



Plague

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Key facts

- Plague is caused by the bacteria *Yersinia pestis*, a zoonotic bacterium usually found in small mammals and their fleas.
- Plague is a disease that affects humans and other mammals.

Plague can occur in three forms. The type of plague is named for the location in the body the bacteria is affecting. Bubonic plague causes “bubos” in the lymph system. Septicaemic plague is when the infection spreads through the bloodstream. Pneumonic plague is when the bacteria has spread to the lungs.

- Plague is considered a serious zoonotic disease, and it has the potential to be used as a biological weapon. Biological agents like this can potentially lead to epidemics within a short time.

Transmission: Vector-borne (flea), droplet-borne and direct contact with infected tissues (of people or animals)

- ** specific to pneumonic plague ** When an infected person or animal coughs, sneezes or spits, they spread small droplets through the air, which can then be breathed in by other people
- Bite of infected flea
- Direct contact by touching or handling tissues or body fluids of a plague-infected animal (skinning an infected animal when hunting, for example)

Most vulnerable to severe consequences

- Young children, older people and people with other illnesses or health conditions may have a higher risk of severe illness
- All forms can be deadly if untreated, and pneumonic plague is always deadly if left untreated.

Most vulnerable to contracting the disease

- People who frequently come into contact with infected animals (for example, hunters, pet owners)
- Emergency responders who are the first in contact in cases of disease outbreaks.
- ** Specific to pneumonic plague ** Every person in the community is vulnerable to pneumonic plague, especially those without proper personal protective equipment who are in contact with others who have pneumonic plague (for example, family members or unprotected health care workers)

General symptoms

- Sudden onset of fever and chills
- Headache and body aches
- Weakness
- Nausea and vomiting
- Shock

Symptoms of bubonic plague

- Inflamed lymph nodes (become hard and painful lumps)
- Open wounds at the lymph node, oozing pus

Symptoms of septicaemic plague

- Abdominal pain
- Bleeding
- Death of tissue and gangrene in extremities

Symptoms of pneumonic plague

- Shortness of breath
- Chest pain
- Cough
- Mucous (may be bloody or watery)

What can you do to prevent and control an epidemic?

Vector and reservoir control and prevention

- Control fleas using environmental and chemical hygiene BEFORE controlling rats
- Promote the use of rodent traps inside and outside homes
- Promote the use of other rodent control measures such as keeping cats
- Follow recommended environmental hygiene practices
 - Dispose of rubbish in rodent-proof containers to minimize possible nesting sites

Monitoring the community and identifying sick people

- Identify all those with suspected plague
- Immediately isolate people with symptoms of pneumonic plague (lung infection)

Treatment and management

- Immediately refer suspected cases in humans to treatment centres for early antibiotic treatment, suspected cases in animals should also be notified to the veterinary or animal welfare authorities
- Support contact tracing and follow-up of contacts of pneumonic plague cases
- Promote and support chemoprophylaxis programmes (antibiotics) as necessary
- Support adapted safe and dignified funeral and burial practices in line with directives from health authorities and as directed by your supervisor for cases of plague. Note that burials for plague are not the same as burials for Ebola (the personal protective equipment required must be adapted as indicated by your supervisor).
- Provide psychosocial support to the sick person and their family members

Safe shelters and spaces

- Promote secured spaces and prevent rodents from entering houses or accessing stored food and water (including pet or animal food). In communities where people store livestock inside the household (for example, to avoid theft or due to limited storage space elsewhere):
 - Raise awareness about how food (for example, unprotected sacks of crops) and animals can attract fleas and rodents, which may expose people to the disease
 - Support the partition of houses so that animals and people do not share the same space indoors
 - Support alternatives for households to keep livestock outside the home at night, such as guarded collective farms or fenced areas
- Follow recommended environmental hygiene practices
 - Dispose of rubbish in rodent-proof containers
 - Clean and disinfect areas where there is evidence of rodents
- To prevent transmission during sleep:
 - Promote the use of raised beds or sleeping areas
 - Support community initiatives to build beds from locally available materials or discuss with your manager

the option of supporting families to purchase locally made beds.

Sanitation and waste management

- Encourage disinfection of homes and other spaces with evidence of fleas, rodents and other suspected vectors.
- Solid waste management
 - Encourage the community to clear away rubbish and garbage
 - Promote active searching for rat carcasses for correct disposal
 - Promote proper and safe handling and disposal of dead animals

Personal protection and hygiene

- Promote handwashing with soap
 - BEFORE: preparing food; eating; feeding a child; treating wounds; or caring for sick people
 - AFTER: using the toilet or cleaning a baby; touching garbage or waste; touching or feeding animals, especially when in contact with rats or animals with fleas; blowing nose, coughing or sneezing; treating wounds; or caring for sick people
- Practise and promote social distancing from people who are sick
- Use personal protective equipment (gloves, masks, clothing) when in contact with potential cases and when disposing of animal carcasses

Social mobilization and health promotion

- Find out the specific advice being given by health and other relevant authorities
 - Adapted safe and dignified burials
 - Promote the safe disposal of animal carcasses
 - Promote social distancing
- Model following this advice and inform community members of current health practice advice
- Offer support and encouragement to follow the advice
 - Try to gain understanding about if and why health practice advice is not being followed
 - With the guidance of your supervisor and health authorities, work with communities to overcome barriers to following health advice and recommended practices

Mapping and community assessment

- Make a map of the community.
- Mark the following information on the map:

- How many people have fallen sick with plague? Where?
- How many people have died? Where? When?
- Where are the local health facilities and services? (include traditional healers)
- Record the following information on the back of the map:
 - When did people start to fall sick with plague?
 - How many people live in the affected community?
 - How many are children under five years?
 - How do people in the community store their food?
 - Are rats or other rodents able to eat it or contaminate it?
 - If people have livestock, are they kept separately or do they share the living space (e.g. to avoid theft at night)?
 - Do people in the community sleep at ground level or on raised beds?
 - Do community members have any habits or practices that may put them at greater risk? Does improper food storage encourage rodent activity near people?
 - What handwashing facilities are available? (put communal handwashing stations on map)
 - Do they have soap?
 - What are the community's habits, practices and beliefs about caring for sick people? Consider any differences in roles and responsibilities between women and men.
 - What are the community's burial traditions, funeral procedures and practices? Who traditionally prepares bodies for burials? Consider any differences in roles and responsibilities between women and men.
 - Is a social mobilization or health promotion programme in place?
 - Are people in the community socially distancing? Why? Why not?
 - Which sources do people use/trust the most for information?
 - Are there rumours or misinformation about Ebola? What are the rumours?

Other resources

[Centre for Disease Control; About Plague \(2024\)](#)

[Centre for Disease Control; Bioterrorism and Plague: Preparedness \(2024\)](#)

[Centre for Disease Control; Signs and Symptoms of Plague \(2024\)](#)

[World Health Organisation; Plague \(2022\)](#)

[World Organisation for Animal Health; *Yersinia pestis* \(Plague\) \(2021\)](#)