# Community-based Surveillance Training Manual for targeted Diseases and signals

**Developed by the CORE Group Polio Project – Ethiopia**
**Revised on June 2019**
**Addis Ababa, Ethiopia**

CCRDA

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*CORE Group Polio Project Ethiopia*

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## I. Overview

In 2004, the CORE Group Polio Project (CGPP) developed the first edition of the Community-based Diseases Surveillance Manual for Polio, Measles & Tetanus. Since then, the document has been translated from English into Amharic and two local languages, Oromifa and Somali.[1] A 25-member team of health and communications professionals originally developed the manual to provide information to Community Volunteers (CVs) on the definitions, causes, symptoms, and prevention of three vaccine-preventable diseases: acute flaccid paralysis (AFP - the key symptom of poliovirus), measles and neonatal tetanus (NNT). In Ethiopia, volunteers participate in community-based disease surveillance, which involves factors of tracking or detection, reporting, and outbreak response to disease threats.

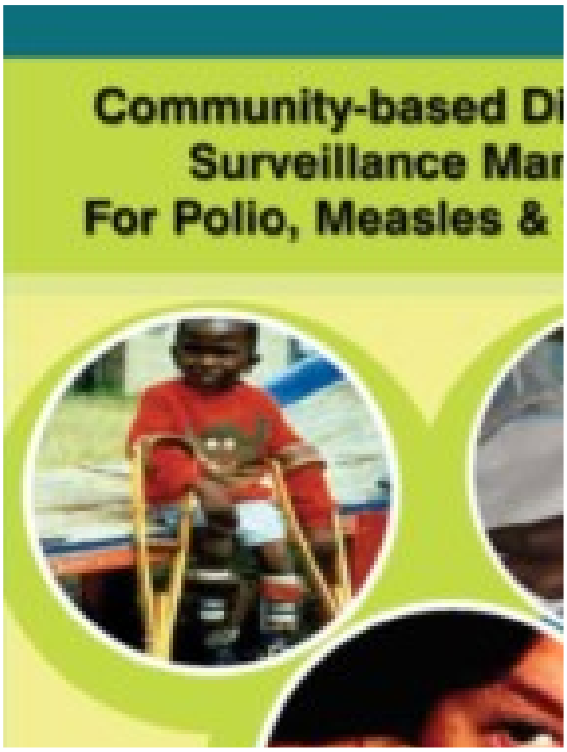



***Figure 1- The 1st edition of the CGPP Ethiopia CBS surveillance Manual***

The USAID's Global Health Security Agenda (GHSA) was launched in 2014 to attain a world safe and secure from global health threats posed by infectious diseases. In 2019, the GHSA partnered with the existing community-based surveillance activities of CGPP Ethiopia to add the detection, reporting and rapid response of three priority zoonotic diseases: rabies, anthrax and brucellosis. This manual has been updated to reflect these additional diseases. It is intended for use by more than 11,000 CVs who work in underserved rural, pastoralist and semi-pastoralist areas across five regions of Ethiopia. The GHSA is driven by the One Health

[1] The manual has been distributed in the national Amharic language since 2007, depending upon demand and budget. In 2012, the manual was translated into the Oromifa and Somali languages; copies of the manual are printed as needed by the field offices. Limited copies of the English version of the manual have been printed since 2013.

integrated approach that recognizes the interconnection between people, animals, and their shared environment; six of every 10 infectious diseases in humans are transmitted by animals.

## II. Purpose

The training manual was revised to educate CVs on how best to deliver effective and efficient surveillance of vaccine-preventable poliovirus, measles, and neonatal tetanus, and the animal-to-human disease detection and reporting of rabies, anthrax and brucellosis. Moreover, this manual is intended to initiate and facilitate family dialogue on healthy behaviors and practices; to mobilize communities to encourage caretaker participation to increase child vaccination uptake; and to enable the tracking and referral of pregnant women, newborns and defaulters to nearby health facilities for vaccination.

The content of this manual has been produced for in-classroom trainings over the course of three consecutive days. Sections of the document could be utilized during refresher trainings as part of broader review meetings. This manual is meant to standardize training of CBS activities across CGPP project areas and can be freely adapted, abstracted or reproduced for use by other international and local organizations.

## III. Acknowledgments

The production of this manual was made possible by the work of Dr. Filimona Bisrat, the CGPP Secretariat Director and Senior Regional Technical Advisor, who developed and implemented the CBS model in 2003. We are grateful to former CGPP staff David Newberry, Bill Weiss and Sara Smith, who provided encouragement and support for the development of the first edition, as well as those who prepared, edited and reviewed the earlier document.

A technical team composed of members from the CGPP Ethiopia Secretariat and partnering nongovernmental organizations updated and field tested this guide. The second revision was implemented by Dr. Filimona Bisrat, Legesse Kidanne, Muluken Asres, Tenager Tadesse, Asrat Asress, Bethelehem Asegedew, Melaku Tsehay (staff of the CGPP Ethiopia Secretariat); Miraf Solomon (Save the Children); Samuel Abdissa (Catholic Relief Services) and Dr. Samuel Teshome (CGPP Operational Research consultant). Lydia Bologna, CGPP Global Communications Technical Advisor and Sarah Paige, CORE Group GHSA Senior Advisor provided editorial support.

The CORE Group Polio Project Ethiopia is grateful to USAID for its continued financial support. The document is a product of the Technical Team and does not necessarily reflect the view of USAID.

## IV. The CORE Group Polio Project Ethiopia

The CORE Group Polio Project (CGPP) supports community-based activities designed to strengthen supplemental polio immunization, routine polio immunization, surveillance of acute flaccid paralysis and outbreak response. The CGPP is funded by USAID and collaborates with WHO, UNICEF, CDC, Rotary, the Bill and Melinda Gates Foundation and numerous Ministries of Health.

In November 2001, CGPP Ethiopia began USAID-funded activities to access the hard-to-reach, high-risk and "silent" communities with vaccination services and surveillance by working with international nongovernmental organizations and their local partners. Ethiopia is a country at high risk for poliovirus importation from neighboring conflict-affected Somalia and South Sudan. The last case of wild polio virus was recorded in January 2014. Rugged terrain, scattered population settlements, weak health service systems, limited participation of key community members in planning of vaccination activities, conflict and porous borders with polio-endemic areas pose great challenges to the control of polio transmission in Ethiopia. These barriers result in low community awareness about polio vaccination and AFP surveillance; actual resistance to the polio vaccine is very low.

The CGPP in Ethiopia has been a pioneer in the use of community volunteers for immunization promotion and community-based surveillance activities. In Ethiopia, more than 11,000 CGPP-trained Community Volunteers provide crucial support to increase the coverage of polio and routine immunization as well as surveillance of polio, measles and tetanus in hard-to-reach, high-risk, pastoralist and semi-pastoralist regions, which are sparsely populated. They regularly conduct house-to-house health education sessions and social mobilization activities during routine and supplementary immunization campaigns.

Zoonotic diseases are diseases that are spread from animals to people. Most known human infectious diseases and about three-quarters of newly emerging infections come from animals. Ethiopia is particularly vulnerable to the effect of zoonotic diseases because the economy is largely dependent on agriculture. It has the largest animal population in Africa,

and the majority of households have direct contact with domestic animals, creating an opportunity for infection and spread of disease. CGPP Ethiopia's implementation areas are hard-to-reach sites along the international borders of the country. The community is central to outbreak and epidemic preparedness. Communities play an important role in the prevention, detection, and response to infectious disease threats. Through a broad, 'whole-of-society' approach, they can help contain and control infectious disease threats, limiting geographic spread, saving lives, and mitigating negative impacts.

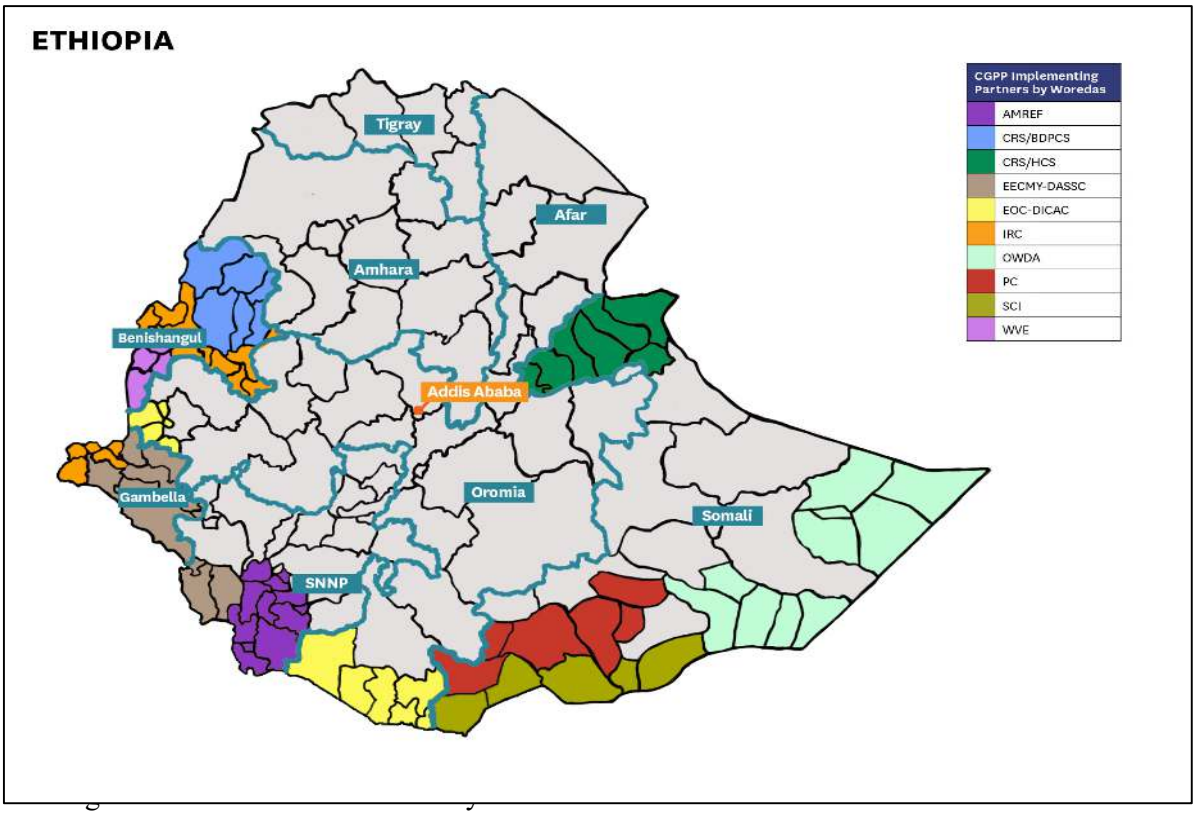



***Figure 2- CORE Group Polio Project in Ethiopia Implementation Woredas/districts by Partners***

for 12 major communicable diseases. In 2000, the MoH adopted and began implementation of the World Health Organization's Communicable Diseases Control Programme and has since been conducting prevention, detection and rapid response activities.

The Public Health Emergency Management (PHEM) is one of the core processes identified for surveillance in Ethiopia. According to the Ethiopian Public Health Institute, PHEM is the process of anticipating, preventing, preparing for, detecting, responding to, controlling, and recovering from the consequences of public health threats to minimize health and economic impacts. Under integrated disease surveillance, the various surveillance activities are merged

into one system under the broader national health system by emphasizing the need for all surveillance functions and activities be carried out using similar structures, processes and personnel.

Since 2003, CGPP Ethiopia has been collaborating with partner organizations and contributing significantly to these national efforts by improving the knowledge and skills of CGPP-trained volunteers who have been participating in CBS activities for polio, measles and neonatal tetanus. The CGPP will build upon its existing, community-based polio and Maternal and Child Health programs to strengthen and expand existing community capacities to prevent, detect and respond to infectious diseases threats.

## VI. Definitions of Key Terms

- ***Disease surveillance***

Disease surveillance is the continuous, systematic collection, analysis and interpretation of health and health-related data/information for the proper planning, implementation and evaluation of health services/interventions. Successful outcomes for disease surveillance are contingent upon the community to:

- Immediately detect and report cases to the nearest health institution (health post, health center or hospital) and animal health surveillance officer
- Facilitate proper and timely sample testing and provision of medical service to patients and counselling services for families.
- Support vaccination campaigns, quarantine, or treatment to prevent loss of life and limit or stop the spread of disease.
- Communicate with clarity and consistency with influential people, including elders and religious leaders, to pursue options for controlling disease spread in a timely manner.

- ***Signal***

Signals are things you hear about happening in the community that might lead you to find events

that are a threat to public health;

- They may be rumors that are heard in the market or at the hair dresser
- Like smoke seen rising above a forest, it may represent a fire or it could just really be a mist or a cloud which looked like smoke. If it looks suspicious though, it's worth checking out.

- ***Community-based Surveillance (CBS)***

Community-based Surveillance (CBS) is an active process of community participation in detecting, reporting, responding to and monitoring health events in the community as part of a national Events-based Surveillance system[2]. Case searching and reporting by community volunteers is an ongoing process conducted, in part, with house-to-house visits and visits to religious and traditional healing sites (ie, holy water, church, Mosque).

- ***CGPP Community Volunteers (CVs)***

CGPP CVs are nominated by their communities. Once selected, CVs receive a 3-day basic training on how to detect, report and respond to priority diseases and raise awareness in the community. Once selected, the CGPP CV begins to work with the Health Extension Worker (HEW), a government paid, full-time community health worker. There are about 3-5 CGPP CVs per *kebele,* and each CV is responsible for surveillance of 50 - 100 households (and in some cases more). As members of their communities, they are recognized for their performance and are willing to serve their community without financial or social gain.

- ***Health Development Army (HDA)***

In 2012, the government of Ethiopia introduced the Health Development Army, which replaced most community volunteer programs in health that had previously been developed by the government and NGOs for various purposes. The HDA program is based on the identification and training of "model families" (who are exemplary in terms of health behaviors and health care utilization). In practice, "model families" become leaders of a group of five families known as the "one-to-five network", and these, in turn, combined to form a group of 25 to 30 "model households" within a village.[3] The team of CGPP volunteers and HDAs is trained by HEWs on the 17 packages of the Ethiopia Health Extension Program, including integrated disease surveillance and response. CGPP CVs attend regular monthly meetings organized at the Health Post to which they are attached. At the time of these meetings, the CVs submit their monthly report, jointly review progress in the catchment area, prepare a work plan for the coming month, discuss constraints and solutions, and update their knowledge on surveillance and immunization.

- ***Responsibilities of Community Volunteers***

The main duty of surveillance volunteers is the tracking/detecting of six priority diseases by conducting surveillance in their communities and immediately reporting findings to the

[2] Africa CDC: Event Based Surveillance Framework. November 2018

[3] Asegedew B, Tassema F, Bisrat F, 2019. Core Group Polio Project Community Volunteers in Ethiopia: Their History, Activities, Knowledge and Contributions, American Journal of Tropical Medicine and Hygiene.

nearest health institution. In addition, volunteers are expected to collaborate with health workers and other health professionals to collect relevant data.

CVs are responsible to:

- Raise awareness to enable local communities to track emergency cases of the six priority diseases under surveillance and signal- polio, measles, neonatal tetanus, rabies, anthrax and brucellosis - by following the established process to link patients to medical services.
- Submit reports to the nearest health institution in the event of the detection of symptoms and/or signs that signify the presence of one or more of the diseases under surveillance.
- Conduct surveys of the local environment and report findings to the nearest health post or other health institution.
- Register and report patients/cases using the provided reporting formats.
- Convince the caretakers/patients to seek proper treatment at the nearest health facility.
- In cases of non-compliance, complete the report form and immediately provide to the nearest health facility.
- Identify, register and refer pregnant mothers, and track, notify and follow up on newborns for vaccination.
- Trace and refer vaccination defaulters.
- Conduct social mobilization and create awareness of the benefits of immunization.
- Following occurrence of any animal health event the CVs/HDALs should fill out the community reporting form and submitted to HEWs
- Advise the owner of the animal to take his sick animals to go to the nearest animal health clinic.

## VII. Communication Skills

Effectively communicating with families is an essential component to community-based surveillance. Community volunteers need to employ strong communication skills to effectively deliver health messages and search for cases in the community. When conducting a house-to-house visit or conducting group health education sessions, CVs are encouraged to follow the steps provided by the “GALIDRAA” process.

### Greet

When you visit a household, greet everyone according to cultural traditions. Introduce yourself, identify what you do, and explain the purpose of your visit.

**Ask**

Inquire about the objectives of your visit; seek to clearly understand the client's problem. Encourage the parents, caregivers and other family members to speak candidly. Provide specific information about child health, polio (AFP), measles and NNT surveillance. Ask questions to learn more about the household, such as the children's general health, numbers of children in the house from birth to 15 years of age, ages, and vaccination status. Ask for any animal health -event occurrence. Provide specific information about animal health, Rabies, Anthrax and Brucellosis.

**Listen**

Listen attentively and probe accordingly. Pay attention and do not interrupt. Use listening and learning skills to encourage the client to elaborate.

**Inquire or Identify**

Focus on the root causes to better identify the problem.

**Discuss**

Speak with the client about the available options for potentially solving the problem. Whenever possible, use educational materials and local examples, language and stories.

**Recommend**

Propose doable solutions for the client, who makes the final decision. Apply key messages to the specific problem.

**Agree**

Review the client's decision. In order to change behavior, parents and caregivers need support and encouragement rather than just information. Provide support to overcome barriers such as personal fear and religious and social beliefs.

**Action plan**

Develop a plan for when and how to next meet with the client (preferably in the near future) to assess progress on the agreed-upon action.

# CGPP-GHSA PROJECT TARGETED PRIORITY DISEASES

The following section provides information for CVs to properly identify and respond to the six targeted priority diseases: three vaccine-preventable diseases (polio, measles and NNT) and three prioritized zoonotic diseases (rabies, anthrax and brucellosis).

## *1. POLIOMYELITIS (POLIO)*

- ***Definition***

Polio mainly affects children under the age of 15, causing sudden muscle weakness most commonly in the legs. Irreversible or permanent paralysis occurs in 1 out of every 200 people infected, and 5 to 10% of those who are paralyzed die when their breathing muscles stop functioning.

- ***Cause of Polio***

Polio is caused by the highly contagious poliomyelitis virus. There is no cure.

- ***Transmission***

Poliovirus spreads person-to-person. In areas of poor environmental hygiene, the virus can enter the body through the mouth when people consume food or drink water contaminated with feces and then multiplies in the intestine. Transmission occurs in communities with poor sanitation and hygiene.

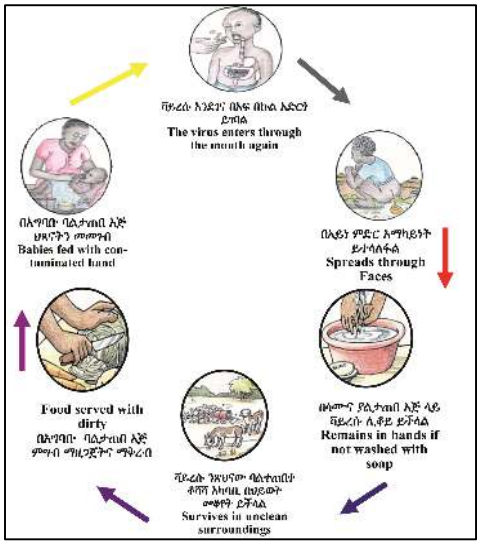



***Fig. 3 The polio virus transmission cycle***

- ***Incubation Period***

For the onset of paralysis in paralytic poliomyelitis, the incubation period usually is 4 - 35 days.

- ***Signs and Symptoms***

- Fever
- Muscle pain and flaccid (floppy) paralysis
- In most cases, the paralysis occurs in one or both arms or legs
- Most infected people do not show symptoms but can still spread the virus
- The disease affects male and female children alike

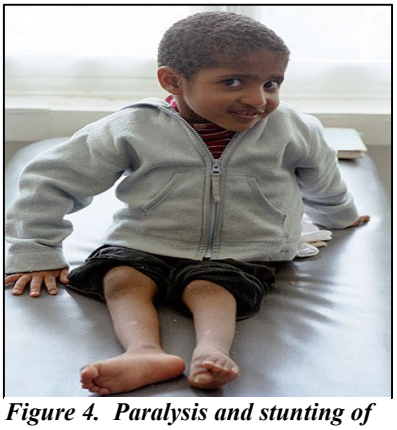


***Figure 4. Paralysis and stunting of legs due to polio***

- ***Diagnosis***

A stool test is used to diagnose polio. Two stool samples collected within 14 days of onset of symptoms is critical for proper diagnosis.

- ***Treatment***

Paralysis caused by the poliovirus cannot be cured (reversed). Supportive and rehabilitative care may be available, including:

- Administration of medications to relieve pain and/or fever (painkillers).
- Access to physiotherapy service or participation in regular physical exercise.
- Fitted orthopaedic appliances.

- ***Counselling parents or guardians***

- Advise parents, guardians and other family members on how to take care of polio patients.
- Educate parents or guardians that their child's sickness is not due to God's curse or wrath for an evil deed. Provide scientific-based medical explanations.

- ***Prevention and Control***

Polio can be prevented through immunization with Oral Polio Vaccine (OPV) and Inactivated Polio Vaccine (IPV).

- Personal hygiene: Wash hands with soap or ash before preparing and eating food, after using toilet, and cleaning babies bottom.
- Environmental sanitation: Properly prepare, serve and store food and have access to clean water. Properly dispose of faeces.
- AFP Surveillance: Detection and immediate reporting of any sudden onset of acute flaccid paralysis of children under the age of 15 years (See below.)

## ❖ Surveillance for Acute Flaccid Paralysis (AFP)

- ***Standard case definition of AFP***

Any child under 15 years of age with sudden onset of floppiness or weakness of one or more limbs or any person of any age in whom a clinician suspects poliomyelitis

- ***Community case definition of AFP***

Any person with sudden onset of paralysis.

- ***Community-based Surveillance definition of AFP***

Community-based Surveillance (CBS) is an active process of community participation in detecting, reporting, responding to and monitoring of AFP in the community. AFP case

searching and reporting by community volunteers is an ongoing process conducted, in part, with house-to-house visits and visits to religious and traditional healing sites (holy water, church, Mosque etc.).

- ***Response of CVs/HDALs when AFP case is identified***

- Immediately notify through verbally or written form to the nearest health facility or inform the area's Health Extension Worker (HEW).
- Complete the community reporting form and submit to the HEW. Rapid reporting of suspected polio cases is vital as one child carrying the virus can transmit the disease to up to 200 or more children.
- Encourage parents or guardians to transport sick children to the nearest health facility for diagnosis or care.

***Picture 5. AFP Case Searching and Detection***

- Advise Parents, guardians or families of polio-affected children to refrain from hiding, secluding or discriminating against polio-affected persons.
- Employ community awareness on preventive methods for polio.

**Summary**

- Polio mainly affects children under the age of 15, causing sudden muscle weakness most commonly in the legs.
- Most infected people do not show symptoms but can still spread the virus.
- The definition for community-suspected AFP is any person with sudden onset of paralysis.
- Upon identification of AFP cases, immediately notify the nearest health facility or inform the locally assigned HEW.

## *2. MEASLES*

- ***Definition***

Measles typically occurs as an epidemic with high death rates. Severe measles cases occur more frequently in malnourished children, children who do not receive sufficient amounts of vitamin A and non-breastfed infants.

- ***Cause of Measles***

Measles is caused by the highly contagious measles virus.

- ***Transmission***

Measles is transmitted via droplets from the nose, mouth or throat when a person exhales, sneezes and coughs or spits sputum (saliva, phlegm or mucus).

- ***Incubation Period***

7 to 18 days

- ***Signs and Symptoms***

- Fever
- Skin rashes: Rashes first appear on the face, then spread to the neck and other parts of the body in 3-4 days and then clear after five days
- Redness of the eye
- Running nose
- Cough
- Small pink dots in the mouth, tonsils and throat
- Complicated measles can cause blindness, ear infection, pneumonia, diarrhoea and death

***Fig. 6. Reddened Eye/Bulged Eye-lid***

***Fig. 7. Skin Rashes***

- ***Diagnosis***

- Observation Typical signs and symptoms of measles (as noted above).
- Blood test within 28 days of onset of rash to confirm the measles virus

- ***Treatment***

- Control fever with antipyretics (fever reducers)
- Give vitamin A supplement to help prevent eye damage and blindness
- Give antibiotics for bacterial ear infections and pneumonia
- Provide general nutrition support and treat dehydration with oral rehydration solution

- ***Prevention and Control***

- Immunize child with measles vaccine at 9 and 15 months of age
- Immunize child during measles supplemental immunization campaign
- Improve case management including vitamin A supplementation and treatment of complications
- Improve case based measles surveillance

## ❖ Surveillance for measles

- ***Standard case definition of measles***

Any person with fever and rash and at least one of the following: cough, conjunctivitis or coryza (inflammation of the mucous membrane in the nose) or **"**measles suspected by a clinician.''

- ***Community case definition of measles***

Any person with fever and rash

- ***Community-based Surveillance definition of measles***

Community-based Surveillance (CBS) is an active process of community participation in detecting, reporting, responding to and monitoring of measles in the community. Measles case searching and reporting by community volunteers is an ongoing process conducted, in part, with house-to-house visits and visits to religious and traditional healing sites (holy water, church, Mosque) and overcrowding/ refugees' site.

- ***Response of CVs/HDALs when measles case is identified***

- Immediately notify the nearest health facility or inform the area's Health Extension Worker (HEW) through verbally or written form.
- Complete the community reporting form and submit to the HEW.
- Convince parents or guardians to transport sick children to the nearest health facility for diagnosis or treatment.
- Employ community awareness on measles preventive.
- Trace unvaccinated contacts of suspected measles case and refer for vaccination
- Avoid overcrowding

## Summary

- Measles is a highly contagious disease caused by a virus. It tends to occur as an epidemic with high death rates.
- The definition for community-suspected measles is any person with fever and rash.
- Measles can be prevented by immunizing children with measles vaccine at 9 and 15 months old
- Upon identification of measles cases, immediately notify the nearest health facility or inform the locally assigned HEW.

## 3. TETANUS (ALSO KNOWN AS LOCKJAW)

- ***Definition***

Tetanus is a serious disease caused by bacterial toxin that affects the nervous system leading to painful muscle contraction particularly of the jaw and neck muscles. Neonatal tetanus is a serious disease which commonly affects infants under 28 days of age (neonates). It usually occurs through infection of the umbilical cord during an unsafe delivery and when the mother is not vaccinated.

- ***Cause of Lockjaw (Tetanus)***

Tetanus is caused by bacteria (Clostridium tetani) present in the soil and in the faeces of animals and humans.

- ***Transmission***

Tetanus is the only vaccine-preventable disease not spread person to person. The bacterium can enter a wound or cut from items such as dirty nails, knives, tools, wood splinters or from animal bites.

In newborn babies, infection can occur when the baby is delivered on a dirty mat or floor; a dirty tool is used to cut the umbilical cord; dirty material is used to dress the cord; and/or when the person who delivers the baby has unclean hands.

- ***Incubation Period***

Varies from 3 to 21 days and up to several months depending on the wound. The risk of death from the disease increases as the incubation period decreases.

- ***Signs and Symptoms***

- Muscular stiffness in the jaw (lock-jaw) is a common and first sign of tetanus.
- This is followed by stiffness in the neck, abdomen and/or back, difficulty swallowing, muscle spasms, sweating and fever.
- Newborn babies with tetanus are normal at birth but stop sucking at 3 to 28 days of age. They may become stiff and have severe muscle spasms. Death may occur.Tetanus can be diagnosed using signs and symptoms (see above.)

*Picture 8. Spasm and occasional shivering*

*Picture 9. Locked Jaw*

- ***Treatment***

Tetanus at any age is a medical emergency and is best managed in a hospital-type facility.

- ***Prevention and Control***

- Tetanus Toxoid (TT) vaccination is recommended for all women in the child bearing age group (15-49 years old)
- Administer at least 2 doses of TT vaccine for pregnant women two weeks before delivery
- Practice clean and safe delivery: clean hands, clean surface and practice clean cord care
- Give Tetanus Anti-Toxin (TAT) for open and deep wound
- Provide clean wound care
- Conduct NNT Surveillance

## ❖ Surveillance for Neonatal Tetanus

- ***Standard case definition of NNT***

Any neonatal death between 3 and 28 days of age in which the cause of death is unknown, or any neonate with a normal ability to suck or cry during the first two days of life and then is unable to suck or cry normally at 3-28 days and becomes stiff or has convulsion or both.

- ***Community case definition of NNT***

Any neonatal death between 3 and 28 days of age in which the cause of death is unknown. Any neonate with a normal ability to suck or cry during the first two days of life and then is unable to suck or cry normally at 3-28 days.

- ***Community-based surveillance definition of NNT***

Community-based Surveillance (CBS) is an active process of community participation in detecting, reporting, responding to and monitoring of NNT in the community. NNT case

searching and reporting by community volunteers is an ongoing process conducted, in part, with house-to-house visit and visits to religious and traditional healing sites (holy water areas, traditional medicine centers, churches, mosques).

- ***Response of CVs/HDALs when NNT case is identified***

- Immediately notify the nearest health facility or inform the area's Health Extension Worker (HEW).
- Complete the community reporting form and submit to the HEW.
- Encourage parents or guardians to take their sick neonate to the nearest health facility for diagnosis or treatment.
- Aware the community on preventive methods for NNT.

## Summary

- Neonatal tetanus is a serious disease which commonly affects infants under 28 days of age. It usually occurs through infection of the umbilical cord during an unsafe delivery and when the mother is not vaccinated Tetanus Toxoid vaccination .
- NNT can be prevented by administering at least 2 doses Tetanus Toxoid vaccination for pregnant women before two weeks of delivery. Practice clean delivery procedures: clean hands, clean surface and practice clean cord care
- The community definition for NNT is a neonate who can suck or cry during the first two days of life and is then unable to suck or cry normally between 3 to 28 days of age; or any unexplained neonatal death between 3 and 28 days of age.
- Upon identification of NNT cases, immediately notify the nearest health facility or inform the locally assigned HEW.

## 4. RABIES

- ***Definition***

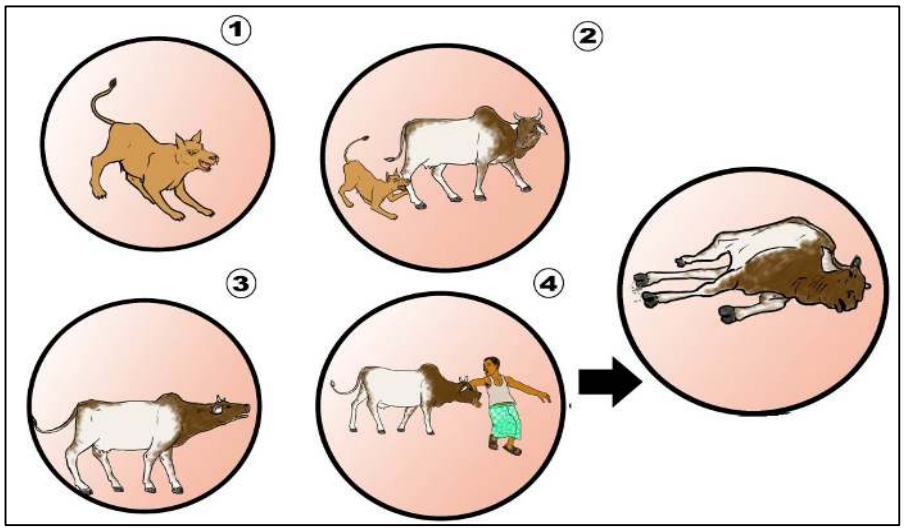
Rabies is a deadly infectious disease that affects humans and is transmitted from infected domestic and wild animals through bites or scratches.

- ***Cause of rabies***

Rabies is caused by rabies virus.

- ***Transmission***

The virus is transmitted through the bite or scratch of rabid animals to another animal or person via saliva. Bite of rabid dog is the main mode of transmission to humans.




***Picture 10 Rabid virus transmission***

- ***Incubation period***

Typically, 2 weeks to 3 months, depending on the location of the bite and size of the wound.

- ***Signs and Symptoms in humans***

- Fever, unexplained burning sensation at the wound site.
- Then the patient shows signs of confusion hyperactivity, excitable behavior, fear of water, fear of fresh air and excessive salivation.
- As the disease progresses, seizure, hallucination, coma and death occur after a few days due to trouble breathing.


*Picture 11&12 Picture showing drooling of rabies patient*

- ***Diagnosis***

Suspect rabies if a person is bitten by unknown and unprovoked dog/animal. The biting dog/animal should be restrained and observed for 10 days for signs and symptoms (see above.)

- ***Treatment***

- Advise the bitten individual/family to visit the nearest health facility immediately.
- Extensive wound wash: flushing and washing of the wound for a minimum of 15 minutes with soap and water, detergent or other substances that kill the rabies virus.
- Post-exposure vaccine is highly successful if administered within 6 days of exposure.
- There is no effective curative treatment for rabies once clinical signs appear.

***Prevention and Control***

- Mass rabies vaccinations for domestic and feral dogs
- Report all dogs showing unusual behavior to animal health assistants and health extension worker
- Inter-sectoral collaboration among veterinary services, public health and wildlife officers
- Raise community awareness on rabies transmission, prevention and control
- Cross border collaboration on rabies prevention and control.

## ❖ Rabies surveillance in humans

- ***Standard case definition of suspected rabies in humans***

A person bitten by suspected rabid dog/animal and presented with fever nausea, vomiting agitation, pharyngeal spasm, and fear of water/fear of fresh air

- ***Community case definition of suspected rabies in humans***

A person bitten by any dog/animal

## ❖ Rabies surveillance in animals

- ***Standard/Community case definition of suspected rabies in animals***

An animal that presents with any of the following signs and symptoms: hypersalivation, paralysis, lethargy, unprovoked abnormal aggression, abnormal vocalization, diurnal activity of nocturnal animals.

- ***Community-based surveillance of rabies***

It is an active process of community participation in detecting, reporting, responding to and monitoring of Rabies cases in the community. It is an ongoing house to house, religious and traditional healing sites (holly water, church, Mosque) visit for Rabies case searching and reporting by community volunteers and HDALs.

- ***Response of CVs/HDALs on reported rabies cases identified***

- Immediately notify dogs/animal suspected for rabies to the nearest animal health facilities
- Immediately notify individuals bitten by the dog/animal to the nearest health facility
- Fill out the community case reporting format and submit to health extension workers
- Advise the person bitten by dog/animals to visit health facility
- Raise community awareness on prevention and control of rabies

### Summary

- Rabies is a deadly infectious disease that affects humans
- Rabies is transmitted from infected domestic and wild animals through bites or scratches.
- The community definition for human rabies is a person bitten by a dog/animal. The community definition for animal rabies is an animal that exhibits symptoms of hyper-salivation, paralysis, lethargy, unprovoked abnormal aggression, abnormal vocalization, diurnal activity of nocturnal animals
- Post-exposure prophylaxis is highly successful if administered within 6 days of dog/animal bite
- Immediately notify individuals bitten by the dog/animal to the nearest health facility
- Immediately notify nearest animal health facility of suspected dog/animal rabies.

## 5. *ANTHRAX*

- ***Definition***

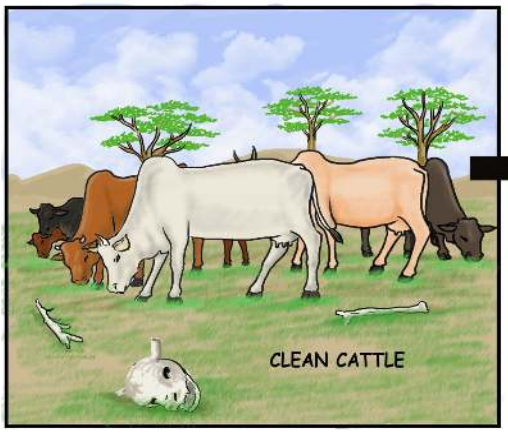
Anthrax is a serious, often deadly disease transmitted to humans through direct or indirect contact with infected animals or animal products. Anthrax also is naturally occurring in soil.

- ***Cause of Anthrax***

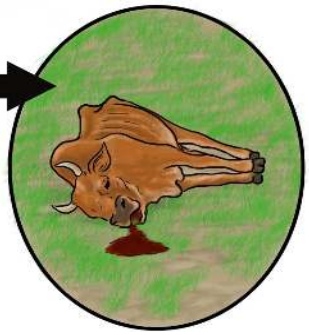
Anthrax is caused by Bacillus anthrax

- ***Transmission***

- Inhalation: breathing in of bacteria from animal skin, hair and bone
- Cutaneous: bacteria enter the skin from a cut or scrape
- Ingestion: eating raw or undercooked meat from an animal infected with anthrax




***Picture 12: Herbivores ingest spores when grazing or browsing vegetation or drinking water contaminated with spores (possibly also inhaled in dust)***



***Picture 13: Infection results in death with massive*** terminal ***bacteremia***

Va

- ***Signs and symptoms***

***Cutaneous/skin anthrax:***

- small swellings that may itch
- painless skin sore Pulmonary anthrax
- fever, chills and sweat
- chest, head and body pain
- cough, shortness of breath and shock and death

***Gastrointestinal anthrax***

- fever, chills and stomach pain
- nausea, bloody vomiting and bloody diarrhea

*Picture 14: small swelling that may itch*

- ***Diagnosis***

Signs and symptoms of anthrax: skin lesion, stomach distress and difficulty breathing and history of contact with suspected/confirmed animal cases or animal products. Test of blood, skin lesion swab, spinal fluid and respiratory secretions.

- ***Treatment***

- Advise the affected individual/family to visit the nearest health facility immediately
- Administer antibiotic therapy early during the infection.
- Provide supportive care: pain relief

- ***Prevention and control***

- Notify veterinary officers about any suspected cases of anthrax and all other sudden death cases
- Provide vaccination for livestock (cattle, sheep and goat) against anthrax
- Monitor sporadic outbreaks which occur in wild and domestic grazing animals
- Properly dispose of anthrax-affected carcasses (burn/deep burial)
- Disinfect, decontaminate and dispose of contaminated materials

## ❖ Anthrax Surveillance

- ***Case definition for anthrax surveillance***

Any person with acute onset characterized by several clinical forms such as skin lesion, abdominal distress (nausea, vomiting, anorexia), and difficulty with breathing.

- ***Community case definition for anthrax in humans***

A person who gets ill within 7 days after eating meat of livestock with fever, tremors, difficult of breathing or close contact with animals that have bleeding from nose, mouth and anus following death.

- ***Community definition for anthrax in animals***

Animals characterized by fever, tremors, difficult of breathing, blotting and then sudden death with frequent bleeding from nose, mouth and anus.

- ***Community-based surveillance definition for anthrax***

Active community participation in detecting, reporting, responding to and monitoring of anthrax cases in the community. Ongoing surveillance house to house (for humans), and grazing places, livestock market places, cattle fattening centers/beef farms (for livestock) for anthrax case searching and reporting by community volunteers and HDALs.

- ***Response of CV/HDALs when anthrax case is identified***

- Immediately notify suspected anthrax cases to the nearest animal health facilities
- Immediately notify individuals with acute onset characterized by skin lesion, abdominal distress (nausea, vomiting, anorexia), and difficulty of breathing to visit the nearest health facility for diagnosis and treatment.
- Complete the community reporting form and submit to the health extension worker
- Raise community awareness on transmission, prevention and control of anthrax

**Summary**

- Anthrax is a serious disease transmitted to humans through direct or indirect contact with infected animals or animal products.
- The community definition for suspected anthrax is individuals with skin lesion, abdominal distress (nausea, vomiting, anorexia), and difficulty breathing
- Advise the person who is sick to go to the nearest health facility for diagnosis and treatment

## 6. BRUCELLOSIS

- ***Definition***

Brucellosis is a highly contagious disease transmitted to humans from infected livestock by ingestion of raw milk or undercooked meat.

- ***Cause of brucellosis***

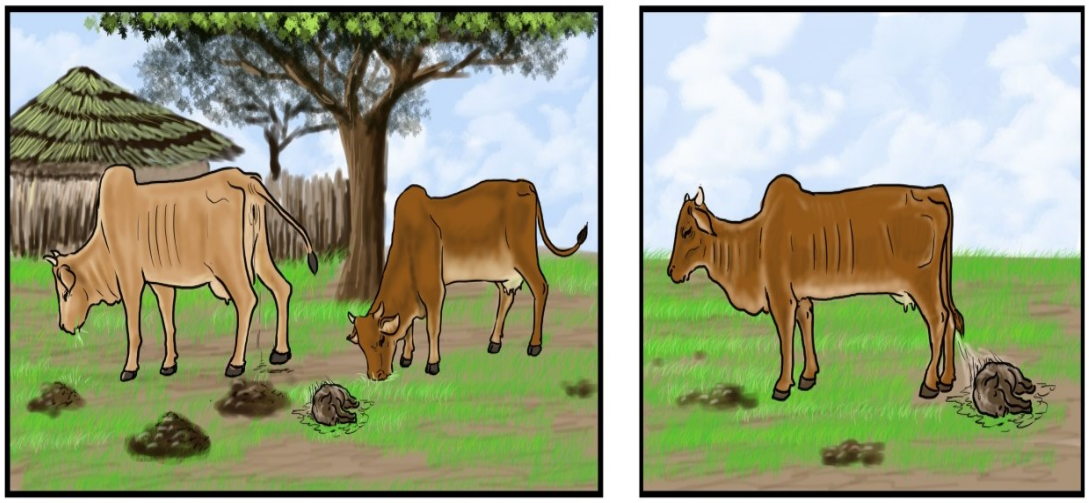
Brucellosis is caused by bacteria

- ***Transmission***

Brucellosis is transmitted by consumption of raw/undercooked meat, milk and milk products of infected livestock (mainly goats, sheep, cows and camels). Occasionally, transmission occurs mother to child through breastfeeding.

- ***Incubation period***

Varies from two weeks to months from infection.



***Picture 15: Pasture contaminated with discharge from infected cattle***

- ***Sign and Symptoms***

- Three classic signs of fever, sweating and joint and muscle pain.
- Other symptoms include nausea, vomiting, decreased appetite, weight loss, abdominal pain, constipation and diarrhea.
- Common complications are arthritis, spondylitis, orchitis and chronic fatigue.

- ***Diagnosis***

Brucellosis should be suspected in a patient whose place of residence or dietary history suggests a risk for the infection and has symptoms of brucellosis. A blood test is necessary for confirmation.

- ***Treatment***

- Relieve symptoms such as pain and fever
- Use antibiotics

- ***Prevention and Control***

- Use protective barriers (such as gloves) to avoid direct contact with infected animals or animal products
- Avoid consumption of raw/undercooked meat, milk and milk products of infected livestock (mainly goats, sheep, cows, and camels).
- Careful handling and disposal of afterbirths, especially in cases of livestock abortion.
- Blood testing and other testing of suspected livestock herd for confirmation
- Intersectoral collaboration between public health and veterinary health officials
- Create awareness on transmission prevention and control
- Early case detection and reporting to health facility and animal health facility.

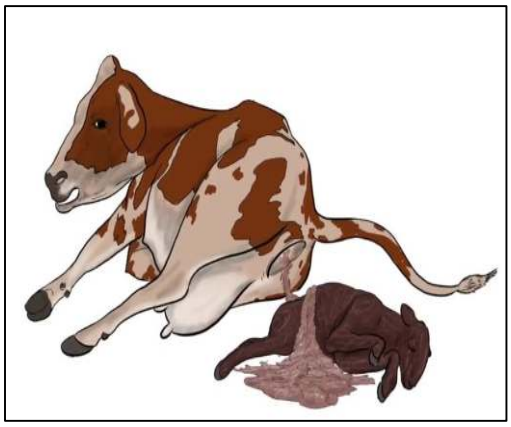
## ❖ Brucellosis surveillance in humans

- ***Case definition for brucellosis in humans***

A person with the clinical description and is epidemiologically linked to suspected/confirmed animal cases or contaminated animal products

- ***Community case definition***

A person with fever, sweating and joint/muscle pain and is linked to suspected/confirmed animal cases or contaminated animal products



***Picture 16: abortion is one of the signals of brucellosis***

- ***Community-based surveillance for brucellosis***

Active community participation in detecting, reporting, responding to and monitoring of brucellosis cases in the community. It includes house to house and herd visits for brucellosis

case searching and reporting by community volunteers (CV) and health development army leaders (HDALs).

## ❖ Brucellosis surveillance in animals

### *Case definition for brucellosis in livestock*

Animals presented with one or more of the following: abortion, fever, orchitis or joint swelling.

### *Response of CVs/HDALs for brucellosis suspected cases*

- Immediately report suspected brucellosis cases to the nearest animal health facilities
- Immediately notify nearest health facility of individuals with fever, sweating and joint/muscle pain and history of ingestion of raw meat/milk products
- Complete community reporting form and submit to health extension worker
- Advise the person who is sick to go to the nearest health facility for diagnosis and treatment
- Raise community awareness on transmission, prevention and control of brucellosis

**Summary**

- Brucellosis is a highly contagious disease transmitted to humans from infected livestock by ingestion of raw milk or undercooked meat.
- The three classic signs are fever, sweating and joint and muscle pain.
- The community definition for brucellosis is a person with fever, sweating and joint/muscle pain and is linked to suspected/confirmed animal cases or contaminated animal products.
- Upon identification of case of brucellosis, immediately notify the nearest health facility or inform to the health extension worker

## *ANNEXES*

**Annex 1 – Case Notification Form for Human Patients Tracked through Community-based Surveillance**

Woreda _____ Kebele_____ Health Post _____Village _____

_____

| Type of Disease Suspected and signals | Basic Information about the suspected case | | | | Date of | | |
|---|---|---|---|---|---|---|---|
| | Full Name | Age | Sex | Name of mother/ caretaker | onset of illness | detection by CVs/ HDALs | notification to health facility |
| Polio | | | | | | | |
| Measles | | | | | | | |
| Neonatal Tetanus | | | | | | | |
| Rabies | | | | | | | |
| Anthrax | | | | | | | |
| Brucellosis | | | | | | | |
| Signals | | | | | | | |

Name of community volunteer _____

Signature _____ Reporting Date _____

**Annex 2 – Suspected Case Notification Form for Animal Cases identified through Community**

Woreda _____ Kebele_____Village_____

_____

| Type of Disease Suspected | Basic Information about the suspected case | | | | Date of | | |
|---|---|---|---|---|---|---|---|
| | Full name the owner | Type of Animal affected | Total Number of Animals | | Onset of illness | Detection by CVs/ HDALs | Notification to animal health facility |
| | | | Sick | Dead | | | |
| Rabies | | | | | | | |
| Anthrax | | | | | | | |
| Brucellosis | | | | | | | |
| Signals | | | | | | | |

Name of community volunteer _____

Signature _____ Reporting Date _____

**Annex 3 – Monthly Performance Report Form for CV's/HDA's Activities**

Woreda _____ Kebele _____ Health Post _____ Village _____

**1. Health Education**

| No. | Date | Topic covered | Place | Number of Participants (Beneficiaries) | |
|---|---|---|---|---|---|
| | | | | Female | Male |
| | | | | | |
| | | | | | |
| | | | | | |

**2. Surveillance Visit**

| No. | Sites visited | Total Number of cases identified | | | | | | Number of houses/sites visited | Number of people advised |
|---|---|---|---|---|---|---|---|---|---|
| | | AFP | Measles | NNT | Rabies | Anthrax | Brucellosis | | |
| 1 | House to house | | | | | | | | |
| 2 | Religious places | | | | | | | | |
| 3 | Traditional healing sites | | | | | | | | |
| 4 | Livestock market | | | | | | | | |
| 5 | Dairy farm or fattening center | | | | | | | | |
| 6 | Water points | | | | | | | | |
| 7 | Food distribution points | | | | | | | | |
| 8 | Other sites | | | | | | | | |

**3. Community Involvement in Vaccination and Antenatal Care**

| No | Targets | Total number identified, registered and referred | Total number vaccinated | Total number started ANC |
|---|---|---|---|---|
| 1 | Pregnant mothers | | | |
| 2 | New born | | | |
| 3 | Unvaccinated | | | |
| 4 | Defaulters | | | |

**Name of Community Volunteer** _____

**Signature** _____ **Reporting Date** _____

## Annex 4 – Pregnant women and New-born tracking registration form

| No | Name of | Pregnant women information | New-born Information |
|---|---|---|---|

| | household head | Name | Age | Pregnancy in Months | Status of TT Vaccination | Date of birth | Sex | Status of OPV |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

**Annex 5 – Pregnant women, new-born and vaccination defaulter referral slip**

Five types of coloured laminated referral slips (coded by the numbers of CVs per kebele) will be used to track and refer pregnant women, new-borns and under 1-year children. Each referral slip contains a title, picture, different colour and key messages.

Index
Title – CVs/HDALs referral slip to HEWs
Picture – Pregnant women and new-born
Colour – Green, yellow, Red, blue, purple (one colour for each of the 5 CVs)

Key message – Vaccination, ANC and institutional delivery

**Annex 6 – Main Messages for Community-based implementation**

1. **Main message 1: Information collection**
2. **Main message 2. Community Volunteers linkage**
3. **Main message 3: Participatory planning and organizing review meetings**

## 1. Main Message 1: Information Collection

### 1.1. Why is information collection needed?

Collecting information on the six priority diseases is the principal task of a community volunteer, who works to identify relevant information across the target community and from individual community members. The volunteer should focus on identifying public occasions as opportunities for convenient access sites to discuss relevant information.

### 1.2. From whom should volunteers solicit information?

All members of the target community, including children, may be contacted to provide information as CVs gather data at Kebeles, villages or sub-villages.

### 1.3. Choosing a suitable time

The CV should use all opportunities when communities assemble to discuss various social issues. These opportunities include meetings of grassroots associations, such as welfare groups known as "Idir."

### 1.4. Preparation

- Contact community members who are willing to be interviewed as well as consulting with influential members of the community
- Organize face-to-face, in-person meetings to leverage verbal messages
- Identify places where people gather to discuss their common issues. Examples for women are neighbour-friendly coffee ceremonies for men, gathering under trees to discuss matters of common interest

## 2. Main message 2: Community-Volunteer linkage

### 2.1. Why the need to forge collaboration?

Working in collaboration gear towards successful achievement

### 2.2. Who else can work as volunteers other than CVs?

- Traditional birth attendants
- Herbalists/traditional healers
- Community health committee members
- Members of various mothers', youth groups and group leaders
- Health, agriculture, food security workers
- Other counterpart volunteers
- Pastoralists

### 2.3. When is collaboration necessary?

Collaboration should be sought whenever it is needed. For example:

- Disease Outbreak
- Vaccination campaigns
- Outreach vaccination
- Active case searching for the six diseases and signals

### 2.4. Who are the stakeholders?

Support is sought from different experts who are close to the issue or who have something to offer to improve the effective of the programme.

- Health extension workers
- Animal health Technician
- Religious and community leaders
- School community
- Kebele health representatives
- Kebele health committee members

## Use of Folklore

Folklore can be used to provide motivating messages for communities. For example:

"Fifty lemons is a load for one man, but beautification for fifty men."

"Spider woven together, can tie up a lion."

## Use of Tales/Anecdotes of Partnership

### *Tale 1: One-on-one between Chaltu and Bedasso*

Chaltu is a volunteer of Community-based Disease Surveillance. One day, Chaltu tracked a baby girl who showed signs of measles. The baby's parents were not willing to take their daughter to the nearby health station. Chaltu worked hard to convince them of the need to seek medical attention, but they did not budge. Chaltu then decided to report the case immediately to the nearby health institution.

On her way, though, she thought it would be beneficial to meet Ato Bedasso, who is member of the village's health committee. She recalled that Ato Bedasso told her that he would be attend a workshop that day in response to an invitation extended to him by a certain health organization operating in the area. She moved quickly to catch him before he left for the workshop. She asked if he could please help her in taking the disease notification Form she filled out and give it to Nurse Bedria. Much aware that measles is one of the three diseases incorporated into the community surveillance program, Ato Bedasso agreed without hesitation. Happy and satisfied, Chaltu thanked him saying, "You are epitome of goodwill."

"Oh! My sister, I am delighted to have this chance to cooperate towards this noble cause of yours," Ato Bedasso replied, adding "It's for our community's sake that you work so hard!"

### *Tale 2: One-on-one between Lamisso and Lalimmo*

As his Kebele's health representative, Ato Lamisso had been preparing a health education session aimed at raising health awareness of the women living in the Kebele. Ato Lalimmo is a volunteer of community-based disease surveillance. One day, Ato Lalimo went to Ato Lamiso's place and asked him to provide the community with education about polio disease. Ato Lamisso accepted the offer, pledging to gather the women in the Kebele the very next day.

As planned, both men arrived the next day at the appointed venue, where they were received by a throng of women who were eager to participate in the session. Ato Lamisso conducted the polio lesson in the vernacular of the community. At the end of his presentation, the women raised their hands one after the other with many questions. Even Ato Lalimo joined to respond to all of the queries.

The women thanked the men for the informative lesson. The two men thanked the women for their keen interest. Happy and satisfied, Ato Lalimo returned home. He gave his wife an account of his successful day. His wife remarked, "I am proud of you."

The next day, Ato Lalimo's wife joined a group of women preparing to fetch water. They spoke of her husband's good work the other day. Delighted, she returned and encouraged her husband to continue with his work in the future.

## 3. Main Message 3: Participatory planning and reviewing

Participatory planning is conducted under the leadership of HEWs and Animal Health Assistant with community volunteers and other stakeholders. It is important to implement the joint plan and to appraise performance monthly.

### 3.1. Who should participate in planning?

- Health Extension Workers

- Animal Health Technicians
- Community Volunteers
- Religious leaders/elders
- Kebele officials

### 3.2. Meeting Preparation

- CVs in coordination with HEWs summon pertinent members of the community and counterpart volunteers for a meeting
- Prepare strong and weak areas of performance in advance
- Set the objective of the meeting in advance
- Prepare the meeting agenda

### 3.3. Meeting Agenda

- Introduction of participants
- CV performance reports, achievements, and challenges encountered
- Comments and discussion
- Plans for implementation during the month ahead
- Timetable and agenda of the next meeting

### 3.4. Meeting minutes

Components of the minute

- Date
- Venue
- List of participants
- Agenda of the meeting
- Strengths
- Weaknesses
- Challenges and solutions
- Action points

## Annex 7: Guide for the implementation of CVs/HDALs training and review meeting

### *Community Volunteers*

1. Five CVs are trained per kebele and each CV should work 2 days per week, 4 hours per day. Each household should be visited once quarterly. The time spent with each household should be 40 minutes, including travel house to house.
2. CVs should be able to read and write. If this is not feasible, at least one CV should be able to read and write; the HEW will appoint the literate CV to provide support to document household information for the other CVs, including tracking pregnant women and newborns, and children under one, as well as contributing to planning and monthly reports.
3. The total time for CBS training will be three days (roughly one-half day per disease).
4. The training and review meeting will be organized at the cluster level in each woreda to minimize cost and promote greater numbers of CVs per kebele.
5. During the cluster-level training, the training team should consist of one woreda staff, Health Center HEW supervisor and partner staffs.
6. The review meeting will be organized for one full day.
7. Every review meeting should include a refresher training/update to avoid separate, stand-alone refresher trainings.
8. Health Centers should strengthen linkages between HEWs and CVs.
9. Women will be highly encouraged to work as CVs for the CGPP-GHSA project.

### *Health Development Army Leaders (HDALs)*

1. Training of Trainers should be provided for HEWs, who in turn should provide training for HDALs at the health post level
2. HDALs monthly review meeting should be organized at health post level and lead by HEWs
3. HEW woreda level review meetings should be conducted each quarter at the woreda level
4. Health Centers should organize monthly review meetings with HEWs to strengthen community work, to share experiences and provide refresher training
5. CGPP woreda staff should closely track monthly meetings at the health post and health center levels

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