that easily separate to form an ulcer with raised and thickened edges. The floor of the ulcer has early bleeding granulations and foul smelling yellowish discharge

Tetanus (Over 28 days age)

Any person above one month of age who presents with stiff jaw (trismus), generalized spasms induced by external stimuli (pain, sounds and strong light), grimace (risus sardonius) and arching of the back (opisthotonus) with the patient remaining clearly conscious.

Pelvic Inflammatory Disease (PID)

Is infection of the uterus, ovary or uterine tubes that is characterized by lower abdominal pain/ tenderness, vaginal discharge, swellings in the lower abdomen, and tenderness on moving the cervix.

MATERNAL AND PERINATAL DISEASES/CONDITIONS

Abortions due to gender-based violence (GBV)

Any woman in the child bearing age (15-49 years) with amenorrhea (no periods for at least two months) presenting with vaginal bleeding with or without loss of products of conception before 28 weeks of gestation following GBV*.

**GBV: Is violence involving men and women, in which the female is usually the victim and which is derived from unequal power relationships between men and*

women. Violence is directed specifically against a woman because she is a woman, or affects women disproportionately. It includes, but is not limited to, physical, sexual and psychological harm (including intimidation, suffering, coercion, and/or deprivation of liberty within the family or within the general community).

Abortions due to other causes

Any woman in the child bearing age (15-49 years) with amenorrhea (no periods for at least two months) presenting with vaginal bleeding with or without loss of products of conception before 28 weeks of gestation and not related to GBV.

Malaria in Pregnancy

Any woman in the child bearing age (15-49 years) with amenorrhea (no periods for at least two months) presenting with fever associated with headache, chills, sweats, nausea, with or without joint pains and vomiting.

High Blood Pressure in Pregnancy

Any woman in the childbearing age (15-49 years) with amenorrhea (no periods for at least two months) presenting with persistently high resting blood pressure (measured to be above 140/90mmHg).

Obstructed Labor

Any woman whose labor fails to progress (no evidence of descent of the presenting part) despite good uterine contractions.

Hemorrhage in Pregnancy

- i) **Ante partum Hemorrhage (APH):** Any woman in the childbearing age (13-49 years) presenting with vaginal bleeding after 28 weeks of gestation up to the 2nd stage of labor.
- ii) **Post Partum Hemorrhage (PPH):** Severe vaginal bleeding in a woman following delivery of a baby. Severe bleeding in this case refers to bleeding with clots, loss of more than 500mls of blood or presence of signs of shock following delivery regardless of the amount of blood lost.

PERINATAL CONDITIONS IN NEWBORNS (0-7 DAYS)

Prematurity

A baby born before between the 28th and the 36th week of gestation.

Asphyxia

A newborn with failure to establish normal breathing.

Infection in a newborn

A newborn with fever (temperature above 37.4⁰ C) accompanied by any of the following:

- Increased rate of breathing (more than 120 breaths per minute)
- Bulging anterior fontanelle with or without stiff neck
- Convulsions

NEONATAL CONDITIONS (NEWBORNS 8-28 DAYS)

Neonatal septicemia

Is a serious blood bacteria infection in an infant less than 4 weeks of age who has been active and sucking well gradually or suddenly becomes lethargic, inactive (overly sleepy), floppy, or unresponsive and refuses to suckle.

NON COMMUNICABLE DISEASES

Anemia

Any person presenting with general body weakness, shortness of breath and clinically has pale palms and mucus membranes (conjunctiva or mouth)

Asthma

Any person presenting with cough (usually dry), difficulty in breathing with chest tightness and wheezing (rhonchi) without fever

Oral diseases and conditions

- i. **Dental Abscess:** Any person presenting with pain, swelling and tenderness in a carious tooth. Fever and Headache may also be present
- ii. **Dental Caries:** any person presenting with localized toothache with a hole or breakage of the continuity of the enamel (White part of the tooth)
- iii. **Gingival infections:** Any person presenting with red and swollen gums with or without ulceration, bleeds easily when touched. Other clinical features include fever, swelling of cervical lymph nodes and difficulty in eating and drinking
- iv. **Stomatitis:** Any person presenting with inflammation (red, raw and painful) of the tongue and lining of mouth. Other clinical features include ulcers on the gum, palate and lips.

Alcohol and drug abuse

- i. **Alcohol dependency Syndrome:** Any person presenting with a disorder characterized by the need to take large daily amounts of alcohol for adequate functioning. Clinical manifestations include alcohol intoxication, delirium, dementia, alcohol hallucinosis, alcoholic cardiomyopathy, alcohol fetus syndrome, alcohol withdrawal fits, tremors and damage to the liver and pancreas
- ii. **Drug and substance abuse:** A state arising from the repeated administration of a drug or other substance of abuse on a periodic or continuous basis leading to social, physical or occupational problems. Clinical manifestations of drug and substance abuse include change in behaviour (e.g. excessive irritability), change in function (e.g. decline in work performance), loss of interest, episodes of intoxication (e.g. slurred speech and staggering gait) and change in appearance (e.g. weight loss, red eyes, puffy face, unkempt, and untidy)

Bipolar disorder

Any person with a mood disorder characterized by radical emotional changes and mood swings, from manic highs to depressive lows. The majority of bipolar individuals experience alternating episodes of mania and depression as described below.

Mania

Any person of any age presenting with elevated, expansive or irritable moods, increased speech with flight of ideas, increased self image (grandiose delusions), restlessness and over activity. Other clinical features include increased libido, increased appetite (with weight loss due to over-activity) and hallucinations (auditory and visual)

Depression

Any person presenting with low mood and loss of interest or pleasure associated with apathy, lack of body energy, body weakness and suicidal thoughts. Other clinical features include difficulty in concentrating, poor sleep, poor appetite, reduced libido and multiple body pains

Schizophrenia

Any person presenting with any two or more of the following:

- Delusions (abnormal beliefs). Such beliefs may be multiple, fragmented or bizarre
- Disconnected ideas with speech which is vague and inadequate in content
- Hallucinations (especially auditory forms)
- Inappropriate moods and response
- Difficulty in forming and sustaining relationships
- Apathy with self-neglect.

HIV related psychosis

Any HIV-positive patient exhibiting psychotic disorders like hallucinations, delusions, flight of ideas, and paranoid delusions.

Childhood mental disorders

Depression

Any child who experiences persistent feelings of sadness in addition to changes in eating or sleeping patterns and any of the following:

- A sudden drop in school performance
- Loss of interest or pleasure in activities once enjoyed
- Outbursts of shouting, complaining, unexplained irritability, or crying
- Thoughts of death or suicide
- Expressions of fear or anxiety
- Aggression, refusal to cooperate, antisocial behavior
- Use of alcohol or other drugs
- Constant complaints of aching arms, legs, or stomach with no apparent cause

Attention deficit/ hyperactivity disorder

Any child with hyperactivity, impulsiveness, and an inability to sustain attention or concentration or any of the following:

- Difficulty finishing activities that require concentration
- Don't seem to listen to anything said to them
- Excessive activity, talking incessantly and very easily distractible

Conduct Disorder

Any child showing a persistent disregard for the norms and rules of society and who exhibits at least three of the following behaviors over six months:

- Stealing
- Constantly lying
- Deliberately setting fires
- Skipping school
- Breaking into homes, offices, or cars
- Deliberately destroying others' property
- Displaying physical cruelty to animals or humans

Epilepsy

- i. **Grand mal epilepsy:** Characterized by tonic contraction of muscles followed by jerking movements. Usually associated with urinary incontinence, frothing and tongue biting. The seizures are followed by a period of deep sleep or post-ictal psychosis.
- ii. **Petit mal epilepsy:** Common in children and is characterized by brief loss of consciousness in which posture is retained but other activities cease with the child having a vacant stare.
- iii. **Temporal lobe epilepsy:** Presentation varies but signs include sweating, flushing, illusions, hallucinations, memory loss or distortion, mood variation, abnormal repetitive lip movement, automatism.
- iv. **Focal epilepsy:** Presents as fits that begin with motor contraction or sensory change in a particular point of the body.
- v. **Myoclonus epilepsy:** Presents as abnormal jerking movements of the limbs but may involve the whole body.
- vi. **Status epilepticus:** Characterized by seizures that last more than 30 minutes or several seizures occurring in succession without recovery of consciousness in between.
- vii. **Nodding Syndrome:** Any person (usually child or adolescent) who was normal prior to being reported with head nodding that manifests with repetitive involuntary drops of the head towards the chest on two or more occasions.

Dementia

Any person with significant impairment of two or more brain functions - such as memory, language skills, perception, or cognitive skills including reasoning and judgment - without loss of consciousness.

Other forms of mental illness

Anxiety disorders

- i. **Generalized Anxiety:** Any person presenting with unrealistic and excessive worry about two or more life events. Other clinical features include palpitations, tremors, frequency of micturition, urinary hesitancy or urgency, diarrhea and dizziness
- ii. **Panic Attacks:** Persons with panic attacks present with sudden onset of intense apprehension or terror lasting a few minutes to about one hour associated with palpitations, tremors, urinary frequency, hesitancy or urgency, diarrhea and dizziness.
- iii. **Obsessive Compulsive Disorder:** Any person presenting with repeated disturbing thoughts associated with time consuming actions. Other clinical manifestations include tremors, palpitations, urinary frequency, hesitancy or urgency, diarrhea and dizziness
- iv. **Phobia:** Persistent fear of a known stimulus (object or situation), e.g. animals, water, confined spaces etc
- v. **Post traumatic Stress Disorder:** Post traumatic Stress disorder is said to be present when a person who experienced a major threatening life event, begins to experience the same either in thoughts or in dreams later in life. Other symptoms may include diarrhea and dizziness, tremors, palpitations, urinary frequency, hesitancy or urgency.

Other cardiovascular diseases

- i. **Deep Vein Thrombosis (DVT):** Painful swelling of the calf, thigh and groin and Homan's sign may be positive. Complicated cases with pulmonary embolism will in addition present with fever, chest pain, hemoptysis and dyspnoea.
- ii. **Infective endocarditis:** Acute or chronic illness with patients presenting with unexplained fevers with heart valve problems (prominent and changing heart murmurs), finger clubbing, anemia, enlarged spleen or liver and heart failure.
- iii. **Coronary heart disease:** Pain and tightness in the chest that worsens on exertion and relieved by rest and lasting a few minutes. May be associated with vomiting, sweating, tachycardia, low BP and arrhythmias.

- iv. **Pericarditis:** Patients will present with pain behind the sternum that radiates to the shoulder and worsens on deep breathing, change of position or exercise.
- v. **Pulmonary edema:** Patients present with difficulty in breathing, rapid breathing and cough with frothy sputum.
- vi. **Rheumatic Heart Disease:** Characterized by dyspnoea, palpitations and heart murmurs usually in children 3-5 years and as a complication of rheumatic fever which is a systemic connective tissue disease caused by group A streptococcal the upper respiratory tract infection and is characterized by migratory polyarthrits, fever, subcutaneous nodules, chorea and cardiac failure.

Severe Malnutrition

- i. **Marasmus:** A condition due to low intake of protein and energy giving foods especially in children and cases typically present with low weight for age (<60% of expected weight for age), without oedema.
- ii. **Kwashiorkor:** A condition due to low intake of protein and energy giving foods especially in children and cases typically present with low weight for age (60-80% of expected weight for age), with oedema.
- iii. **Marasmic-Kwashiorkor:** A condition due to low intake of protein and energy giving foods especially in children and cases typically present with low weight for age (<60% of expected weight for age), with oedema.

Injuries

- i. **Road traffic accidents:** Any person who sustains physical injuries or dies from the injures as a result of a collision involving at least one vehicle in motion on a public or private road.
- ii. **Due to gender based violence:** Any woman who sustains physical injuries due to violence perpetuated by a man directed specifically against a woman and which is derived from unequal power relationships between men and women.
- iii. **Trauma due to other causes:** Any person who sustains physical injuries from causes other than road traffic accidents or gender based violence.

Animal bites

Bites inflicted by some animals, including dogs, bats, and wild animals that can transmit rabies.

Snake bites

An injury caused by a bite from a snake, often resulting in puncture wounds inflicted by the animal's fangs and sometimes resulting in envenomation.