Foot and Mouth Disease

Last update: 2025-06-16

Key facts

- Foot and Mouth Disease (FMD) is a highly contagious viral disease that affects cloven-hoofed animals such as cattle, pigs, sheep, goats, and various wildlife species.
- The disease does not affect humans but is important due to its socioeconomic impact particularly on farmers, households and communities who depend on such livestock animals for food, nutrition and livelihoods
- It is caused by the Foot and Mouth Disease Virus (FMDV), which has seven distinct serotypes and numerous subtypes which complicates control and vaccination efforts.
- The disease is not considered a major threat to human health, though humans can become infected in rare cases by close contact with infected animals or contaminated products.
- FMD can cause severe economic losses due to reduced livestock productivity, trade restrictions, and the cost of control measures.

Transmission

- Direct contact between infected and susceptible animals through saliva, mucus, milk, faeces, and other bodily fluids of infected animals.
- Breathing in droplets from infected animals.
- Contact with contaminated equipment, clothing, vehicles, and feed
- Ingesting contaminated animal products when fed to other animals

Most Vulnerable to Contracting the Disease

- All cloven-hoofed animals are vulnerable, especially cattle and pigs
- Livestock in regions where FMD is endemic

Signs in animals

- High fever
- Painful blisters in the mouth, on the tongue, feet, and teats
- Lameness
- Drooling
- Reluctance to move due to pain in the feet.
- Reduced milk production in dairy animals,
- Weight loss
- Abortion in pregnant animals.
- Death is generally low in adult animals, but young animals can die from possible heart inflammation.

What can you do to prevent and control an epidemic?

Monitoring the community and identifying sick people

- Identify and isolate sick animals before they spread the disease to others
  - Observe animals for with clinical signs such as; blisters, ulcers, and lesions on the mouth, tongue, feet, or teats
  - Assist in documenting suspected cases and keeping records for tracking purposes
  - Help veterinarians by observing high-risk areas like shared grazing spaces, water sources, or markets where animals from different farms may interact

Treatment and management

- Refer severely ill animals to animal health facilities
- Support isolation efforts by;
  - Assist animal health authorities in setting up temporary barriers or fences to create isolation zones for infected animals
  - Educate farmers on how to transport animals to quarantine areas and ensure that no contact occurs between sick and healthy animals during movement
  - In severe outbreaks, assist veterinarians and staff in the humane euthanasia of infected animals and help with proper disposal methods, such as incineration or burial

Appropriate sanitation and waste management

- Promote recommended environmental hygiene and cleaning practices
  - Clean and disinfect surfaces that are touched frequently and dirty items,
  - Set up and maintain boot baths at entrances to animal areas and ensure the disinfectant solutions are fresh and properly mixed
  - Ensure that manure, bedding, and other organic waste from isolation areas are regularly removed and disposed of according to biosecurity standards
  - Safe disposal of waste products from infected animals, such as manure, bedding, and carcasses, by transporting them to designated disposal sites
  - Implement other control measures, such as setting traps or securing storage areas, to minimize contact between wildlife and livestock
- Promote use of appropriate biosecurity measures
- Encourage limited farm access to visitors and non-farm personnel
- Support use of protective clothing when moving around in farms to avoid carrying the virus from one location to another
- Support education of farmers on the importance of appropriate biosecurity measures

Food and water hygiene and safety

- Ensure and support access to safe, clean drinking water
  - Encourage the separation of drinking areas for sick and animals to prevent cross-contamination
  - Encourage farmers to prevent mixing of animals from different herds at public drinking spaces or water holes.

Social mobilization and health promotion

- Find out the specific advice being given by animal health and other relevant authorities
- 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

Immunization in animals

- Support routine and mass vaccination campaigns
  - Best practices are to vaccinate at an early age (4 months old for cattle, 2 months for pigs) with a booster dose given a month later. This would confer immunity for the maximum duration of one year (FAO).
  - In regions with known seasonal pattern for FMD, encourage the commencement of vaccination procedures three months prior to known high-risk periods

Mapping and community assessment

- Make a map of the community.
- Mark the following information on the map:
  - What species of animals have fallen sick with FMD?
  - How many animals have fallen sick with FMD? Where?
  - How many animals have died? Where? When?
  - Who and where are the vulnerable animals?
  - Where are the local animal health facilities and services?
  - Where do animals get their drinking water?
- Record the following information on the back of the map:
  - When did animals start to fall sick with FMD?
  - What species of animals are typically being reared in the affected community?
  - How many animals are being reared in the affected community?
  - Do people do anything to treat their water?
    - Do people know how to treat water?
    - How do they do it?
  - What sanitation facilities are available?
    - Do people use them?
  - What biosecurity measures are available?
    - Are most farms fenced?
    - What other biosecurity measures do they have?
  - What are the community's habits, practices and beliefs about caring for and feeding sick animals?
  - Is a social mobilization or animal health promotion programme in place?
  - Which sources do people use/trust the most for information?
    - Are there rumours or misinformation about FMD? What are the rumours?
  - Can people identify the signs and symptoms of dehydration in animals?

Volunteer actions

- 01. Community-based surveillance
- 02. Community mapping
- 03. Communicating with the community
- 28. Physical distancing

- 29. Hygiene promotion
- 30. Clean, safe household water
- 31. Good food hygiene
- 38. Waste disposal and clean-up campaigns
- 41. Handling and slaughtering animals
- 43. Social mobilization and behaviour change
- 44. Dealing with rumors

Other resources

- Food and Agriculture Organization of the United Nations; Foot and Mouth Disease (n.d.)
- Food and Agriculture Organization of the United Nations; Foot and mouth disease vaccination and post-vaccination monitoring (2016)
- The Centre for Food Security and Public Health; Foot and Mouth Disease. (2015)
- World Organisation for Animal Health (WOAH); Foot and Mouth Disease. (2009)
- World Organisation for Animal Health (WOAH); Foot and Mouth Disease (n.d.)

01. Community-based surveillance

Overview

- Community-based surveillance is the systematic detection and reporting of significant public health events (such as sudden illness or death in people or animals) within a community by community members and volunteers. It is a simple, adaptable, low-cost public health initiative designed to complement early warning systems for potential epidemic diseases.
- Volunteers use something called a "community-case definition" to detect and report signs and symptoms of potential diseases, health risks and events, and support in community actions and response of local health authorities. Community case definitions are designed to align with the local language and do not require medical training to report on.
- Information discovered during surveillance should be shared with the local branch and health authorities based on the agreed protocol. Where relevant, (e.g. for zoonoses or environmental health events) information should also be shared with animal health and environmental health authorities.
- Community-based surveillance (CBS) can be done alongside other health, WASH or community engagement activities in your community, and therefore is not a stand-alone activity, but one that is useful to partner with other community-based activities.
- Community-based surveillance aids in
  - Early detection of public health risks within the community
  - Complementing early warning systems, extending them to the community
  - Linking early detection to early action within the community

What to do and how to do it

- Preparation activities
  - Work with supervisors in mapping community needs and human, animal and environmental disease priorities (see Action tool Community mapping)
  - Familiarize yourself with the disease that may be present in your community including signs and symptoms
  - Establish who is vulnerable in the community. Doing this will help you to identify people who are more likely to fall sick
  - Ensure referral mechanisms are clear in case community members fall sick and require referrals to health facilities for care.
  - Engage in community engagement activities such as mobile cinema, house-to-house visits, etc. to remain active and a known resource in the community.
- Recognize
  - Detect signs and symptoms corresponding to human, animal or environmental health risks or events in your community aligned with community case definitions
  - When you detect people who are sick with the disease, assess how severely ill they are and whether they need to be referred to a health facility (see Action tool Referral to health facilities).
  - Record the health risk or event you detected to ensure it can be followed-up

- Report
  - Report on the detected health risks or event in your community to your supervisor based on the methodology you are trained on (for example, SMS, phone call, or mobile application). *Remember that reporting must be systematic. To avoid confusion, everyone who reports should follow the same methods agreed on in the protocol and in the training*.
  - Your supervisor will then cross-check the report ensuring it meets the community case definition or unusual event requirements agreed on with health authorities. If matching, the supervisor will escalate the alert to the local health authorities for a response or investigation
  - After verification, the supervuisor will notify relevant authorities in animal and environmental health for significant animal, zoonotic and environmental health events, especially those that portend a risk to human health.
- React
  - Begin community-level activities based on the health risk following proper safety precautions
  - Referral or care at home
    - Communicate specific health messages and information, and refer sick people promptly to health facilities
    - If sick people can be cared for at home, show their families what to do and provide them with information and supplies, where possible. Use corresponding “volunteer actions” in the ECV toolkit corresponding to the suspected epidemic risk.
  - Support health authorities in their investigation or response following-up on the alert
  - Where relevant, collaborate with and support officials in the animal and environmental health sectors for joint investigation, response and information sharing.

Additional resources on community-based surveillance: https://cbs.ifrc.org/

Community messages

24. Finding sick people

02. Community mapping

Overview

A map of the community enables you to connect issues or problems with particular places and makes information easy to see. Maps are often easier to understand than words.

Mapping aids in:

- Identifying risks and exposure to risk
  - Who and what are most exposed
  - What are they exposed to
- Show existing problems and vulnerabilities (some might make the current threat more serious)
- Understanding resources within the community that might be useful in managing the epidemic
- Obtaining information about other sectors (such as livelihoods, shelter, WASH, infrastructure etc.) that might be influenced by the epidemic, or that might be useful in managing the epidemic
- Analysing links and patterns in the exposure and spread of the epidemic - which may include human-to-human transmission dynamics, exposure from animals, vectors or food, behavioural risks, and environmental health drivers.

It is important to create the map together with community members. This helps communities to be active and to be participating members in the care offered by the Red Cross Red Crescent and volunteers.

Community mapping is especially useful in epidemics because it helps to see where the biggest problems and needs are and helps to identify risks and resources such as health posts, emergency vehicles, access roads, shelters, water sources, and so on. Maps can be used to support prevention, preparedness and response to an epidemic.

How to make a community map

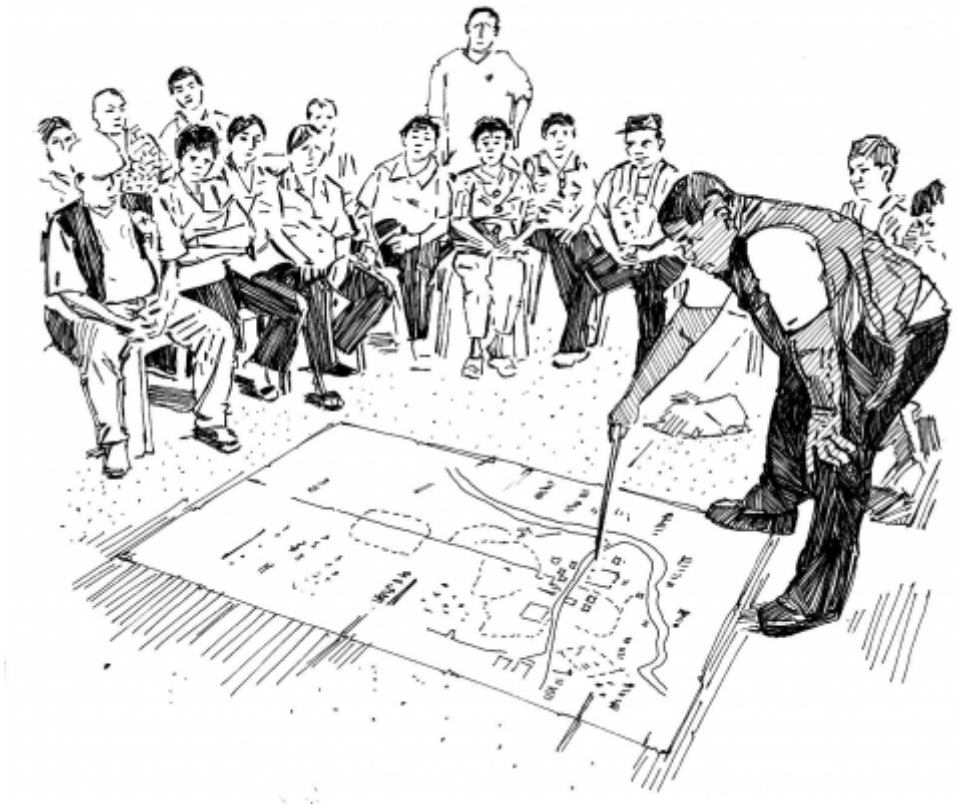
If possible, obtain or create a digital map of the community. If not available, it is possible to draw a simple spatial map that shows the community and all its key reference points. While keeping the fundamental principles of data protection, a community map should include the following:

- The whole community: concentrations of people, their houses, and who lives where
- The main shared/public locations in the community, such as schools, health centres, places of worship, water sources, markets, playgrounds and community meeting centres, communal livestock farming and livelihood areas such as cattle kraal, live bird markets, abattoirs, etc.
- The location of people who are most at risk [if you can identify them]
- Where the epidemic started and how it is spreading [if known and possible to identify]
- Health hazards and risks (e.g. improper rubbish disposal sites, large vector breeding sites)

Using the community map

The map can be used to mark new cases and/or referred cases. Do as follows:

- Form teams to cover certain areas of the map.
  - Ensuring the participation of members from the community, each team should find out what it can about its area (how many people are sick, who is vulnerable, how many have been referred to health authorities, any other relevant information). If a zoonotic disease outbreak is suspected or implicated, find out who among the community members is keeping animals, how many animals are sick or have died, and/or presence of vectors in households, environment or even in surrounding water bodies. Work with your manager to target and prioritize those who are most at risk. This will require targeting geographically and, within those identified areas, targeting the most in need based on a vulnerability and capacity analysis that includes a gender and diversity analysis.
- Combine the maps of different teams. In doing this, you will be able to see:
  - Which areas of the epidemic you are covering, which areas you may not be covering, and details of each area. This will help you plan your actions. Some of these actions might include: environmental clean-up; distribution of bed nets; immunization campaigns; quarantine, animal biosecurity measures and other activities associated with managing the epidemic.



Making a community map

03. Communicating with the community

Overview

Communicating during an epidemic can be difficult. Disease outbreaks, especially new ones, can cause uncertainty, fear and anxiety that can result in circulation of rumours, disinformation and misinformation. People may not trust the authorities, the health system or organizations including the Red Cross Red Crescent. They may not listen or may not believe the information they receive from people or organizations they do not trust. People may also be overcome with grief for those who are sick or who have died.

Sometimes, communities have strong beliefs that are different from the preventive and protective social measures promoted by the authorities and healthcare providers. They may believe strongly in their own cultural practices, traditional medicine, or other methods that might not prove effective against the disease. They may not accept certain treatments (including medicines and vaccines).

In many countries messages take the form of directives and one-way-communication. However, community engagement and participation have played a critical role in successful disease control and elimination campaigns in many countries

During a disease outbreak, trusted communication with the community is vital. To build trust, two-way communication is important. "Two-way" means volunteers should both *give messages to* AND *receive messages from* the community. Community members must feel respected and listened to and should have the opportunity to share their beliefs, fears and concerns. To accept volunteers' messages, community members must be able to trust you and have confidence in what you say. Once you understand the beliefs, fears and concerns of community members, you can provide them with truthful and accurate messages.

Providing health messages that are consistent, clear and easy to understand also helps to build trust. Giving accurate information to the community is critical, especially when it is necessary to persuade people to adopt safe practices (which might be different from what they would normally do). Some changes in behaviour that may be promoted are things such as:

- Accepting vaccinations or other medical treatments
- Washing hands with soap at crucial times
- Wearing personal protective equipment
- Burying loved ones in ways that are different from what they would normally do (safe and dignified burials)
- Practising social distancing
- Wearing insect repellent or sleeping under bed nets
- Agreeing to be isolated from others to avoid infecting them
- Preparing food and water differently (often by cleaning, boiling or cooking thoroughly)
- Quarantine and culling of animals (which in the case of livestock animals, is often a main source of food, nutrition and livelihood and may be difficult to accept by the farmers who own them)
- And other recommended public health measures

What to do and how to do it

Communicating in an epidemic

- Engage and involve community leaders and community members
  - Find out where the community obtains its information: Who do they trust to give them health information (for example: health authorities, community or religious leaders, doctors, traditional healers)
  - Work with communities to identify, choose and plan appropriate solutions for stopping the spread of disease
  - Talk to members of the community about their ideas, fears, beliefs and actions
    - Try to understand how much they know about the disease and its transmission
    - Try to understand beliefs and practices that might impact the spread of the epidemic
    - Try to understand what motivates or helps them to change behaviours
    - Try to understand what stops them from changing their behaviour

- Use different methods of communication
  - Use two-way communication when possible
    - When you understand the community's beliefs, fears and concerns, try to address these in your own messages
  - Sometimes, one-way communication methods are used to spread health messages to large numbers of people quickly
    - One-way communication methods should always be accompanied by two-way communication methods to ensure the community perspectives are known and listened to
  - People learn and retain information differently. It is important to use different methods
    - Communities are composed of different people and groups who may have different communication preferences or needs.
      - Think about how to target different groups, especially those who are hidden, stigmatized or considered "different" because of their religion, sexual orientation, age, disability, illness, or for any other reason:
        - Think about where you will go to reach them
        - Find out if they trust the same or different sources than other groups within the community
        - Discover if they have different access needs, such as language translation or in case of a disability – a different method of communication
    - When choosing methods of communication, consider what people prefer, trust and can access easily
      - Think about the characteristics of your target groups (for example, do they have access to media, such as radio or television? Can they read if they receive pamphlets of information and in what language? Are they accustomed to getting information from social media? Etc.)
      - Think about the resources you have access to (for example: do you have access to poster printing? Is there an appropriate location within the community where you can offer to answer questions or give out information? Etc.)
      - Consider the content of your message(s) and think about the most appropriate way to share that content in the specific context (for example: targeting men and women separately)

- Communication should be:
  - **Simple and short**. People should be able to understand messages easily and be able to remember and repeat them accurately and without difficulty.
  - **Trusted**. Delivered by people the community trusts, by a method the community trusts (for example:

radio, television, posters, town-hall discussions, market meetings etc.).
- **Accurate and specific**. Always provide correct and precise information. Messages should be consistent and should not be cause for confusion. *If* messages must change (due to new and advancing information about the epidemic), be honest and clear about what has changed and why.
- **Focused on action**. Messages should be action-oriented and should advise members of the community about what they can do to protect themselves and others.
- **Feasible and realistic**. Make sure that people have the capacity and resources to carry out the actionable advice you give.
- **Context-specific**. Information should reflect the needs and situation of the specific community. In all your messages, take account of social and cultural factors that might encourage community members to adopt safer behaviours (such as accepting vaccines) or prevent them from doing so.

Different ways of communicating

There are many, many ways to communicate with communities. The following one and two-way methods of communication are some examples you might consider. Methods can (and should) be combined to ensure accessibility to as many community members as possible.

- One-way communication methods
  - Video, films, television commercials
  - Songs, poems, drama, role-play or theatre, or other edutainment methods
  - Community announcements such as: community town-criers, loud-speaker announcements, SMS or WhatsApp, mass messaging, social media messages, radio broadcasts
  - Posters, billboards
- Two-way communication methods
- Door-to-door visits
- Meeting with key informants such as: community or religious leaders; traditional healers or midwives; teachers; elders, etc.
- Community discussions encouraging participatory methods such as: three pile sorting, voting charts, mapping, polling, barrier analysis, community planning
- Use of feedback and suggestion boxes or presence of trusted focal persons to receive anonymous feedback or messages from community members.

Pay attention to rumours

Rumours can cause panic and fear or can promote unsafe practices. Under the influence of the rumours, communities can lose trust in the health authorities, and they may lose belief in the ability to stop the epidemic. Rumours sometimes cause people to reject interventions that could prevent the spread of disease. Volunteers must:

- Listen for rumours or incorrect information.
  - Note when and where a rumour was heard and report it to your volunteer supervisor or National Society focal point immediately
  - Try to understand why the rumor is spreading fast and of what importance it is to the community. For example, is it just based on lack of knowledge or fear of the unknown, or is it associated with certain socio-cultural beliefs or associated with the stigmatization of a certain demography of people?
- Correct the rumour

- Give the community clear, simple facts about the disease
- Reiterate and explain clearly what they can do to protect themselves and others

28. Physical distancing

Overview

- Physical distancing is the practice of keeping people at a safe distance from each other during outbreaks of highly contagious diseases, to prevent diseases from spreading.
- This is different from isolation, because it is something that everyone in a community should practise, not just sick people. Physical distancing is an effective way to prevent contagious diseases from spreading.

What to do and how to do it

Encouraging physical distancing

Promote the use of physical distancing as a method of preventing the spread of disease. It includes doing things like:

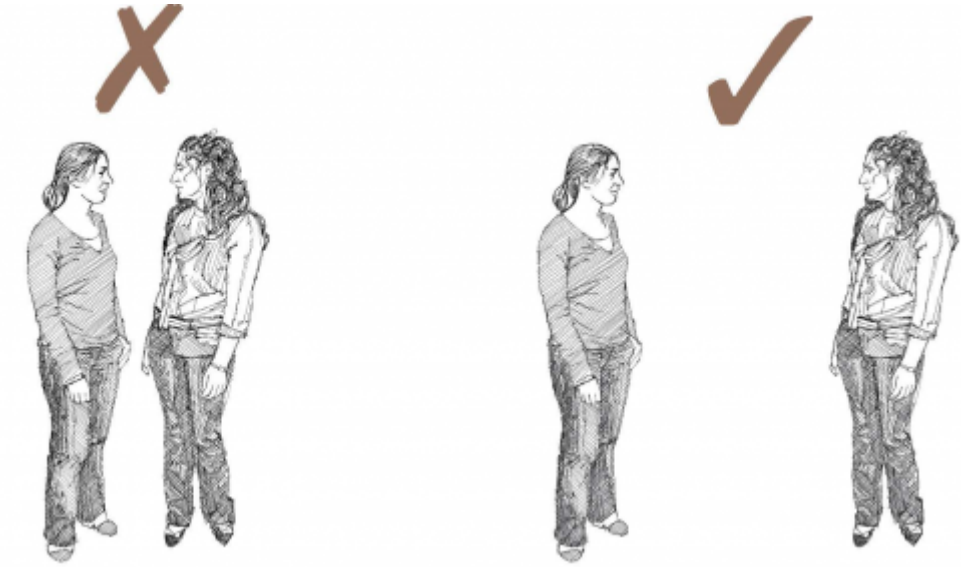
- Avoiding crowded places. For example, encourage people to:
  - Pray alone or in small groups, rather than in large groups
  - Do laundry near home rather than in communal areas
  - Go to markets or other crowded areas at a time of day when there are fewer people there
- Avoiding non-essential gatherings. For example, encourage people to:
  - Postpone weddings or similar events until safe to do so
  - Avoid festivals or community gatherings until it is safe to do so
    - Avoiding common greetings. For example, encourage people to avoid handshakes, hugging or kissing
    - Limiting contact with people at higher risk. For example, encourage people to avoid unnecessary close contact with young children or elderly people
- Keeping a safe distance from others when possible (the distance may change depending on the disease, ask for clarification from health authorities).

Recognize there are times when social distancing may be difficult or impossible.

- In situations when people are sharing overcrowded living spaces, such as displacement shelters, social distancing may not be possible. In cases like this it is important to: Promote the use (and, if possible, the distribution) of essential protective equipment, such as face masks.
- Social distancing may be more difficult for people working in certain sectors and locations, for example market vendors or domestic workers.
  - Target these groups to raise awareness about the modes of transmission of the disease and the protective measures that they can take to minimize their exposure
  - Advocate for safe working conditions and access to health services

Be aware that social distancing can lead to isolation and may create or worsen psychosocial problems for some people.

- See Action Tool *Psychosocial support* to determine how to help.



Community messages

21. Physical distancing

29. Hygiene promotion

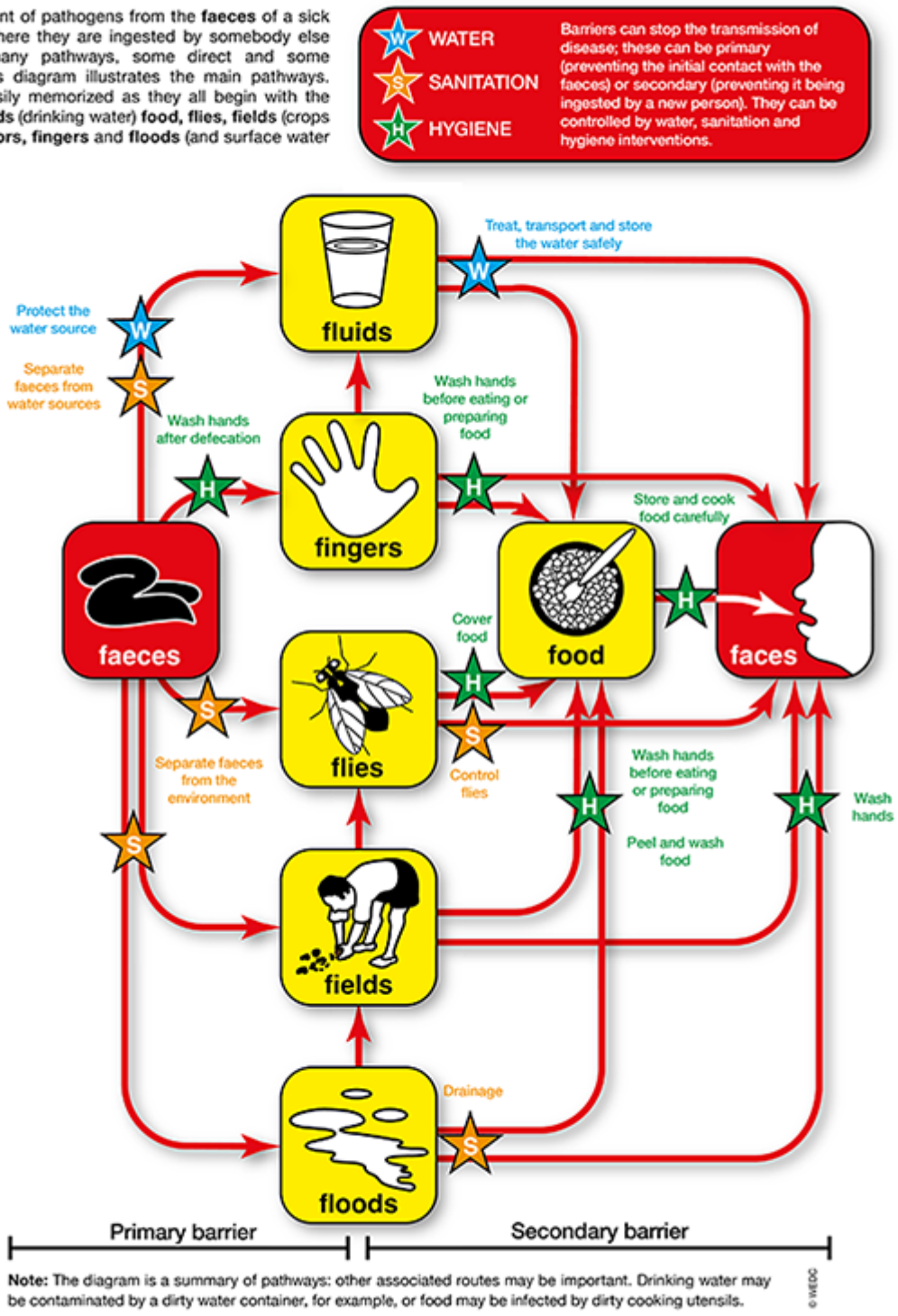
Overview

Hygiene promotion is a term used to cover a range of strategies aimed to improve people's hygiene behaviour and prevent the spread of disease. Hygiene promotion enables people to take action to prevent water, sanitation and hygiene-related diseases by mobilizing and engaging the population, their knowledge, and resources.

The focus of hygiene promotion is determined based on the health risks. By creating a series of barriers to infection, hygiene behaviour has a critical influence on the transmission of water- and sanitation-related diseases as shown in the 'f' diagram[1] below:

The 'F' Diagram

The movement of pathogens from the **faeces** of a sick person to where they are ingested by somebody else can take many pathways, some direct and some indirect. This diagram illustrates the main pathways. They are easily memorized as they all begin with the letter **'f': fluids** (drinking water) **food, flies, fields** (crops and soil), **floors, fingers** and **floods** (and surface water generally).



Note: The diagram is a summary of pathways: other associated routes may be important. Drinking water may be contaminated by a dirty water container, for example, or food may be infected by dirty cooking utensils.

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Source: *McMahon, Glenda; Davey, Kay; Shaw, Rod (2020): P004 The F Diagram. Loughborough University. Poster. https://doi.org/10.17028/rd.lboro.12738692.v1*

What do to and how to do it

Understand the community

1. Familiarize yourself with the ways in which people collect water, store food and water, dispose of rubbish, wash themselves and use latrines.
   - Identify key places where hygiene is important not only on an individual, but also on a communal level, such as markets, schools, restaurants or churches. Find out if you can work with them to promote good hygiene practices.
     - You might hold a hygiene session for students or teachers or help the market sellers to build a handwashing station and outside latrine for users.

2. Have a conversation with members of your community about hygiene.
   - Include women, community leaders, caregivers and decision-makers.
     - Make sure they understand that good hygiene is important and can stop the spread of disease.

3. Be a role model for others in your community. Use a clean latrine, dispose of your rubbish, wash your hands often.

Promote community hygiene messages

Normally the key issues to address include the following. Click on the corresponding action cards to obtain the information you need:

- Food hygiene
- Clean and safe household water
- Personal and hand hygiene
- Environmental sanitation
- The control of flies, mosquitoes and other disease vectors

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[1] Shaw, R. 2013. *The 'f' diagram - Landscape*. WEDC Graphics: Disease. Water, Engineering and Development Centre (WEDC): Loughborough University, UK.

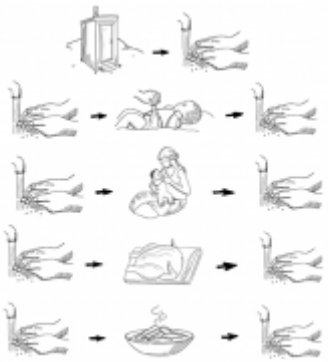
Community messages

04. Storing water properly

05. Using clean safe drinking water

06. Using a clean latrine

08. Washing hands with soap



09. When to wash hands

11. Cleaning up places where mosquitoes breed

12. Good food hygiene

13. Good personal hygiene

20. Collecting and disposing of rubbish

30. Clean, safe household water

Overview

Many diseases can be spread through water. Water can look clean when in fact it is not safe to drink until it has been treated. The germs that make people sick are so small that you need a microscope to see them. Clean, safe water is essential to stop the spread of many epidemics. As a volunteer, you can help to make sure that your community has clean safe water to drink, to cook and to clean with.

Safe water sources

The best source of safe clean water is a groundwater source, such as a protected well or borehole. "Protected" means it has a concrete apron or edge around the well or borehole (with no cracks) and is fenced to prevent animals from reaching it.

If you normally use a piped water supply in your community, flooding, or other disasters (such as cyclones) can affect the quality of the water. After flooding, tap water may no longer be safe or clean. In this situation, boil or filter the water or treat it with chemicals.

If safe groundwater is not available, or if you are in doubt about water quality, you can make water clean and safe in other ways:

1. Boil water for at least one minute. A rolling boil of one minute will kill germs.
2. Use water purification tablets. These are small tablets that you put in water to kill germs. Each type of tablet has specific instructions for use, so read these carefully before using the tablets. You can give tablets to families in the community to clean their water.
    - Make sure to underline the importance of clean water when you explain how to use the tablets. Monitor the use of the tablets distributed.
3. Promote water filtration. Water can be filtered using ceramic, bio-sand or other types of filters.
    - Make sure you follow the instructions for making and cleaning the filter. Clean the filter regularly.

Each way of making water safe has advantages and disadvantages, and requires equipment and resources (purification tablets, water containers or buckets, firewood, time, etc.). The community needs to be able to obtain these resources and use them properly. Work with colleagues in the WASH sector or partners with expertise in water, sanitation and hygiene for more information.

Safe storage and handling

Dirty hands, dirty utensils and dirty containers can contaminate water. So can flies, other insects and rodents. Efforts to make water clean and safe are pointless if water is not stored or handled properly and hygienically.

What to do and how to do it

Understand the community

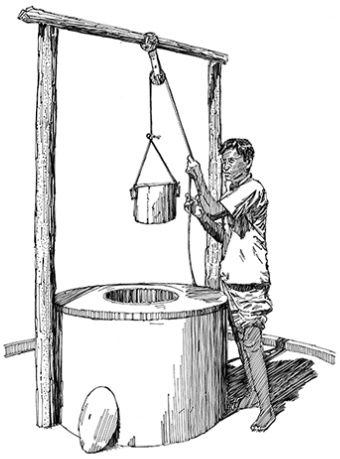
1. Familiarize yourself with the community's cultural, social and traditional practices and beliefs about water

and washing.

2. Listen out for rumours and incorrect information. Correct these and report them to your volunteer supervisor.

Promote clean household water

1. Promote clean water use. Encourage members of the community to adopt recommended hygiene practices.
2. Encourage people to use household water treatments (such as purification tablets) correctly. If they do not treat their water, find out why.
3. Encourage people to always wash their hands before they handle drinking water.
4. Store water in clean containers. Clean these regularly.
    - Make sure that families have clean containers to put water in. Make sure the containers are covered to prevent germs and dirt from getting into the water and making it unsafe.
        - If a container has a narrow neck, encourage people to clean it regularly with a soap solution, chemical disinfectant (if available) or pebbles. Narrow-necked containers prevent contamination but are harder to clean.
        - If a container has a wide neck, encourage people to keep it covered and design a system for removing water without touching it with your hands. Wide-necked containers are easily contaminated but easier to clean.



Other resources:

Safe water prevents cholera: Clean water storage safe water (visual aid from the Ghana Red Cross Society)

Community messages

04. Storing water properly

05. Using clean safe drinking water

31. Good food hygiene

Overview

- Food that is not clean, covered and thoroughly cooked can contain germs that cause people to fall sick.
- People in the community may not know or understand how food can be contaminated or how a disease can spread through food. It is important to explain the importance of good food hygiene so that people can protect themselves and their families from becoming sick.

What to do and how to do it

Promote safe food preparation

- Food can be contaminated by dirty hands, flies, dirty utensils or contaminated water.
  - Wash hands with treated water and soap before you cook or eat.
  - Use treated water for cooking. Wash vegetables and fruits thoroughly with treated water and soap.
  - Wash utensils (pans, plates, cups, forks, knives, etc.) and clean kitchen surfaces with treated water and soap. Use a rack for drying dishes.
- Food can spread germs and diseases if it is not well cooked or if it is dirty.
  - Cook animal products thoroughly, including meat and eggs, to kill germs.
  - Destroy and throw away any animal meat, offal or skin parts that are visibly affected by infections or parasites e.g., presence of worms, cysts or eggs, tubercules in lungs or liver, infected animal skin etc. Do not wash, cook or eat any of these.
  - Cover cooked food before storing. Reheat before eating.
  - Eat cooked food hot.

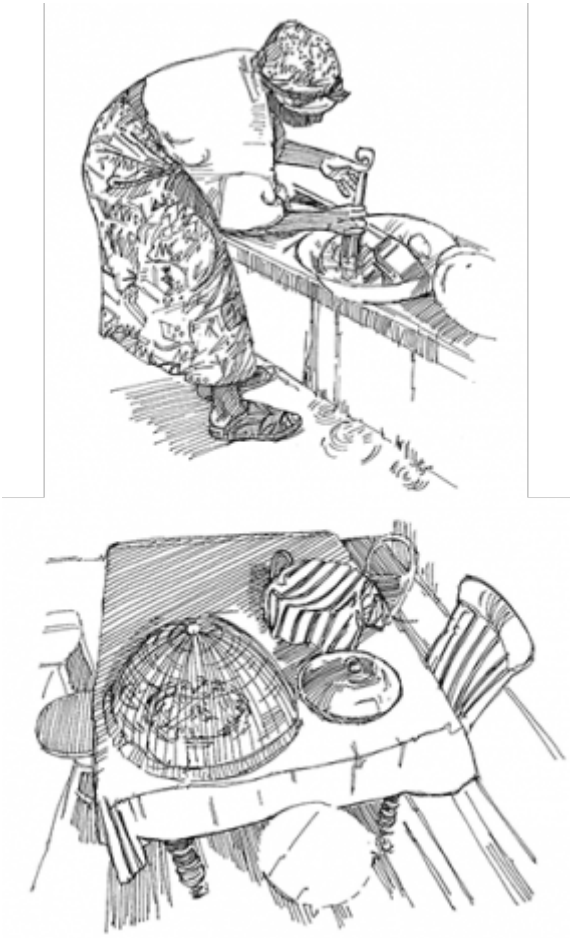
Promote safe food storage

- Food can be contaminated if stored improperly
  - Store uncooked food in containers that are inaccessible to insects and animals
  - Cooked food should always be stored properly, safe from weather changes, and covered to keep out dirt, flies, other insects and animals. Cooked food should not be stored for long periods of time. After cooking, it should be eaten promptly.

Promote food hygiene with food vendors in market and stalls

- Encourage to use mosquito netting or inverted bowls on plates to avoid contact with flies and insects
- Use chlorinated water to prepare drinks and ice
- Food servers should wash hands with water and soap before they prepare and serve food
- Food should be thoroughly cooked, especially seafood, and not be stored at room temperature for long periods
- Do not put plates and utensils on the ground, but use a clean surface

- Food and meat vendors at abattoirs and slaughterhouses should not sell any animal meat, offal or skin parts that are visibly affected by infections or parasites e.g., presence of worms, cysts or eggs, tubercules in lungs or liver, infected animal skin etc. These should be condemned and destroyed.



Community messages

04. Storing water properly

08. Washing hands with soap

12. Good food hygiene

38. Waste disposal and clean-up campaigns

Overview

- Diseases can spread easily in environments where there is waste and lack of sanitation. Rubbish can attract rodents and create breeding and feeding sites for various domesit, wild and scavenging animals and insects (including mosquitoes and flies). Human or animal faeces can also attract flies and other insects that carry germs, cause diseases and contaminate water sources.
- Human and animal waste infected with certain diseases (including animal carcasses, hospital waste, etc.) can also attract different animals and insects which may then spread the diseases to other animals and to humans.
- Standing and stagnant water provide breeding sites for various insects, including mosquitoes.

What to do and how to do it

Planning and preparing for clean-up

- Work with traditional and community leaders, the village health committee and other community partners to decide what needs to be cleaned up and how to go about it.
  - Help to organize activities on agreed “clean-up” days.
  - Ask community leaders to organize volunteer groups for each clean-up initiative.
- Speak with community members about the importance of keeping their community clean.
- Organize a community initiative to plan and create a central garbage disposal area.
- Make sure to have the cleaning tools and supplies available in advance to distribute among the community.

Facilitating community clean-up

- Organize special clean-up days in which all members of the community participate (twice a year or more often if possible).
- Motivate and support the community to work together to:
  - Keep the community free of animal faeces and urine.
  - Keep the community free of puddles and other mosquito breeding sites.
  - Keep the community free of rubbish and garbage (by burning or burying it).
  - Clear vegetation from around riverbanks and ponds near the community
  - Clean the areas around water sources (such as pumps and wells).
  - Create and maintain water soak pits around water sources.

Tell community members how important it is to keep their community clean. Organize regular clean-up campaigns. Include houses and latrines, etc.

What you can do

- Work with traditional and political leaders, the village health committee and other community partners to decide what needs to be cleaned up and how to go about it.
- Help to organize activities on agreed “clean-up” days.
- Ask community leaders to organize volunteer groups for each clean-up initiative.
- Organize special clean-up days in which all members of the community participate (twice a year or more often if possible).
- Organize a community initiative to plan and create a central garbage disposal area.

Motivate and support the community to work together to:

- Keep the community free of animal faeces.
- Keep the community free of puddles and other mosquito breeding sites.
- Keep the community free of rubbish and garbage (by burning or burying it).
- Clean the areas around water sources (such as pumps and wells).
- Create and maintain water soak pits around water sources.

Make sure to dispose of waste properly. This will help to protect the community from germs.

Community messages

07. Protecting yourself against mosquitoes

17. Sleeping under mosquito nets

20. Collecting and disposing of rubbish

41. Handling and slaughtering animals

Overview

- Animals can carry and spread germs that cause diseases. These include livestock animals such as such as cattle, domestic poultry birds, and pigs, companion animals such as dogs and cats, household vectors such as rats, and wild animals such as bats and wild birds.
- All animals can carry germs in their bodies when they are alive and in their meat and offals when they are slaughtered for food. Animal by-products, such as milk or eggs, can also carry germs.
- Animals that have died (including foetuses that have been aborted or animals that died during birth) can also carry germs.
- To avoid spreading diseases, it is important to wear personal protective equipment and follow recommended hygiene practices when dealing with live or dead animals and their by-products.

Diseases transmitted by animals

Disease	Animals	Transmission
Rift Valley fever	Sheep, cattle. other animals. Signs and symptoms in infected animals: abortion; deaths in young.	Transmitted by mosquito bites; droplets in the air; the blood of sick animals; the bodies of infected dead animals.
Avian influenza	Wild and domestic poultry (birds). Signs and symptoms in infected animals: death or neurological signs; may have no signs of illness.	Transmitted through droplets in the air; feathers; and potentially the eggs and meat of infected birds.
Mpox	Mainly monkeys. Also rats, squirrels and prairie dogs. Signs and symptoms in infected animals: mainly none. Skin sores, breathing problems in prairie dogs.	Transmitted by touching infected animals or their body fluids; the bite or scratch of an infected animal; the meat of infected animals.
Plague	Mainly rats. Also rabbits, squirrels and prairie dogs. Signs and symptoms in infected animals: none in above. May cause disease in cats and occasionally dogs.	Transmitted by flea bites and domestic rats; droplets in the air; the bodies of dead infected animals.

Disease	Animals	Transmission
Leptospirosis	Cattle, pigs, rodents (mainly rats). Signs and symptoms in infected animals: abortion; liver and kidney disease. None in rats.	Transmitted by contact (through a cut, eyes, mouth etc.); or ingestion of the urine of an infected animal.
MERS	Camels. Signs and symptoms in infected animals: none.	Transmitted by close contact with an infected animal or person.
Hantavirus pulmonary syndrome	Rodents (mainly rats). Signs and symptoms in infected animals: none.	Transmitted by droplets of rodent urine or faeces in the air; the bodies of dead infected rodents; a bite or a scratch.
Anthrax	Sheep, cattle (cows) and other animals. Signs and symptoms in infected animals: sudden death in sheep and cattle; neck swelling with breathing difficulties in pigs, dogs and cats.	Transmitted by contact with, or eating, infected animal products; spores in the air.
Rabies	Primarily dogs, but may affect other mammals such as cats, livestock and wildlife; initial signs include fever, pain and unusual or unexplained tingling, pricking, or burning sensations at the wound site, later progressive and fatal neurological signs	Dog bites and scratches cause 99% of the human rabies cases

Handling poultry and livestock

Poultry (birds)	Sheep and cows
• Be careful when keeping poultry (birds) at home: keep the birds separated from the places where humans live and ensure that where they live is regularly kept clean and safe. • Keep domestic poultry birds away from the reach and contact of wild birds. • Keep the birds in a closed yard or enclosed free-range area where they have plenty of room to roam. • Do not let children play where the birds are kept. • Cook poultry (meat or eggs) thoroughly. • When preparing raw meat or eggs, always use clean utensils (knives, forks) and clean surfaces. • After cooking, use new utensils for eating. Never use the same utensils that you cook with. If no unused utensils are available, wash the utensils thoroughly before they are used for eating. • When slaughtering and handling poultry, be sure to protect yourself. Wear gloves and goggles if possible. • Never touch sick or dead birds without protection. • Observe birds for signs of sickness. If you detect illness, inform the animal health and welfare authorities. • At the slaughterhouse, abattoirs or when slaughtering at home, animals with visibly infected tissue and organ parts (e.g. tubercles, worms, eggs of parasites, etc.) should be immediately condemned and disposed of/destroyed. They should not be consumed or taken to the market for sale. • Wash hands thoroughly with soap and water after any contact with living or dead animals (grooming, feeding, husbandry, etc.), their by-products (eggs, feathers, raw wool, etc.). • Dispose of animal carcasses appropriately and swiftly (by burning or burying).	• Keep sheep or cows in an enclosed yard or free range where they have plenty of room to roam. • Do not let children play where animals are kept. • Cook meat thoroughly. • Boil milk before drinking or cooking it. • When preparing raw meat, always use clean utensils (knives, forks) and clean surfaces. • After cooking, use new utensils for eating. Never use the same utensils that you cook with. If no unused utensils are available, wash the utensils thoroughly before they are used for eating • When handling or slaughtering livestock, be sure to protect yourself. Wear gloves and goggles if possible. • Never touch sick or dead sheep, goat or cows without protection. • Observe animals for signs of sickness. If you detect illness, inform the animal health and welfare authorities. • At the slaughterhouse, abattoirs or when slaughtering at home, animals with visibly infected tissue and organ parts (e.g. tubercles, worms, eggs of parasites, etc) should be immediately condemned and disposed of/destroyed. They should not be consumed or taken to the market for sale. • Wash hands thoroughly with soap and water after any contact with living or dead animals (grooming, feeding, husbandry, etc.), their by-products (eggs, feathers, raw wool, etc.). • Dispose of animal carcasses appropriately and swiftly (by burning or burying).

Handling bushmeat (monkeys, rodents, wild pigs and others)

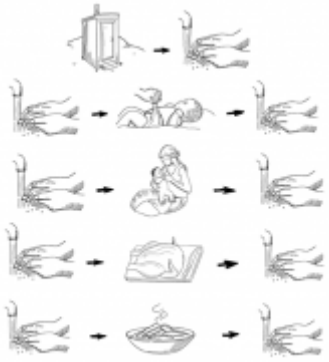
Bushmeat should be discouraged as a food source, especially in areas where epidemic-causing infections are present in bushmeat. However, sometimes people may continue to eat bushmeat and to use bushmeat by-products. In these cases, volunteers should promote the following messages:

- Do not let children play where animal carcasses are kept.
- Cook bushmeat thoroughly.

- When preparing raw meat, always use clean utensils (knives, forks) and clean surfaces.
- After cooking, use new utensils for eating. Never use the same utensils that you cook with.
- When slaughtering, butchering or skinning bushmeat, be sure to protect yourself. Wear gloves and goggles if possible.
- If you come upon an animal in the bush that appears sick or is already dead, do not handle it without protection (for example, gloves).
- Observe animals for signs of sickness. If you detect illness, inform the authorities.
- Wash hands thoroughly with soap and water after any contact with living or dead animals.
- Dispose of animal carcasses appropriately and swiftly (by burning or burying).

Community messages

08. Washing hands with soap



09. When to wash hands

25. Handling and slaughtering animals

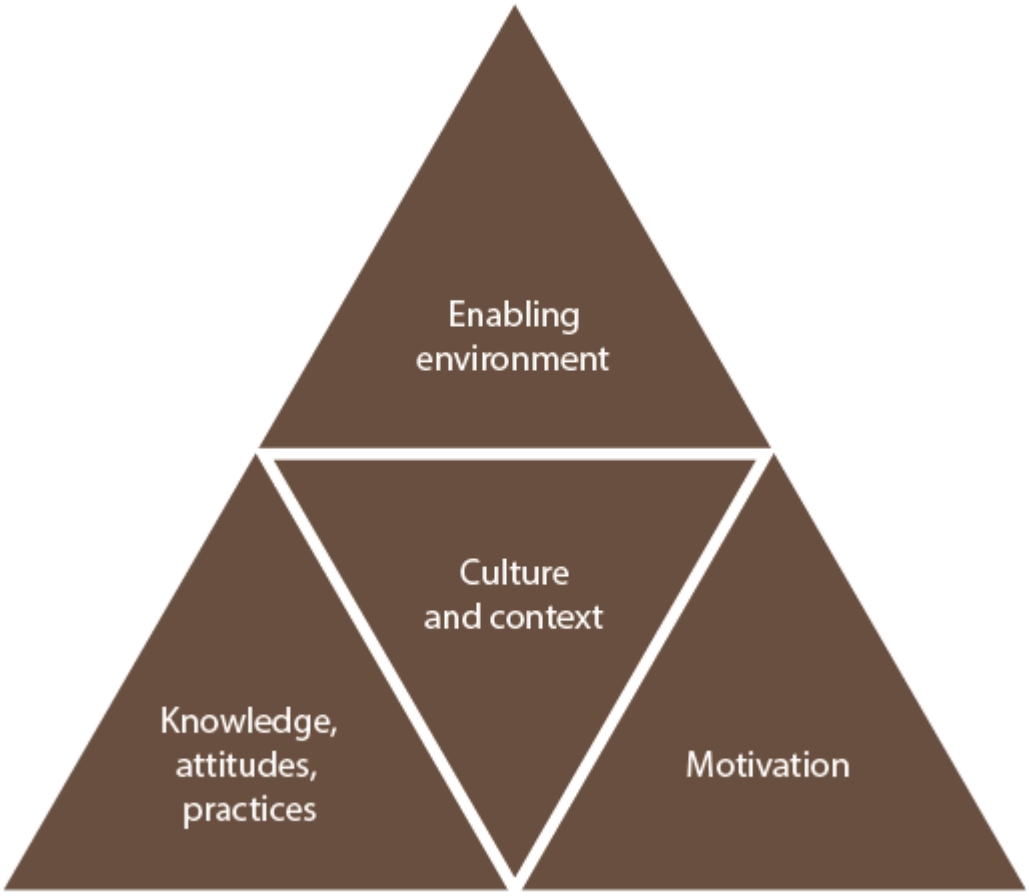
43. Social mobilization and behaviour change

Overview

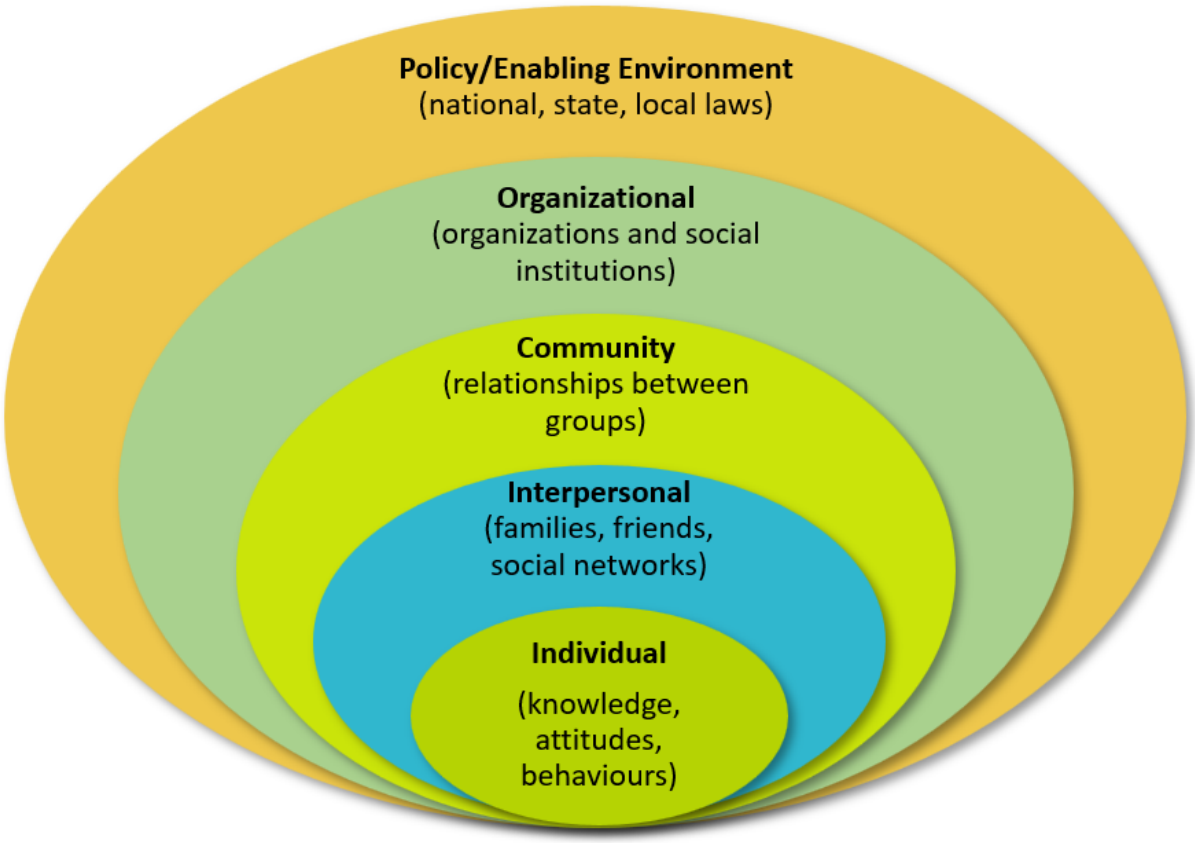
There are many reasons why people practise unhealthy behaviours. People are affected by access to services or facilities, social norms and influences where they work, live or play. Behaviour change is the study of how and why people change some habit or action in their life. As volunteers, we need to understand WHY the behaviour is happening and WHAT actions will lead to change to create healthy behaviours. Examples of healthy behaviours include handwashing, breastfeeding, immunizations, consistent condom use and use of bed nets.

In any culture and context, behaviour change involves three elements. Before people will change their behaviour:

1. They need to know what, why and how they should change. They need knowledge.
2. They need to have the right equipment, access and capacity. They need an enabling environment.
3. They need to be motivated to change.



The social-ecological model below shows how each person's behaviours are affected by many different levels of influence including the individual level, the interpersonal level, the community level, the organizational level and the broader policy level which includes laws and policies that allow or restrict a behaviour. In order to promote health, it is important to consider and plan behaviour change activities across multiple levels at the same time. This approach is more likely to result in successful behaviour change over time. As a volunteer, it is helpful to understand that behaviour change is difficult for many people because of these many levels and the complex interactions and expectations across the different levels. If you consider how each of the levels affects the behaviour of the person you want to help, you can try different interventions at each level that is specific to their needs.



Socio-ecological model

What do to and how to do it

The general process for developing a behaviour change intervention includes staff and volunteers working through the general steps of:

1. Sensitizing the community to the behaviour change process using the theory of change model.
2. Assessing the problem behaviour – why it is practised, who practises it, when it is practised and what factors in the environment or society encourage the behaviour. Assess this information at the different levels of the social-ecological model for each community you serve.
3. Identifying an appropriate behaviour goal based on your assessment.
4. Reviewing the causes or barriers at each level that allow the behaviour to continue. Identify interventions

that align with each cause or barrier and that can be used at different levels.

5. Discussing the suggested interventions for each social-ecological model level with the community.
6. Identifying appropriate interventions for the context at each level. Interventions should be planned to address the stages of the theory of change by first giving knowledge and addressing environmental factors, motivating key people to gain approval and intentions, and ultimately inciting people to action that contributes to the overall goal.
7. Implementing the interventions at each level.
8. Monitoring to see if change is happening. Change takes time but it must be monitored to ensure that it is happening, even slowly. Additionally, as people go through the change process, their barriers and causes will change. The behaviour change interventions should adjust to these changes to ensure that change can continue.
9. Recognizing that when change is not happening as intended, further assessment and intervention tweaking is needed.
10. Continuing to implement, monitor, assess and adjust as the change process happens.

For more information, please consult the eCBHFA Manual for volunteers on Behaviour Change, including:

1. Principles of behaviour change
2. The social ecological model
3. The stages of behaviour change
4. Activities for behaviour change

Community messages

23. Encouraging healthy behaviours in a community

44. Dealing with rumors

Overview

- Rumours are stories of uncertain truth. They often spread in communities during epidemics when people feel fear or anxiety about the disease. Rumours often provide an explanation for what is unknown about the disease, even if the explanation is not true.
- Rumours include *misinformation* or *disinformation*. Misinformation is when incorrect information is spread, without the intent to deceive, through a misunderstanding or a mistake. An example of misinformation is the rumour that Ebola is caused by witchcraft. In truth, Ebola is spread by a virus, but people often mistake it for witchcraft because they cannot see the virus or have never heard of the Ebola virus before.
- Disinformation is when incorrect information is spread intentionally to deceive or manipulate, such as “fake news”, which is disinformation disguised as news and is often spread for political or economic gain. An example of disinformation is when someone who sells multivitamins advertises that the tablets “cure” HIV, even though they know it is not true.

In epidemics, we often see two kinds of rumours:

- Rumours about possible cases
  - These rumours can violate community members’ privacy and right to confidentiality and may put them at risk
    - Rumours can often reflect pre-existing fears and prejudices within the community. This may lead to placing blame on different people or groups. This type of untrue belief can give community members “permission” to discriminate against someone or a group without feeling guilty, because of untrue beliefs.
  - They may also cause the unnecessary use/waste of health resources when rumoured cases must be followed up
- Rumours about the causes or treatment of the disease
  - Can distract from public health messaging
  - May conflict with the behaviours and practices recommended to fight the epidemic
  - Can create a dangerous situation for volunteers and healthcare providers if they cause mistrust

Paying attention to rumours can help us to understand the beliefs and perceptions that influence people. Using this information, we can make our messages specific to the community, the context and the beliefs. Rumours may also serve as a warning sign of hazards such as violence or risky behaviours so these can be managed quickly.

What to do and how to do it

Listen for rumours and capture information

- Establish a system for listening to rumours: Listening for rumours involves more than just hearing the words people use. To effectively listen to rumours, you need to:
  - Build trust with community members: Identifying rumours is not as simple as asking people about any

rumours they have heard. This will not necessarily uncover rumours because people may believe a rumour to be true and therefore not consider it a rumour. Also, people may not trust you as someone to discuss their beliefs with, in this way.
    - Listen to the language the community is most comfortable using
- Tune into social and traditional media to understand what people are hearing and what they are saying
- Engage in open and unstructured conversations with diverse groups of people to understand the beliefs they hold and why they hold them
- Host group discussions with community members and members of community groups (such as women's or youth groups)
- Pay attention to what you hear during your work as a volunteer, but also during your personal time
- Establish a method of collecting information about rumours: Use a rumour log where you can record:
    - Details – what is the rumour?
    - Date - when was the rumour heard?
    - Location - where was the rumour heard?
    - Channel – how is the rumour being shared/spread?

Report and help to verify rumours

- Report rumours to your supervisor: Ask them to verify if the rumour is true or false
    - Sometimes parts of a rumour are true and other parts are false. It is important to understand the facts
    - Follow the guidance of your supervisor in uncovering more information about the rumour if possible
    - You may be asked to find out more information about the rumour from community members. You may also be asked to speak to the source of the rumour to understand more about what is being said and why
        - Explain that you are verifying a rumour, which may or may not be true, and repeat the rumour that you have heard
        - Ask them what is true/untrue about the rumour you heard and to state in simple terms the facts and how they know them
        - Repeat what you have heard, to check that you have understood them correctly. You should finish with a clear understanding of what they are describing – if you are not sure ask again
        - Try to find out what triggered the rumour. For example, did the rumour start because of a badly worded message? A government announcement? Etc.

Plan a response to rumours

- With your supervisor, develop a plan to address and prevent rumours. Do not ignore or deny rumours.
    - Rumours usually do not go away on their own and can cause big problems if they are not addressed
    - Replace rumours with accurate information
        - Respect local customs and beliefs and align messages with pre-existing beliefs and customs. For example, a common rumour might be that Ebola is caused by witchcraft; the conventional response is to refer to Ebola as a virus. However, rather than deny this pre-existing belief, it may be more useful to accept that this is what people believe and to create recommendations and messages that align such as: do not touch this person unprotected but feel free to provide food [and prayers] as a token of empathy
        - Use communication channels/people that community members trust
        - Use language that people understand and are comfortable with

- Continue to engage in conversation with communities to make sure you are being understood