

Orientation on Disease Surveillance **for Health Care Providers**



**ORIENTATION ON DISEASE SURVEILLANCE
FOR HEALTH CARE PROVIDERS**

2016

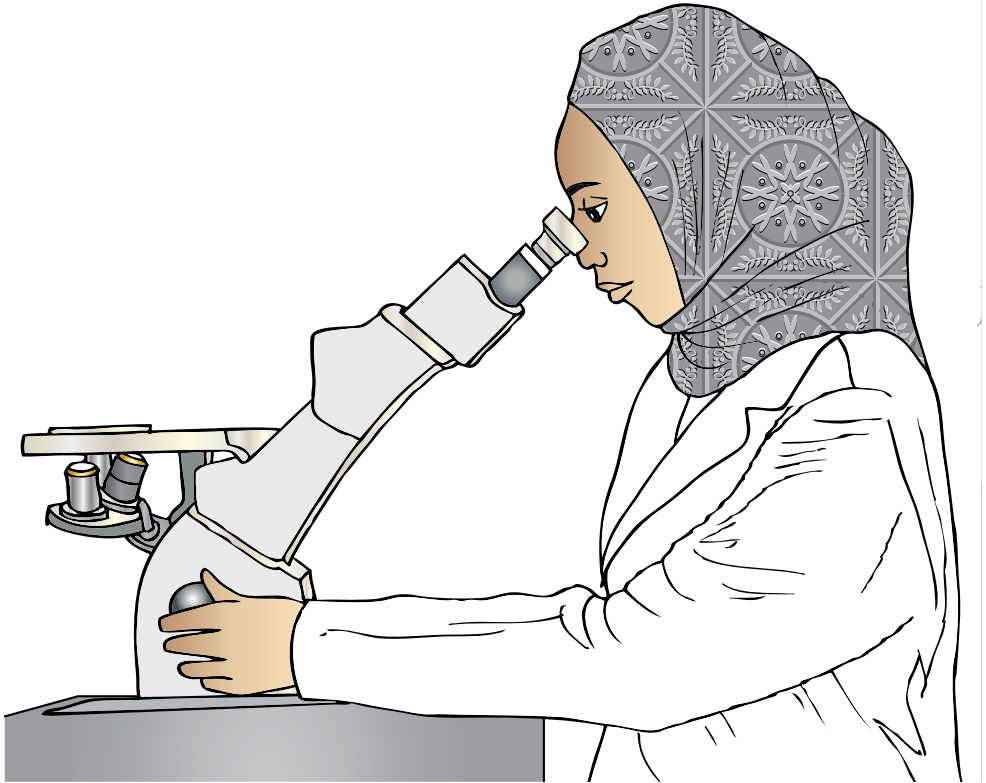
Contents

Foreword

Acknowledgement

Session 1:

Overview of Disease Surveillance in Kenya



Disease Surveillance Definition

Ongoing, systematic,

- collection,
- analysis, and
- Interpretation of health-related data essential to the planning, implementation, and evaluation of public health practice, closely integrated with the timely dissemination of these data to those responsible for prevention and control

'WHO Definition'

"Information for Action"

Uses of surveillance

Immediate Use

- Disease control and management
- Contact tracing
- Outbreak identification

Long-term Use

- Trend & seasonality identification
- Identification of populations at-risk
- Elimination of disease
- Eradication of disease
- Rationale for funding, etc.

Key definitions in Surveillance

Disease Control;

- Can be defined as efforts aimed at reduction of disease incidence, prevalence, morbidity or mortality to a level that is locally acceptable as a result of deliberate efforts.
- The efforts include various measures that prevent and contain the spread of infectious diseases such as Immunization for measles control

Examples of diseases for control

- Measles
- TB
- Malaria

Disease elimination ;

- Can be defined as the reduction to zero, of the incidence of a specified disease in a defined geographical area as a result of deliberate efforts such as immunization, enhanced hygiene practices.
- Elimination requires continued measures to prevent re- establishment of disease transmission

Examples of diseases targeted for elimination

- Leprosy
- Maternal & Neonatal Tetanus

Disease eradication;

- Is the complete interruption and worldwide reduction to zero transmission of the causative agent of the specific disease
- As long as the disease exists in any part of the world, eradication has not been accomplished
- Smallpox is the only disease that has been eradicated
- Polio and Guinea worm are current diseases targeted for eradication
- Vaccination programs have succeeded in eliminating polio from all countries except Afghanistan and Pakistan.

Types of surveillance

1. Facility Based Surveillance:

Surveillance based on populations who seek health care services in health facilities
– The most common type of surveillance

2. Community Based Surveillance (CBS):

Based on data from individuals and households at the village/locality level rather than from health institutions or facilities

Community Based Surveillance(CBS)

Community-based surveillance;

- Compliments the facility based surveillance
- A network that constantly engages community health volunteers (CHV) in active search for cases in households and village level who report to the health facility

Role of Health Care Providers in CBS

Includes;

- Investigating and following up CHV's notification of disease/event
- Providing feedback to the CHV about the investigation outcome immediately when available such as laboratory results
- Encouraging CHVs to look for cases of specific disease at community and household levels
- Working with partners to implement prevention and control measures
- Ensuring documentation of CHVs reported cases/events
- Ensuring regular meetings and trainings of CHVs on surveillance

Role of CHV in community surveillance

Includes;

- Sensitizing community on the dangers of diseases and how they can be prevented
- Looking out for diseases and report to health facility
- Referring and encouraging persons with disease to visit the health facility
- Assessing and advising on health issues during house visits such as excreta and wastes disposal, food hygiene, personal or family hygiene
- Assisting in mobilizing the community, including identifying village leaders who can assist in activities of health promotion
- Reporting any health events/conditions or disease to the health facility
- Reporting and correcting any negative health related issues such as myths and rumours

Summary of Roles

Activity	Responsible person
Case Detection	<ul style="list-style-type: none">• Community Health Volunteer• Health care provider
Case Management	<ul style="list-style-type: none">• Health care provider
Reporting	<ul style="list-style-type: none">• Health care provider• Surveillance Coordinator
Investigation	<ul style="list-style-type: none">• Surveillance focal person – County, S/County & Hospital
Response	<ul style="list-style-type: none">• Health care provider• Surveillance Coordinator• Partner
Feedback,	<ul style="list-style-type: none">• Health care provider• Surveillance Coordinator• Community Health Volunteer
	<ul style="list-style-type: none">• Health care provider• Surveillance Coordinator

Integrated Disease Surveillance and Response (IDSR) priority diseases

3 categories of priority diseases

- Epidemic prone diseases such as cholera, Viral haemorrhagic fever, Yellow fever
- Diseases targeted for eradication /elimination such as polio, guinea worm, Maternal Neonatal tetanus and measles
- Diseases of public health importance such Malaria, HIV/AIDs and TB

Public health events of international concern (PHEIC) are also reportable as per International Health Regulations 2005 (IHR 2005)

IDSR Reporting requirements

- Health workers are required to document and regularly submit reports on priority diseases
- Disease diagnoses must be recorded in patient registers by health facility staff
- Some diseases are required to be reported immediately, others weekly and others monthly

For example

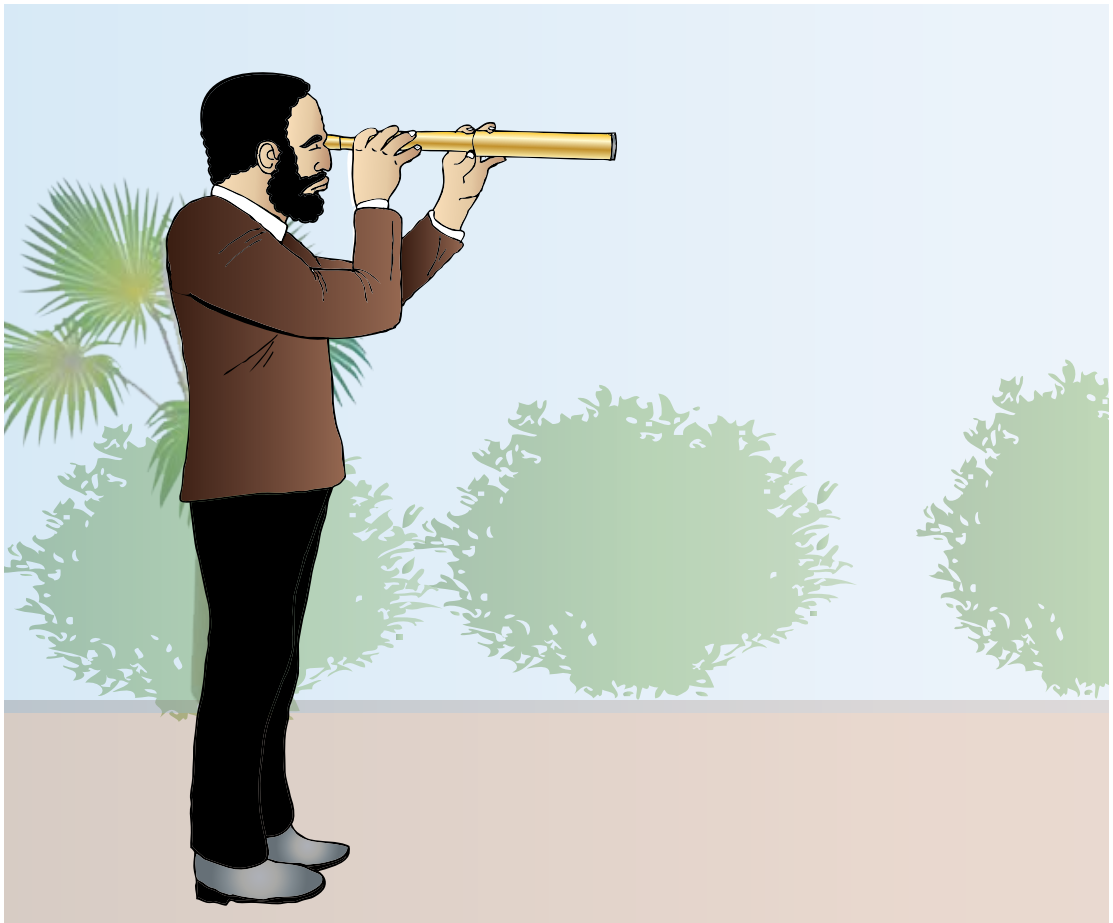
Immediately – Viral haemorrhagic Fever, Polio and Guinea worm

Weekly – All diseases for immediate reporting, Malaria, Typhoid

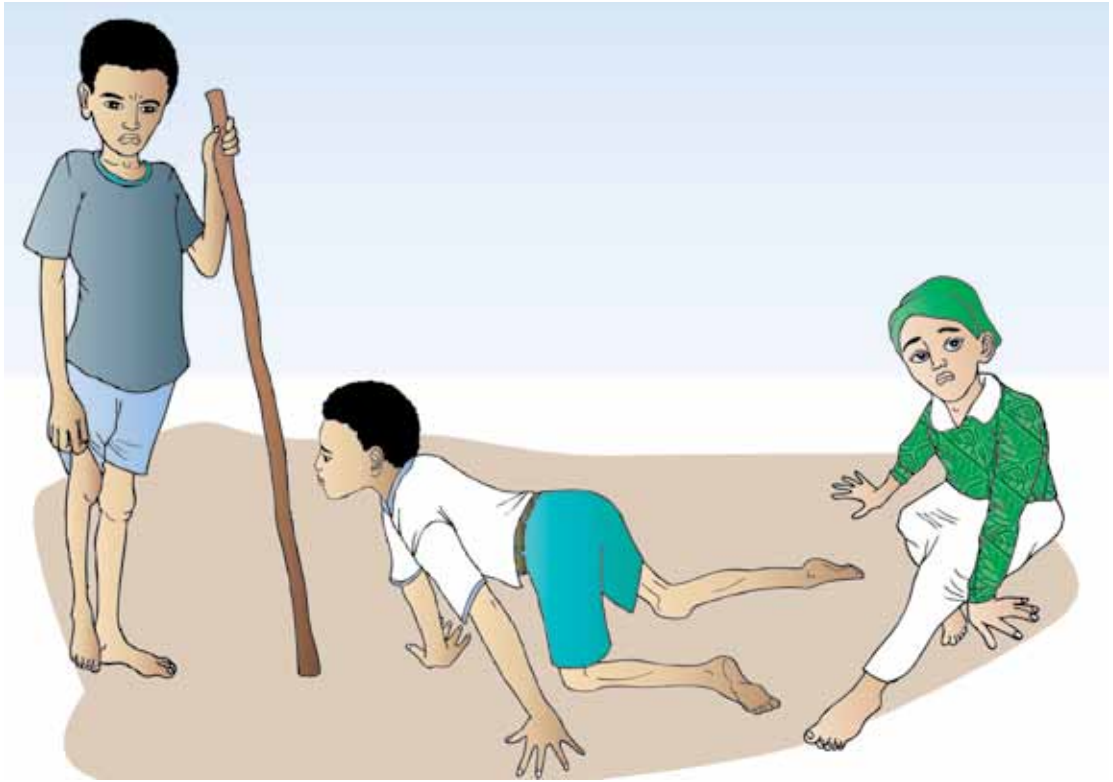
Monthly – All diseases for weekly reporting, TB, HIV/AIDs

*For more information refer to IDSR Technical Guidelines

Keep Watching, Searching & Predicting!



Session 2: Polio Eradication

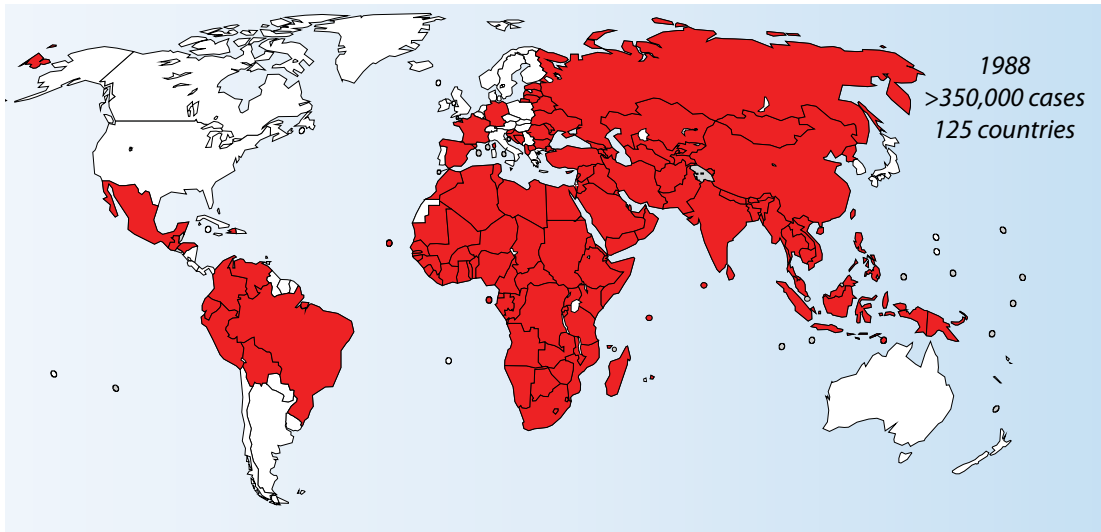


Poliomyelitis (polio) Eradication

- A global effort was launched in 1988
- In 1988, almost all countries were infected with polio
- Only 2 countries still have polio as of July 2016;
 - Pakistan and Afghanistan are the only remaining polio *endemic countries
- The last case of wild polio in Africa was in August 2014 in Somalia
- In Kenya the last polio case was in 14 July 2013 (imported from Somalia)

** Endemic means that the virus is indigenous and not imported*

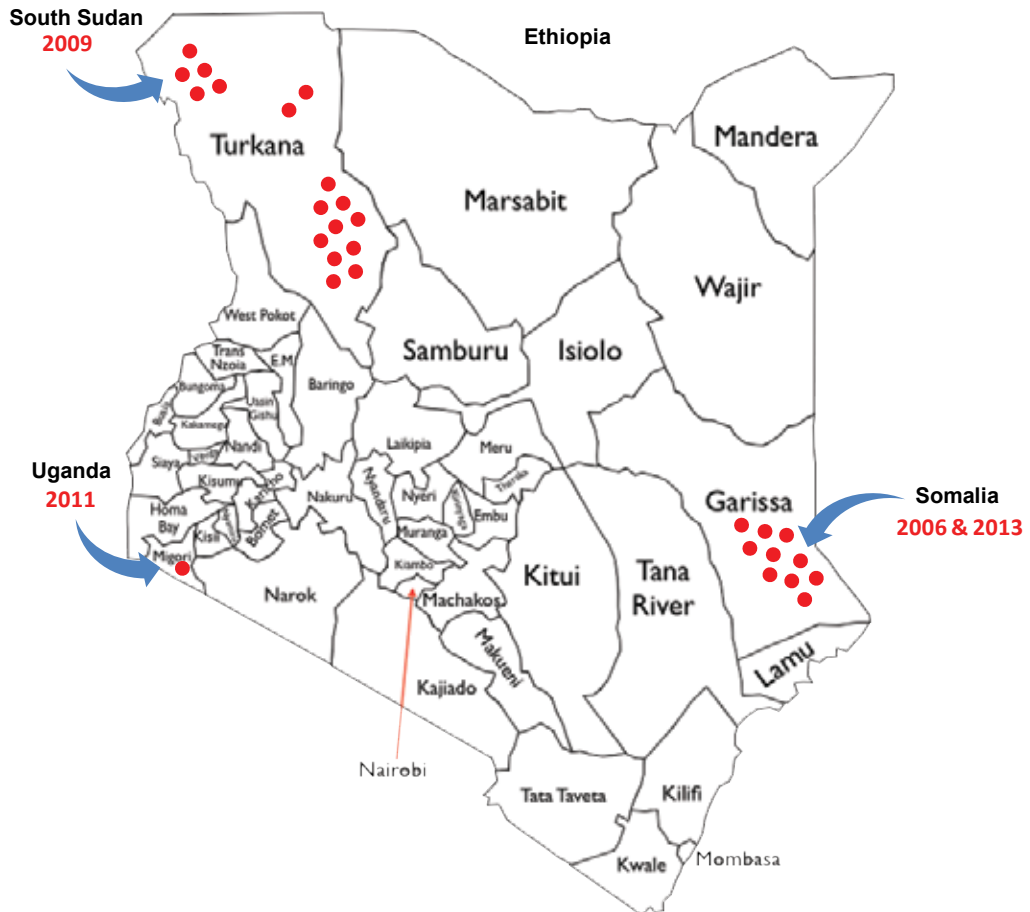
Wild Poliovirus 1988-2016



Polio in Kenya

- The last case of endemic wild poliovirus in Kenya was in 1984
- Kenya has however had polio outbreaks due to importations in 2006, 2009, 2011 & 2013 from neighboring countries of Somalia, South Sudan and Uganda
- The outbreaks were contained within recommended time
- However the country is still at risk because;
 - Some children are not immunized/fully immunized against polio
 - Poliovirus still exists in some countries,
 - Kenya shares porous borders with some neighboring countries that have low immunization coverage

Polio Outbreaks in Kenya, 2006 - 2013



Eradication of Poliovirus

What makes it hard?

- Man is the only reservoir – There is no animal reservoir
- Availability of an effective vaccine (oral polio vaccine & Inactivated Polio Vaccine)
- The virus survives poorly in the environment
- There is no long term carrier state (the virus does not stay long in the body)

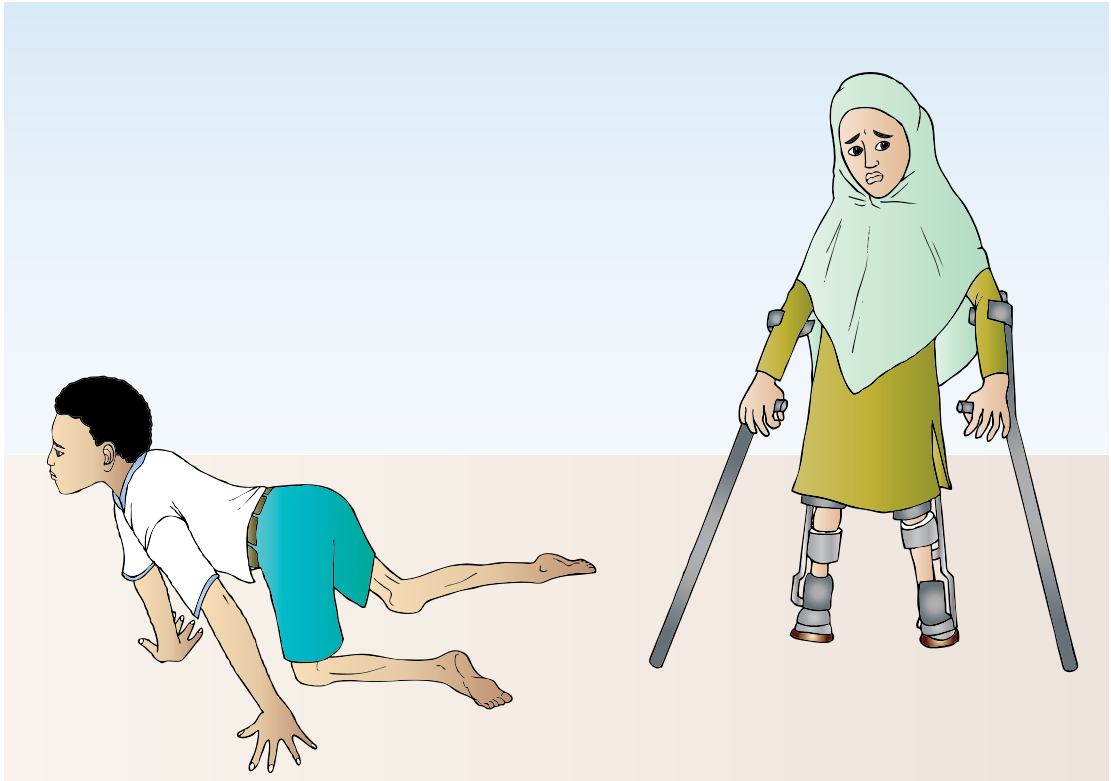
What makes it hard?

- Asymptomatic infection
- There are other diseases with similar symptoms

WHO Recommended Strategies for Polio Eradication

- High routine immunization coverage with at least 3 doses of OPV in children before their first birthday
- Surveillance for all cases of Acute Flaccid Paralysis (AFP).
 - Cases must be fully investigated and stool specimens taken to KEMRI polio lab to rule out polio as the cause of the paralysis
- Mass Immunization campaigns or Supplemental Immunization Activities – SIAs (NIDs & SNIDs)
 - critical for building population immunity to prevent importation
- Mopping-up immunization
 - this is done when wild poliovirus is confined to small geographical area or immediately after an importation.

Session 3: Poliomyelitis(polio) the Disease



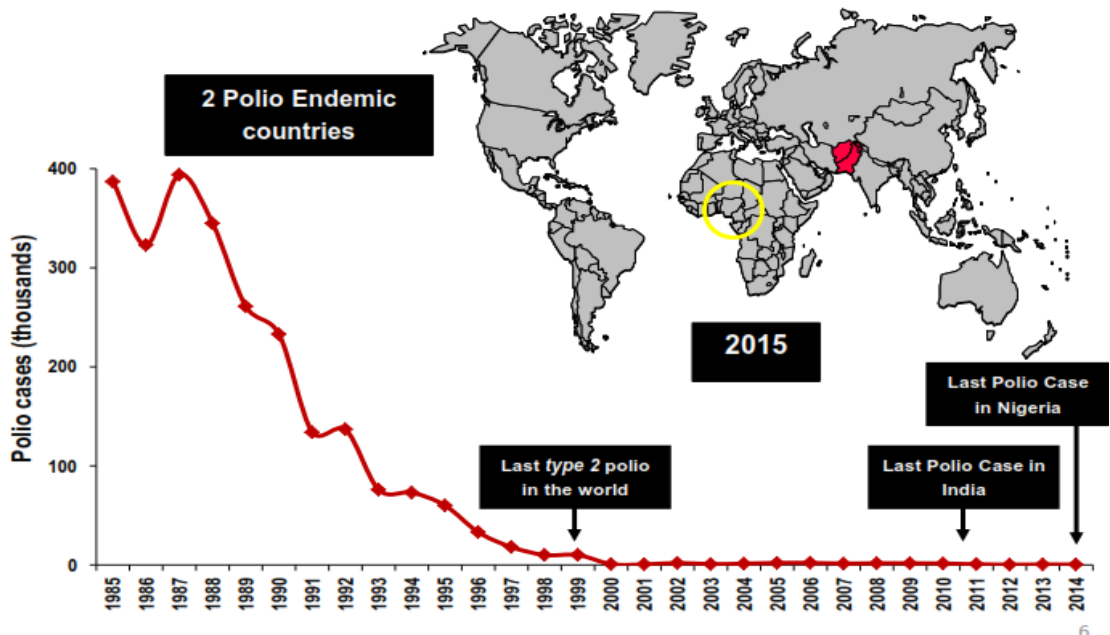
Introduction

- Poliomyelitis or polio is a highly infectious disease caused by polio virus and presents with acute flaccid paralysis
- The polio virus has three serotypes; Type 1, 2 and 3
- Poliovirus infects human beings only
- Polio can affect persons of any age who are not immune but children below five (5) years of age are more vulnerable to the disease

The poliovirus

- Type 2 wild poliovirus was eradicated in 1999
- Type 3 wild poliovirus was last reported in 2012
- Type 1 is the cause of the most recent outbreaks

Wild Poliovirus Eradication 1988-2014



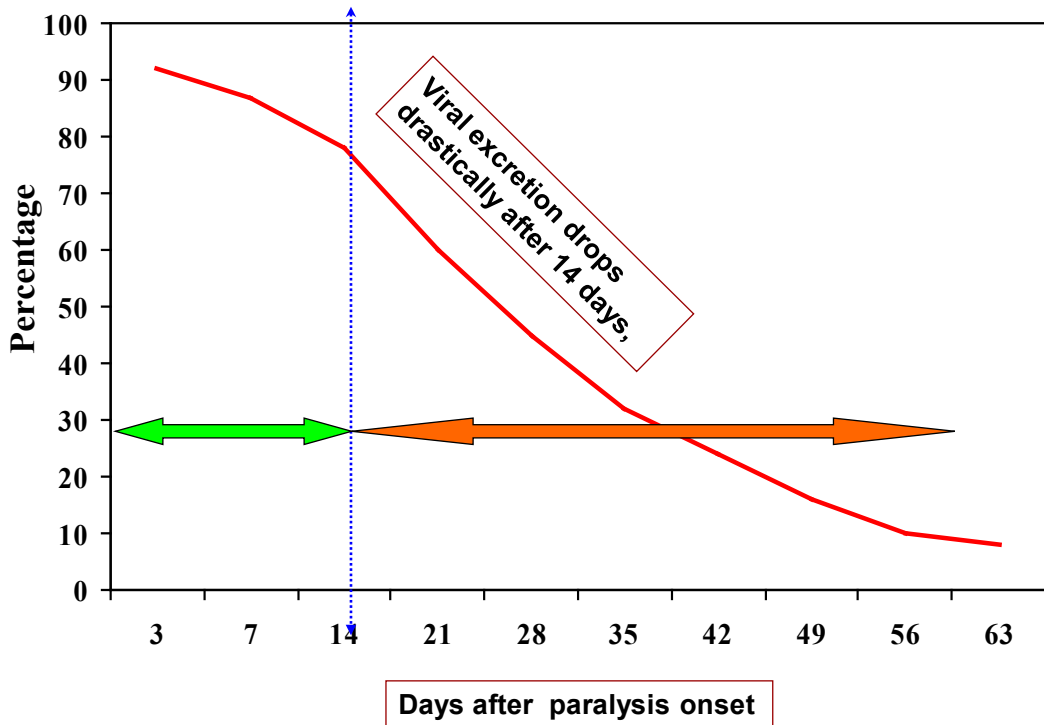
Immunity against Polio Disease

- The disease is highly infectious
 - Infected individual infects all other persons who are not immune in a household, especially where sanitation is poor.
 - Approximately 1 out of 200 of the infected get paralysed
- Immunity against poliovirus infection is developed by immunization or natural infection.
- Immunity following natural infection or administration of OPV or IPV is believed to be life-long.
- Immunity is type specific – one type does not protect against the other types.
- Infants born to mothers with high antibody levels against poliovirus are protected for the first weeks of life

Polio transmission

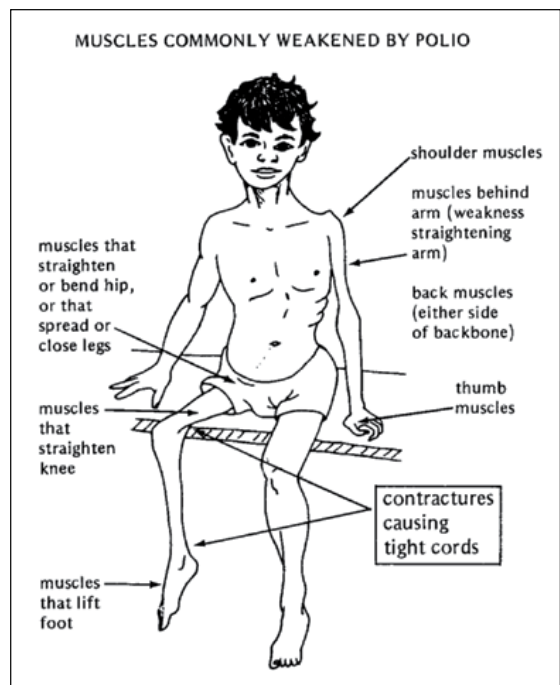
- Person-to-person via the faecal-oral route
- Usually the incubation period is 7-21 days with a range of 3–35 days
- The virus spreads rapidly and transmission is usually widespread by the time of paralysis onset
- The virus is intermittently excreted for up to 2 months after infection
 - There is no long-term carrier state
- The heaviest faecal excretion of the virus occurs just prior to the onset of paralysis and during the first 2 wks (14 days) after paralysis

Excretion of the virus in the feces with time



Disease progression in the body

- The infection attacks parts of the spinal cord, where it damages the nerves that control movement
- Paralysis may affect any muscles of the body, but is most common in the legs
- Paralysis is of the 'floppy' type (not stiff)
- Paralysis begins after signs of a cold and fever, sometimes with diarrhoea or vomiting
- After a few days the neck becomes stiff and painful and parts of the body become limp
- Parents/care giver may notice the weakness right away, or only after the child recovers from the acute illness

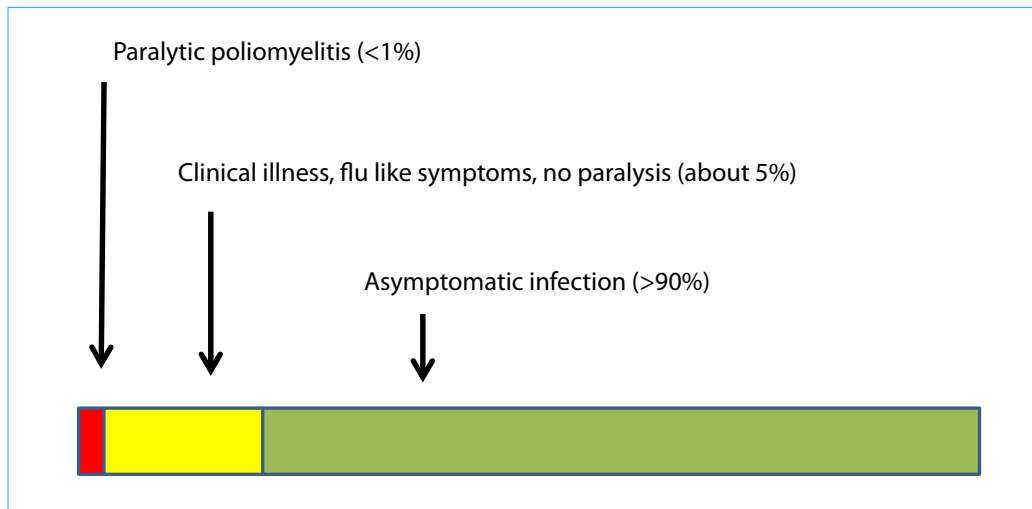


- Often the paralysis will gradually go away, partly or completely
- Any paralysis after 7 months is usually permanent
 - The paralysis will however not get worse.

Clinical Manifestations

- Polio is most often recognized by the acute onset of flaccid paralysis
- Paralysis due to polio is usually;
 - Asymmetrical with fever present at onset
 - Occurs over a short period of time, (3-4 days) with lower limbs more affected than upper limbs
- Majority of patients who are infected with polioviruses show little or no symptoms and may not know that they had an infection with polioviruses.
 - More than 90% are either in-apparent or result in a non-specific fever
 - About 5% have fever, malaise, headache, nausea and vomiting
 - Less than 1% result in paralysis
- All infected persons can infect others; even those with no symptoms or signs

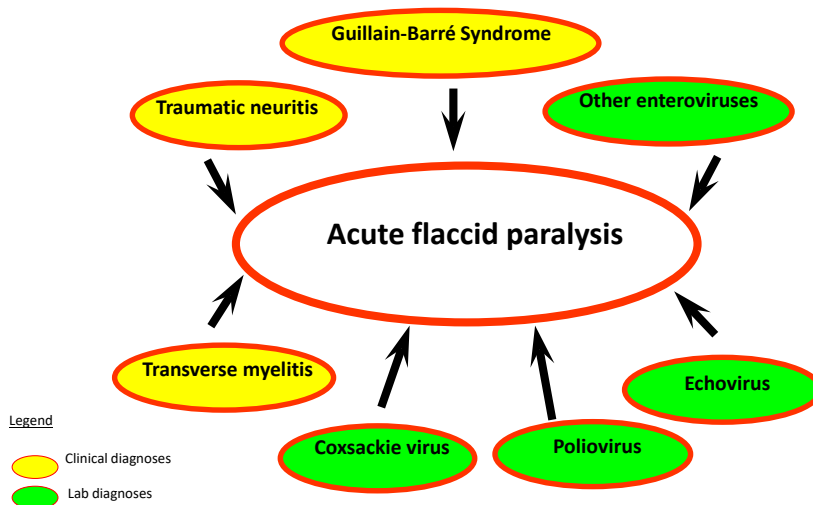
Outcome of poliovirus infection



Differential Diagnosis

- Other enteroviruses can cause an illness simulating paralytic poliomyelitis;
- The differential diagnosis of AFP include Guillain-Barré syndrome, traumatic neuritis and transverse myelitis, encephalitis, meningitis.
- Polio can only be distinguished from these other paralytic conditions by lab isolation of the poliovirus from stool specimens.

AFP differential diagnosis



Any of these should be reported to the AFP surveillance system

Poliovirus in the environment

- The virus does not survive long in the environment outside the human body
- Poliovirus (WPV & VDPV) in the environment indicates recent poliovirus infections in the human community
- Contamination of surface waters may occur through discharge of untreated or inadequately treated sewage or run off from contaminated soil.

Session 4: AFP Surveillance for Polio Eradication



Learning Objectives

- To familiarize the clinical staffs (doctor, nurse, clinical officers or any concerned health worker) on AFP surveillance system in Kenya
 - AFP Case definition
 - AFP Surveillance System– Surveillance sites, Types of surveillance
 - Ways to identify AFP cases
 - Reporting and feedback system
 - Case investigation
 - Challenges in AFP surveillance
- Role of health care providers and surveillance officers

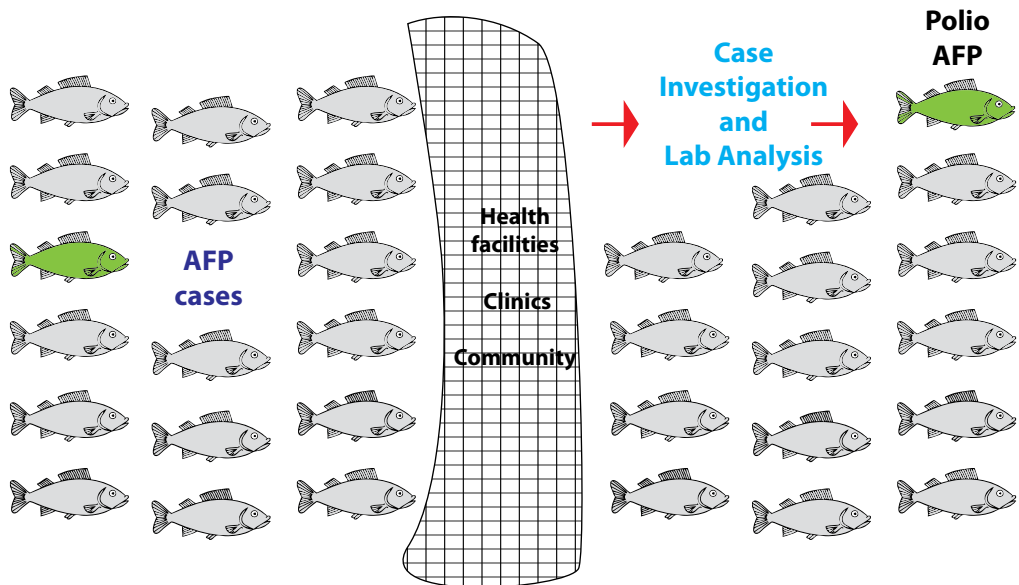
Rationale for Acute Flaccid Paralysis (AFP) Surveillance

- AFP surveillance is one of the four recommended strategies for polio eradication
- For polio eradication, AFP surveillance rather than polio surveillance is recommended
- AFP surveillance casts a wider net to capture all AFP cases,
- AFP Surveillance helps to;
 - Detect circulation of wild polioviruses if present
 - Demonstrate absence of wild polioviruses
 - Show that surveillance meets the performance needed for certification
 - Guide immunization activities

Accurate surveillance for polio is essential for eradication

AFP Surveillance System

AFP surveillance system is composed of; Health facilities, Clinics, Community



AFP case detection

- Using the AFP standard case definition, cases may be detected during:
 - Day-to-day clinical exercise;
 - Active cases search;
 - Retrospective record reviews
 - Voluntary reporting from the community
 - Treatment of patients by traditional healers/herbalists
 - Visits/consultation to religious leaders
- Supervision to the health facility and community health volunteers also offers opportunity to inquire about AFP cases not yet reported.

Strategy for AFP surveillance

AFP surveillance emphasizes on active surveillance

- Active surveillance is a strategy that aggressively identifies AFP cases through regular visits to;
 - Community to search for patients or persons with acute flaccid paralysis
 - Health facilities
 - Admission wards

Why Active surveillance?

In polio eradication, every case counts but many AFP cases are seen or admitted though never reported for investigation

- AFP case reporting from health facilities is not always exhaustive, hence active surveillance
- Active surveillance strengthens collaboration between health facility and community. It;
 - Improves timeliness of case detection and reporting
 - Ensures accuracy of case detection and reporting
 - Enables rapid case investigations
 - Allows completeness of investigation
- Active surveillance also triggers timely response to confirmed wild polio case

AFP case definitions

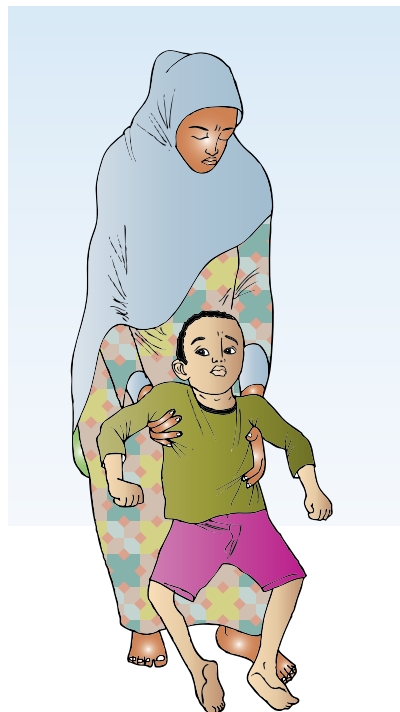
Standard case definition for Clinicians

- Any child under 15 years of age with Acute (sudden onset) Flaccid Paralysis (weakness of the limb/s),
or
- Any person of any age with paralytic illness if Polio is suspected by a clinician.
- Any case meeting this definition is investigated to determine if the paralysis is caused by polio.

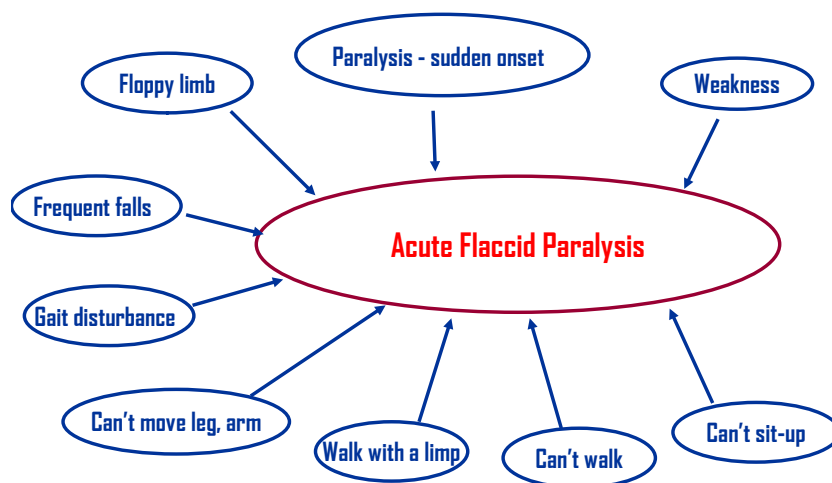
Lay case definition - for community

- Any child below 15 years of age who develops sudden weakness or paralysis in the leg(s) and/or arm(s) not caused by injury.

Cases reported by community should be subjected to the standard case definition.



Signs to identify Acute Flaccid Paralysis cases



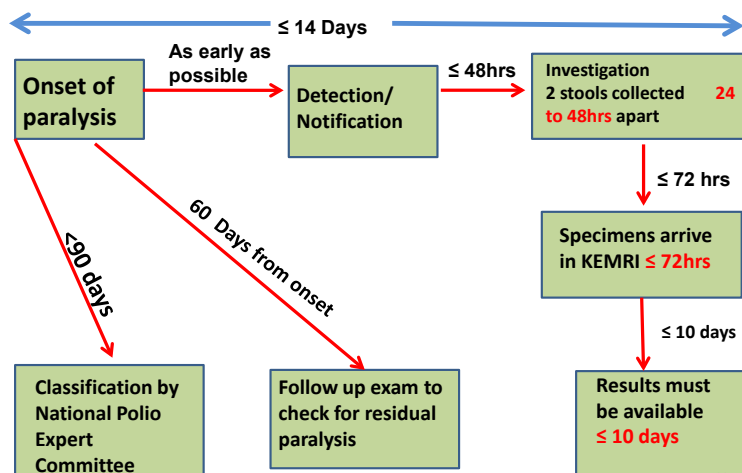
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What happens when AFP cases are detected

Investigations should start immediately when a case meets AFP case definition

- Stool specimen must be collected within 48 hours of notification (Time is very important)
- TWO specimens should be obtained 24-48 hours apart as early in the course of disease as possible (ideally within 14 days after onset)
- IDSR case based investigation form (MOH 502) must be filled
- Specimens should be shipped (transported) and arrive in KEMRI polio Laboratory within 72 hours of collection
- All specimens from AFP cases should be transported in reverse cold chain

AFP Surveillance flow chart



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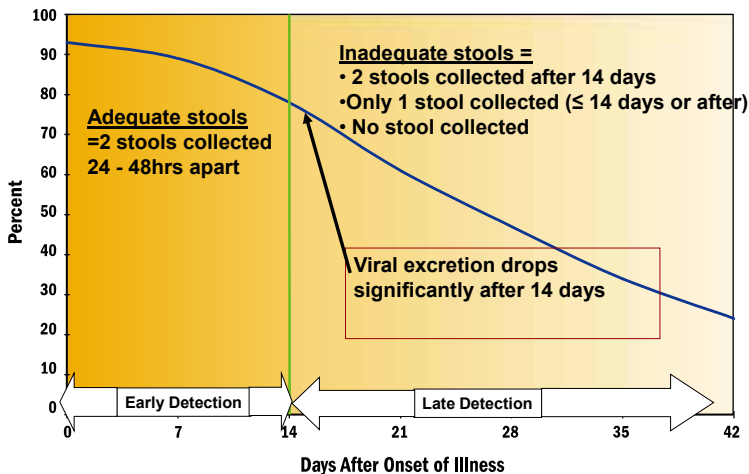
Inadequate AFP cases

- AFP cases detected after 14 days of onset of paralysis, or which has only one stool collected are referred to as “inadequate AFP cases”

For all inadequate AFP cases;

- Stool specimens must be collected from 3 close contacts (1 stool per contact)
- Close contacts could be siblings or playmates mostly aged less than five years.

Adequate or Inadequate stool specimens



AFP Performance indicators

AFP surveillance is monitored through a set of indicators but two are key;

- Non-Polio AFP rate - based on the population of children aged less than 15 years in a subcounty/county/country
 - Target 2.0/100,000
- Stool adequacy of AFP cases – based on the number of cases with two stool specimens collected 24-48 hours apart and within 14 days of onset of paralysis
 - The target at least 80% of all reported AFP cases

Definition of key indicators

Non-polio AFP Rate

- The incidence of AFP caused by diseases other than poliomyelitis in the population below 15 years of age.
- In calculating this rate, cases reported as Wild Polio Virus, compatibles and Vaccine Derived Polio Virus are excluded from the numerator
- The non-polio AFP rate is an indicator of surveillance “sensitivity”.

Interpretation of AFP surveillance indicators

Sub-optimal non-polio AFP rate may be interpreted that;

- If it is $< 2/100\ 000$ then the surveillance system is probably missing cases of AFP.
- AFP cases in the community are not being reported
- Health workers are not identifying AFP cases
- AFP cases are reported but not investigated

AFP stool adequacy rate less than 80%:

- AFP cases are detected late
- Parents and communities are not aware of system
- Delay in investigating cases (health workers not involved, inadequate active surveillance),

Role of health care provider in AFP surveillance

- Health care providers have a crucial role in detection, investigation, reporting and management of AFP cases

Their role in AFP surveillance is to;

1. To build capacity and give feedback to community through CHVs on AFP surveillance
2. To manage the AFP cases they detect or which are referred by the CHV
3. To detect cases of AFP using standard case definition
4. To report to Surveillance Focal Point or Coordinator immediately for stool specimens collection

Role of health facility in AFP surveillance

1. To nominate focal person for disease surveillance
2. Report cases of AFP immediately
3. Submit timely weekly reports on MOH 505 (IDSR priority disease)
4. Report monthly on DHIS 2
5. Establish and link community based surveillance with health facility

Role of Surveillance Coordinator in AFP Surveillance

Includes;

- Conducting regular active surveillance and timely feedback to health facility, clinicians and community such as lab results, performance
- Ensuring prompt investigations of identified AFP cases by facility
- Ensuring collection of specimens from AFP cases and shipment in good condition to KEMRI polio laboratory

- Updating health workers, including physio therapists and occupational therapist on polio eradication and AFP surveillance or on new national guidelines
- Sensitizing community; traditional healers, traditional birth attendants and community leaders on the issues of polio eradication
- Compiling and forwarding weekly surveillance reports from the facilities

Why AFP cases are missed

AFP cases are not always reported or missed because;

- AFP are so rare that they are often missed
- Health care providers in health facilities are not aware of AFP reporting requirement or about polio eradication strategy
- Many health care providers believe they can differentiate conditions like GBS from polio on clinical grounds
- Health care providers may be aware of AFP surveillance system, but not motivated to report

Challenges in AFP Surveillance

- Weak linkage of AFP surveillance between facility and community
- Inaccurate and incomplete recording of diagnosis /signs/ symptoms in the patient registers
- Inadequate knowledge on AFP case definition
- Inadequate active surveillance
- Low or late reporting and investigation of AFP cases
- Incomplete data collection during investigation such as missing variables like onset of paralysis, vaccination status, sites of paralysis, age etc
- Inadequate funding for surveillance activities;
 - Active surveillance,
 - Supervision

Environmental Surveillance

- Alongside AFP surveillance, Kenya conducts environmental surveillance
- Environmental Surveillance only supplements AFP surveillance
 - Environmental Surveillance only supplements but does not replace AFP surveillance
- Currently (2016) in Kenya ES is carried out in four towns including Nairobi (Kisumu, Mombasa & Garissa)

Session 5:

Measles and Maternal Neonatal Tetanus Surveillance



Objectives of presentation

Measles

- To orient health care providers on;
 - The basic principles of measles case based surveillance
 - Case definitions of Measles
 - Recommended strategies for measles control

MNT

- To orient health care providers on;
 - Case definitions of MNTE
 - Recommended strategies for MNT Elimination
 - How to confirm a case of NNT
 - Challenges in surveillance

MEASLES SURVEILLANCE

Measles control

Goal

Reduction of Measles cases by 90% and deaths by 95%

Recommended Strategies

- Strengthening routine immunization at 9 months
- Providing a second opportunity for vaccination with measles vaccine:
 - Second dose of measles vaccine in routine immunization at 18 months
 - Supplemental immunization
- Strengthening of case-based measles surveillance
- Strengthening of measles Case Management (including Vit A supplementation)

Measles Standard Case Definition for clinicians

***Fever + Maculopapular Rash + Cough
or Coryza (runny nose)***

or Conjunctivitis (red eyes)

OR

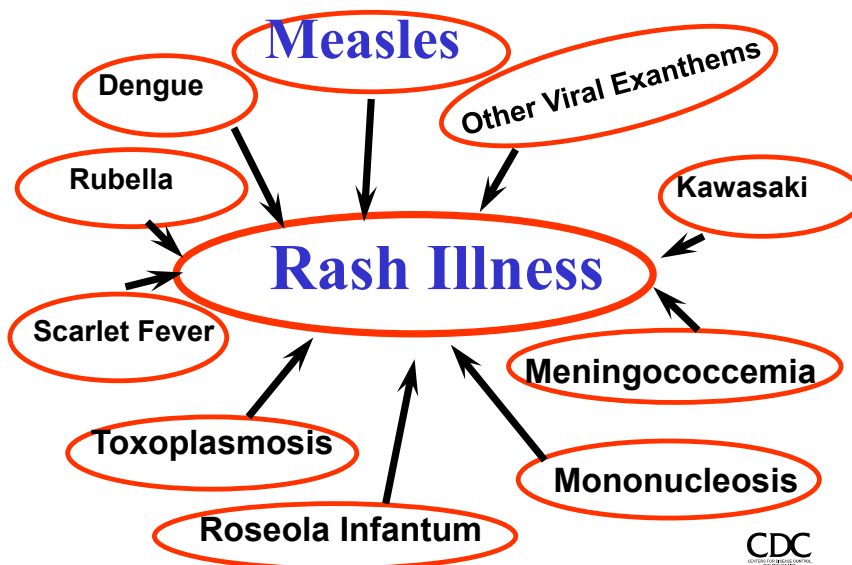
If a Clinician Suspects Measles



Measles Lay Case definition for community

ANY PERSON with FEVER and RASH

Measles Differential Diagnosis



Measles outbreak - definition

- A suspected outbreak of measles is defined as the occurrence of 5 or more reported suspected cases of measles in one month in the same geographical area
- A confirmed measles outbreak is defined as the occurrence of 3 or more laboratory confirmed measles cases in a health facility/ subcounty within one month

Measles Investigation

- Blood specimens should be collected at the first contact but within 28 days of rash onset.
- Carefully remove the serum, avoiding extracting red cells, and transfer aseptically to a sterile labeled vial.
- Sample must arrive in KEMRI within 72 hours of collection
- Collect only 5 samples for lab confirmation and linelist all additional cases

Managing Measles cases

- There is currently no specific treatment for measles infection
- Administration of Vitamin A to children decreases the severity of disease and case fatality rate
- Encourage increased fluids intake and do not withhold food.
- Treat symptoms (fever, itchy skin, etc.).
- Treat complications or secondary infections, if present.
- This may include administration of tetracycline eye ointment, oral antibiotics and GV mouth paint for oral sores.

Elimination of Maternal & Neonatal Tetanus

MNT Elimination - Definition

- Maternal and neonatal tetanus (MNT) elimination is defined as less than 1 case of neonatal tetanus for every 1,000 live births in all subcounties per year.
- As maternal and neonatal tetanus are closely linked, the neonatal tetanus (NT) rate is a proxy for maternal tetanus rate

MNT elimination - Strategies

- Reduction of NNT cases to less than 1 per 1,000 live births in every subcounty in the country. This should be done through
 - Identifying high risk groups/areas and take appropriate action
 - MNT surveillance (currently not quite sensitive)

- Need 3Cs: Clean hands, Clean delivery services & Clean umbilical cord and stump care
- Immunization of women during pregnancy with TT vaccine.
- Immunization of women of reproductive age with TT, through SIAs in high-risk areas.

Challenge in MNT Elimination

- The true extent of the tetanus death toll is not known as many newborns and mothers die at home and are not reported
- It is estimated that fewer than 5% of NNT cases are actually reported, even from well-developed surveillance systems- 'the silent killer'

Case definitions

Neonatal tetanus - Any neonate with a normal ability to suck and cry during the first two days of life, and who between 3 and 28 days of age cannot suck normally, and becomes stiff or has convulsions (i.e. jerking of the muscles) or both

Maternal tetanus - Tetanus during pregnancy, or within 6 weeks of the end of pregnancy (whether pregnancy ended with birth, miscarriage, or abortion), and has the same risk factors and means of prevention as NNT



Muscle spasms can be severe enough to fracture vertebral bodies

What should health care providers do when they suspects NNT?

- Manage case
- Report case to Surveillance Focal Point /Coordinator
- Fill the IDSR case investigation form (MOH 502)
- Respond by immunizing the affected mother and all females of childbearing age in her locality
- No specimen is collected for a case of NNT
- IDSR form (MOH 502) should be filled and sent to the surveillance coordinator after confirming the outcome, (Alive, Dead, Unknown).

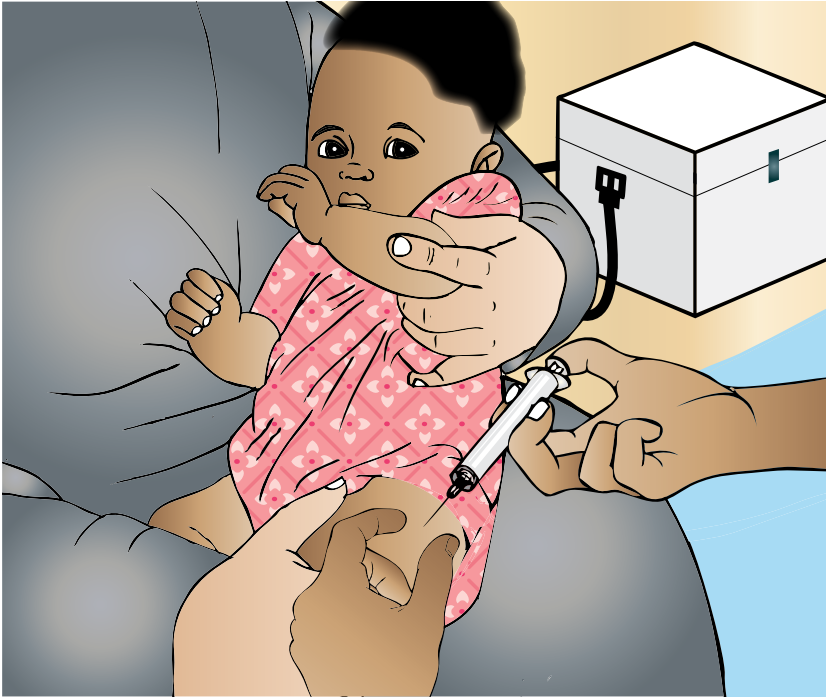
Overcoming MNT Elimination Challenges

- Provide information and education at the community level in order to increase awareness of prevention
- Monitor maternal and neonatal deaths at community level and investigate
- Promote Zero reporting for all diseases including NNT
- Health care provider to investigate and report all NNT suspected cases including those who have died

Challenges in Measles & MNT surveillance

- Under-reporting of NNT cases
- Not adhering to case definition
- Community not informed or involved in disease surveillance
- Oversampling of measles suspected cases – more than 5 within same month
- Data disparity between case based, weekly and DHIS reports

Session 6: Routine Immunization



Introduction

Immunization

- Is the process through which a person is made resistant to vaccine preventable diseases
- Vaccines stimulate the body's defence system to protect the person against subsequent infectious diseases
- Immunization is a proven intervention for controlling, eliminating and eradicating life-threatening infectious diseases
- It is one of the most cost effective investments with proven strategies to reduce diseases frequency and death (morbidity and mortality)
- Immunization has clearly defined target groups

Types of Vaccine

There are 2 types of vaccines

Live attenuated vaccines

Inactivated vaccines

Live attenuated vaccines

- Derived from disease-causing viruses or bacteria that have been weakened under laboratory conditions.
- Usually, only one dose of this type of vaccine provides life-long immunity, with the exception of OPV, which requires multiple doses.
 - OPV provides gut immunity and therefore several doses are required

Examples:

- Virus, e.g., oral polio vaccine (OPV), measles, yellow fever
- Bacteria, e.g., BCG vaccine

Delivery of Immunization Services

Immunization programs should provide and administer safe effective vaccines to targeted population to reduce;

- Morbidity
- Mortality
- Disability

There are several strategies for the routine delivery of immunization services

Fixed facility: The daily delivery of vaccinations in a health facility to its catchment population

Outreach: The regular delivery of services conducted on well publicized days and locations to hard to reach populations who are not able to access the regular services due to distance and terrain.

Mobile strategy: Involves health workers going to remote or hard to reach parts of the health facility catchment area and staying there for more than one day. Example to pastoral and nomadic population,

Whichever strategy is used, health workers must;

- Follow national immunization policy
- Comply with the national immunization schedule,
- Maintain the vaccine cold chain,
- Practice injection safety,

Public Health Importance of immunization

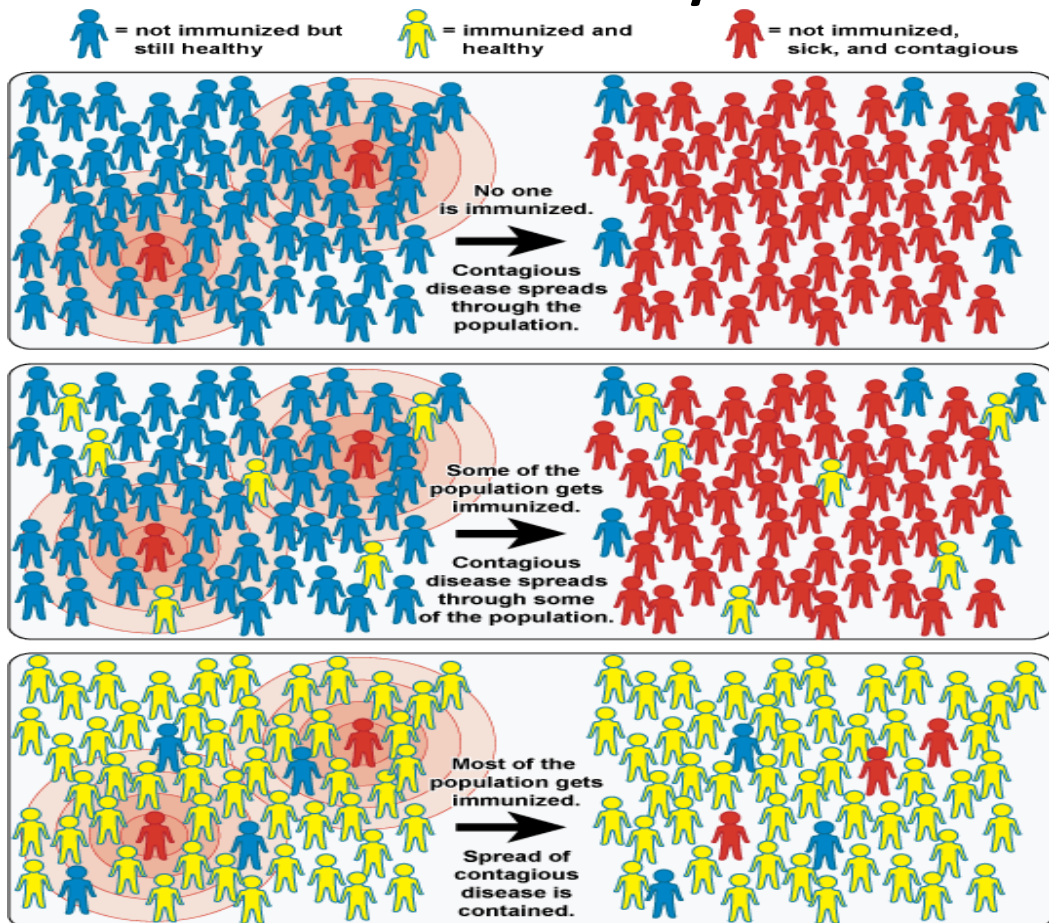
- Every immunized individual is protected from the disease and is incapable of transmitting it to others
- A population that has high number of immunized individuals, provides “herd immunity” or to unimmunized individuals.

Herd Immunity or community immunity

Herd immunity also called community immunity

- A form of indirect protection from infectious disease that occurs when a large percentage of a population has become immune to an infection, thereby providing a measure of protection for individuals who are not immune
- Only works if most people in the population are vaccinated (for example, 19 out of every 20 people need to be vaccinated against measles to protect people who are not vaccinated).

Herd Immunity

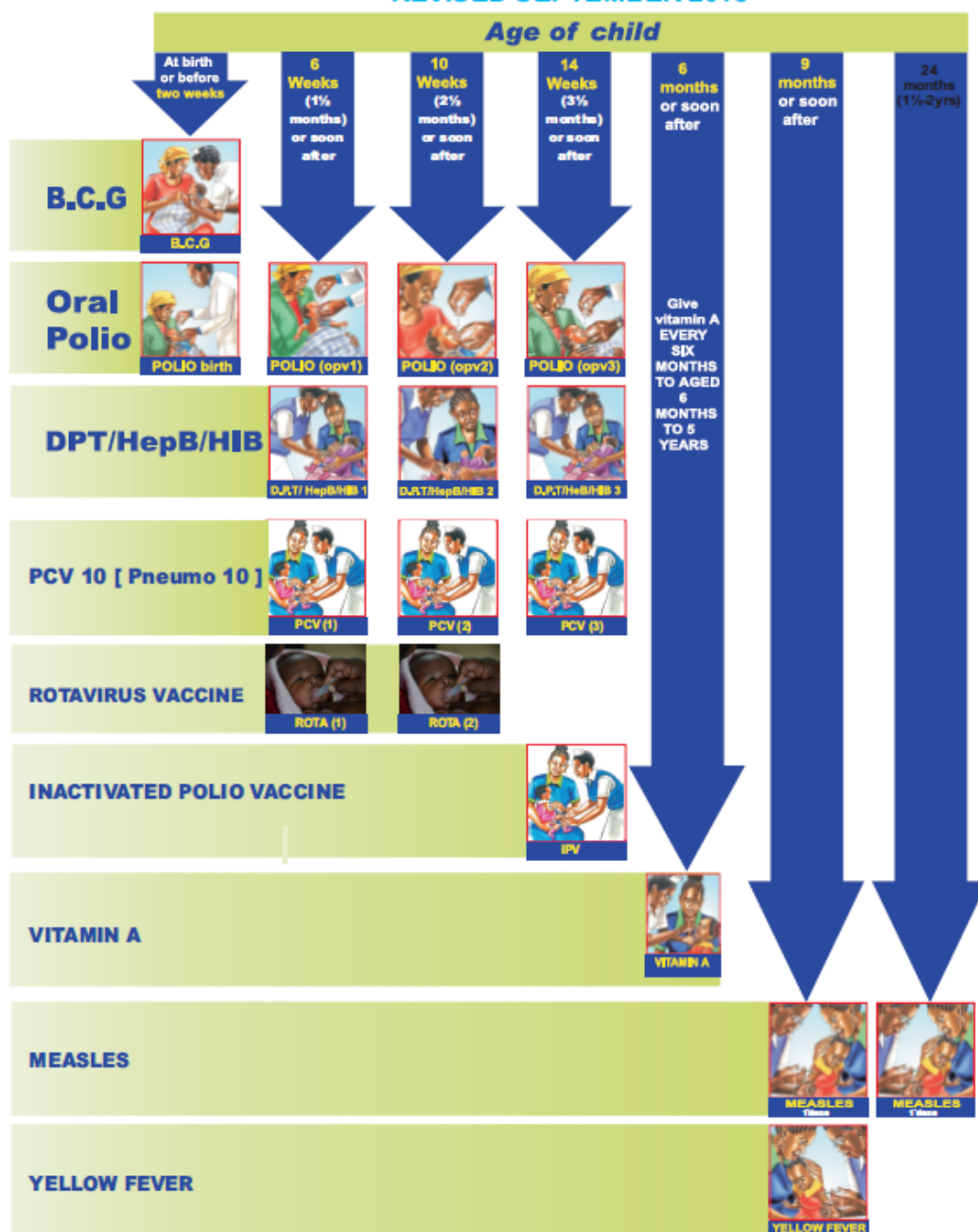


UNIT OF VACCINES & IMMUNIZATION SERVICES

ROUTINE IMMUNIZATION SCHEDULE

Ensure your child completes ALL vaccinations as per the SCHEDULE

REVISED SEPTEMBER 2015



Yellow fever is given only in 2 high risk Counties Baringo and E/Marakwet

Why IPV was introduced

Rationale for this includes:

- It does not cause any paralysis and is a very safe vaccine (it is not a 'live')
- Introduction sets the stage for ending OPV use entirely after WPV eradication has been achieved
- Reduce risks of an outbreak after type 2 OPV vaccine withdrawal
- It will help stop outbreaks quickly if type 2 virus is reintroduced
- Boosts immunity against polio types 1 & 3 to protect populations and hasten eradication
- When use of OPV is eventually stopped, IPV will continue to provide full protection

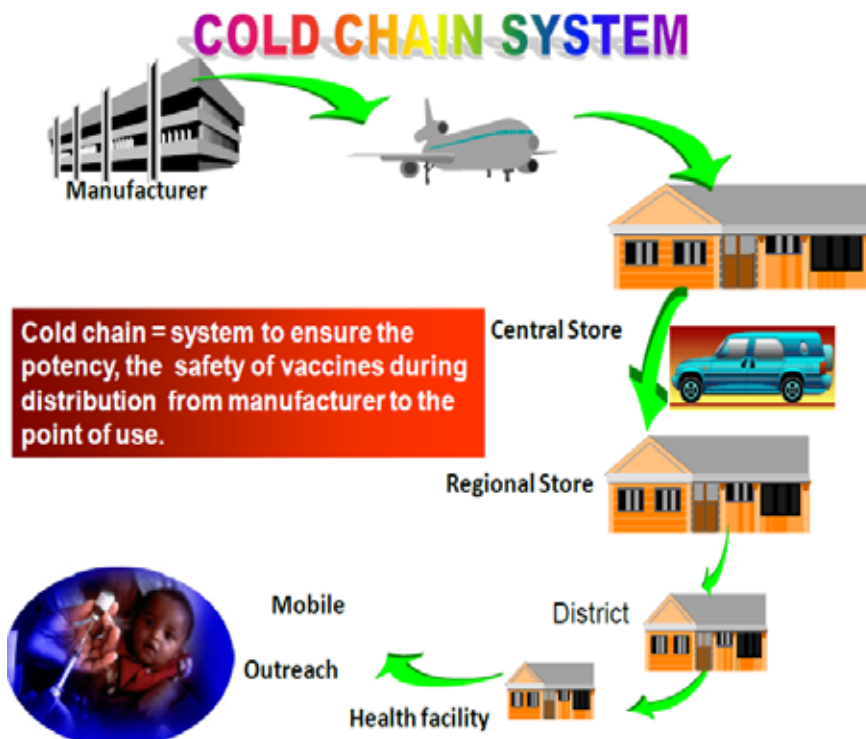
Vitamin A schedules and administration Routine schedule for Kenya

Target	Dosage	Frequency	Timing
Lactating mothers	200,000 IU	single	At delivery or during BCG vaccination 4 weeks of delivery
Infants 6-11 months	100,000 IU	single	Together with Measles at 9 months or any other contact with MCH as from the age of 6 months
12-59 Months	200,000 IU	Single dose after every 6 months	During growth monitoring, at MCH Clinic and any other community contacts eg ECDE

Current Tetanus Vaccine Immunization Schedule

Dose	When to Give	Protection
TT1	At 1 st contact with woman 14-49 years (or 1 st Antenatal visit)	None
TT2	At least 4 weeks after TT1	3 years
TT3	At least 6 Months after TT2	5 years
TT4	At least 1 year after TT3	10 years
TT5	At least 1 year after TT4	Lifelong

Vaccine Handling & Storage



At health facility level:

- Equipment required: Fridge Tag2(FT2), Temperature Recording sheet, thermometer (for outreach)
- Health workers should monitor and record the temperature of their vaccine refrigerator twice a day on a chart

Vaccine storage

RCW 42 EG RCW 50 EG

VACCINE TRAY ARRANGEMENT IN A HORIZONTAL (CHEST OPENING) FRIDGE

	VACCINE	TRAY COLOR CODE
Tray 1	•Pentavalent	•RED
Tray 2	•PCV	•ORANGE
Tray 3	•TT + IPV	•YELLOW
Tray 4	•Rotavirus	•GREEN
Tray 5	•BCG + Measles	•BLUE
Tray 6	•OPV + Yellow fever	•PURPLE

SIBIR V170 GE

VACCINE TRAY ARRANGEMENT IN A VERTICAL (FRONT OPENING) FRIDGE

	VACCINE	TRAY COLOR CODE
Tray 1	•OPV + Yellow fever	•PURPLE
Tray 2	•BCG + Measles	•BLUE
Tray 3	•Rotavirus	•GREEN
Tray 4	•TT + IPV	•YELLOW
Tray 5	•PCV	•ORANGE
Tray 6	•Pentavalent	•RED

HOW IT WORKS

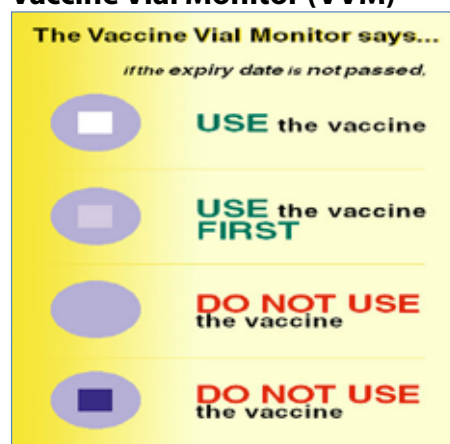
USE VACCINE WHEN THE SQUARE IS WHITE (stage 1)

LIGHTER THAN THE CIRCLE (stage 2).

DISCARD WHEN THE SQUARE IS AS DARK AS THE CIRCLE (stage 3).

DARKER THAN THE CIRCLE (stage 4).

Vaccine Vial Monitor (VVM)



- VVM is a label with a heat-sensitive material, placed on a vial to register cumulative heat exposure.
- VVM on liquid vaccine is on the label, while the VVM on reconstituted vaccine is on the caps (measles, BCG, YF, some formulations of Hib)

Multi-dose vial policy (MDVP)

- MDVP applies to the vials of DTP-HepB/Hib (Penta), OPV, IPV, TT
- Can be used in subsequent sessions up to 4 weeks as long as the following conditions are met:
 - The expiry date has not passed
 - Vaccines are stored under appropriate cold chain +2°C to +8°C
 - Vaccine vial septum has not been submerged in water

- Sterile technique has been used to withdraw all doses
- VVM has not reached discard point.
- Vaccines that must be reconstituted: BCG, measles, measles/Rubella, yellow fever, and some formulations of Hib vaccines must be discarded at the end of each immunization session or at the end of six hours, whichever comes first once reconstituted.

Injection Safety

Vaccination is one of the most effective and safe health interventions—when vaccines are of good quality, appropriately stored and handled, and when injections are given safely.

A safe injection is defined by WHO as an injection that:

- Does not harm the recipient
- Does not expose the health care worker to any avoidable risks
- Does not result in waste that is dangerous to the community

Equipments required;

- AD syringe,
- Single use disposable syringe and needles
- Safety box

Adverse Events Following Immunization (AEFI)

- An adverse event following immunization (AEFI) is
 - a medical incident
 - occurs during or after immunization
 - is considered to be related to immunization
- Not necessarily caused by administration of the vaccine
- The adverse event may be any unfavourable or unintended sign/symptom

Notify the next level immediately in case of serious AEFI or Clusters of Events

Fill AEFI form and send it to the next level

AEFI - Communication with caregivers

- Caregivers should be told what AEFI they should expect and what to do should it occur
- Ask about allergies and previous adverse reactions to vaccines
- In case of an AEFI, reassure the caregiver as the treatment is being given
- Convey that the AEFI will be reported and investigated fully
- Keep the care givers informed with follow-up information

Reasons for low immunization coverage

Include;

- Weak linkage of communities and health facility
- Inadequate information on immunizations schedules, services and benefits by communities
- Poor service delivery
- High drop out rate
- Missed opportunity
- Vaccine stock outs
- Poor access to services
- Competing priorities of care givers
- Social, religious, cultural, insecurity, negative ethnicity, political barriers, minority communities and illegal migrants
- False beliefs or malicious rumours such as sick children cannot be vaccinated

Strategies for Increasing Routine immunization coverage

Include

- Ensuring adequate vaccine stocks and cold chain
- Strengthen linkage between the community and health facility
 - Establish community health volunteers where they do not exist
 - Build capacity of community health volunteers
 - Engage community leaders, groups of interest
- Reaching the unreached by;
 - Raising awareness
 - Expanding outreach services
 - Introduce/ increase mobile services
 - Develop and implement clear micro-plans of catchment areas
 - Mapping population movements (pastoralist , nomads, IDPs)

Reducing drop-outs

- Monitor drop-outs regularly
- Address reasons for the drop outs
- Defaulter tracing

Reduce missed opportunities

- Screening during other hospital visits,
- Immunizing sick children
- Use all other opportunities to immunize children such during “Malezi Bora”, African vaccination Week

Supplemental Immunization Activities provide a “second opportunity” to vaccinate children

Role of Community in Routine Immunization

Community participation in immunization programs has been shown to result in higher coverage

- Local politicians, religious leaders, community group leaders, and care givers can participate in;
 - Organizing outreach activities
 - Increasing awareness on immunization
 - Monitoring performance
 - Dispelling rumours
- Community members also can help solve specific service delivery problems

Summary

Our goal is to ensure reduction of morbidity and mortality due to vaccine preventable diseases.