



Bovine Tuberculosis (Bovine TB)

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Key facts

- Bovine Tuberculosis (bTB) is a chronic zoonotic bacterial disease caused by *Mycobacterium bovis*, which primarily affects cattle but can also infect other animals and humans.
- *Mycobacterium bovis* is a sub-species of *Mycobacterium tuberculosis*, the bacterium responsible for human TB, but it is more common in animals.
- Cattle are the most important animal reservoir of TB in relation to zoonotic exposure of humans, but the disease can affect many other species and become established in wildlife reservoirs
- The disease can spread to humans through the consumption of unpasteurized dairy products, direct contact with infected animals, or inhalation of aerosolized bacteria.
- In cattle, bTB causes significant economic losses for communities and countries through condemnation of diseased organs and carcasses at slaughter, and trade restrictions.

Transmission

- Through respiratory droplets when infected animals cough or sneeze.
- Consumption unpasteurized milk or dairy products and meat from infected cows.
- Direct contact with the bacteria through open wounds, mucous membranes, or inhalation.

Most Vulnerable to contracting the disease

- Cattle bred in regions where bovine TB is endemic
- Individuals at higher risk include those who work closely with livestock (such as livestock farmers, veterinarians, and abattoir workers).
- People living with;
 - diabetes (high blood sugar)
 - weakened immune system (for example, people living with HIV or AIDS)
 - malnourishment
 - tobacco use and addiction.
- Consumers of unpasteurized dairy products and infected meat

Signs and Symptoms

- In Animals
 - progressive weight loss
 - chronic cough
 - enlarged lymph nodes
 - Visible abscesses (sometimes).
 - In slaughtered animals (often in abattoirs), there may be presence of nodules, called 'tubercles', which form in the lymph nodes, lungs, liver and other affected tissues of affected animals.
- In Human (similar symptoms with human tuberculosis)
 - persistent cough (may contain blood and phlegm)
 - fever
 - night sweats
 - weight loss
 - swollen lymph nodes (sometimes)
 - Chest pains
 - Weakness
- Asymptomatic cases: Some infected animals and humans may remain asymptomatic but still be capable of spreading the disease.

What can you do to prevent and control an epidemic?

Prevention and Control

- Community awareness and identifying people suspected to have TB
- Inform communities on main symptoms of TB
- Identify people with TB symptoms in the community

Monitoring the community and identifying sick people and animals

- Detect sick people and animals quickly for referral to the appropriate health facilities
- Monitor the community for clusters of sick or dead animals
 - Report any clusters to your supervisor, animal health and welfare authorities and/or health authorities
 - Encourage quarantining sick animals from healthy ones
 - Discourage community members from taking sick animals to markets or other places where they may encounter other animals or humans

- Encourage minimal contact between sick animals and humans
- Limit contact between sick and healthy animals, stop sick animals from reaching the market, etc.)
- Condemn and destroy any slaughtered animal or carcass where tubercles have been observed in tissue and organs. Discourage consumption or trade of such animals or animal parts.

Treatment and management

- Refer suspected human and animal cases for screening and treatment
 - Refer people to the appropriate health facilities
 - Notify animal health and welfare authorities and professionals or care providers (such as veterinarians or para-veterinarians) of suspected cases in animals
- Provide psychosocial support to the sick person and their family members

Safe animal handling

- Safe handling and slaughtering practices including supervision and meat inspection
- People working with animals or animal products should wear protective clothing and equipment and follow recommended hygiene practices

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 (especially when dealing with rodent waste); touching or feeding animals; blowing nose, coughing or sneezing; treating wounds; or caring for sick people

Food and water hygiene and safety

- Cook animal products thoroughly.
- Discourage consumption of diseased organs and meat or organs and meat from animals suspected or confirmed to have tuberculosis. Destroy such diseased organs.

Social mobilisation and health promotion

- Find out the specific advice being given by health and other relevant animal health and welfare authorities
 - Liaise with health professionals in both human and animal health sectors for health advice and promotion messages for best health practices.
 - Promote recommended health practices (such as safe animal handling, food safety, and use of protective clothing and equipment)

- Offer support and encouragement to people to help them follow the advice
 - Try to gain understanding about if and why health advice is not being followed
 - With the advice of your supervisor and health authorities, work with communities to overcome barriers to following health advice and recommended practices
- Priority health education target groups are at risk groups and those who are sick with TB and their families.
- Stigma against TB and TB/HIV should be strongly addressed

Mapping and community assessment

- Make a map of the community.
- Mark the following information on the map:
 - How many people and animals have fallen sick with bovine tuberculosis (or human tuberculosis)? Where?
 - How many people and animals have died? Where? When?
 - Who and where are the vulnerable people? (where are farms, slaughterhouses?)
 - Where are the handwashing facilities in the community? (are there stations at animal markets and other areas where livestock gather?)
 - Are soap and water always available?
 - Where are the local health facilities and services? (include traditional healers)
- Record the following information on the back of the map:
 - When did people and cattle start to fall sick with bovine tuberculosis?
 - How many people live in the affected community? How many are children under five years of age? How many people work with livestock regularly?
 - What animals do people commonly keep or farm?
 - Do people cook meat and milk thoroughly before eating it?
 - Do any animal health agencies, veterinarians or agriculture ministry agencies work in the area?
 - What are the community's habits, practices and beliefs about caring for and feeding sick people?
 - What are the community's habits, practices and beliefs about care and slaughter of animals?
 - Are there societal, cultural or religious beliefs or perceptions about the care and slaughter of animals?
 - What are the community's habits, practices and beliefs about sick or dead animals?
 - How do people dispose of animal carcasses (by burning, burying, eating, etc.)?
 - What are the community's habits, practices and beliefs about consuming infected or diseased offal or meat?
 - Is a social mobilization or health promotion programme in place?
 - Which sources do people use/trust the most for information?
 - Are there rumours or misinformation about bovine tuberculosis? Are there rumours or misinformation about vaccines? What are the rumours?
- What role do women play in livestock management (including caring for animals, gathering animal feed and selling animal products in markets)?

Other resources

- Centers for Disease Control and Prevention (CDC); [About Bovine Tuberculosis in Humans](#) (2024)
- World Health Organization (WHO); [Tuberculosis](#) (2023)
- <https://www.who.int/teams/global-tuberculosis-programme/zoonotic-tb>
- World Organisation for Animal Health (WOAH); [Bovine Tuberculosis](#). (2018)
- World Organisation for Animal Health (WOAH); [Bovine Tuberculosis](#) (n.d.)