

Message Guide for Zoonotic Diseases in Zambia

RABIES AND ANTHRAX





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World
Zoonoses
Day 2024

**PREVENT
SLEEPING
SICKNESS**



Prevent Anthrax!

Protect yourself, family, community and animals against anthrax

- Give your animals a deworming every year
- Avoid eating meat from sick animals or animals found dead
- Wash your hands with soap and clean running water after contact with an animal or its body fluids
- Visit the nearest Health Facility if you have had contact with animals suspected to have anthrax

For more information on anthrax, visit the nearest veterinary office or health facility.

Logos for ZNPHI, USAID, and the World Zoonoses Day 2024.



ACRONYMS

CCP	Center for Communication Programs
CDC	Centers for Disease Control and Prevention
WHO	World Health Organization



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- Zambia National Public Health Institute
- Ministry of Agriculture
- Ministry of Fisheries and Livestock
- National Agricultural Information Services
- Ministry of Health
- Zambia News and Information Services
- Ministry of Green Economy and Environment

Technical information was sourced from the World Health Organization (WHO) and U.S. Centers for Disease Control and Prevention (CDC) websites. Development of this guide also was informed by the Ghana Message Guide for Zoonotic Diseases and the Ethiopia Priority Zoonotic Diseases Risk Communication Message Guide.

Future revisions and adaptation of the guide should be through consultation with the One Health Advocacy, Communication, and Training technical working group.

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Director General,
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BACKGROUND

Zoonotic diseases, antimicrobial resistance, and other emerging pandemic threats pose significant risks to global health security. Zambia's unique geographic position as a landlocked country heightens its vulnerability to these threats as population growth and urbanization reduce wildlife habitats. From 2012 to 2022, zoonotic disease outbreaks in Sub-Saharan Africa increased by 63%, compared to the previous decade. These outbreaks accounted for 33% of public health emergencies, with nearly 70% attributed to Ebola virus disease and other viral hemorrhagic fevers, while diseases such as dengue fever, anthrax, plague, mpox, and others comprised the remaining 30%.¹

Over the years, Zambia has encountered outbreaks of several zoonotic diseases, including an anthrax outbreak in 2023 with 684 suspected human cases and previously in 2011 with 511 suspected cases.² Rabies continues to be a public health threat in Zambia, with approximately 15,000 reported dog bites and 50 deaths from rabies annually.³ These outbreaks underscore the critical need for a collaborative, multisectoral, and multidisciplinary approach which led to the prioritization of 10 zoonotic diseases in the country. They are: African trypanosomiasis, anthrax, salmonella, Ebola, rabies, plague, zoonotic avian influenza, zoonotic tuberculosis, cysticercosis, and brucellosis.

The One Health approach is a collaborative, multisectoral, and transdisciplinary approach optimizing health outcomes for people, animals, plants, and their shared environments. Recognizing the importance of this approach, the Zambia National Public Health Institute—in collaboration with other ministries, departments, and agencies—developed the National One Health Strategic Plan 2022–2026. The strategic plan coordinates efforts across five key areas: governance and coordination; surveillance; preparedness and response; advocacy, communication and training; and research. Key to this strategy is the Advocacy, Communication, and Training technical working group, which focuses on risk communication and community engagement.

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- 1 World Health Organization Africa. (2022). In Africa, 63% jump in diseases spread from animals to people seen in last decade. <https://www.afro.who.int/news/africa-63-jump-diseases-spread-animals-people-seen-last-decade#:~:text=There%20has%20been%20a%2063,in%20the%20WHO%20African%20region>
 - 2 World Health Organization. (2023). Anthrax – Zambia. <https://www.who.int/emergencies/disease-outbreak-news/item/2023-DON497#:~:text=Pulmonary%20anthrax%2C%20the%20most%20severe,and%20humans%20in%20limited%20supply>
 - 3 Zambia National Public Health Institute. (2018). Ending dog-mediated human rabies by 2030: A Zambian perspective. <https://thp.znphi.co.zm/index.php/thehealthpress/issue/view/25/94>

Risk communication is most effective when messages are consistent and communicated through various channels. Communicating about the risk of zoonotic diseases with the broader population and engaging communities more specifically is a critical component of preparedness and response.

This document aims to improve coordination between One Health sectors and partners by providing an approved messages guide to inform risk communication activities on zoonotic diseases for preparedness and response. The guide covers rabies and anthrax, two priority diseases of great concern in Zambia, as well as cross-cutting messages intended to enhance knowledge and awareness around priority zoonotic diseases.

Zambia's proactive approach to One Health, coupled with strategic disease prioritization and effective communication, aims to mitigate the impact of zoonotic diseases and safeguard human, animal, and environmental health.

Purpose of Guide

This message guide is intended to provide a reference for presenting accurate, standardized, and basic health information in simple language using a message format relevant to the prevention and management of zoonotic diseases, specifically rabies and anthrax in Zambia. The main objectives of the guide are to

- Inform the design of activities and materials about zoonotic diseases (specifically rabies and anthrax) to raise awareness, promote healthy behaviors, and mobilize communities to take preventive action.
- Provide a knowledge base upon which more detailed and specific information can be added in the event of an outbreak and throughout the response and recovery phases.

The primary intended audiences of this document include sector ministries, institutions, departments, agencies, media, and development partners involved in designing or implementing programs, activities, or communications on zoonotic diseases such as rabies and anthrax. Additionally, the document aims to support individuals and groups providing health information on human, animal, and environmental health at the community level. The intended audiences of the individual messages are communities and community members, particularly livestock owners and individuals living near or working with animals or animal products.

Message Guide Format

The guide has two key sections: disease-specific messages and cross-cutting messages.

Disease-specific messages on rabies and anthrax summarize the disease, its signs and symptoms, and key preventive behaviors. Risk factors and audiences are highlighted at the end of each section. Cross-cutting messages cover key preventive behaviors for various zoonotic diseases.

Role of Messaging in Risk Communication for Preparedness and Response

Risk communication is the real-time exchange of information, advice, and opinions between experts or officials and people who face a threat to their survival, health, or economic or social well-being from a hazard (e.g., zoonotic disease outbreak).⁴ Effective risk communication can manage people's expectations during an emergency and assist response efforts by increasing efficiency and minimizing duplicate, contradictory, or false information.

As evidenced during the COVID-19 pandemic, an effective response may require behavioral and social norm changes. These changes require robust and trustworthy communication. Commitment to community engagement supports those affected by an outbreak to help them

- Define the issue or problems affecting them.
- Reflect on the causes of the issues, including how their behaviors impact these causes.
- Identify their ability and roles to improve the issue.
- Organize themselves to address the issue.

Engaging communities prior to an event fosters trust and strengthens feedback loops between communities, health facilities, and officials. This engagement can accelerate the community-led action needed to create demand for disease prevention, treatment, and control during an emergency. Community engagement helps ensure communities recognize the benefit in adopting priority behaviors during emergencies and willingly cooperate with response teams.⁵

Strong and united messaging across various channels and structures at the community level can determine whether an emergency spirals out of control or is controlled rapidly. Coordinated, consistent messages provide effective communication as multiple stakeholders address priority individuals and communities with a clear and concise voice across all channels of communication.

4 World Health Organisation. (n.d.). Risk communication learning course: <https://openwho.org/courses/risk-communication>

5 Health Communication Capacity Collaborative (HC3). (2017). The SBCC emergency helix: A framework for strengthening public health emergency programs with social and behavior change communication. <https://healthcommcapacity.org/hc3resources/sbcc-emergency-helix/>

Principles of Effective Messaging

Technical information alone, even if formulated in simple, understandable language, is unlikely to prompt significant behavior change. Apart from providing accurate and actionable information, messages should be designed and delivered with respect for people's values. They should communicate care and concern; account for the local context, culture, and potential stigma associated with the situation; and be used as part of a responsive, two-way exchange with those at risk.⁶ Messages conveying specific information on an action, benefit, and risk are more likely to motivate behavior change than general messages. The messages in this guide thus are designed according to the following principles:

- Provide essential health information in a positive way, and encourage simple, doable actions for prevention and management of zoonotic diseases.
- Present one main idea at a time focusing on what people need to know and do, why they should do it (i.e., benefits and risks), and how they should do it.
- Acknowledge people's concerns and emotions (e.g., fear, anxiety, and sadness) caused by the emergency or information presented.
- Appeal to emotions and the sense of individual and collective responsibility.
- Respect cultural beliefs and values.
- Recognize animals are an important and valuable part of people's livelihoods and cultural lives.
- Focus on preventing animal-to-person and person-to-person transmission of disease in the event of an outbreak.
- Focus on available facts.
- Use short words and common conversational language, limiting the use of technical and scientific words as much as possible while maintaining accuracy and integrity of the concept.
- Maintain consistency in phrasing.

Use of these principles is recommended to guide further refinement and development of additional new messages for subsequent versions of this and related message guides.

⁶ Health Communication Capacity Collaborative (HC3). (2016). Social and behavior change communication for emergency preparedness implementation kit. <https://sbccimplementationkits.org/sbcc-in-emergencies/>

ANTHRAX SUMMARY

Anthrax is a serious infectious disease caused by the bacteria *Bacillus anthracis*. It naturally lives in soil, where it can survive for many years. In Zambia, anthrax normally appears at the onset of the rainy season and when animals are forced to graze close to the ground. It is a notifiable disease and must be reported immediately to local authorities and veterinarians when suspected in either animals or people.

When bacilli from infected animals are exposed to air, they immediately form spores that contaminate the environment. Domestic and wild animals such as cattle, sheep, goats, antelopes, buffalo, hippos, and deer can become infected with anthrax when they ingest these spores from contaminated soil, plants, or water. Once spores enter the body, they multiply, producing toxins (poisons) that can cause severe illness. Cattle, sheep, and pigs are particularly vulnerable to anthrax infection and can suffer from serious effects, including sudden death without any signs of the disease.

Anthrax can affect all warm-blooded animals and people. The three main types of anthrax are closely related to how a person or animal is infected:⁷

- **Cutaneous Anthrax (skin)** occurs when a person or animal is exposed to anthrax spores via contact with meat, hide, skin, or bones of an infected animal or animal carcass. Symptoms in people include a cluster of itchy blisters or bumps around the exposure site and swelling. A painless sore with a black center may appear after the blisters erupt. Without treatment, anthrax through the skin can cause death. Treatment can be very effective in reducing mortality rate. The phrase “anthrax through the skin” is used in the messages.
- **Gastrointestinal Anthrax** occurs when a person or animal eats meat or drinks water contaminated with anthrax spores. Symptoms of gastrointestinal anthrax in people may be hard to differentiate from other stomach illnesses (e.g., nausea, loss of appetite, vomiting, bloody vomit, fever, abdominal pain, and severe diarrhea). Symptoms generally develop 1–7 days after exposure. Without treatment, the fatality rate for gastrointestinal anthrax is high, although early treatment can be effective in reducing mortality.

⁷ Mayo Clinic. (2023, December 12). Anthrax. <https://www.mayoclinic.org/diseases-conditions/anthrax/symptoms-causes/syc-20356203>

- **Inhalation Anthrax** occurs when a person or animal inhales spores from the wool, hide, or skin of an animal or animal carcass infected with anthrax. Symptoms of inhalation anthrax are flu-like and thus may be hard to differentiate from other respiratory diseases. In people, symptoms generally appear shortly after exposure and include fever, cough, headache, vomiting, chills, weakness, abdominal pain, and chest pain. Animal symptoms include lethargy/extreme fatigue, anorexia, fever, rapid respiration, increased heart rate, and congested mucous membranes. Inhalation anthrax is the deadliest form of anthrax and is 90% fatal. Even with early and aggressive treatment, mortality for inhalation anthrax remains up to 45%.⁸

Although rare, anthrax can spread from person to person. Individuals who work closely with animals or their skin and hides are at increased risk of anthrax infection, as well as those who consume meat from animals that died from unknown causes. Other risky behaviors also increase the risk of anthrax infection in people and animals:

- Unsafe handling and disposal of animals suspected of having anthrax.
- Delay in seeking early care for infected people and animals.
- Consumption of meat or blood from sick animals and animals found dead.
- Unsafe contact with the hide, wool, or skin of a sick or dead animal with anthrax.
- Not vaccinating at-risk livestock against anthrax.

Vaccination of animals against anthrax is a key element of control in areas where anthrax is present. In developed countries, vaccination (e.g., pre-exposure prophylactics) is available for individuals in high-risk occupations (e.g., farmers, veterinarians, abattoirs workers, tannery workers, drummers, hunters, animal husbandry workers). In Zambia, anthrax vaccination for people is not available, only treatment for those infected. Anthrax in people can be treated with antibiotics, and outcomes are significantly more positive with earlier care at a health facility. Thus, self-monitoring for possible anthrax exposure and symptoms is crucial.

In Zambia, the 2021 Department of Veterinary Services' Annual Report⁹ reported eight anthrax outbreaks in cattle and people. During the September 2011 outbreak, 511 human anthrax cases and five deaths were reported in Chama, Zambia.¹⁰ Anthrax is endemic in the Western province of Zambia, and cases have been reported in the Luangwa Valley. People can get sick with anthrax if they come in contact with infected animals or contaminated animal products. During the rainy season (December

8 CDC. (2024). CDC Yellow Book 2024: Anthrax. <https://wwwnc.cdc.gov/travel/yellowbook/2024/infections-diseases/anthrax>

9 Government of the Republic of Zambia: Ministry of Fisheries and Livestock. (2021). Department of Veterinary Services Annual Report 2021. National Livestock Epidemiology and Information Centre.

10 Lehman, M. W., Craig, A. S., Malama, C., Kapina-Kany'anga, M., Malenga, P., Munsaka, F., Muwowo, S., Shadomy, S., & Marx, M. A. (2017). Role of food insecurity in outbreak of anthrax infections among humans and hippopotamuses living in a game reserve area, rural Zambia. *Emerging Infectious Diseases*, 23(9), 1471-1477. <https://doi.org/10.3201/eid2309.161597>

through March), animals dig and forage land and riverbeds for food and water due to low crop production. During foraging, they may come in contact with dormant anthrax spores, which can then be spread.¹¹ Early treatment of anthrax infections in people at the health facility can save lives.

This section was developed with reference from the WHO, CDC, Office International des Epizooties, and Zambian resources below:

[CDC Resource Page on Anthrax](#)

[World Organization for Animal Health Resource Page on Anthrax](#)

[WHO Anthrax Questions and Answers](#)



11 Sitali, D. C., Twambo, M. C., Chisoni, M., Bwalya, M. J., & Munyeme, M. (2018). Lay perceptions, beliefs and practices linked to the persistence of anthrax outbreaks in cattle in the Western Province of Zambia. *The Onderstepoort Journal of Veterinary Research*, 85(1), 1615. <https://doi.org/10.4102/ojvr.v85i1.1615>.



ANTHRAX MESSAGES

About Anthrax

Anthrax is a disease that can affect both people and animals. It may cause serious illness and death.

Anthrax is found naturally in soil, where it can survive for many years. Anthrax also can be found on the wool, hair, hide, or skin of an animal that died of the disease.

Anthrax most often affects wildlife (e.g., buffalos, hippos, elephants) and domesticated grazing animals (e.g., cows, sheep, horses, pigs, and goats).

Anthrax infection in people and animals ranges from serious to very serious and may even cause death.

A person can get anthrax through direct contact with infected animals or animal products, including the following:

- Any contact with infected meat, hide, skin, or bones.
- Breathing in anthrax spores from the wool, hair, hide, or skin of an anthrax-infected animal.
- Eating meat or drinking water contaminated with anthrax spores.

Anthrax can cause different symptoms in people depending on how it enters the body.

Anthrax does not easily spread from person to person.

If a person with anthrax does not get early treatment, the disease can get worse, and the person may die.

Signs and Symptoms of Anthrax in Animals

The length of time from when anthrax enters an animal's body to when the animal starts to show signs and symptoms of anthrax ranges from one day to two weeks. The signs and symptoms of anthrax in animals include

- Difficulty breathing.
- Sudden death.
- Bleeding from the mouth, nose, and other body openings after death.
- Swelling of the body after death.
- Lack of body stiffness after death.

Signs and Symptoms of Anthrax in People

The length of time from when anthrax enters a person's body to when signs and symptoms of anthrax begin to show ranges from one day to two months. The signs and symptoms of anthrax are different depending on how anthrax entered a person's body.

Anthrax through the skin is the most common type of anthrax in people. The signs and symptoms of this type of anthrax include

- An itchy bump that looks like an insect bite that quickly changes into a painless sore with a black center.
- Swelling around the sore, most commonly found on the face, neck, arms, or hands.

Anthrax caused by eating or drinking something contaminated with anthrax spores is less common but can be more serious. Without early treatment, gastrointestinal anthrax can cause death. The signs and symptoms of this type of anthrax are

- Diarrhea that may contain blood.
- Nausea.
- Loss of appetite.
- Vomiting.
- Fever.
- Headache.
- Sore throat, hoarseness, and difficulty swallowing.
- Swollen neck.
- Flushing (red or hot face) and red eyes.
- Fainting.
- Swelling of the abdomen (stomach area).

Inhalation anthrax is caused by breathing in anthrax spores through the nose or mouth. It is the most serious type of disease and will cause death without rapid treatment. Livestock owners and people who work in slaughterhouses or process the wool, hides, or meat of an infected animal are the most

likely to get this type of anthrax. The signs and symptoms of this type usually start within one week after contact with anthrax but may not appear for up to two months. They include the following:

- Trouble breathing.
- Fever and chills.
- Swelling of the neck or glands in the neck.
- Sore throat, painful swallowing, and hoarse voice.
- Vomiting especially with blood.
- Diarrhea or bloody diarrhea.
- Headache.
- Flushing (red or hot face) and red eyes.
- Stomach pain.
- Bloating.
- Fainting.

How Anthrax is Spread

- Anthrax can spread between animals and from animals to people.
- Anthrax rarely spreads from person to person.
- Anthrax can spread from an animal to a person through
 - A break or opening in the skin, such as a cut or a scrape when a person has direct contact with blood or other bodily fluids (e.g., urine, stool, blood, mucus, or saliva) or with animal products (e.g., meat from an animal that has anthrax).
 - Eating the meat or blood of a sick or dead animal with anthrax.
 - Touching or breathing in anthrax spores from the bones, skin, or hide of a sick or dead animal with anthrax.

People Most at Risk of Anthrax

Anyone can contract anthrax, but those who work directly with animals, such as livestock farmers, hunters, community veterinary officers, veterinary assistants, laboratory technicians, tannery workers, drummers, and butchers are particularly at risk.

Protecting Yourself, Your Family, and Your Animals from Anthrax

To protect yourselves, your families, and your animals from anthrax, do the following:

- Vaccinate your animals against anthrax every year.
 - Vaccinating your animals every year is the best way to protect your animals, yourself, your family, and your community from anthrax. It is the responsibility of every farmer to ensure their animals are vaccinated every year.
 - Anthrax vaccines for animals are available at a fee at agriculture–veterinary shops, private veterinary centers, and the Central Veterinary Research Institute.
 - Information on the schedule for regular animal vaccination is available at government and private veterinary centers and from veterinary officers and veterinary assistants.
- Animals with anthrax can be treated.
- Carefully isolate any sick or dead animals and report them immediately to your nearest veterinary officer or veterinary assistant, who can then act early before any disease affects people or spreads to more animals.
- Keep sick animals away from other animals and people until a veterinary officer or assistant treats them and advises you.
- If you think your animal has anthrax or has been in contact with another animal known to have anthrax, do not move or sell the animal. If you move or sell the animal, it could spread the disease to others. Report them immediately to your nearest veterinary officer or veterinary assistant.
- If you think an animal has anthrax, avoid touching it with your bare hands, including its body and bodily fluids (e.g., urine, fecal matter, blood, mucus, saliva, birthing fluids).
- Sick animals can spread the disease to you if you touch them or their bodily fluids.
Avoid using the hides of animals that may have died from anthrax because they can contain anthrax spores.
- Avoid killing, eating, or selling any sick animals or animals found dead.
- Avoid eating the meat and blood from a sick animal or any animal found dead.
- Avoid selling or giving away an animal that is sick or looks sick.
- Avoid killing any animals that may be infected with anthrax.
- Avoid buying meat from undesignated sources.
- Allow veterinary officers or veterinary assistants to burn or bury dead animals safely (burned to ashes or buried at least two meters deep so that anthrax cannot be passed to other animals or people).
- Report any unexpected or sudden death of animals to a veterinary officer or assistant or wildlife

personnel to get help to safely burn or bury the dead body.

- Reporting helps district authorities and community veterinary officers act early before the disease becomes a problem.
- If you think an animal may have died of anthrax, avoid touching the body, hide, hair, or skin in any way.
- Close off the area surrounding the dead animal to prevent other animals from coming into contact with it. Do not leave the body in an open field, which can easily spread anthrax to healthy animals who are grazing or drinking water.
- If the veterinary officer or veterinary assistant does not respond within one day to advise on how to burn or bury a dead animal safely, carefully burn or bury the animal (see the steps below).
- Do not touch the body, urine, fecal matter, blood, mucus, saliva, birthing fluids, or any other bodily fluids of a dead animal with your bare hands, even if the animal looks healthy. You cannot always see the signs and symptoms of disease.

Handling and Disposing of a Sick or Dead Animal

If you are unable to get help or guidance from a veterinary officer or veterinary assistant when disposing of a dead animal, follow these key steps for safe handling and disposal:

1. Wear rubber gloves or plastic bags to protect your hands. Cover your eyes with glasses and your nose and mouth with a mask or cloth. Do not touch the animal with unprotected hands.
2. Use a shovel, wheelbarrow, mat, or other tools to move the dead animal to where you can burn or bury it at least two meters deep in the soil. Choose a place far from household activities and where water is collected or used by people or animals (e.g., wells, rivers, and lakes). Cover the body completely with soil.



- In areas with many people and where space is too small to safely bury the dead animal, burning a dead animal to ashes is best.
 - Notify local authorities, such as waste management, if available, or report to the local authority for safe disposal.
3. With the gloves or bags still on your hands, pour soapy water or disinfectant over the shovel, wheelbarrow, or other tools used to move the dead animal and place the tools in the sun to dry completely.
 4. With the gloves or bags still on your hands, immediately wash your hands and arms using soap under running water.
 - Plastic bags or gloves should be washed with soap under running water while they are still on your hands. This is very important.
 - Removing dirty gloves or bags is one of the main ways diseases can spread, so you must wash them after each step before you take them off.
 - Burn or deeply bury the plastic bags along with the animal and then wash your hands and arms immediately with soap under running water.
 5. Remove the glasses and mask or cloth from your face and wash them immediately with soap or disinfectant under running water and place them in the sun to dry.

Never dig up a dead animal that has been buried.



Protect Yourself When Slaughtering an Animal

- Cover your skin, eyes, nose, and mouth when slaughtering any animal, even if the animal looks healthy. This action can help prevent any disease the animal may have from spreading to you.
- If available, wear rubber gloves or plastic bags to protect your hands. Cover your eyes with glasses if available. Cover your nose and mouth with a mask or clean cloth.
- With the gloves or bags still on your hands, wash everything used while slaughtering the animal using soap and clean, running water or disinfectant.
- With the gloves or bags still on your hands, immediately wash your hands and arms with soap and clean, running water.
 - All plastic bags or gloves should be washed with soap under running water while they are still on your hands. This is very important.
 - Removing dirty gloves or bags is one of the main ways diseases can spread. You must wash them after each step before you finally take them off.
 - Remove the glasses and mask or cloth from your face; wash them immediately with soap and clean, running water or with disinfectant. Hang them in the sun to dry completely.
 - If rubber gloves or plastic bags are used, wash them before removing them carefully. Burn or deeply bury them.
 - Wash your hands and arms immediately with soap and clean, running water.
- Always wash your hands and arms with soap and clean, running water before and immediately after slaughtering an animal.
- When slaughtering an animal, if you notice the blood does not clot, the animal might have anthrax.
 - Keep all equipment used while slaughtering the animal together. Immediately report to a veterinary officer or veterinary assistant.
 - Do not move equipment because this could spread the disease.
 - Do not eat the meat, drink the blood, or use the hide from this animal until you receive advice from a veterinary officer or veterinary assistant.

Always Wash Your Hands After Any Interaction With an Animal

- We use our hands for many things, and we can easily spread disease when we touch something that carries the disease and then touch our eyes, nose, mouth, another person or animal, food, and other things.
- Washing our hands frequently with soap and clean, running water is one of the best ways to keep healthy and help stop the spread of the disease.
- Always wash your hands and arms with soap and clean, running water immediately after any contact with an animal, even if it looks healthy, because animals do not always show signs and symptoms of the disease.
- It is very important to wash your hands with soap, especially
 - After assisting an animal birth.
 - After caring for a sick animal.
 - After cleaning or touching areas where animals are kept.
 - After milking.
 - Before and after slaughtering any animal.
- To wash your hands well, follow these steps:
 - Wet your hands with clean, running water.
 - Use enough soap to cover all hand surfaces.
 - Rub hands together and scrub the backs of your hands, wrists, between your fingers, and under your fingernails.
 - Rinse hands well with clean, running water.
 - Dry your hands with a clean towel or tissue or swing your hands to dry them completely in the air.
- Children are at risk in environments where animals are kept or slaughtered. Adults should ensure young children wash their hands well. Families should make handwashing facilities available and ensure water and soap are always available for frequent handwashing.

Seek Early Treatment at a Health Facility if You or Someone You Know Has Come Into Contact With Anthrax or Has Signs and Symptoms of Anthrax

If you think you have come into contact with an animal that died from anthrax or if you have any sign or symptom of anthrax, go to the nearest health facility immediately.

- Getting early treatment for anthrax can save lives.
- When someone gets early care and treatment, they have a better chance of recovering quickly.
- If you have signs or symptoms of anthrax, go to the nearest health facility to seek medical help immediately.
 - Inform your health care provider if you have had recent contact with any animal suspected to have anthrax or spent time in an area where animals suspected to have anthrax live, visit, or are kept.
 - This information can help health providers take appropriate action for early treatment and stop further spread of the disease in the community.
- Report every person's death in the community to the nearest health facility.
- Report every sudden animal death in the community to the veterinary officer or veterinary assistant. Reporting every death helps health care providers, veterinary officers, and veterinary assistants to know about the death and to decide if any investigation is needed.

Priority Behaviors and Audiences

Priority behaviors and audiences were identified by the One Health Advocacy Communication and Training Technical Working Group based on field experiences in the detection, prevention, and control of anthrax.

Priority Behaviors

- Safe handling and disposal of animals suspected of having anthrax.
- Regular anthrax vaccination for animals.
- Risky cultural practices (e.g., mafisa).
- Consumption of meat from sick animals or animals found dead.
- Early care-seeking behavior for both animals and people.

Priority Audiences

Priority audiences include community members such as

- Livestock farmers and owners.
- Workers in abattoirs and butchereries.
- Meat traders.
- Hunters.
- Veterinary officers and veterinary assistants.
- Wildlife officers.



RABIES SUMMARY

Rabies is a vaccine-preventable viral disease of warm-blooded animals spread through contact with saliva or brain/nervous system tissue from an infected animal via an open wound or mucous membrane. Rabies usually spreads from an animal to a person through a bite from a rabid animal. Rabies is one of the deadliest diseases affecting both people and animals. Without early intervention, rabies is 100% fatal in people. In Zambia, rabies is a notifiable disease in both people and animals.

Rabies affects the central nervous system, ultimately causing disease in the brain that leads to death.¹² Initial rabies symptoms in people can look similar to the flu—weakness, discomfort, fever, and headache. Within 14 days, these symptoms progress to behavior disturbance symptoms, including increased anxiety, confusion, agitation, delirium, hallucinations, and hydrophobia (fear of water). The incubation period ranges from weeks to months in people and can vary based on the location and severity of exposure.

Rabies is a neglected tropical disease predominantly affecting marginalized, poor, and vulnerable populations, especially in Africa and Asia (WHO, 2021). Although the disease is vaccine preventable, many places lack access to essential services, such as vaccines for both people and animals, postexposure treatment (required for those exposed to but not vaccinated against rabies), and other public health resources. Prevention thus is integral to lowering the burden of rabies.

Rabies is an endemic zoonotic disease in Zambia, where the principal reservoir species is the domestic dog, although other animals such as cats and monkeys can also spread the disease. All provinces in the country have reported rabies outbreaks. Both human and animal rabies have been present in Zambia since the early 1900s (see the Dog-Mediated Rabies Control and Elimination Strategy for Zambia 2022–2026).

In Zambia, all dogs must be registered with the local authority. Vaccinating dogs and household pets (e.g., cats), following dog population control methods, and sensitizing communities, particularly children and youth, about safe behavior around dogs are among the various methods to prevent rabies.

12 CDC. (2024, June 21). About rabies. <https://www.cdc.gov/rabies/about/index.html#:~:text=Rabies%20primarily%20affects%20the%20central,post%2Dexposure%20prophylaxis%20or%20PEP>

Rabies risk factors include

- Low rates of animal vaccinations and information gaps on vaccines.
- High populations of uncontrolled dogs.
- Delays in care seeking for animal bites.
- Irresponsible animal ownership.

All dog bites and scratches should be treated as possible rabies exposures until proven otherwise.

Victims of dog bites must immediately report to health facilities to be assessed for appropriate management. Where indicated, post-exposure care (prophylaxis) may be needed. The cost of this care is on average K1000 (\$40 USD) per patient.¹³ Due to inadequate funding, the Central Veterinary Research Institute has been unable to consistently produce rabies animal vaccines, and pre-exposure prophylactics are often not accessible. As a result, the vaccine is more expensive to import in the country.

In addition to medical care for the victim, the dog should be quarantined under the supervision of a veterinary officer or veterinary assistant for confirmation of the disease. All individuals involved in the provision of veterinary services or animal researchers involved with cats, bats, dogs, and other canines should consider receiving pre-exposure prophylactics.

This section was developed with reference to the following WHO, CDC, Office International des Epizooties, and Zambian resources:

[World Organization for Animal Health Resource Page on Rabies](#)
[WHO Factsheet on Rabies](#)
[CDC Resource Page on Rabies](#)
[Zambia National Public Health Institute](#)

13 Nakazwe, C., & Gianetti, B. (2019). Zero human rabies deaths: A One Health approach to rabies elimination in Zambia. Health Press Zambia Bull, 3(10), 6-9. <https://thp.znphi.co.zm/index.php/thehealthpress/issue/view/42/205>



Rabies Messages

About Rabies

- Rabies can affect people and animals.
- Rabies is a serious and deadly disease. Once the signs and symptoms of rabies begin to show, it is too late for treatment. Go immediately to your nearest health facility for treatment if rabies is suspected.
- Rabies is not known to spread from person to person.
- Any mammal or warm-blooded animal can get and spread rabies, including dogs, cats, squirrels, and bats.
- In Zambia, most animal bite cases involve a dog. Dogs and other animals are not born with rabies.
- Dogs and other animals can only get rabies from an animal infected with rabies.
- Take your dog and pets (e.g., cats) to the nearest veterinary office for vaccination against rabies every year.
- Not all stray dogs or wild animals have rabies.
- All animal bites and scratches, even small ones, should be taken seriously by seeking immediate care at the nearest health facility.

Signs and Symptoms of Rabies in Animals

- The length of time from when rabies enters an animal's body to when the animal starts to show signs and symptoms of rabies ranges from one day to several months.
- Once an animal begins to show the signs and symptoms of rabies, it will die within one to 14 days.
- The signs and symptoms of rabies in animals include
 - Exhibiting angry, crazy, or anxious behavior.
 - Trying to bite other animals or people while showing no fear.
 - Having a lot of saliva or foaming at the corners of the mouth.
 - Producing unusual or different sounds from their normal sounds.
 - Having difficulty eating or swallowing.
 - Having difficulty moving (i.e., tired or lethargic) or unable to move (i.e., paralysis).
 - Having difficulty walking in a straight line.
 - Showing fear of light or sound and water (i.e., hydrophobia).
- A skin rash is not a sign or symptom of rabies.



Signs and Symptoms of Rabies in People

- The length of time from when rabies enters a person's body to when the person starts to show signs and symptoms of rabies typically ranges from a few days to 2–3 months, but sometimes symptoms appear six months later, depending on the site of the bite.
- Once a person starts to show signs and symptoms of rabies, they will not survive. Seek medical treatment at a health facility immediately after any animal bite to prevent rabies.
- The signs and symptoms of rabies in people include
 - Fever.
 - Headache.
 - Pain or an unusual tingling feeling around the bite.
 - Being unusually active.
 - Acting angry, easily annoyed, depressed, confused, nervous.
 - Seeing things that are not there.
 - Fear of water.
 - Feeling disturbed by air or light.
 - Unable to move parts of the body.
 - Weakness or discomfort.
- Take all animal bites and scratches seriously, even small ones, and do not wait for signs or symptoms before going to the health facility.
- Immediate treatment for bites before signs and symptoms appear protects you from rabies.

How Rabies Spreads

- Rabies is spread through the saliva of an animal with rabies, usually when that animal bites another animal or person. Less commonly, rabies can enter a person's body through the mouth or nose or through small cuts or openings in the skin, such as when an animal with rabies scratches a person or licks a person's face or skin.
- Any mammal or warm-blooded animal can get and spread rabies, including dogs, cats, squirrels, and bats.
- In Zambia, rabies is most commonly spread to people from the bite of a dog infected with rabies.
- It is possible for an animal with rabies to spread the disease to another animal or a person before the animal shows signs and symptoms of rabies. For this reason, any animal bite or scratch, even small ones, should be taken seriously.

- Rabies has not been shown to spread from person to person, but to be safe, avoid kissing or sharing saliva with any person that may have rabies.
- Rabies can spread through the illegal movement of animals from one place to another.

Protecting Your Animals, Yourself, and Your Families Against Rabies

Several actions can help protect animals and people from rabies:

- Vaccinate dogs and cats against rabies every year and care for them well.
 - Animal health is important for human health. Taking good care of our pets (e.g., dogs, cats), birds, and livestock (e.g., goats, sheep, cows) helps keep animals, people, and communities healthy.
 - All animals need enough food and water, exercise, kind treatment, and a safe, clean place to stay.
 - A rabies vaccine for dogs and cats can protect them from rabies, and it protects you, your family, and other animals from getting rabies from them.
 - Dogs and cats should be vaccinated for rabies after they turn three months old and once every year after that.



- Rabies vaccines can be found at government or private veterinary clinics and are administered for a fee.
- Report to a veterinary officer or assistant to direct you to a government veterinary service or private veterinary center to ensure the vaccine for your dog or cat is genuine.
- If your animals are not vaccinated and are bitten or scratched by another animal, report to a veterinary officer or veterinary assistant immediately for advice.
- Keep your dogs in a yard or enclosed area. Dogs that roam freely are more likely to encounter rabid dogs and other animals and then spread the disease to other animals and people.
- Feed your dog regularly so it does not roam in search of food.
- Avoid letting your pet or any animal lick your face or any breaks in the skin such as cuts, scratches, or sores. Rabies is spread through the saliva of an animal, and the signs of disease are not always apparent.

Prevent Animal Bites

- In Zambia, the cost for treatment to prevent rabies can make it difficult for people to seek care in time to prevent rabies.

- One of the best ways to protect against rabies is to avoid (prevent) animal bites.
- If an animal shows signs and symptoms of rabies, avoid the animal and report it to a veterinary officer or veterinary assistant immediately.
- Avoid any dog or other animal that is acting strangely.
- Avoid stray dogs and animals you do not know, even if they look friendly.
- Dogs and other animals may bite for many reasons. For example, they might bite because they feel afraid or protective of their home, their owner, their young, or their food.



- Do not bother dogs or other animals when they are sleeping, eating, or with their young.
 - Avoid dogs or other animals that are behind fences or tied up.
- When dogs are angry, they pull back their lips, show their teeth, and growl; their hair stands on end; and they keep their tail straight up in the air. When dogs show any of these signs, back away slowly and quietly, and stay away from them.
- When dogs are afraid, they move backwards or try to run away, lick their faces, lower their tails, flatten their ears back, and show their teeth. When dogs show any of these signs, back away slowly and quietly, and stay away from them.
- Treat dogs and other animals with kindness. Do not shout or throw things at them, kick or hit them, or pull their ears or tails.
- If approaching a dog, do so quietly and stay calm. Do not run from, chase, tease, or play roughly with dogs.
 - Do not stare directly at dogs.
 - Do not put your face near a dog's face or try to hug dogs.
 - If you want to touch a dog, ask their owner for permission first. Then, make sure it can see you and sniff your hand first, and only pet it on its back.
 - Watch small children closely when they are playing with dogs. Teach them to avoid being bitten or scratched and to avoid touching a dog's saliva. Children should not chase or harm dogs.
- If a dog comes close to you, do the following:
 - Stand still and quiet, like a tree.
 - Keep your hands at your side.
 - Look at your feet.
 - If you fall over, curl up and stay as still and heavy as a rock.
 - Let the dog sniff you and when it walks away, walk slowly and quietly away from it.
- Leave wild animals to be wild. Keeping a wild animal as a pet or bringing it into your house can cause problems for the animal and for your family.

Care for Any Animal Bite Immediately

- Wash any animal bite or scratch immediately with soap and clean, running water for 15 minutes.
- After washing a bite or scratch very well, go immediately to your nearest health facility or health care provider for advice and treatment.
- To stop rabies, you must get treatment before signs and symptoms begin to show. Once a person starts to show signs and symptoms, they will not survive.
- Report to a veterinary officer, veterinary assistant, or your local leadership about the animal that bit or scratched you and how you were bitten or scratched. This information can help them learn more about the animal to protect other people.
- Any animal that has bitten someone or another animal should be examined by an animal health professional and kept away from other animals and people for 10 days while it is observed for signs and symptoms of rabies.

You should also do the following:

- Report to your nearest veterinary officer or veterinary assistant for advice on how to handle the animal.
 - Take care not to get bitten. Keep the animal in a separate area, away from other animals and people.
 - Make sure the animal has food and water while it is being observed.
 - Do not kill or harm the animal.
- If the animal does not show signs of rabies after 10 days, post-exposure treatment (for people) can be discontinued.

Report Animals Showing Strange Behavior to a Veterinary Officer or Veterinary Assistant

- If an animal shows signs and symptoms of rabies or is acting strangely, avoid it and immediately report to the veterinary officer or veterinary assistant for advice and guidance.
- If you find any bites on your animal or it is exhibiting strange behavior, separate it from other animals and people and report to the veterinary officer or veterinary assistant.



- If you see any unusual behavior in your dog, seclude it and inform your family and neighbors about it so that they can avoid it until a veterinary officer or veterinary assistant can advise.
- Wild animals do not normally let a person come close to them, so if one does, something could be wrong with it. Stay away from it.

Avoid Touching Animals or Their Bodily Fluids if They Appear to be Sick With or Have Died From Rabies

- When possible, avoid animals that look sick and animals that you find dead. You cannot always see the signs of the disease.
- Do not touch with bare hands the body or bodily fluids, such as saliva, urine, fecal matter, blood, or mucus of an animal that looks sick or that you find dead.
- Never prepare or eat, sell, or give away an animal that showed signs or symptoms of rabies or was found dead.
- To the degree possible, avoid letting your pet or any animal lick your face or any breaks in the skin such as cuts, scratches, or sores.
- Always wash your hands and arms with soap and clean running water immediately after any contact with an animal.
- Go to the nearest veterinary office and report any animal that looks sick or that you find dead. This information can help veterinary officers or assistants know about the disease before it spreads to people.



Ensure Safe Disposal of Dead Animals

- Report or go to the nearest veterinary officer or veterinary assistant about any unexpected or sudden death of animals to get help on how to safely burn or bury the dead body. This information can help local authorities, veterinary officers, and veterinary assistants act early before the disease spreads.
- Isolate the dead animal to prevent people and other animals from coming into contact with it.
- If the services of the veterinary officer or veterinary assistant are not within reach, follow the steps indicated on pages 14–17 on burning or burying dead animals.

Always Wash Your Hands After any Interaction With an Animal

- We use our hands for many things, and we can easily spread diseases when we touch something that carries a disease and then touch our eyes, nose, mouth, another person or animal, food, and other things.
- Wash your hands frequently with soap and clean, running water to stay healthy and help stop the spread of disease.
- Always wash your hands and arms with soap and clean, running water immediately after any contact with an animal, even if it looks healthy, because animals do not always show signs and symptoms of disease.
- Always wash your hands with soap
 - After assisting an animal birth.
 - After caring for a sick animal.
 - After cleaning or touching areas where animals are kept.
 - After milking.
 - Before and after slaughtering any animal.
- To wash your hands well, follow these steps:
 - Wet your hands with clean, running water.
 - Use enough soap to cover all hand surfaces.
 - Rub hands together and scrub the backs of your hands, wrists, between your fingers, and under your fingernails.
 - Rinse hands well with clean, running water.
 - Dry your hands with a clean towel or tissue or swing your hands to dry them in the air.



- Children are more at risk in environments where animals are kept or slaughtered. Adults should make sure young children wash their hands well. Families should make handwashing facilities available and ensure water and soap are always available for frequent handwashing.

Priority Behaviors and Audiences

Priority behaviors and audiences were identified by the One Health Advocacy, Communication, and Training Technical Working Group based on field experiences in the detection, prevention, and control of rabies.

Priority Behaviors

- Vaccinating animals (especially dogs).
- Managing dog bites.
- Reporting dog bites to the health facility and veterinary office.
- Engaging in responsible dog ownership.

Priority Audiences

The priority audiences are community members, particularly

- Animal owners, especially dog owners.
- Children.
- Veterinary officers.
- Veterinary assistants.



CROSS-CUTTING MESSAGES

During review and compilation of information and messages on priority zoonotic diseases, several common behaviors relevant to the prevention, detection, and management of rabies were identified.

Focusing on behaviors that protect against multiple zoonotic diseases can have broad impact by managing the amount of information shared. Many behaviors cut across other priority health issues, such as water, sanitation and hygiene; food safety; infection prevention control; and early care seeking for fever. These messages are broadly relevant and well-suited for easy integration into other health promotion and social mobilization activities during times of non-emergency. Increasing familiarity with these behaviors can reduce fear when confronting new and often life-threatening diseases.

Messages related to these cross-cutting behaviors are grouped together in this section. These messages have been selected based on availability of systems to support the promoted behavior in Zambia, potential to interrupt transmission, and feasibility to practice the behavior.

Connection Between Animal Health and Human Health

- Animal health and the health of areas where they live are important for human health.
- Animals are a source of food and income, and they help our plants and forests grow.
- Many animals help grow food by spreading the seeds. Without these animals, plants would not multiply and grow.
- Some animals help crops stay healthy by eating insects that damage the crops.
- If the forest is cut, burned, or no longer safe for wild animals, the wild animals will be forced to find a new home, which can bring them closer to people and other domestic animals and lead to problems. Taking care of our forests and land helps animals to live in peace and avoid these problems.
- Animals can get sick just like people can, and some can spread diseases to people and other animals, such as monkeys, bats, rats, cats, dogs, chickens, and pigs.

- Some diseases that can be spread from animals are serious and can cause death. These diseases include Ebola virus, Lassa fever, rabies, anthrax, and animal and bird flu.
- People must take care when working with and living near animals because animals do not always show signs that they are sick.
- Many signs and symptoms of diseases are like those for malaria and typhoid, so it is important to go to a health facility for early testing and treatment for any fever.

Ways That Diseases Spread Between Animals and People

- Diseases can spread between animals and people in different ways, including
 - Getting a bite from an insect or a bite or scratch from an animal with a disease.
 - Eating meat or other products, such as milk or foods made with milk, from a sick animal or an animal found dead.
 - Eating or drinking raw milk or raw milk products.
 - Touching an animal with a disease or its urine, fecal matter, blood, saliva, mucus, or other bodily fluids such as birthing fluids.
 - Touching, eating, or drinking something contaminated with the urine, fecal matter, blood, mucus, saliva, or other bodily fluids of an animal with a disease.
 - Inhaling air around an infected animal.
- Some animals do not show signs and symptoms of disease but can still spread it to other animals and to people.
- You cannot know for sure which animals are ill. Therefore, it is important to be careful with all animals.

Actions to Protect Your Animals, Yourself, and Your Community and Environment From Diseases That Can Spread Between Animals and People

Vaccinate Your Animals Against Diseases

- Vaccinating your animals against diseases is one of the best ways to protect your animals, yourself, and your family and community.
- Seek advice from a veterinary officer or veterinary assistant on vaccines. Vaccines can be found at agriculture-veterinary shops, private veterinary centers, and the Central Veterinary Research Institute.

- You can learn the schedules for regular animal vaccination at a government veterinary service or private veterinary center or from a veterinary officer or veterinary assistant.

Maintain a Separate Space for Animals Outside of the House

- Taking good care of pets (cats and dogs) and livestock helps keep them healthy, which also helps keep you, your family, and your community healthy.
- All animals need enough food and water, exercise, kind treatment, and a safe, clean place to stay.
- Keep birds (e.g., chickens), livestock animals (e.g., cattle), and all wild animals outside of the house or prepare a separate place for them outside the house to reduce the spread of disease through close contact.
- Keep animals in the yard or within an enclosed area. Animals that roam freely are more likely to come into contact with infected animals and can then spread disease to our other animals, our families, or our communities.
- Wild animals do not normally let a person come close to it, and if one does, something could be wrong with it.
- Leave wild animals to be wild. Keeping a wild animal as a pet or bringing it into your house can cause problems for the animal and for your family.
- If you must bring animals indoors, keep them away from where the family sleeps and eats.
- Sleeping with or eating near animals can allow diseases from an animal to easily spread to you and your family.

Separate New Animals and Animals That Did Not Sell at the Market to Observe Them for Signs of Diseases Before Mixing Them With Your Other Animals

- If you buy or get new animals, keep them separate from other animals for three weeks while you watch for any signs and symptoms of diseases. This waiting period helps prevent the spread of any diseases to your other animals.
- If you take your animals to the market, keep them away from other animals.
- If you bring unsold animals back from the market, keep them separate from other animals and watch them for any signs and symptoms of disease. This waiting period prevents the spread of disease to other animals.

Safely Clean Areas Where Animals and Items Used to Care for Them Are Kept

- Clean animal pens and feeding areas daily.
- Wash all surfaces and items (e.g., shovels and cages used to care for animals, living and feeding areas) with soap and clean, running water immediately after contact with the animals to remove bodily fluids such as urine, fecal matter, blood, mucus, or saliva.
- Some diseases can live on surfaces such as tables, baskets, grass, and knives for hours and in the environment for days.
- Use a separate set of shoes and clothes for working in animal areas. Wash them daily.
 - Remove your shoes and clothes as soon as possible after leaving animal areas and wash them with soap and clean, running water.
 - Keep the shoes outside of the house. Wash the shoes and clothes before wearing them again.
- You can help stop diseases from entering your body when cleaning areas where animals are kept by covering your skin, eyes, nose, and mouth with the appropriate personal protective equipment such as a clean cloth, glasses, and gloves.
 - If available, wear rubber gloves or plastic bags to protect your hands. Cover your eyes with glasses, if available, and cover your nose and mouth with a mask or clean cloth to prevent disease-causing germs from entering.



- With the gloves or bags still on your hands, immediately wash your hands and arms and other protective equipment using soap and clean, running water.
- With the gloves or bags still on your hands, wash anything used in caring for animals with soap and clean, running water or with disinfectant.
- Remove the glasses and mask or cloth from your face; wash them immediately with soap and clean, running water or with disinfectant; and hang them in the sun to dry completely.
- If rubber gloves or plastic bags are used, wash them again with soap and clean running water before removing them carefully. Burn or deeply bury them.
- Wash your hands and arms immediately with soap and clean, running water.
- Burn or deeply bury animal urine, fecal matter, and other droppings including feed and water. Bury them far away from
 - Animal living areas.
 - Where food is grown and prepared.
 - Water sources.
 - Places that people and animals often visit.
- Do not throw dead animals or their urine and fecal matter into any water source or leave them in the yard or an open field.
- Do not use animal urine and fecal matter as fertilizer unless it is composted first.
 - Composting should be done in a secure area, such as an enclosed shed, that birds, cats, dogs, pigs, and other animals cannot enter.
 - A composting site should be far from where people live and far from water sources and run-off water.
- In areas with many people and where spaces are too small to burn or bury animal urine or fecal matter, throw it away in a plastic bag or in a covered bin until it can be collected and taken away.

Separate Sick and Aborting Animals and Report to a Veterinary Officer or Veterinary Assistant for Advice

- Report to the veterinary officer or veterinary assistant if you think an animal is sick or if any unexpected or sudden animal death occurs. This information can help local authorities and veterinary officers and assistants act early before the disease affects people or causes a problem for more animals.

- Abortions in animals are a sign of disease and can indicate an animal is sick with disease, which can spread to other animals and people.
 - Keep other animals separate from aborting animals, animals giving birth, and all birthing fluids, urine, fecal matter, blood, mucus, and saliva.
 - Report abortions to your nearest veterinary officer or veterinary assistant so they can work with local authorities help stop any outbreak.
 - Keep animals giving birth out of your house to reduce the risk of spreading disease to you and your family.
 - Close off the area where the aborted birth happened for a few days. Keep other animals away from the area.

Avoid Selling, Eating, or Giving Away an Animal or Any Animal Products Such as Milk or Meat if the Animal Is Sick, Has Recently Aborted, or Was Found Dead

- Animals are an important food source.
- Never prepare, eat, sell, or give away an animal or its products if it has any signs of diseases, if it has recently aborted, or if you found the animal dead. These animals can spread diseases to other animals and to people.
- You may not be able to see signs and symptoms of a disease.
- If you hear of an outbreak of an animal disease nearby, report to the veterinary officer or veterinary assistant.
- If a disease outbreak happens nearby, do not move or sell your animals.

Handle and Consume Milk and Milk Products Safely

- Boil fresh and raw milk from any animal before drinking it or using it to make milk products.
- Not all animals show signs and symptoms of diseases, so it is best to avoid all raw milk and products made from fresh or raw milk.
- Do not eat or drink raw milk or raw milk products from any animal that has aborted or has any signs of diseases.
- Go for regular medical check-ups at your nearby health facility if you work in dairy production; if you eat or drink fresh, raw milk or raw milk products; or if you handle animals or animal products as part of your normal activities.

Protect Yourself When Assisting Animals Giving Birth or Aborting and Report All Aborting Animals

- Abortions in animals are a sign of diseases that could spread to other animals and people.
- Keep other animals away from aborting animals and animals giving birth until a veterinary officer or veterinary assistant can advise you.
- Keep animals giving birth out of your house to reduce the risk of spreading disease to you and your family.
- Close off areas where an aborted birth occurred, and keep other people and animals away from the area for several days.
- Report to a veterinary officer or assistant if you think an animal is sick or it dies unexpectedly or suddenly. This information can help local authorities and veterinary staff prevent the disease from spreading to people or more animals.
- Do not touch bodily fluids (e.g., milk, blood, birthing fluids, and placenta) or the fetus of an aborting animal with your bare hands, even if the animal looks healthy.
- Aborting animals and animals giving birth can spread diseases to you and to other animals. We cannot always see the signs of disease.
- If they are available, wear rubber gloves or plastic bags to protect your hands. Cover your eyes with glasses, if available, and cover your nose and mouth with a mask or clean cloth to prevent disease-causing germs from entering.
- With the gloves still on your hands, wash anything used in caring for animals with soap and clean, running water or with disinfectant.
- With the gloves still on your hands, wash your hands and arms with soap and clean, running water.
- Remove the glasses and mask or cloth from your face and wash them immediately with soap and clean, running water or with disinfectant. Hang them in the sun to dry completely.
- If rubber gloves or plastic bags are used, wash them again with soap and clean, running water before removing them carefully. Burn or deeply bury them.
- Wash your bare hands and arms immediately with soap and clean, running water. Dry completely.
- Avoid selling or giving away an animal that has aborted because it can spread diseases to other animals and people.
- Avoid eating or drinking milk or milk products from any animal that has aborted or has other signs of disease.





Avoid Touching Sick and Dead Animals With Bare Hands and Safely Burn or Bury Dead Animals

- When possible, avoid animals that look sick and animals that you find dead.
- Never use your bare hands to touch the body or bodily fluids (e.g., urine, fecal matter, blood, mucus, saliva, birthing fluids) of an animal that looks sick or that you find dead.
- Even if the animal looks healthy, it may still have a disease that can make you sick.
- Report to the veterinary officer or assistant about any unexpected or sudden death of animals to get help to safely burn or bury the dead body and to help local authorities and animal health workers act early before a disease spreads.
- If more than 10 animals get sick or die within a week's time, this can be a sign of an outbreak.
- Isolate dead animals to prevent other animals from getting sick.
- Do not leave a dead animal in an open field where animals graze or drink water.

Protect Yourself When Slaughtering an Animal

- When slaughtering an animal, even if the animal looks healthy, cover your skin, eyes, nose, and mouth to prevent diseases from spreading to you.
- Always wash your hands and arms with soap and clean, running water before and immediately after slaughtering an animal.
- When slaughtering an animal, if you notice the blood does not clot, the animal might have anthrax. Do the following:
 - Keep all equipment used together, and separate it from other equipment. Do not move it because this can spread disease.
 - Immediately report to the veterinary officer or veterinary assistant.
 - Do not eat or use any of the meat, blood, hide, or other materials from the animal until you receive advice from a veterinary officer or veterinary assistant.

Avoid All Bats When Possible

- Bats can have different diseases and do not always show signs and symptoms of the diseases, so it is important to avoid all contact with all bats, their bodily fluids (e.g., urine, fecal matter, blood, mucus, or saliva), and any surfaces or items that come into contact with these bodily fluids.
- Avoid visiting caves and other areas where bats live or visit, including using caves for shelter or cultural ceremonies.

- If you come into contact with a bat or visit a cave or any place with bats or their bodily fluids, do the following:
 - Avoid all contact with the bat and its bodily fluids, such as urine, fecal matter, blood, mucus, or saliva, including surfaces that may have bodily fluids on them.
 - Avoid touching your mouth, nose, eyes, and skin, especially open cuts or sores.
 - Wear a head covering to protect your head and rubber gloves or plastic bags to protect your hands. Cover your eyes with glasses if available and cover your nose and mouth with a mask or clean cloth. Adults should help children cover their hands, eyes, and nose with the available protective items.
- After any contact with a bat or after visiting a cave or any place with bats or their bodily fluids, do the following:
 - With the gloves still on, immediately wash your hands and arms with soap and clean, running water. Dispose of gloves or other coverings by burning or burying.
 - Remove any head and face coverings, including glasses, and wash them immediately with soap and clean, running water. Hang them in the sun to dry and immediately wash your hands with soap and clean, running water.
 - Adults should help children remove coverings and wash their hands with soap and clean, running water.
- Avoid killing, chasing, or driving bats from an area.
 - Trying to kill or chase bats from an area does not work and can actually make it more likely that diseases can spread from bats to people.
 - Protect your child's health. Ensure the safety of children and avoid sending children onto the roof to drive bats out because they could be bitten or touch its urine, fecal matter, blood, mucus, saliva, or other bodily fluids.
- Avoid hunting, killing, preparing for cooking, or eating any bat, even if it looks healthy.
- Always follow the above procedures for careful washing with soap and clean, running water immediately after any contact with a bat, even if it looks healthy, because signs and symptoms of diseases may not be visible.

Report All Animals Acting Strangely and All Animal Bites

- Avoid all animals acting strangely, and immediately report to a veterinary officer, veterinary assistant, or community animal health assistant for advice and guidance on what to do next.
- If you find any bites on your animals or they exhibit strange behavior, separate them from other animals and people and report to a veterinary officer or veterinary assistant.
- Tell family and neighbors if you see any unusual behavior in animals so that they can avoid the animals.
- Wild animals do not normally let a person come close to them. If one does, something could be wrong with it.
- To reduce animal bites, do the following:
 - Avoid dogs, cats, monkeys, and other animals acting strangely.
 - Avoid stray animals and any animal you do not know, even if they look friendly.
 - Avoid all animals that are sleeping, eating, or with their young.
 - Avoid animals, especially dogs, behind fences or tied up.
 - Avoid dogs that pull back their lips, show their teeth, growl, have hair that stands on end, and keep their tail straight up in the air.
 - Avoid dogs that move backwards or try to run away, lick their faces, lower their tails, flatten their ears back, or show their teeth.
 - Approach animals quietly and stay calm.
 - Do not run from, chase, tease, or play roughly with animals.
 - Do not stare directly at animals.
 - Do not put your face near an animal's face or try to hug animals.
 - Do not touch a dog without getting permission.
 - Before touching a dog, allow it to see you and sniff your hand, and only pet it on its back.
- If an animal such as a dog comes close to you, do the following:
 - Stand still and quiet, like a tree.
 - Keep your hands at your side.
 - Look at your feet.



- If you fall over, curl up and stay as still and heavy as a rock.
- Let the dog sniff you and when it walks away, walk slowly and quietly away.
- To prevent dog bites in children, adults should ensure children avoid playing with dogs even if they appear healthy and calm.

Treat All Animal Bites and Scratches Immediately

- Wash an animal bite or scratch immediately with soap and clean, running water for 15 minutes to help stop the spread of disease from an animal to a person.
- After washing a bite or scratch very well, go quickly to your nearest health facility for advice and treatment. Do not delay. Getting early treatment to prevent diseases (such as rabies) saves lives.
- To stop rabies, you must get treatment before signs and symptoms begin to show. Once a person starts to show signs and symptoms, the chance of survival is very low.
- Report to a veterinary officer or veterinary assistant about the animal that bit or scratched you and how you were bitten or scratched. This information can help local authorities and veterinary staff learn more about the animal and help protect others.
- Any animal that has bitten someone or another animal should be examined by veterinary staff and kept away from other animals and people for 10 days while it is observed for signs and symptoms of rabies.



- Report to the nearest veterinary office for advice on how to handle the animal.
- Keep the animal away from other animals and people.
- Make sure the animal has food and water while it is being observed.
- Do not kill or harm the animal.
- If the animal does not show signs of rabies after 10 days, postexposure treatment with immunoglobulin (for people) can be discontinued.

Reduce Animals in Your House and Keep the House Clean

- Avoid having animals in the house. Close contact with animals and their bodily fluids (e.g., urine, fecal matter, blood, mucus, or saliva) can spread diseases from animals to you and your family.
- If you must bring animals indoors, keep them away from where the family sleeps and eats. Sleeping with or eating near animals can allow diseases from the animal to spread to you and your family.
- Keep the house area as clean as possible to help stop unwanted animals from entering your house.
- Keep your house in good repair to make it difficult for unwanted animals to enter and make their home there.
- Clean and sweep the house every day so that animals such as rats and chickens do not enter.
- When sweeping your house after animals have been in it, always make sure to:
 - Cover your eyes with glasses if available.
 - Cover your nose and mouth with a mask or clean cloth.
 - Wet the floor with water before sweeping to keep dust from spreading in the air.
 - Clear dirt in and around the house and throw it away far from the house.
 - Remove the glasses and mask or cloth from your face, and wash them immediately with soap and clean, running water.
- Always wash your hands and arms with soap and clean, running water immediately after cleaning or sweeping an area where animals have been.
- Regularly wash the floors, mats, walls, clothes, blankets, and all food and water covers and containers to remove any animal urine, fecal matter, blood, mucus, saliva, or other bodily fluids.
- Keep the house clean, including floors, mats, clothes, and blankets, as well as all food and water containers; keeping the entire compound clean is a responsibility for all members of the household.

Store and Prepare Food Safely and Protect Food Preparation Areas From Animals

- Diseases can spread from animals to people through touching, eating, or drinking something containing urine, fecal matter, blood, mucus, saliva, or other bodily fluids of an animal with a disease.
- Eat and drink away from animals and areas where animals are kept.
- Keep animals away from areas where food or drink is stored, prepared, or eaten.

- Avoid eating anything that has been bitten by an animal.
 - Do not eat any part of a bitten fruit or food.
 - Do not give the bitten fruit or food to an animal to eat.
- Always wash all fruits and vegetables with water before cooking or eating.
- Dry food on a clean surface and on high ground away from where rats, cats, dogs, and other animals can touch it and away from areas with animal urine, fecal matter, blood, mucus, saliva, or other bodily fluids.
- Keep food and water in covered containers that animals cannot enter and away from where people sleep. This action helps prevent contact with rats and other animals and stops animals from visiting, eating, and drinking your food and water.
- Always use a clean cup to collect water from a container so that your hands do not touch the water. Dirty cups and hands can spread diseases to other people through the water.
- Keep your cooking area, food, cups, spoon, trays, and all other items clean and away from animals and their urine, fecal matter, blood, mucus, saliva, and other bodily fluids.
- When preparing and cooking food, use clean surfaces, bowls, knives, spoons, forks, cups, and other items.
- Wash hands with soap and clean, running water often, especially
 - Before, during, and after preparing food.
 - Before breastfeeding.
 - After using the toilet.
 - Before and after changing baby diapers or cleaning up a child who has used the toilet.
 - Before and after touching raw animal products such as meat, chicken, milk, and eggs.
- Keep raw meat and chicken and other animal products away from fruits and vegetables and cooked foods.
- Wash all surfaces and items used to prepare food with soap and clean, running water immediately after they have been in contact with any animal parts or products including skin, feathers, guts, raw meat, chicken, milk, and eggs.
- Cook food well to help stop the spread of diseases:

- Fully cook food and eat it while it is still hot.
 - Always thoroughly cook meat and chicken. Boil or fry eggs until they are thoroughly cooked.
 - Do not eat or drink uncooked or undercooked meat, milk, and egg products.
 - Bring food such as soups and stews to boiling before eating.
 - Eat food while it is hot.
 - Reheat cooked food until it is very hot.
- To keep your family and friends healthy, do not prepare food when you have an infectious disease.
 - All household members should practice these behaviors to keep the house, cooking areas, and utensils clean and to cook food well.

Always Wash Your Hands, Especially After Any Interaction With an Animal

- When you use your hands for many things, you can easily spread diseases when you touch something that carries the disease and then touch your eyes, nose, mouth, another person or animal, food, and other things.
- Always wash your hands and arms with soap and clean, running water immediately after any contact with an animal and areas where animals have been, even if they look healthy, because animals do not always show signs and symptoms of diseases.
- Always wash hands
 - After assisting an animal birth.
 - After caring for a sick animal.
 - After cleaning or touching areas where animals are kept.
 - After milking.
 - After coming from the toilet.
 - Before and after preparing food.
 - Before and after killing any animal.
 - Before eating any food.
- To wash your hands well, follow these steps:
 - Wet your hands with clean, running water.
 - Use enough soap to cover all hand surfaces.
 - Rub hands together and scrub the backs of your hands, wrists, between your fingers, and under your fingernails.

- Rinse hands well with clean, running water.
- Dry your hands with a clean towel or tissue or swing your hands to dry them in the air.
- Children are more at risk in environments where animals are kept or slaughtered. Adults should help young children wash their hands well. Families should make handwashing facilities available and ensure water and soap are always available for frequent handwashing.

Protect Yourself From Mosquito Bites

- Mosquitoes can spread many diseases, including those that affect both animals and people.
- Some diseases are spread by mosquitoes that bite during the day and night.
- Cover stored water and get rid of still or dirty water in your yard to reduce the number of mosquitoes.
- Protect against mosquito bites by using personal insect repellent if available and wearing light-colored, long-sleeved shirts and trousers if possible.
- Always sleep under an insecticide-treated mosquito net. Household heads (men and women) are expected to provide mosquito nets for the family and to ensure that family members sleep under them every night and throughout the night. Make sure the nets are washed and re-treated regularly with insecticide.

Seek Immediate Care at a Health Facility for Any Sudden Fever

- Many signs and symptoms of diseases spread between animals and people are like those for malaria and typhoid. We may not always know what disease we have.
- Go to a health facility for early testing and proper treatment of any fever.
- Early treatment for a disease can save lives.
- Early treatment protects your family and loved ones from getting the disease.
- Early care and treatment offers a better chance of recovering quickly.

Seek Immediate Care at a Health Facility if You or Someone You Know Gets Sick or Dies After Contact With an Animal

- If you have signs and symptoms of a disease, go to your nearest health facility.
- Early medical treatment can save lives.
- Early medical treatment protects your family and loved ones from getting a disease.

- Early medical treatment offers a better chance of recovering quickly with fewer problems.
- If you have signs and symptoms of a disease, report to your veterinary officer or veterinary assistant if you have had recent contact with any animal or spent time in an area where animals live, visit, or are kept.
- If a person gets sick or dies after contact with an animal, do not touch the person; their bodily fluids such as urine, fecal matter, saliva, and mucus; or any items the person or their bodily fluids have touched.
- Touching the body of a sick or dead person, their bodily fluids, or items they or their bodily fluids touched can spread the disease to other people.
- If a person gets sick or dies after contact with an animal, go to your nearest health facility. Informing your healthcare provider about any disease or death after contact with an animal can help local authorities, veterinary officers, and veterinary assistants find the reason for the disease or death, which can save the lives of others in the community.
- Report all sudden deaths of people to the health facility.
- Report all deaths of animals to the nearest veterinary office.
- Reporting every death helps the local authorities, veterinary officers, and veterinary assistants understand the death and decide if further investigation is needed.



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