



Epidemic Control for Volunteers

A Training Manual

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Foreword

Communicable diseases kill more than 14 million people around the world every year. They include respiratory infections, HIV/AIDS, diarrhoeal diseases, tuberculosis, malaria and measles. An increase in the number and severity of natural disasters has exacerbated their incidence.

Epidemics are a constant threat to the well-being of communities everywhere, especially in societies where resources are scarce. Managing and preferably preventing epidemics is a priority for the International Red Cross and Red Crescent Movement.

Epidemics occur frequently during emergencies. Red Cross Red Crescent volunteers deliver much of the Movement's response to health needs in their communities, including during epidemics. However, research has shown that they frequently lack the information they need to provide a quick and efficient response to epidemics without the aid of health professionals. Volunteer training is therefore important.

This training package, which is aligned with the Community-based health and first aid (CBHFA) approach, aims to involve volunteers more effectively in the management of epidemics. It provides volunteers with basic information on infections and diseases that can easily become epidemic if circumstances in the environment change.

The Epidemic Control Manual for Volunteers (the Manual), and the Epidemic Control Toolkit (the Toolkit) which accompanies it, have been written for volunteers and for trainers in local National Society branches. While not exhaustive, the two documents will familiarize volunteers with the most common epidemics and with the diseases that most frequently cause death and suffering. They encourage volunteers to apply evidence-based methods to prevent the spread of communicable diseases in their communities, care appropriately for the sick, and so reduce mortality.

Volunteers can help in many ways when an epidemic occurs. The Manual and the Toolkit will help them to define their roles in the community before, during and after an epidemic and to act in ways that are appropriate for that particular epidemic. The knowledge and skills they acquire will enable them to act quickly and efficiently in a health emergency and help them to deal with other emergency situations.

List of abbreviations

ARI	Acute respiratory infection
BCC	Behaviour change communication
BMS	Breastmilk substitute
CBHFA	Community-based health and first aid
CBS	Community-based surveillance
CEA	Community engagement and accountability
CMAM	Community-based management of acute malnutrition
ECV	Epidemic control for volunteers
HIV	Human immunodeficiency virus
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross and Red Crescent Societies
IMAM	Integrated management of acute malnutrition
IYCF-E	Infant and young child feeding in emergencies
MAM	Moderate acute malnutrition
MoH	Ministry of Health
MNP	Micronutrient powders
MUAC	Mid-upper arm circumference
ORS	Oral rehydration solution
PGI	Protection, gender and inclusion
PHC	Primary health care
PLW	Pregnant and lactating women
PPE	Personal protection equipment
SAM	Severe acute malnutrition
STI	Sexually transmitted infections
TB	Tuberculosis
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WHO	World Health Organization

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Module 1 – Introduction

Session 1.1. The importance of epidemics

Session 1.2. Volunteers and epidemic control

Session 1.3. Epidemics: introduction and definitions

Session 1.4. Special issues in dealing with epidemics and infections

Session 1.1. The importance of epidemics

By the end of this session, you will be able to:

- Discuss why epidemics are important.
- Explain the broader impact of epidemics on societies.

In the course of human history, epidemics have been responsible for millions of deaths. During the plague epidemic in 541-542 AD, 100 million people died, half the human population at that time. In the plague epidemic between 1346 and 1350, Europe lost half its population. The “Spanish flu” epidemic in 1918 killed more men than the First World War. Epidemics are also common today. The “swine” flu in 2009 was responsible for 200,000 deaths, and more than 11,000 people died in an Ebola epidemic in 2014. In 2017 alone, outbreaks of plague occurred in Madagascar and the Seychelles, of Middle East respiratory syndrome in Saudia Arabia, of coronavirus disease in Saudi Arabia, Oman and the United Arab Emirates, of yellow fever in Brazil, Suriname and French Guiana, of dengue fever in Côte d’Ivoire and Sri Lanka, and of Chikungunya in Italy. Epidemics of hepatitis A, hepatitis E, Lassa fever, meningococcal disease, the Zika virus infection, polio, and Marburg fever also claimed many lives.

Participate

- Have any epidemics occurred in your country in recent years?
- What do you know about them?
- What impact did they have on the society?

Discuss these questions in your group.

Epidemics occur worldwide. Their magnitude and their consequences depend on the disease in question (causative agent), the people or animals affected (host), and how the disease is spread (mode of transmission). Epidemics can be limited or can spread across continents (pandemics). However, they tend to occur more frequently or to have more severe consequences in populations that have experienced natural disasters, armed conflict, or displacement, that have poor sanitation or lack a secure food and water supply, or whose health system is underdeveloped or has been devastated. Populations that suffer from other health conditions, including malnutrition or low vaccine coverage, are also more vulnerable to epidemics.

Although the most obvious effects of an epidemic are on health, epidemics usually have a much broader impact on society.

First of all, societies affected by an epidemic cease to be productive. The health system is no longer able to deal with other health conditions because healthcare workers are overwhelmed by the epidemic or are themselves ill. If numerous children and teachers are sick, this disrupts education. If community workers and public servants are sick, this disrupts other services. Second, water and food supplies can be contaminated, and many people may consequently lose access to food, safe water and sanitation.

Displaced people and people living in collective accommodation or refugee camps are particularly vulnerable to epidemics. Major epidemics can disrupt family links. Large numbers of ill people and their family members may need psychosocial support.

Finally, epidemics can cause fear and stigma. It is important to involve communities in epidemic control and to understand local cultural practices. Establishing trust and good communication between the community, volunteers and other stakeholders is critical for successful epidemic control.

Session 1.2. Volunteers and epidemic control

By the end of this session, you will be able to:

- Understand why volunteers play an essential role in epidemic control.
- Explain the importance of community volunteers and how they can be most helpful.
- Describe the role of volunteers in epidemics.
- Explain how volunteers should protect themselves in epidemics.

Part 1.2.1. Why do we need volunteers?

Why do we say that volunteers make a crucial contribution to efforts to control epidemics and help affected people and communities? Why do health professionals, doctors and nurses need their assistance? First of all, there are often too few health professionals. In addition, they are frequently overstretched, or lack the resources they need to deal with all the people who are sick in their communities. This is especially true in epidemics where the number of people in need of care increases rapidly. Finally, health professionals work mostly in clinics and hospitals and are not always present in communities.

In such situations, Red Cross and Red Crescent volunteers provide essential forms of support. In many countries, they assist health professionals and governments to implement epidemic control measures. Their help is irreplaceable in the local communities in which they work or live.

Being a volunteer also has advantages for the volunteers themselves:

- They acquire knowledge, training and skills that will be useful in their lives.
- They derive fulfilment and satisfaction from helping others.
- Their value is recognized in their communities.

Group work

Divide into four groups. In each group, talk for a few minutes about what volunteers can do. Then each group should discuss one of the following cases:

- Benefits when a volunteer is from the community.
- Benefits when a volunteer has access to the community.
- Benefits when a volunteer has access to the health system.
- Benefits the volunteer obtains from his or her work.

Note the main points made by each group in the table below.

Being a volunteer from the community

Access to the community

Access to the health system

Personal benefit

What you have learnt above will help you to understand and appreciate your role as a volunteer in the management of epidemics.

Part 1.2.2. The importance of community volunteers

You are a Red Cross or Red Crescent volunteer. You live in a local community (in a village or a neighbourhood in a town or city). When you work as a volunteer to provide services or help manage an epidemic, you work in your community.

The advantages we talked about before apply to you because you come from the community in which you work. This means that you know the community, you have relationships with people in it, and you can communicate easily with them. The benefits that volunteers who come from the community bring include:

- You understand the community.
- You know the people and understand how they think.
- You know the community leaders.
- You can talk to people in their language.
- You know how to convince people to help themselves.
- You know the local habits and customs.
- You know local restrictions and opportunities.
- You are available most of the time, and you want to help others.
- You can meet everyone.
- Because members of your community trust you, they will be more willing to confide in you their concerns, fears, beliefs...

Can you think of some more advantages? Write them down below:

What do volunteers offer when epidemics occur?

You are a member of your local community, with all the advantages that we listed above. But, in addition, you have qualities that are important that others in your community may not have. You belong to a large organization (your Red Cross or Red Crescent National Society). You have been trained and are prepared to deal with epidemics. And you know what you should do in a crisis and how to do it.

When volunteers have these additional advantages, they are not only located in their communities but can be a vital link between their communities, the health system, and those who manage an epidemic.

Figure 1. Volunteers in epidemics



Part 1.2.3. The role of volunteers in epidemics

Volunteers can help in many different ways before, during and after an epidemic. In this manual, we discuss these. Can you list some of the actions you could take to help your community during an epidemic? Talk to your colleagues and the facilitator and write your ideas on the board.

After you have talked about your role as a Red Cross Red Crescent volunteer in the community and in relation to the health authorities, ask yourself how you can make use of your position to help prevent and control epidemics.

Responding to an epidemic is always complex. It involves a wide range of activities, from case detection to diagnosis, treatment and care, and from contact tracing to prevention and psychosocial support. The public health system's capacity to cope may be overstretched by even small, limited epidemics, especially when it is weak or has been affected by floods, earthquakes, other natural disasters or conflict. The support provided by well-trained volunteers can therefore be critical.

However, each epidemic requires a coordinated response from the whole of society. National Society volunteers will be a part of a large team of public health officials, public health workers, healthcare professionals, community leaders, community service workers, etc. Volunteers will never work alone, though in some epidemic control activities their role can be dominant.

What can volunteers do to prevent, detect and respond to epidemics? This will depend on the cause of the epidemic, when, where and why it occurred, and the number of people affected by it. The role of volunteers will also be different at different stages of the epidemic response.

Module 3 describes various volunteer activities during the phases of epidemic prevention and preparedness, alert, response and recovery. Disease specific activities are listed in the disease tools. (See the Toolkit for more information about disease tools).

Activities common to all epidemics include:

- **Prevention.** If effective prevention measures are applied, an epidemic may not occur at all or will have less severe consequences.
- **Preparedness.** Before an epidemic, it is vital to foresee and assess the risk of a potential epidemic, prepare a plan, and gather resources.
- **Early detection.** When active community-based surveillance is in place, cases can be detected and reported promptly, giving public health officials and the society more time to prevent the disease from spreading and protect people from its effects.
- **Early action.** Once an epidemic is detected and declared, prompt action can slow its progress and make control measures more effective.
- **Community engagement and risk communication.** The three most important things volunteers do in epidemics are: to alert and mobilize communities; give them accurate information; and help them to adopt safer, less risky behaviour.

Your key role as a community volunteer is to support activities at community level.

Some epidemic response activities will mainly be under the responsibility of others:

- Health authorities declare outbreaks, provide overall coordination of an epidemic response, take legal measures (restrictions on movement, trade or traffic), lead communications, etc.
- Public health services are responsible for disease surveillance at health centres and clinics, epidemiological investigations, laboratory confirmation, etc.
- Healthcare professionals are in charge of clinical diagnosis, treatment of patients, and their care and support.
- Communal services monitor water supplies and ensure they are safe.

You will learn more about your expected role in future modules.

Part 1.2.4. Staying safe

In epidemics or health emergencies, you may be working in high-risk situations and with vulnerable people (see 1.3.4 for more information about vulnerabilities). Your behaviour should be culturally sensitive and you should never cause offence by your personal behaviour. Always act impartially and with integrity. Correct, polite and neutral behaviour by Red Cross Red Crescent staff and volunteers is always expected. Please inform a supervisor if you witness any incidents that raise concern in this respect.

When you work with communicable diseases, you may need personal protection equipment (PPE). The PPE you wear should be appropriate for the type of disease in question and its transmission paths, and the risk level of the task or duty you undertake.

Table 1. Examples of minimum personal protection equipment (PPE) provided to volunteers for different disease groups.

Diseases transmitted by mosquitoes	Respiratory infections	Highly contagious diseases
PPE that prevents mosquito bites and protects from minor injuries. Includes: <ul style="list-style-type: none"> • Mosquito repellent • Long sleeved shirt and trousers • Protective footwear 	PPE that helps to block transmission. Includes: <ul style="list-style-type: none"> • Face mask • Hand sanitizer or soap • Gloves 	PPE that fully covers the skin and clothing and prevents exposure of the eyes, nose, and mouth. Includes: <ul style="list-style-type: none"> • Gloves • Face mask • Protective footwear • Gowns or overalls • Head cover • Eye protection

In addition, you should be provided with protective equipment against common occupational hazards, for example hats or protection from the sun, raincoats or umbrellas, warm or insulated jackets, etc., as appropriate.

Part 1.2.5. Training of volunteers

All National Society volunteers who will be engaged in epidemic control should receive the Epidemic Control for Volunteers (ECV) training. It will teach you about epidemics, diseases and their prevention and provide you with a range of skills that are useful when dealing with epidemics. The related trainings below will extend your knowledge:

- [Community-based health and first aid in action \(CBHFA\)](#). The first four modules are particularly useful: the Red Cross Red Crescent in action volunteer, Community mobilization, Assessment-based action in my community, and Behaviour change communication (BCC) for community-based volunteers.
- [Community engagement and accountability \(CEA\)](#)
- [Community-based surveillance \(CBS\)](#)

CBHFA modules provide information about the Red Cross Red Crescent and its principles and values, and your local National Society and its branches. You will learn what volunteering is, and about the values and responsibilities of volunteers. In addition, the module will teach you how to communicate and build relationships in a community and how to involve community members in Red Cross Red Crescent activities. Finally, you will explore the community to identify resources that might help the community to achieve its goals. These include tools to help volunteers to assess the community and its needs, map community resources and community vulnerabilities, and identify and prioritize health, first aid and safety issues.

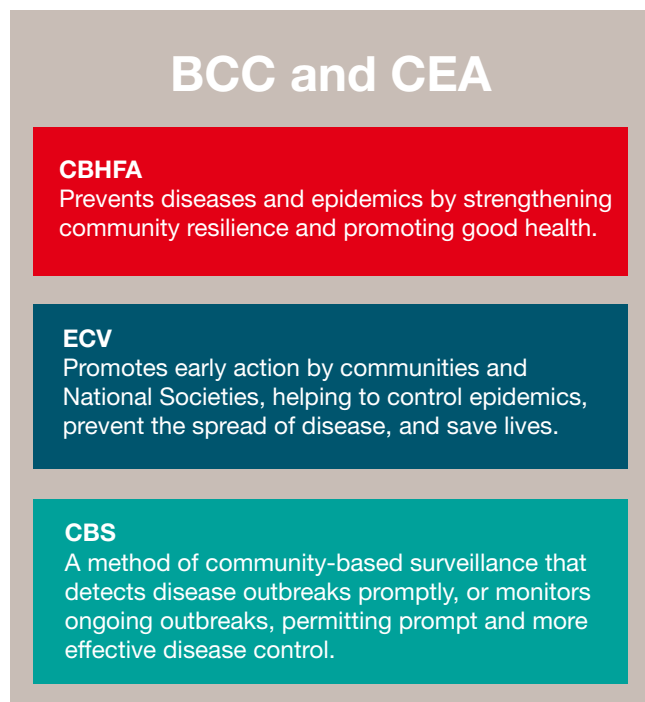
The BCC module will teach you how to work with individuals, families and communities, promote positive behaviour that fits their circumstances, and provide a supportive environment that will enable people to act in a positive and appropriate manner.

The CEA module offers guidance and tools that help us to put the community at the centre of what we do and ensure that its views are heard. CEA tools enable us to communicate with people effectively and promptly and improve our accountability to the communities in which we work.

Community-based surveillance (CBS) explains health surveillance systems and how to plan and set up a CBS system at community level. CBS actively involves the community in detecting, reporting, responding to and monitoring local health issues. It detects unusual events, applies simple definitions to detect increases in the number of people falling sick, and sets up a communication link (via phone, SMS, paper, or even bicycle) to ensure that an appropriately qualified person is informed, who can investigate and confirm that an illness is occurring.

Diseases and epidemics are highly dynamic. New diseases sometimes emerge, and well-known diseases occur in unexpected ways. New prevention and control tools and new forms of treatment are always in development. This means that you will need to continue learning about epidemic control. You should actively attend refresher trainings and access new knowledge as it becomes available.

Figure 2. Red Cross Red Crescent key Community and Emergency Health approaches and tools linked to epidemic control



Underlying all three approaches (ECV, CBHFA and CBS) is Behaviour Change Communication (BCC) and Community engagement and accountability (CEA). Behaviour change communication with a strong community engagement (CEA) component promotes effective programming and better accountability by establishing trust and open communication and developing a sound understanding of local practices and perceptions.

Session 1.3. Epidemics: introduction and definitions

By the end of this session, you will be able to:

- Explain what an epidemic is.
- Describe how epidemics spread and their cycle.
- Explain vulnerability to epidemics.
- List the conditions that help to spread epidemics.

Part 1.3.1. What is an epidemic?

To understand what an epidemic is, we need to understand what an infection is and what causes infections. An epidemic occurs when an infection causes an unusually high number of people to fall ill at the same time.

First, let us define an infection.

An infection

is caused by a germ. An infection may lead to a disease. Different kinds of germ cause different kinds of disease. A germ can be transmitted in several different ways, both between people and between animals and people.

There are many kinds of infections, which can cause a variety of diseases, including diarrhoea, respiratory infections, poliomyelitis and measles. The diseases that are due to infections can result in epidemics. We will talk about each of the diseases later in the manual.

In the next part of the session, we will also learn more about **germs**, how they cause infections and how they travel from a person or animal to another person.

Participate

Choose a word that describes what you think when you hear the word “epidemic”.

What is it? How does it happen? What causes it?

Give your word to the facilitator, who will write it on the flip chart. Write the word down in this box or on a piece of paper. Then copy all the words your colleagues suggest into the box as well.

All the words you see in the box above give you a better idea of what an epidemic is, how it happens, why it happens, and how it affects people and communities. Here is the definition of an epidemic:

An epidemic

occurs in a community when more people than usual have the same infection at the same time.

Please see 4.6.1 for a list of diseases that are prone to become epidemic.

Several things together therefore make an epidemic:

- There is an infection.
- It affects the community.
- More people than usual fall sick.
- They fall sick at the same time.

Part 1.3.2. Infection and epidemic cycles

Now we know the definitions of an infection and an epidemic, we can talk more about how they happen and how they affect people and communities.

Infection cycle

As we noted earlier, infections lead to diseases that affect people and make them sick. People fall sick with a disease when germs that cause an infection enter their bodies and their bodies are unable to fight the disease or overcome the disease at once.

We have mentioned germs several times. What are they?

A germ

is a very small organism that we cannot see with our eyes.

There are different kind of germ: viruses, bacteria, fungi and parasites. Germs affect people and animals and can make them sick.

They travel from one person or animal to another person, causing a disease to spread (which may result in an epidemic).

Here are a few things to remember about germs:

- They are living creatures.
- They are so small that we cannot see them with our eyes.
- They can enter our bodies in different ways (as we breathe, via the mouth, insect bites, sexual contact, through broken skin and wounds, during breastfeeding, from mother to child during pregnancy).
- Some germs can make us sick when they enter our bodies.
- They can travel from a person or an animal to another person in different ways.

Germs are everywhere around us. They can be found in the ground, in water and food, on our hands, on other objects we touch. But how do those germs get into our bodies and cause diseases? And how do they travel from one person to another?

To understand how germs spread, we need to look at the infection cycle. Take a good look at Figure 3 (on page 25), which shows how germs can infect a person and make them sick.

The diagram reveals several important things:

- Infections are caused by germs.
- Germs spread from a person or from an animal to other person or animal.
- Different kinds of germ cause different kinds of infection.
- Germs spread and infect new people in different ways:
 - **Directly**, for example through touching, coughing, sneezing or having sex.
 - **Indirectly**, via a **vector**, or via water, food, air, soil or objects.
- When a germ enters a healthy person, he or she can fall sick. A sick person sometimes recovers, sometimes acquires immunity (is protected) from the disease, sometimes remains infected, or may die as a result of the infection.
- Some people are infected by a germ but do not get sick. We will discuss why this happens later in the session. For now it is important to remember that, even if such people do not fall sick, even if they look healthy, they can spread the germs they have to other people. They are called **carriers**.
- Infectious diseases occur to some extent all the time in every community. However, sometimes a disease affects many more people than usual at the same time and the community is unable to cope. This is then an **epidemic**.

Discuss the above points with your facilitator and your colleagues. Make sure each point is clear to you.

Give examples of the different routes of transmission.

Direct transmission

We have mentioned direct transmission through coughing or sneezing. This is known as droplet transmission.

Droplet transmission

occurs when oral or nasal secretions containing germs that cause an illness enter the eyes, nose or mouth of another person.

A germ can also be transmitted directly from person to person.

Person to person transmission

occurs when an infected person touches or exchanges body fluids with someone else. Direct contact occurs when we touch, kiss or have sex.

Indirect transmission

Indirect transmission occurs when diseases spread to people who have no direct contact with or are not close to an infected person.

Air-borne transmission is a form of indirect transmission. How is air-borne transmission different from droplet transmission?

Air-borne transmission

occurs when germs from a sick person remain in the air for a period of time, and then enter the nose or mouth of another person.

Transmission can also take place when we touch objects that a sick person has touched or infected. Think of the different actions you could take to prevent this type of transmission.

Contaminated objects

Germ from coughs, sneezes or other body fluids, such as blood, can live for some time on toys, household utensils, door handles, medical equipment and other objects. Transmission occurs when a person who is not infected touches a contaminated object and germs on that object enter his or her body through the skin, eyes, nose or mouth.

This is a transmission route that is easily prevented by following recommended hygiene practices. (See action tool 29: Hygiene promotion.)

Food and drinking water

Germ can be transmitted via food and water that have been contaminated by faecal matter (stools/poop), other body fluids or unsafe hygiene practices.

Germ can also be spread by vectors. What are vectors?

A vector

is an insect or an animal that can carry germ and transmit them to people. Vectors include mosquitoes, flies, rats, fleas, bats, chickens and monkeys.

Illustration 1. Vectors



Vectors: mosquito, flea, fly and rat

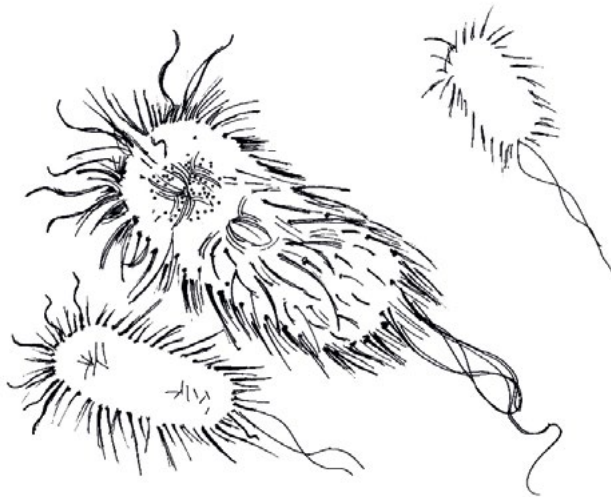
The spread of an epidemic

Infectious diseases are present to some extent all the time in any community. But sometimes a disease spreads more actively, affecting many more people than usual at the same time and causing more sickness and sometimes more deaths than the community is able to cope with. This is an epidemic.

Many different diseases can cause epidemics. We will talk about these in the next session. For now, we will try to understand how germs that are transmitted from one person to another or from animals to humans spread and can become an epidemic.

Look closely at the following drawing and try to understand how a single person can pass on an infection to several other people, causing it to spread.

Figure 3. The spread of infection



Because one ill person or a vector can infect many people, an epidemic can start when one or a few people fall sick. Those who are infected then spread the infection even more widely to more people.

It is important to remember that not everyone who is infected by a germ falls sick. Some people can resist an infection. These people have **immunity** or have a very mild infection that goes unnoticed. If they are carriers, however, they can still pass the germs to other people. In addition, some individuals are more vulnerable to disease because they are not well nourished or have other diseases that reduce their resistance or immunity to disease. (This means that their bodies are unable to produce enough antibodies to fight bacteria and viruses, and as a result they fall ill more frequently.)

Immunity

is the ability to fight off an infection. A person who is immune to an infection may have had that infection before and developed a resistance to it; or may have been vaccinated against that infection.

An epidemic occurs when the number of sick people in a community increases. More people become infected than in normal situations, exceeding the community's ability to cope.

An epidemic occurs for one of several reasons:

- The germs are more active than usual (for instance, they are a new kind of germ).
- The germs have been introduced into a community for the first time, so the population has no immunity to them.
- A vector that carries the germs has arrived in a community for the first time.
- The number of vectors has increased (for example, mosquitoes have multiplied during the rainy season).
- People are less able to resist the germs, because they suffer from malnutrition and because few people have immunity.
- Germs have multiplied because the surrounding environment has deteriorated or has not been properly maintained (for example, there is insufficient water or water sources have been polluted).
- People have more contact with one another (for example, because they are living in refugee camps) or with animals (for example, following deforestation).
- Few (or fewer) people are vaccinated.

To control epidemics effectively, it is important to think of the factors that cause an epidemic to spread. This can be done by understanding the infection that is causing the epidemic and the environment in which it is spreading.

Role-play

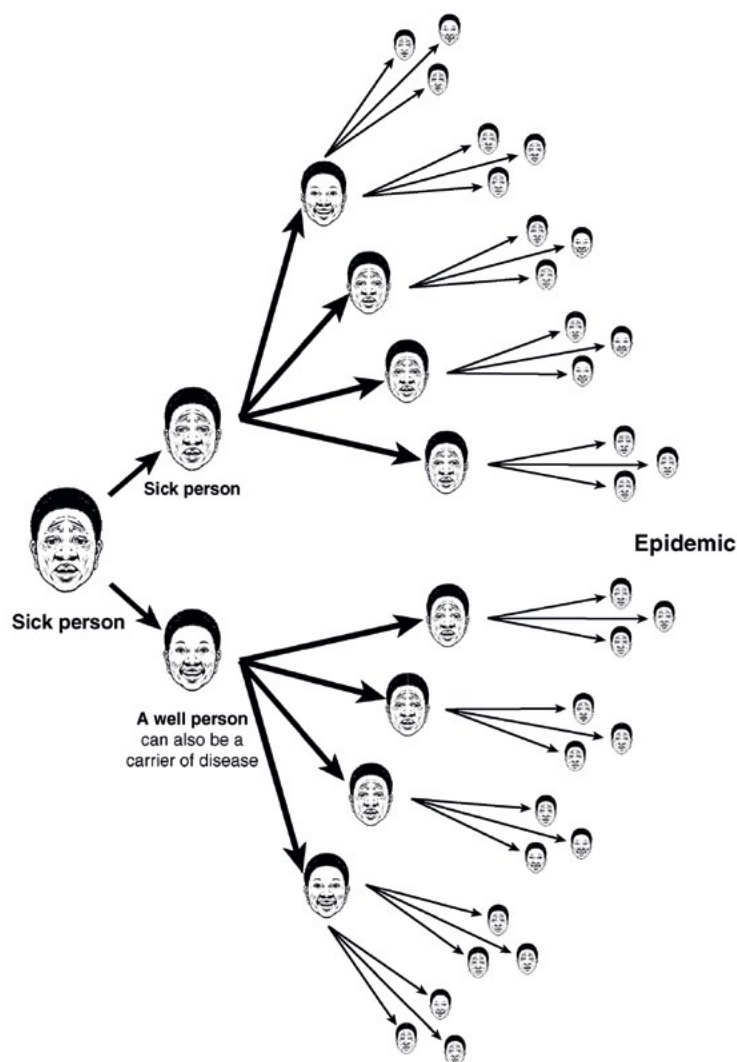
Your facilitator will choose one of you to play the part of the person who first catches an infection. This disease can spread from one person to another by shaking hands.

The “infected person” will go round and shake hands with other people. The people with whom he or she shakes hands also become “sick”.

See how many people get sick in a very short time.

This exercise will help you to “see” how epidemics spread.

Figure 4. The spread of disease



Part 1.3.3. What helps epidemics to spread?

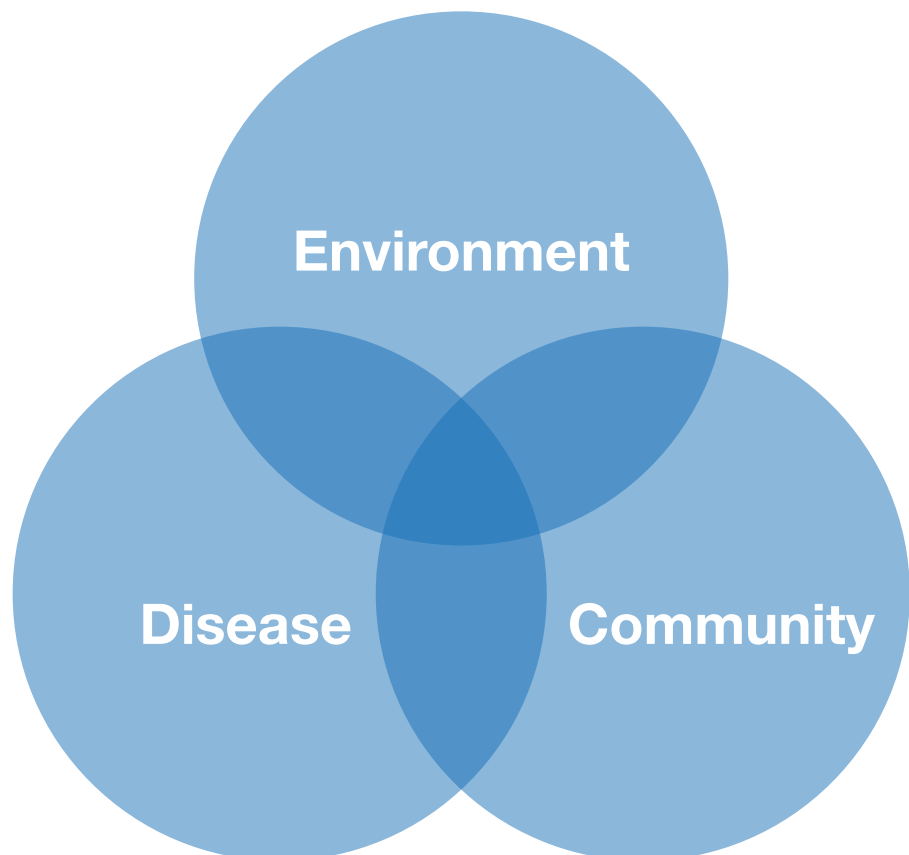
We have noted that the germs that cause epidemics spread directly from person to person or from an animal to a person, or spread indirectly through the surrounding environment or via a vector.

Normally, a *balance* of factors prevents a disease from spreading and causing an epidemic. These factors include:

- The nature of the *disease* and its presence and vitality.
- The *community* in which the disease exists, and the community's living conditions, habits and practices.
- The *environment*, including the seasons, water and sanitation conditions, and the presence of vectors.

Look at the diagram below and imagine how a change in one of the three elements listed above (the disease, the environment, the community) can help a disease to spread and cause an epidemic.

Figure 5. Disease, environment and community



Several things can increase the spread of an epidemic and make people weaker and more likely to become sick.

Remember that epidemics start to spread when, for one or more reasons, the balance between germs, vectors, people and the environment changes.

Participate

Tell your facilitator what things you think help to spread diseases. Think of diseases that spread directly, by coughing or touching, diseases that spread through mosquitoes, and diseases that spread through dirty water or poor sanitation. Write down in this box all the things that cause diseases to spread.

For example: Dirty hands, More mosquitoes near ponds

You can see from your answers that many things help spread diseases and cause epidemics. You have to keep all of them in mind when you work to prevent and control epidemics because doing so will help you to show people in your community how they can protect themselves and stop diseases from spreading.

These things will become much clearer in the next session when we discuss the different kinds of disease that cause epidemics and how each spreads.

Part 1.3.4. Who is vulnerable?

Germs and infectious diseases do not affect everyone in the same way. Some people fall sick easily or develop complications when they come into contact with germs, while others do not. This is what we mean when we talk about **vulnerability**. The more vulnerable people are, the easier it is for them to become sick.

In general, we know why and how some people in a community are more vulnerable than others. For example, it is often because they are poor, already ill, or disabled. Now, we need to think about what other sorts of people in the community might be vulnerable to infections and why.

Knowing which groups are vulnerable to infections is very important. It will give us an idea of who to protect and how.

Participate

Below is a list of categories of people. In small groups, look at each category and mark whether you think the people in it are vulnerable to infectious diseases or not, and say why.

When deciding whether a particular category is vulnerable or not, keep in mind the things that help spread infections.

Category	Vulnerability	Why
Babies		
Children		
Pregnant women		
Healthy working people		
Elderly people		
Soldiers		
Farmers		
Factory workers		
HIV + people		
Poor		
Single parents and widows		
Healthcare workers		
Others		

Some of the people mentioned above are vulnerable to all kinds of infection, while others are vulnerable only to some, depending on their circumstances, the way in which infections spread, and other factors.

Now think of other sorts of people who might be vulnerable in your community and why.

Session 1.4. Special issues in dealing with epidemics and infections

By the end of this session, you will be able to:

- Discuss why epidemics can occur after natural disasters.
- Explain how to deal with dead bodies to prevent epidemics.
- Describe the One Health approach.

Part 1.4.1. Disasters and epidemics

Natural disasters happen frequently in many parts of the world and usually have a devastating effect on people and their property. They cause many deaths and injuries and rates of sickness also increase. They also cause people to move away from their destroyed homes and towns.

Different types of natural disaster affect communities in different ways. Some, such as earthquakes, cause many deaths and injuries and force many people to move. Others, such as floods or droughts, generally cause fewer deaths and injuries but frequently affect local crops and the availability of food and safe water.

To understand how infections and epidemics occur and develop during and after natural disasters, we need to understand how the impacts of natural disasters enable different types of epidemic to develop more easily. We will begin by looking at the effects of natural disasters on communities.

As we have noted, disasters can create conditions that help epidemics to spread. Many epidemics, such as diarrhoeas and respiratory infections, are very likely to occur after natural disasters; others, such as malaria, can sometimes occur.

To understand these effects, we need to remember what helps spread epidemics.

Participate

Name some of the kinds of natural disasters that you know about and say what effects they can have on people and communities.

It is often more challenging to deal with epidemics after a natural disaster than in other situations. This is because disasters often affect the ability of clinics and hospitals to receive and treat patients, interrupt programmes to promote community health and prevent disease, and change the general situation of the population for the worse.

Earlier, we talked about people who are vulnerable to epidemics. Now, from the table we have created above, we can see that even more people can become vulnerable after a natural disaster. This is because natural disasters frequently affect living conditions, shelter, sanitation, and the supply of food and water, and may also cause people to move.

Group work

In small groups, remember what helps spread epidemics. Discuss and find a sentence that describes the link between natural disasters, their effects and epidemics.

Follow the example below:

Earthquakes cause people to leave their homes and live in tents and temporary shelters in crowded conditions. This helps spread respiratory infections.

Each group will work on one of the following kinds of disasters:

Earthquakes
Floods
Landslides
Storms
Tsunamis
Refugee crises
Droughts and famine

Write all the sentences the groups come up with on the flipchart or board and discuss them with the whole group.

Part 1.4.2. Dead bodies in natural disasters

After most natural disasters, there is a strong fear that dead bodies will cause epidemics. This belief is wrongly promoted by the media, as well as by some medical and disaster professionals.

Dead bodies do not cause epidemics after natural disasters!

The pressure created by these fears may lead the authorities to adopt unnecessary measures to dispose of the dead, such as mass burial or spraying disinfectant. Such actions can cause mental distress and legal problems for the relatives of those who have died.

It is very important to know that survivors are much more likely to spread disease than are the dead.

Infections and dead bodies

People who die as a result of natural disasters are normally killed by injury, drowning or fire, not infections. At the time of their death, these people are not likely to have been sick with infections that cause epidemics. Most germs that cause infections will not survive in dead bodies for more than 48 hours.

Risks to other people

The risk to the public is small because most people do not touch dead bodies. There is a risk that drinking water may be contaminated by the faeces (stools) released by dead bodies, but this risk is also only small.

Risk to body handlers

Individuals who handle human remains (bodies) are at some risk if they are in contact with blood and faeces infected by hepatitis (a liver infection), HIV, tuberculosis or gastrointestinal infections. Body recovery teams that work in dangerous places, such as collapsed buildings, may also be at risk of injury.

Safety precautions for body handlers in natural disasters

As volunteers, you may be called upon to handle dead bodies after a natural disaster. It is important to know what safety precautions you should take to avoid, and avoid spreading, infections. Observing basic hygiene will protect you from being infected during contact with blood and other body fluids.

Volunteers should take the following precautions when handling dead bodies:

- Use gloves once only and dispose of them correctly.
- Wash your hands with soap and water after handling bodies and before eating.
- Avoid wiping your face or mouth with your hands.
- Wash and disinfect all vehicles used to transport bodies as well as associated equipment and clothes.
- Face masks are not necessary but should be provided, if requested, to avoid anxiety.
- Be vaccinated against hepatitis B.

Part 1.4.3. Dead bodies in epidemics

People who die in epidemics have died because of an infection. However, most germs cannot survive long once a person has died. The majority of infectious diseases cannot be transmitted from one person to another after death. You should take the normal precautions listed above when you assist families to safely manage deaths during epidemics.

This said, there are some exceptions. They include Ebola and Marburg fever which are highly contagious after death. Special precautions must be taken when managing dead bodies in these outbreaks and it is vital to wear full personal protection equipment (PPE).

Assisting families and communities to safely manage dead bodies with dignity during epidemics requires specialized training. If an epidemic that can be transmitted after death occurs in your area, special teams will be formed to support communities.

Volunteers engaged in the management of dead bodies should understand how the society buries its dead and should identify all related risks. This matter is very sensitive for families and for the community and can be a source of conflict between them and epidemic responders. Before starting any procedure, every step in the burial process should be explained to the family. It is very important to respect the dignity of the deceased person.

Once the arrangements have been agreed and understood, the burial can be performed. No burial process should take place until agreement is obtained. Members of a safe and dignified burial (SDB) team need to possess the following skills:

- To understand the disease that is responsible for the epidemic, as well as the virus or organism that causes it and its modes of transmission.
- To know the correct procedures for handling potentially infectious dead bodies, including the donning and removal of PPE if the disease is highly infectious.
- To exercise self-discipline in following the procedures correctly in every circumstance.
- To be sensitive to the needs and beliefs of the community. They should be trained in communication and psychosocial support.

Specialised training materials are available if safe burial is required. Safe burials should only be undertaken with appropriate technical support.

Illustration 2. PPE (Personal protection equipment)



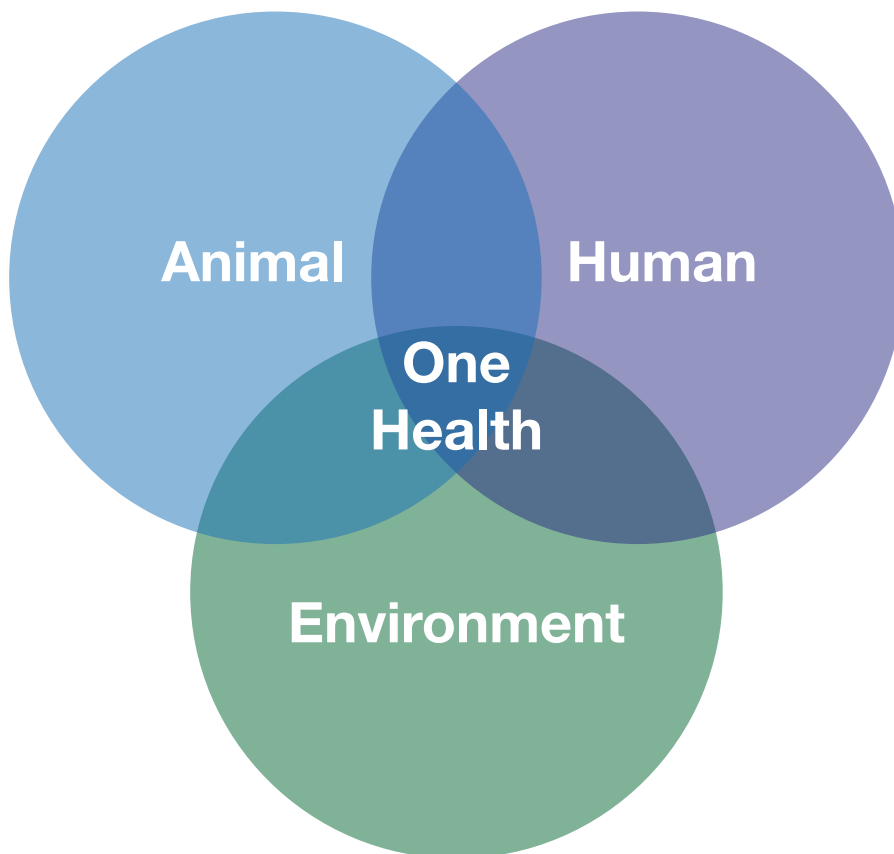
Part 1.4.4. One Health

Some human diseases result from interaction with animals and the environment. People who are in contact with animals and animal products (such as meat, milk, or dairy products) or carcasses, are at risk from diseases that animals can transmit. Insects can also transmit some diseases from animals to humans. Animals can be infectious even if they show no signs of disease.

Changes in the environment can expose both humans and animals to infectious diseases. For example, when a human population occupies a new area, it may be more exposed to diseases transmitted by wildlife. People may also be at higher risk of disease following deforestation or the expansion of industry. Environmental changes also expose animals to new infectious agents. Finally, the growth of international travel and trade allows diseases to spread easily and swiftly across the globe.

One Health is an approach that can be applied locally, nationally, regionally and globally to achieve optimal health outcomes. It takes account of the unavoidable interconnections between people, animals, plants and the environment they share. It considers the social and behavioural environment as well as the physical.

Figure 6. One Health



An epidemic that affects both animals and humans cannot be stopped by one sector acting alone, even if that sector makes significant efforts. Close collaboration between professionals in human and animal health is essential.

Participate

List diseases that can be transmitted from animals to humans. Do you know what actions human and animal health services take to prevent and control those diseases? What can volunteers do to support their efforts?

Volunteers might participate in the following activities:

- Support animal vaccination campaigns.
- Participate in animal disease surveillance, of both wild and domestic animals.
- Help to isolate and quarantine sick animals.
- Promote protective behaviour, for example by ensuring that people do not eat sick or dead animals and cook animal products thoroughly.
- Promote use of personal protection equipment (PPE) when in contact with animals that have highly infectious diseases.

Module 2 – Principles of Epidemic Control

Session 2.1. Understanding an epidemic

Session 2.2. Epidemic response cycle

Session 2.3. Understanding risk

Session 2.1. Understanding an epidemic

By the end of this session, you will be able to:

- Ask the right questions when you investigate and assess an epidemic.

Part 2.1.1. Asking questions about an epidemic: the assessment

To be able to manage an epidemic and help affected people and communities, it is important to understand the specific situation. To respond effectively to an epidemic, we need to know certain things.

Volunteers can play an important role in early detection of outbreaks because they have close links with the community and may notice unusual events or clusters of events that are not reported to the health authorities.

To understand an epidemic, we need to ask: What? Who? Where? When?

The box below lists some of the questions you might ask during an epidemic assessment. The list is not exhaustive. Can you think of other questions to add to it? Discuss these questions with your colleagues and facilitator.

What?

What disease is causing this epidemic?

On what scale is the epidemic?

In what ways is the epidemic spreading?

What preventive and management measures are appropriate for this kind of epidemic?

What can be done to reduce the spread of the disease?

What do people know about the disease? What are their attitudes and preconceptions?

What key messages and information have you been given about the disease?

What rumours have you heard?

Who?

Who is affected by the epidemic? How many people are sick or dead?

Who in the community is most vulnerable to the epidemic?

Who in the community is most at risk?

Who is responding to the epidemic?

Who can we work with?

Where?

Where is the epidemic occurring?

Where are other places under threat?

Where are our resources?

Where are the best places to work from?

Where can people obtain information?

When?

When did the epidemic start?

When was the epidemic confirmed?

When can we start working on the ground?

Answering these and other relevant questions is one of the key things we must do when we respond to an epidemic in our communities.

When we ask such questions and report the answers, we are making what is called an **epidemic assessment**. This is a very important step in the response to an epidemic. We will talk more about it when we discuss the epidemic response cycle in the next session.

An epidemic assessment

gathers information on the nature, cause and scale of an epidemic, and on the community's knowledge and beliefs about it. It involves asking and answering questions, collecting and analysing information, and using and reporting the information to others, to ensure that the response to the epidemic is adequate and appropriate.

Part 2.1.2. How do we find the answers?

The questions in the above list are asked and answered on several levels. Nationally, they are asked and answered in the Ministry of Health and in the headquarters of your Red Cross Red Crescent National Society. Locally, they will also be asked and answered in your local Red Cross Red Crescent branch. You will be asking and answering them in your community too. Altogether, the answers that are gathered will assist everyone to understand the epidemic better.

Answers are obtained from different sources, but mainly from members of communities affected by the epidemic. They know about their environment, their lives and their situation, probably better than anyone else. Community leaders, families and health workers are some of the best sources of the information you will need.

To make an effective assessment, you need to be in the affected community and speak directly to members of that community. Use the communication skills you have learned to collect accurate answers that will help you and others to respond to the epidemic properly.

Participate

Tell your facilitators who you think should be asked the questions listed earlier. Those people may be health workers, village leaders, mothers - anyone you can talk to who you believe can provide useful information. Discuss different options with colleagues. You can ask several people the same questions.

Exercise

Your facilitator has prepared a scenario of an epidemic. You are a member of an assessment team for the epidemic. Ask your facilitator a question as if you are doing the assessment and say to whom you would address that question.

When you have finished asking the questions, look at the answers and decide what the epidemic disease might be. What might be the next steps for dealing with it?

Session 2.2. Epidemic response cycle

By the end of this session, you will be able to:

- Explain the epidemic response cycle.
- Use this cycle in real life.

Part 2.2.1. The epidemic response cycle

This concept helps us to think about epidemics better in terms of time and to understand how we can limit the harm an epidemic might do in the community.

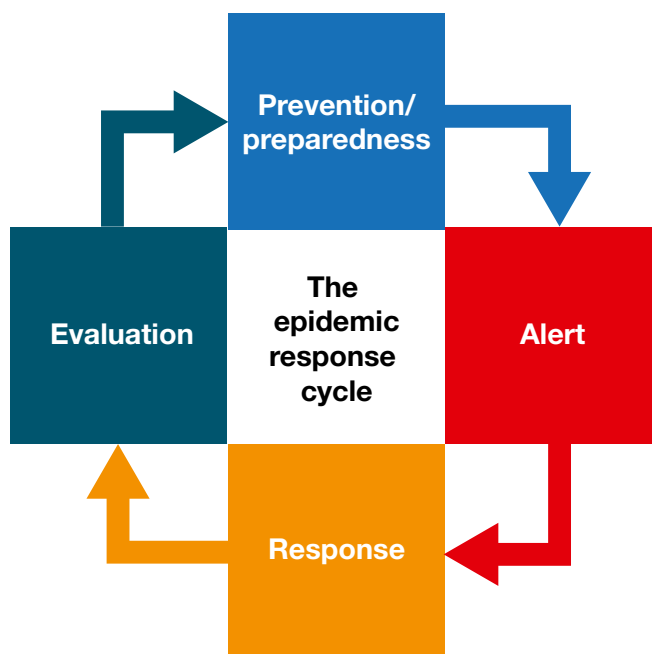
Epidemics tend to occur in cycles, not in sequence (one after the other). When an epidemic occurs, the way it is handled and the actions that are taken to respond to it will affect the behaviour of a future epidemic. This means that, if we respond well to an epidemic now, we will limit the rate of sickness and number of deaths this time and also reduce the impact of future epidemics. This idea is uncomplicated and helps us to understand our role in an epidemic and what we need to do at every stage.

Every epidemic response has four main phases. They are:

1. **Prevention/preparedness.** In this phase, we identify the risk factors associated with epidemics and during the period between epidemics prepare ourselves to manage them.
2. **Alert.** We detect cases of disease that have the potential to become epidemics and start to mobilize the resources we will need to respond to them.
3. **Response.** We take action to deal with the epidemic.
4. **Evaluation.** We review how we responded to the epidemic after it is over.

This cycle is portrayed in the diagram below.

Figure 7. Epidemic response cycle



At each phase of the cycle, we can do certain things to reduce the harmful effects of an epidemic on the people in our communities. We will talk in more detail about some of these actions as we proceed. For now, we list only what needs to be done at each stage.

Prevention and preparedness

Prevention. We work to prevent epidemics. For instance, we promote good habits in the community, address risk factors, and build the infrastructure we require, including community-based surveillance, to detect risks promptly.

Preparedness. We prepare between epidemics. During these periods, we have time to learn, assemble material and equipment we need, and train personnel and volunteers.

Alert

At this stage, we do not yet know whether an epidemic has started, but more cases than usual of the disease have appeared in the community, increasing the likelihood that an epidemic may occur soon. We mobilize volunteers, refresh their knowledge, and prepare to respond if an epidemic is declared. One important step in the alert phase is to start the epidemic assessment.

Response

As soon as an epidemic is confirmed by the Ministry of Health or the district health authorities, we start our response. We have already discussed some of the ways in which volunteers can help during an epidemic, including the importance of health promotion. We will continue to discuss these throughout the manual.

Evaluation

After the epidemic is over, it is very important to review how the epidemic was managed (what you did) and what can be done better next time (in future epidemics). Without a proper evaluation, we are likely to repeat mistakes. In the light of the evaluation, we can improve our preparations for the next epidemic and work more effectively to prevent epidemics occurring in the first place.

Part 2.2.2. What role do volunteers play in the epidemic response cycle?

Volunteers can play a useful role at each stage of the epidemic response cycle. However, our actions are not identical in every epidemic. Some actions are general and relevant to all epidemics, while others are more specific and only apply to certain epidemics. For now, we will try to think of the general things that volunteers can do at each phase of the epidemic response cycle.

In the next group work activity, you will list your ideas. Then, in Module 4, we discuss in more detail the actions that can be taken at each stage. When you learn to use the toolkit, you will discuss the more specific actions that volunteers can take to help their communities during an epidemic.

Group work

Complete some of the main actions you think should be taken at each stage of the epidemic response cycle. Concentrate on actions that are not specific to a certain kind of epidemic but relevant to all epidemics.

Prevention	Preparedness	Alert
Response		Evaluation

Session 2.3. Understanding risk

By the end of this session, you will be able to:

- Explain the idea of risk.
- Identify the different kinds of risks in your country and community that may lead to an epidemic.

Part 2.3.1. What is risk?

If you can establish the risks associated with an epidemic, you will be able to prepare yourself and your community to manage epidemics better.

Epidemic risk

is the likelihood or possibility that a certain kind of epidemic will occur in a community, taking into account the vulnerability of the population, the diseases in the community, and the surrounding environment.

When the risk of an epidemic **INCREASES**, it means that an epidemic is more likely to occur.

When the risk of an epidemic **DECREASES**, it means that an epidemic is less likely to occur.

Remember that risks can be increased and decreased by community and individual behaviour and practices, and by perceptions and beliefs about disease.

Threat

A disease is already present in the community, clean drinking water is lacking, it is the rainy season, and there are more mosquitoes. These are threats that increase the risk of a malaria epidemic. With your colleagues, try to think of more examples of threats that can increase the risk of different kinds of epidemic.

Vulnerability

The children in a locality are malnourished, which makes them more vulnerable to infection. Their poor nutrition increases the likelihood of a severe epidemic of diarrhoeal disease. Think of more examples of vulnerability that increases the risk of an epidemic.

What affects risk?

Several factors influence or determine the likelihood of an epidemic (the level of risk). For many diseases, the risk of an epidemic is influenced by the time of year and the season. Risk increases at certain times of the year and decreases at others. Can you think of diseases that tend to occur in certain seasons? Tell your facilitator and colleagues.

Why is it important to know about risk?

It is important to know about risk because, if we can identify factors that increase risk in our communities, we will be better able to prepare for and perhaps prevent epidemics. It is always preferable to prevent epidemics rather than have to respond to them. We need to understand the risks associated with each of the diseases that will be discussed in 4.6.

Part 2.3.2. Risks in your country and local community

To identify the threats and vulnerabilities that increase the risk of an epidemic, it is important to know which diseases usually cause epidemics in your community or country.

Different infectious diseases are present in different regions of the world, which means that some regions are more vulnerable to certain forms of epidemic. Knowing what infectious diseases are present in your country will help you to foresee which epidemics are most likely to occur in your area. You can then prepare appropriately. For instance, malaria is mainly present in tropical climates. If you are in a tropical country (in Africa, for example), you should be prepared for a malaria epidemic.

The two maps below tell us which countries are affected by yellow fever and are therefore more likely to experience a yellow fever epidemic. Looking at the maps will help you to determine if your country is at risk. Talk to your National Society or local branch about finding more maps and resources that can be used to assess the epidemic risk in your community.

When you look at the maps¹, can you say whether your country is at risk of a yellow fever epidemic?

Figure 8. Yellow fever epidemic maps



¹ CDC. At: <https://www.cdc.gov/yellowfever/maps/index.html>

Risk in your local community

It is not enough to know whether your country is at risk of an epidemic of a particular disease, because this does not always mean that your local community is at risk. You have to know what the risk is to your local community too.

Unfortunately, it is not always easy to obtain detailed maps that show the risks of specific diseases in all areas of a country. There are other ways of finding out the risk of different diseases and epidemics in your local community. For instance:

- Draw on your own knowledge of the community.
- Consult other people in the community who are familiar with threats to the community and its vulnerabilities. Include mothers, farmers, fishermen and hunters, for example. They are always a good first source of information.
- Talk to community and religious leaders.
- Ask doctors and nurses in the local health centre, who know a lot about which diseases are likely to occur in your area.

In the next exercise, we will learn more about risks in our local communities.

Group work

Form groups. Try to identify issues in your community that increase the risk of an epidemic. Write them down, separating threats from vulnerabilities. You may want to reference the disease groups in 4.6.1. Remember to think about threats that increase exposure to disease, including community beliefs and practices.

Now we know how to think about risk. Remember to use the knowledge you have learned from your community to prepare well for epidemics.

Part 2.3.3. Seasons and epidemics²

Epidemics do not occur spontaneously at any time of year with no reason. In fact, they usually occur at specific times, because of the season, or specific conditions or activities. Many epidemics occur repeatedly in the same season or at the same time of year. An example is malaria, which occurs in the rainy season.

If we understand the risks and the diseases in our communities and their relation to the seasons, we put ourselves in a better position to prevent and control epidemics. To do this, we need to map the relationship between the seasons, epidemics, and different activities of the community.

A seasonal chart shows potentially dangerous times of year when the risk of an epidemic is highest. We can use the chart to record community activities and the epidemics that occur.

Below is an example of a seasonal chart:

Table 2. Example of a seasonal chart

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Floods												
Rainy Season												
Diarrhoea												
Malaria												
Festival												
Harvest												

Can you think of other events to put in the left-hand column? Tell your facilitator or colleagues.

² Taken from *Community-based health and first aid in action*, Module 3, Topic 4.

Participate

Your facilitator will draw a seasonal chart on the board. Suggest other events to include and put them in.

You can see that we do not have all the information we need to complete the chart. How can we get this information? Suggest information sources to your facilitator.

Go back to Part 2.1.2. to remind yourself who are good sources of information. Think who might have knowledge of the different events listed in the chart. Share your ideas with the facilitator and colleagues. When the chart is complete, hang it on the wall.

Part 2.3.4. Mapping risks, vulnerabilities and resources

The chart can be useful when you want to visualize where the risks, vulnerabilities and resources in your community are. You can create a general map of epidemic risks or a map for each disease you want to monitor. The questions below can help you to collect information on risks and vulnerabilities.

Community-based risk assessment questions

Make a map of the community and mark the information you gather on the map.

- How many people live in the affected community or area?
- How many children are under five years of age?
- Who and where are the most vulnerable people?
- Are children in the community generally well nourished?
- How common is breastfeeding?
- Are children in the community vaccinated?
- Do people always have enough food?
- Where do people obtain their drinking water? Is the source “safe”? Do people treat their water?
- What sanitation facilities (including communal latrines) are available? Do people use them?
- What handwashing facilities are available (in households, markets etc.)? Do they have soap?
- Where in the community do mosquitoes breed?
- Where and how is rubbish disposed of?
- What material are houses made of? Do they keep insects out? Are they too hot or too cold?
- With respect to hygiene, sanitation and water, what are the community’s practices? What beliefs do people have about sanitation and hygiene?

Module 3 – Actions in Epidemic Control

Session 3.1. Before an epidemic

Session 3.2. Actions in the epidemic alert phase

Session 3.3. Actions during an epidemic

Session 3.4. Actions after an epidemic

Session 3.1. Before an epidemic

By the end of this session, you will be able to:

- Explain what actions should be taken in the phase before an epidemic.
- Discuss preparedness.
- Explain planning and some planning tools.
- Understand what volunteer training is.

Part 3.1.1. Prevention and preparedness

If you live in a region or community where epidemics occur regularly, or a place where you are afraid they will occur, you will want to try to prevent and prepare for them. Preparation takes place before, so that you can respond competently and effectively when an epidemic happens. If you know what to do and how to do it, your actions will help to reduce the harm the epidemic causes.

Prevention and preparedness take place at several levels, starting at your National Society's headquarters and going all the way down to your local branch and community. Note that the National Society should itself be prepared but should also help the community to prepare.

Several issues need to be dealt with at this stage. To be ready for action when the epidemic comes, you need three things in place:

1. A plan. What will volunteers do when an epidemic happens?
2. People. Volunteers and others need to be available and trained to do the right things when an epidemic occurs.
3. Resources. Equipment and materials need to be in place.

We talk about each of these below.

Part 3.1.2. The plan

A plan to manage epidemics is a vital tool. Created beforehand, it guides our actions when an epidemic happens. There are several levels of planning. The whole country has a plan, which is usually developed by the Ministry of Health. Your National Society usually participates in its preparation. Your headquarters should also have a plan of its own for epidemic control, as should your local branch, which you and your fellow volunteers and staff should help to create.

To make a plan, you will need to do the following:

Collect information on:

Risks (remember Session 2.3 on risk analysis):

- What kinds of epidemics are a threat in your country or region? (The risks may include risks in neighbouring countries. Epidemics do not respect borders.)
- What risk factors (threats or vulnerabilities) exist? Remember that risks can include community and individual behaviour or practices.
- What is the social and economic situation of the people in your community?

Resources

Resources are divided into three types:

- Material (equipment, supplies, medicines, etc.).
- Human (trained and skilled volunteers, trainers, staff, etc.).
- Knowledge (training materials, information, etc.).

You should determine what resources will be needed to carry out the plan that has been agreed. Check what resources you already have and what resources you need to obtain. For example, if the disease is a new one, where will you obtain information about the new disease and how to prevent it?

Relationships

Think about your relationships with:

- The community.
- Health facilities.
- The government.
- Other National Societies, and representatives of the International Federation (IFRC) and the International Committee of the Red Cross (ICRC) in the country.
- Other actors, including non-governmental organizations and other organizations that help during epidemics.
- International organizations in the country, such as WHO, UNICEF, etc.

How will you interact and communicate with each of these organizations before, during and after an epidemic?

Determine what actions need to be taken

You need to think, as we will describe in this module, what actions will need to be taken:

- Before the epidemic.
- During the epidemic.
- After the epidemic.

Include them in your plan.

When you have done that, you should share your plan with other people in the National Society so that they know what to expect from you when an epidemic occurs. Working with your National Society, share your plans with relevant partners (such as health facilities).

Part 3.1.3. Resources

It will not be enough to prepare a good plan, even if many trained volunteers are available and willing to work. To manage an epidemic effectively, you will need equipment and materials, both for training and to manage the epidemic.

What equipment and materials you need will depend on the situation, the local branch, and the nature of the disease that causes the epidemic. Several things are needed to manage all epidemics. They include:

- Training materials and manuals to train volunteers.
- Education and communication materials to inform the community about the diseases that threaten them and behaviour they can adopt to protect themselves.
- Items people may need, such as shelters, tents, plastic sheeting, blankets, kitchen sets, water containers, etc.
- Materials to address the causes of the epidemic, such as water treatment tablets, insect sprays, oral rehydration solution, etc.
- Materials for personal protection and hygiene, such as soap, gloves, masks etc. What these will be depends on the disease and the intervention in question.
- Materials required for particular epidemics. For example, PPE will be needed to tackle highly contagious diseases, community oral rehydration point (ORP) kits to control cholera, etc.

Part 3.1.4. People and training

People – specifically, the volunteers and staff of the National Society – will implement the plan, manage the epidemic, and communicate with each other and the community.

For the Red Cross Red Crescent, the most important people in an epidemic are its local volunteers and staff. They work directly with the community and can make the biggest difference.

To make that difference, you will need to be ready. Training in the following topics can help you prepare well:

- Epidemic control (ECV, this training and manual).
- How to run health programmes, including community-based health and first aid (CBHFA).
- Behaviour change communication (BCC).
- Psychosocial support (PSS).
- Community engagement and accountability (CEA).
- Understanding risk including the risks to your local community.
- Creating a plan for the local branch.
- Adoption of an alert and referral system before the epidemic, such as community-based surveillance (CBS).

This ECV training is designed to prepare volunteers to prevent and control epidemics, but it will also help you to communicate with the community and prepare it for epidemics.

You will need trained supervisors and facilitators at local level to support you in your work.

Group work

Divide into groups. Think about the situation in your local branch. What resources do you have available and what additional resources do you need to respond to an epidemic? Write your answers below.

Session 3.2. Actions in the epidemic alert phase

By the end of this session, you will be able to:

- Discuss what actions need to be taken during the alert phase.
- Explain epidemic assessment.
- Participate in community-based disease surveillance.

Part 3.2.1. Actions to be taken in the alert phase

The alert phase begins when there is talk or rumour of an epidemic but it has not been confirmed whether there is one or not. The talk and rumours may come from the community (who may complain, for example, that there are many cases of diarrhoea) or from outside (for example, after influenza spreads in a nearby region or country). The alert phase starts for certain diseases when the first case of the disease occurs, and starts for other diseases when cases of the disease begin to increase. It ends when health authorities confirm that there is an epidemic (or declare there is not).

Participate

Before going further, tell your facilitator what you think volunteers should do in the alert phase. Write in this box all the answers you and your colleagues suggest.

The alert phase begins when we notice or hear reports of unusual events or more cases than usual of a certain disease. More people fall sick, but the health authorities have not confirmed that there is an epidemic. At this stage, we merely suspect an epidemic.

In this phase, we need to take some actions to prepare ourselves for a possible epidemic.

- Start doing an assessment in the community, to the extent possible and in coordination with health authorities.
- Keep in touch with the community and with other volunteers, your Red Cross Red Crescent branch focal point, and with the health authorities.
- Ask for, and participate in, a refresher course for volunteers working in the community.
- Switch from passive to active surveillance and start looking for new cases of the disease. Refer these cases for medical support if required. (See 3.2.3.)

- Ask for the resources you will need to manage an epidemic if it occurs; have them ready and in place.
- Start working with the community to make sure that health messages about the suspected epidemic are culturally appropriate.

Part 3.2.2. Epidemic assessment

In Module 2, we defined an epidemic assessment. We explained how to do one and where to obtain information. To refresh your memory, look in the glossary for a definition or return to Module 2. Specific information to assist epidemic assessment is included in each disease tool.

Part 3.2.3. Surveillance

Surveillance

is a system created to detect new cases of diseases in the community and refer them to health facilities.

It involves the organized collection, analysis and interpretation of data, making it possible to detect outbreaks promptly and monitor factors related to disease occurrence.

In natural disasters, an effective early warning system is particularly important because it saves many lives. When communities know that a flood, a typhoon or a tsunami is imminent, they have time to prepare or evacuate, reducing the threat to life. In epidemics, the same is true. Communities that understand the risk of diseases and how to prevent them are less likely to experience an epidemic. An early warning system that tells communities and health facilities that the level of illness is unusually high gives communities and health services time to prepare and respond while the number of cases is still small. This is why surveillance matters.

National and local public health authorities are responsible for routine public health surveillance. Surveillance establishes a baseline measure of the frequency of important infectious diseases in a country. An epidemic is suspected when the frequency of an infectious disease rises significantly above the baseline.

Surveillance systems are often based on disease reporting by healthcare providers or laboratories. Sometimes, however, the formal health surveillance system does not cover everybody or all areas, or all forms of illness. For example, some people fall outside the health service, or do not report illnesses they have; and in disasters (such as earthquakes) the surveillance system may be disrupted. In these cases, community-based surveillance (CBS) can help to detect increases in disease.

CBS uses community participation to detect, report, respond to and monitor health events in a community. It detects unusual events, uses simple case definitions to detect increases in the number of people falling sick, and establishes a communication link (via phone, SMS, paper or bicycle) with a medical professional who can investigate and confirm whether an outbreak is occurring.

CBS strengthens public health surveillance and response by linking communities with their local health facilities. It should always be undertaken in coordination with the Ministry of Health.

To do surveillance, you need to collect information by observing your community and surroundings. On the basis of this information, decide what needs to be done to prepare for an epidemic.

We use two kinds of surveillance for different situations:

1. The first occurs during the preparedness phase. While you are working in the community on your normal activities (CBHFA, water and sanitation programmes, etc.), you listen out for unusual illnesses or unusually high levels of illness. Take note of diseases that affect humans or animals. This **passive surveillance** makes it possible to detect diseases at an early stage and can provide warning that an epidemic may be on the way.
2. The second occurs during an epidemic. With other volunteers, you actively search for new cases of illness as part of your work to promote health and manage the epidemic. You apply case definitions and report and refer sick people for examination and treatment in health facilities. This is called **active surveillance**.

Information on case definition and how to support surveillance is included in each of the disease tools. The most important thing to remember is that you should inform the focal point in your Red Cross Red Crescent branch and the nearest health facility immediately if you or people in the community see something unusual, for example an increase in the number of abortions in cows, or the sudden death of three members of the same family.

Session 3.3. Actions during an epidemic

By the end of this session, you will be able to:

- Explain the actions that need to be taken during the epidemic phase.
- Discuss social mobilization and behaviour change communication.
- Define the roles of different actors.

Part 3.3.1. Actions during the epidemic response

The most common activities volunteers do in response to an epidemic are set out in the diagram below.

Figure 9. Actions in the epidemic response



Social mobilization, behaviour change communication and community engagement (SBCC)

Includes activities you do to involve and listen to community members to help them to take action to protect themselves, reduce risks and prevent diseases from affecting them and spreading to others.

Prevention is any activity you do to prevent the disease from spreading. For example, it includes giving out mosquito nets, providing clean water, or supporting vaccination campaigns. These activities may help the whole community or a specific group.

Community-based surveillance is a system for detecting new cases of disease in the community and referring them to health facilities. It includes the organized collection, analysis and interpretation of data so that new cases and new potential outbreaks can be detected quickly and monitored.

Safe and dignified burial (SDB). As noted earlier, in certain epidemics (of Ebola, Marburg fever, or plague, for instance) National Societies may be asked to conduct SDBs as a public health control measure. SDBs safely bury people who have died from highly contagious diseases that have the potential to spread disease through dead bodies. Conducting SDBs requires specific training and clear protocols need to be in place.

Psychosocial support (PSS) includes activities that help members of a community to cope better with an epidemic and its effects. It manages fears and the stigma that epidemics may trigger in the community.

Community case management and referral covers the help you give to individuals who are sick. It includes, for example, providing oral rehydration solution (ORS), referring sick people to hospital, or managing a child's fever.

Participate

Before going further, tell your facilitator what you think volunteers should do in the epidemic phase. Write your answers down.

As noted earlier, volunteers can play many valuable roles during an epidemic because they live in or know their local communities.

Always remember, however, that you are not the only ones helping people. Staff in the Ministry of Health, and the doctors, nurses and health workers in health facilities, do vital jobs. Other organizations may also be working in your community and helping to manage the epidemic. It is very important to coordinate with all of them and work together in a way that benefits as many people as possible.

We will talk now about the general actions that need to be taken in all epidemics. Afterwards, we will look at specific actions that need to be taken to manage specific diseases. These will be discussed more fully when you learn how to use the toolkit.

In all epidemics, you need to:

- Make yourself familiar with the epidemic response plan. Start to follow it as soon as the epidemic has been confirmed and the plan has been activated.
- Coordinate closely with health authorities.
- Ask to participate in refresher training, if this has not been done in the alert phase.
- Start using the toolkit attached to this training manual. Assemble your toolkit for the epidemic in question, check to make sure that official guidelines have not changed, and start using it.
- Start using the resources that were stocked during the preparedness and alert phases.
- Initiate active surveillance in coordination with the health authorities. Start detecting cases in the community and referring them to health centres as required.
- Make yourself familiar with the referral system and follow it.
- Follow cases up by making house visits and filling in registration forms.
- Carry out health promotion activities in affected and at-risk communities.
- Take prevention actions that are appropriate for the disease in question.
- Keep in touch with local health workers, community health workers and midwives.
- Participate in prevention and response actions by the health authorities and other partners (health promotion, mass vaccination campaigns, action to improve water and sanitation, etc.).
- Provide psychosocial support to people in the community, volunteers and staff.
- In some epidemics, when instructed by health professionals, trace and find the contacts of sick people who might carry the disease or fall sick themselves.
- Familiarize yourself with the safety measures that are appropriate for the disease you are dealing with and observe them (1.2.4).

Part 3.3.2. Social mobilization, behaviour change communication and community engagement

Mobilizing communities and helping them to adopt safer, less risky behaviour is critical during an epidemic. Safe behaviour might include agreeing to be vaccinated, washing hands with soap at the five critical times, regularly wearing mosquito repellent, consistently using a mosquito net, or agreeing to be isolated from others while sick.

Social mobilization

includes any activity that assists members of a community to take action to protect themselves, reduce risks, and prevent diseases from affecting them and spreading to others.

Behaviour change communication (BCC)

identifies and uses trusted communication channels to deliver information designed to change behaviour.

Community engagement

uses a variety of communication approaches (including theatre) and trusted media (such as local radio) to reach, influence, and involve communities by providing accurate, easily understood and trusted health information about a disease. It sets up systems for listening to communities, gathers feedback, and counters misinformation and rumours, in support of efforts to change behaviour and deliver services.

Behaviour change in epidemics

Development programmes like CBHFA use evidence-based health promotion activities to create sustained, long-term behaviour change. Behaviour change models need to be adapted for epidemics because these occur and evolve swiftly and programmes need to be scaled up fast. Research has shown that people can change their behaviour in emergencies for approximately six weeks. After this time, they tend to fall back into their old behaviour unless risks continue to be communicated well and their work and home environments support behaviour change. A risk is communicated well when health teams consistently identify health risks linked to social and cultural norms and continue to monitor communication between the Red Cross Red Crescent and the community to ensure that efforts to change behaviour remain appropriate and effective as the crisis evolves.

In an epidemic, the aim is to develop a strategy for working with the community that quickly changes risky behaviour and stops the disease from spreading. The goal is to change behaviour for as long as the risk of disease is higher than normal. The longer term goal is to create healthier communities by eliminating risky forms of behaviour altogether – to change behaviour not just during the epidemic, but afterwards too, because this will make epidemics less likely in the future. For more information, see the behaviour change module in [eCBHFA](#).

Response teams often simply provide information about the risks associated with certain behaviour. We need to remember, however, that people do not tend to change their behaviour as a result of receiving information. According to the transtheoretical model, there are five stages of behaviour change – even in an emergency. In normal times, people progress through these steps slowly, but in an emergency they can go more quickly, especially when they see the effects of the epidemic all around them.

Figure 10. Five stages of behaviour change



In an epidemic, a person's behaviour is determined by knowledge, but also by whether he or she thinks the disease is serious or thinks he or she is likely to fall sick; by the benefits or disadvantages of changing behaviour; and by social norms, cultural practices and beliefs. Some barriers – such as fear, mistrust and confusion – are difficult for a person to overcome. All these aspects must be considered when identifying a behaviour change strategy in an epidemic. See Figure 11 below, which shows the arc of an epidemic and how a behaviour change strategy alters at each stage. Note that it is important to keep communities informed and to monitor beliefs throughout because public reactions evolve as an epidemic progresses.

Figure 11. Behavioural change in epidemics

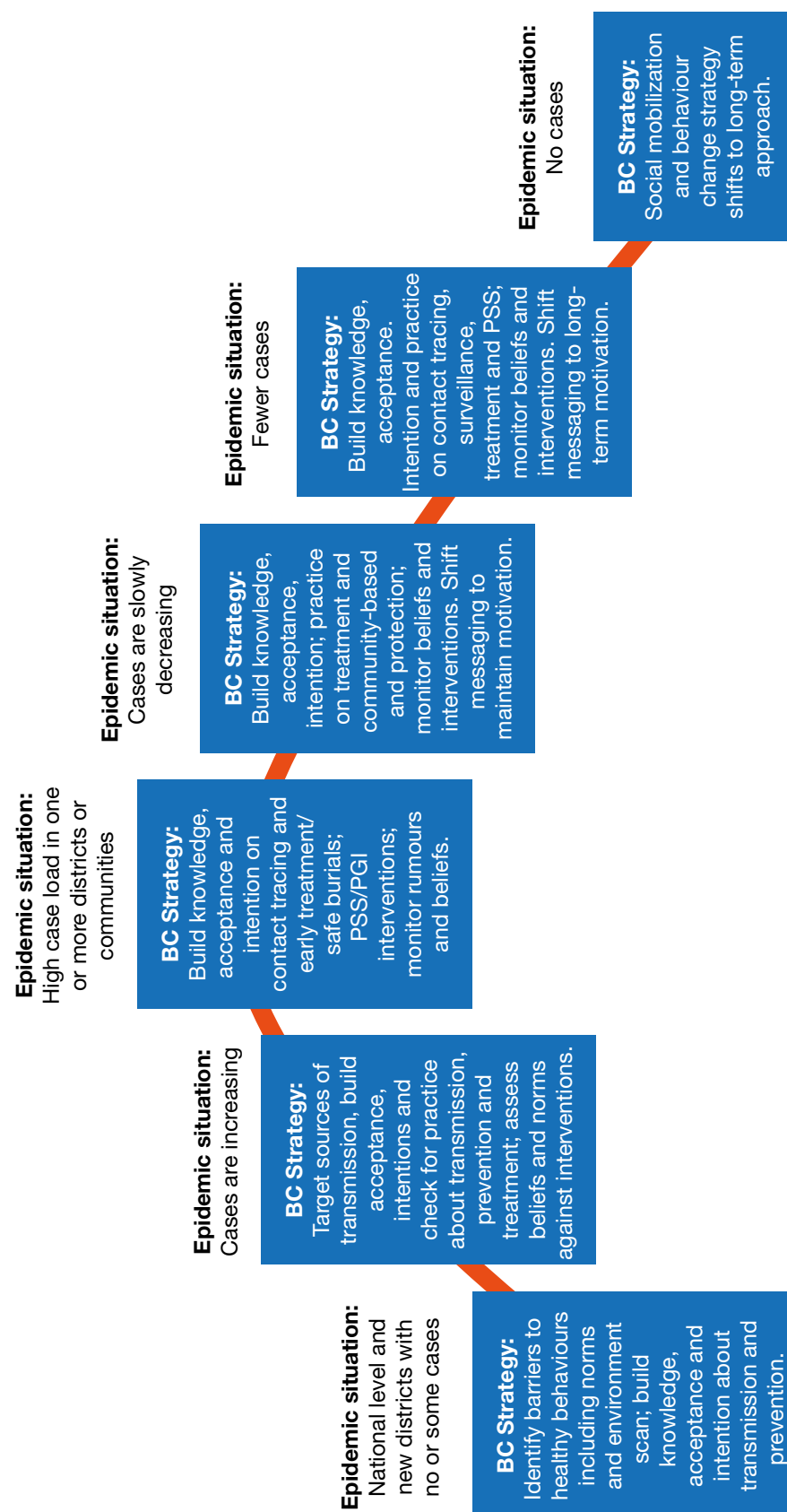
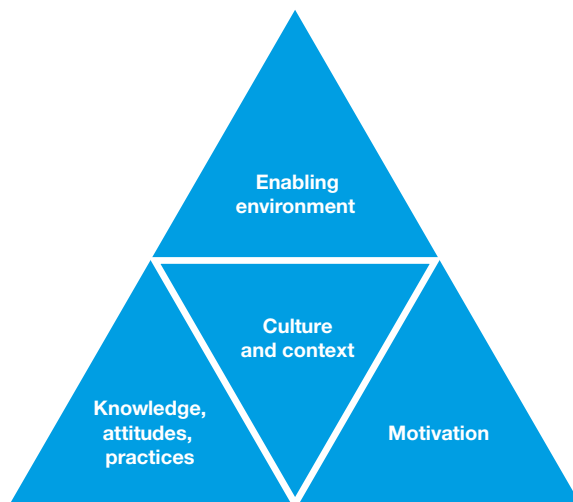


Figure 12. Behaviour change triangle



In any context, three elements are involved in behaviour change:

1. People need to know what in their behaviour needs to change, why it needs to change, and how to change it. In other words, they need **knowledge**.
2. People need access to the right equipment and resources, and to be in a position to change their behaviour. They need an **enabling environment**.
3. They need to be **motivated** to change.

Each of these factors is influenced by culture, social context, perceptions and beliefs. It is the balance between these factors that determines whether people will change their behaviour or not. In a development context, people do not typically respond to fear-inducing messages, such as the one below, which encourages people to wash their hands.

Figure 13. Cholera poster



In a cholera epidemic, by contrast, this type of message might be very effective, because people will already be aware that they are at risk and will be receptive to fear-based messages.

To see how people move from one stage to the next in behaviour change, look at the eCBHFA module on Behaviour change.

How to identify barriers to change

Barriers that prevent people from adopting healthy forms of behaviour include people, rules, norms and environmental factors. To give your behaviour change strategy a chance of success:

- Find out what people in the community currently know and believe about the proposed healthy behaviour.
- Find out how people in the community currently behave and why they behave as they do.
- Do an environmental scan in the affected community to find out what factors contribute to unhealthy behaviour. An environmental scan assesses the physical environment to identify actors, institutions, policies, rules and programmes to prevent and treat disease. For example, in a cholera epidemic, you might interview people who provide water or who access a community water source to find out how they draw and use water, where local water sources are, whether the source of water is safe, and what policies or rules govern water distribution and use.

Barriers to behaviour change

Social mobilization or behaviour change communication may be ineffective for a number of reasons. For example, the people you want to influence may:

- Distrust the person who communicates the information.
- Hold different beliefs or disagree with the content of the message. (They may consider, for instance, that it conflicts with traditional beliefs or common social practices in the community.)
- Desire to change but lack resources to do so. (For instance, they may want to wash their hands but have little water or lack soap.) People may also be unable to reach health centres.
- Lack support from those around them (including family and influential people in the community such as religious leaders, traditional healers, midwives, business leaders, politicians, etc.).
- Consider that changing their risky behaviour is not a priority because they have more urgent interests or needs.
- Be unable to change their behaviour without community approval or unless all members of the community agree to change.

Communicating with communities in epidemics

Clear, trustworthy and effective communication is very important during an epidemic. But it can be difficult to achieve. Providing information to communities is rarely enough to change peoples' behaviour. Fear, grief, cultural beliefs, traditional practices and misinformation can all make effective communication difficult.

Community engagement is a core principle of long-term health programmes (including CBHFA) as well as epidemic control. For guidance and tools, see www.ifrc.org/CEA and CEA guidance.

Communities may not trust the authorities or the health system, with the result that information about a disease or about how to control it is misunderstood or taken to mean something else. Strong belief in traditional medicines, lack of understanding of how diseases are transmitted, or unwillingness to accept treatment (including vaccines), can complicate things further.

For these reasons, any communication designed to mobilize people or change their behaviour in an epidemic must put the community at the centre and work with the community to identify solutions.

In an epidemic, you should aim to achieve two-way communication with communities. As volunteers, you are in daily contact with leaders and members of the community. Talk to them about their perceptions and fears, how they think the disease is transmitted, what motivates them to change their behaviour, and what stops them from changing. Listen hard to what they say.

Remember that “sensitization” tends to describe one-way communication; it is about giving information. “Mobilization” is more about communities taking action, and usually implies two- way communication.

To mobilize communities effectively, and change behaviour successfully, communications should respect certain guidelines.

Communications should be:

- Simple and short. Messages should be easy to understand and repeated frequently.
- Delivered by individuals or media that people in the community trust.
- Specific and accurate.
- Consistent. Remember to make sure that other community workers, agencies or organizations are not issuing messages that contradict yours. This will confuse the community.
- Action-oriented. Messages should make clear what people should do. Focus on actions that community members should take; avoid giving lots of information that does not trigger action.
- Realistic and feasible. People must be able to do what the message recommends.
- Sensitive to context. Messages should take into account social and cultural attitudes or customs that influence the readiness of members of the community to adopt safe behaviour or accept treatment (such as vaccinations).

When you communicate with a community, always listen for rumours or misunderstandings that might be spreading. Rumours can generate panic and fear. They can also cause communities to distrust health authorities, doubt their effectiveness, or reject interventions that will prevent the spread of disease.

How do we communicate?

There are many ways to spread information, build knowledge, and promote action in communities affected by epidemics. Some are described in the table below.

Table 3. Commonly used communication channels

One-way communication	Two-way communication	Participatory methods
<ul style="list-style-type: none"> • Community announcements (e.g., a loud-speaker) • Television • Newspapers • Radio broadcasts or shows • Door-to-door information visits • Leaflets, billboards, flyers, signs, banners, street advertisements, etc • SMS messages • Social media 	<ul style="list-style-type: none"> • Door-to-door visits • Meetings with community or religious leaders, traditional healers or midwives • Radio broadcasts or shows to which the public can call in • Videos, and films • Songs, poems, drama, and role-plays • Social media to which people can reply or ask questions • SMS messages with the option to reply 	<ul style="list-style-type: none"> • Community mapping • Barrier charts and analysis • Participatory or community planning • Three pile sorting • Voting

Can you think of other ways to communicate?



Illustration 3. Face-to-face communication



Illustration 4. Volunteer promotes health at school



Illustration 5. Talking to the media

Volunteer actions in the community

As a volunteer you will talk to community members about risky practices and help them to adopt safer behaviour that will stop the epidemic from spreading and prevent them from getting sick. It is equally important to listen to what the community tells you. Let your supervisor know if you hear rumours or incorrect information or the community says that an activity is inappropriate or offends cultural or social practices.

In the toolkit, you will find community message tools that can help you communicate the right messages to the community. But remember, they must be adapted to your community and your context: this is your responsibility!

As a volunteer, you should also be a “model” of safe behaviour for others. As you go about your day-to-day volunteer activities, make sure you wash your hands, follow coughing etiquette, etc.

In addition, you should:

- Familiarize yourself with the community’s cultural beliefs, about health, about the disease that is of concern, about caring for people who are sick, accessing health care services, etc.
- Find out what messages are being communicated by other groups in the community (including community leaders and other organizations working in the same area).
- Discuss behaviour change messages with coaches or supervisors, community leaders, health workers and other volunteers, to obtain their insights and input.
- Work with families, communities, authorities and health services to influence social norms.
- Use simple and clear messages in language that is easy to understand.
- Communicate your messages in different ways; make sure that community members can summarize them accurately.
- Listen actively, including for rumours or incorrect information.

Group work and role-play

Divide into groups. Each group will look at messages taken from community message tools.

Discuss these messages and the appropriateness of the tool for your own communities. In a brief role-play, show how and through what media (e.g. face-to face, group session, radio, play etc.) you would deliver the messages in your community.

Part 3.3.3. Referral

People sometimes become very sick, and volunteers cannot provide the support they need. Those people need professional care by nurses and doctors. As a Red Cross Red Crescent volunteer, you do not generally provide medical care (with the exception of first aid and ORS. But you can identify cases and help people who are sick to reach medical professionals and health facilities.

You will find sick people through active community-based surveillance. Before you refer them to health facilities, you need to know how sick they are and whether they need referral. You can do this by using the toolkit and the descriptions you have of each disease.

You also need to know all the health facilities near you (hospitals, clinics, health centres, cholera treatment facilities, etc.), how to reach them, and their admission criteria. In order to limit transmission, the health authorities may sometimes decide that one health facility should receive all epidemic referrals.

You may need to take the patient to the medical facility. You should be able to tell people where they are located.

When you refer people to health facilities, make sure you do not put yourself or other people at increased risk of transmission. Check the personal protective equipment (PPE) needs for each disease.

Part 3.3.4. Different roles and coordination

It is important for volunteers to organize themselves in a way that allows them to help as many people in their communities as possible, while delivering health messages effectively.

How do we coordinate?

1. Talk to your local Red Cross Red Crescent branch and to health authorities. Find out what they are doing to organize themselves and how they plan to help the community. Understand your role and how you can assist.
2. Make a plan. Decide consultatively who will cover what activities in which locations.
3. Communicate with other volunteers. Meet at least once a week to update each other on what has been done to help the community and what needs to be done next. Share lessons and support one another.
4. Talk to your facilitator and discuss additional ways in which you can work together.

Session 3.4. Actions after an epidemic

By the end of this session, you will be able to:

- Discuss the actions to be taken after an epidemic.
- Explain evaluation.

Part 3.4.1. Actions after an epidemic

Only your health authorities can tell you when an epidemic is over. It is very important to continue working and helping others (using what you learnt from your facilitator, your toolkit and here) until you are told by the health authorities that the epidemic has ended and it is safe to stop.

Even when the health authorities have declared the epidemic over, your work is not completed. There are many things you can do after an epidemic. They include:

- **Health promotion.** You can continue to deliver health messages in your community so that people will protect themselves from epidemics in the future.
- **Following up.** It is important to follow up cases, make sure no people are falling sick, and tell people how to keep safe. Check on those who are recovering from illness. Make sure they are not stigmatized and have access to the services they need.
- **Evaluating your actions** during the epidemic.
- **Drawing lessons.** Tell others what you have learned or write your experience down so you remember. Share your conclusions and recommendations.
- **Planning for the next time.** Speak with the health authorities and ask them what could be done differently to make your response quicker and better when an epidemic of the same kind recurs. Check your community epidemic plan and make adjustments.

Part 3.4.2. Evaluation

After the authorities have declared that an epidemic is over, it is useful to evaluate the work that you did. Very often, we work very intensely during an epidemic because things need to be done urgently. We sometimes forget to take the time to think about what else we could be doing or how we could improve our interventions. When you do an evaluation, you take the time to look at everything you did and use the information to learn what can be done better next time.

Start by making a list of all the things you did to help before, during and after the epidemic. Then look at all the actions you took and evaluate them by asking yourself:

- What did I do well?
- What could I do better next time?
- Did I miss anything?

Practise

Imagine your community has just had an epidemic. Use the space below to practise your evaluation and answer the following questions:

What did I do to help before the epidemic? What did I do to help during the epidemic?

What will I do now that the epidemic is over? What could I have done better?

Review lessons learnt and make recommendations

Because epidemics are unpredictable and we cannot prevent all of them all of the time, after one epidemic ends it is essential to begin to prepare ourselves for the next one. To do this, we can review what we have learnt during the epidemic that has just ended and use this information to prepare a plan for future epidemics.

Planning for the next time

Now that you have taken the time to write down and evaluate the actions you took before, during and after the last epidemic, it is time to use this knowledge to prevent and prepare for the next one.

We can prepare for future epidemics in the following ways:

- Update your epidemic plan of action.
- Mark the last epidemic on your seasonal chart.
- Continue to promote health in your community and teach others how to take care of themselves so they do not get sick.
- Practise and review the information in this manual and toolkit.
- Adjust and change your training in the light of lessons learnt.

Module 4 – Using The Epidemic Control Toolkit

Session 4.1. Introduction to the toolkit

Session 4.2. Disease tools

Session 4.3. Action tools

Session 4.4. Community message tools

Session 4.5. How to assemble and use the toolkit

Session 4.6. Diseases that cause epidemics

Session 4.7. Other important infections and conditions

Session 4.1. Introduction to the toolkit

By the end of this session, you will be able to:

- Explain the different components of the epidemic control toolkit and how to use them.
- Know when to use the toolkit.

Part 4.1.1. What is the epidemic control toolkit?

In the previous three modules, we have learned about epidemics, the role of community volunteers, the main principles of controlling epidemics, and community actions in different phases of a response.

However, our knowledge of the diseases that cause epidemics is still general in character. When we work in the community in a real epidemic, we will need to know much more about the disease we have to deal with, as well as how it is transmitted, and how it can be prevented and managed.

A specific disease requires a specific response. We will need to prepare appropriate messages about the disease so that community members can protect themselves and prevent the epidemic from spreading.

This is the purpose of the toolkit. Practical and action-oriented, easy to follow and simple, it is designed to guide you through epidemics. When an epidemic strikes, you will not have a lot of time to remember everything you learnt in this training. You should rely on the toolkit to help you remember and to tell you what to do, enabling you to act quickly and appropriately to help others.

The toolkit has three major components:

- **Disease tools.** These describe the diseases that can cause epidemics.
- **Action tools.** These describe actions that need to be taken in epidemics.
- **Community message tools.** You will use these in your health promotion and risk communication activities to deliver messages to the community about what they should and should not do to protect themselves.

Part 4.1.2. When do we use the toolkit?

We will use the toolkit in the training to learn about the tools and how to use them. In the event of an epidemic, the toolkit will help you respond.

So how do we use it?

Because the toolkit is based on disease cards, we first need to know what disease is causing people to fall ill, and whether the rise in illness is, properly speaking, an epidemic.

These questions can only be answered by the health authorities. They confirm what disease is causing illness, on the basis of evidence provided by health professionals and laboratories. They also decide whether the number of sick persons is such that the event should be considered an epidemic.

You should be prepared to use the toolkit when the health authorities identify the disease and declare an epidemic. Do not base your actions on rumours, news, talk or any sources other than the Ministry of Health and the health authorities. They alone are authorized to confirm an epidemic.

Volunteers can and should take certain actions before an epidemic is confirmed, however. The toolkit is also designed to help you with such early response activities. (See Module 3, session 3.1.)

Once the epidemic is confirmed, you should follow the plan that has already been prepared.

- Contact your local Red Cross Red Crescent National Society focal point.
- Participate in rapid refresher training. If you are a new volunteer, learn the basics of epidemic control.
- Discuss the supplies you need with your National Society focal point.
- Obtain the toolkit and start assembling it, based on the disease that is causing the epidemic. (We will learn how to do this next.)
- Keep in contact with fellow volunteers and coordinate how you will cover different responsibilities.
- Start working!

Session 4.2. Disease tools

By the end of this session, you will be able to:

- Discuss the disease tools.
- Use the disease tools and assessment questions.

Part 4.2.1. What are the disease tools?

The disease tools in your toolkit give basic information on diseases that cause epidemics.

Each disease has its own card. These cards, or disease tools, describe the different diseases that can cause an epidemic. Each disease tool contains the name of the disease, how it is transmitted, and some information on its prevention and control. The back of each card lists some important questions that you will need to ask when you assess an epidemic caused by this disease.

Each disease card also has a sequence of numbers on the front. These tell you what **action tools** to use when dealing with this disease. The action tools are also cards in your toolkit. When you select the numbers, you will be able to pick the action tools that are appropriate for the epidemic in question. The action tools also contain some **community messages**. By putting all the toolkit information together, you obtain a simple working guide for the specific epidemic you must deal with.

An example of a Disease tool

DISEASE TOOL

8 Measles

Disease tool 8

Measles is a very contagious virus that can make children very sick. In a community where no one is vaccinated, one person with measles can infect between 12 and 18 other people.

Transmission

- Coughing, sneezing or close personal contact (infected droplets in the air are breathed in by another person)
- Direct contact with infected nose or throat mucous

Symptoms

- Can start with high fever, runny nose, cold, cough, red and watery eyes and sometimes white spots inside the mouth.
- After a few days, a flat red blotchy rash appears, usually starting on the head, face and upper neck, and continues to spread to the rest of the body.
- In severe cases, measles can cause blindness, encephalitis (an infection that causes brain swelling), severe diarrhoea and dehydration, ear infections, or severe respiratory infections such as pneumonia.

<p>Prevention</p> <ul style="list-style-type: none"> • Routine vaccination of children • Mass vaccination campaigns with social mobilization in countries where the disease is common and causes many deaths • Rapid detection and referral of suspected cases to health facilities • Reduced overcrowding in shelters • Improved ventilation in shelters 	<ul style="list-style-type: none"> • Separation of people sick with measles for four days after they develop a rash • Coughing etiquette (cough into sleeves, handkerchief or tissue, NOT the hand) • Handwashing with soap • Social mobilization and behaviour change communication
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Vulnerable people

- Children who are not vaccinated, especially those who are poorly nourished or have vitamin A deficiency
- Adults aged more than 20 years old
- Pregnant women
- Displaced populations and those living in cramped or crowded conditions
- People whose immune systems are compromised (for example, by leukaemia or HIV infection)

If an epidemic occurs

<ul style="list-style-type: none"> • Rapidly detect and refer cases to health facilities • Support mass vaccination campaigns • Isolate sick people (separate them from healthy people) • Promote coughing etiquette (cough into sleeves, handkerchief or tissue, NOT the hand) • Promote handwashing with soap 	<ul style="list-style-type: none"> • Check nutritional status of children under five years old and promote nutritional support to those who are malnourished or sick • Promote exclusive breastfeeding for at least the first six months of life • Increase social mobilization and behaviour change communication • Reduce overcrowding in shelters • Improve ventilation in shelters
--	---

Volunteer actions

See the following action tools for more information on how to take action against measles:

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43

DISEASE TOOL

8 Measles

Disease tool 8

Community-based assessment

Make a map of the community and mark the information you gather on the map. Record other details.

<ul style="list-style-type: none"> • When did people start to fall sick with measles? • How many people have fallen sick with measles? Where? • How many people have died? Where? • How many people live in the affected community or area? How many children under five years of age live in the area? • Who and where are the vulnerable people? • Are children under five most affected? Or are other age groups, occupations, etc., more affected? • Are children in the affected community vaccinated for measles or not? • Is a vaccination campaign planned? 	<ul style="list-style-type: none"> • Do strong cultural beliefs or perceptions about vaccination prevent children from being vaccinated? • Where are the local health facilities and services? (Include traditional and community carers.) • What are the community's habits, practices and beliefs about caring for and feeding sick people? When babies and infants are sick, do mothers continue to breastfeed them? • Is a social mobilization or health promotion programme in place? • Which sources of information do people use most? • Are rumours or is misinformation about the disease spreading in the community?
---	--

A child with measles

International Federation of Red Cross and Red Crescent Societies – Epidemic control for volunteers

Part 4.2.2. List of disease tools



Faecal-oral infections

1. Acute diarrhoeal disease
2. Cholera
3. Hepatitis A
4. Hepatitis E
5. Typhoid fever
6. Acute bloody diarrhoea



Diseases preventable by vaccination

7. Acute respiratory infections preventable by vaccine
8. Measles
9. Meningococcal meningitis
10. Polio
11. Yellow fever



Diseases transmitted by mosquitoes

12. Chikungunya
13. Dengue fever
14. Malaria
15. Zika virus infection



Acute respiratory infections

16. Acute respiratory infections



Haemorrhagic (bleeding) fevers

17. Ebola virus disease
18. Lassa fever
19. Marburg haemorrhagic fever



Zoonotic diseases (diseases spread by animals)

20. Plague
21. Anthrax
22. Hantavirus pulmonary syndrome
23. Leptospirosis
24. Middle East respiratory syndrome coronavirus
25. Monkeypox
26. Rift Valley fever



Other diseases

27. Hand, foot and mouth disease
28. Unexplained clusters of deaths
29. Acute malnutrition

Session 4.3. Action tools

By the end of this session, you will be able to:

- Discuss the action tools.
- Know how to use the action tools.

Part 4.3.1. What are the action tools?

Each card that is an action tool describes one specific action that needs to be taken to help control an epidemic of a certain disease. Some of these actions are specific to one kind of disease, while others will be relevant to several forms of epidemic or all epidemics. One of the reasons we have separated the cards is that this enables you to use the action tools for whatever disease you are dealing with. The action tools are numbered so that you can find them easily.

To determine what actions need to be taken in a specific epidemic, look at the numbers on the front of each disease card.

An example of an action tool

7 Assessment of dehydration Action tool 7

Overview

- Patients with diarrhoea, especially children, can lose a lot of fluid from their bodies and suffer dehydration.
- Dehydration can cause very severe illness and sometimes death, especially in association with acute watery diarrhoea and cholera.

How to assess whether a patient has dehydration, and its extent

Dehydration stage	Signs	Treatment
No dehydration	Skin recovers its shape normally when pinched; thirst has subsided; urine has been passed; the pulse is strong.	Oral rehydration solution (ORS) at home; zinc supplements for children up to 15 years of age.
Moderate dehydration	Restlessness and irritability; sunken eyes, dry mouth and tongue; increased thirst; skin recovers its normal shape slowly when pinched; reduced urine; decreased tears; depressed fontanels (soft membranes on head) in infants.	ORS and very close surveillance; zinc supplements for children up to 15 years of age.
Severe dehydration	Lethargy or unconsciousness; very dry mouth and tongue; skin recovers shape very slowly when pinched ("tenting"); weak or absent pulse; low blood pressure; minimal or no urine.	In a health facility or in a hospital. IV therapy plus antibiotics plus ORS; zinc supplements for children up to 15 years of age.

Use community message: **1 3**

7 Assessment of dehydration Action tool 7


After the assessment, and according to the degree of dehydration, the following actions should be taken:

```

graph TD
    A[Diarrhoea patient] --> B[No dehydration]
    A --> C[Some dehydration]
    A --> D[Severe dehydration]
    B --> E[Give ORS and zinc. Action tools 9,10 and 11]
    C --> F[Five ORS and zinc. Action tools 9,10 and 11]
    D --> G[Refer immediately to health facility or hospital. Action tool 4]
        
```

Signs of dehydration

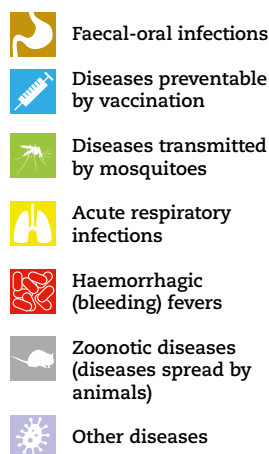
- Sunken eyes
- Dry mouth
- Lethargic/weak
- Skin pinch returns slowly
- Little or no urine



International Federation of Red Cross and Red Crescent Societies – Epidemic control for volunteers

Part 4.3.2. List of action tools

1. Community-based surveillance.
2. Community mapping.
3. Communicating with the community.
4. Referral to health facilities.
5. Volunteer protection and safety.
6. Personal protection equipment (PPE) for highly infectious diseases.
7. Assessment of dehydration.
8. Community oral rehydration point.
9. Preparing oral rehydration salt (ORS) solution.
10. Giving oral rehydration salt (ORS) solution.
11. Zinc supplementation.
12. Managing fever.
13. Breastfeeding.
14. Infant and young child feeding in emergencies.
15. Measuring acute malnutrition in emergencies.
16. Measuring the height and weight of children.
17. Measuring mid upper arm circumference (MUAC).
18. Measuring oedema (water retention) in children.
19. Psychosocial support.
20. Isolating sick people.
21. Safe and dignified burials.
22. Vitamin A supplementation.
23. Chemoprophylaxis.
24. Routine vaccinations.
25. Mass vaccination campaigns.
26. Coughing etiquette.
27. Shelter and ventilation.
28. Social distancing.
29. Hygiene promotion.
30. Clean, safe household water.
31. Good food hygiene.
32. Sanitation.
33. Building and maintaining latrines.
34. Handwashing with soap.
35. Handwashing in a highly contagious epidemic.
36. Vector control.
37. Mosquito nets.
38. Waste disposal and clean-up campaigns.
39. Preparing and using disinfectants.
40. Building an incinerator for medical waste.
41. Handling and slaughtering animals.
42. Promoting safe sex.
43. Social mobilization and behaviour change.



Diseases with the corresponding actions

Diseases	1. Community-based surveillance	2. Community mapping	3. Communicating with the community	4. Referral to health facilities	5. Volunteer protection and safety	6. Using PPE for highly infectious diseases	7. Assessment of dehydration	8. Community oral rehydration point	9. Preparing oral rehydration solution (ORS)	10. Giving oral rehydration solution (ORS)	11. Zinc supplementation	12. Managing fever	13. Breastfeeding	14. Infant and you g child feeding in emergencies	15. Measuring acute malnutrition in emergencies	16. Measuring the height and weight of children	17. Measuring mid upper arm circumference	18. Measuring oedema in children	19. Psychosocial support	20. Isolating sick people	21. Safe and dignified burials
1. Acute diarrhoeal diseases																					
2. Cholera																					
3. Hepatitis A																					
4. Hepatitis E																					
5. Typhoid fever																					
6. Acute bloody diarrhoea																					
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26. Rift Valley fever																					
27. Hand, foot and mouth disease (HFMD)																					
28. Cluster of unexplained illness or deaths																					
29. Acute malnutrition																					

Diseases	Actions	22. Vitamin A supplementation	23. Chemoprophylaxis	24. Routine vaccinations	25. Mass vaccination campaigns	26. Coughing etiquette	27. Shelter and ventilation	28. Social distancing	29. Hygiene promotion	30. Clean, safe household water	31. Good food hygiene	32. Sanitation	33. Building and maintaining latrines	34. Handwashing with soap	35. Handwashing in a highly contagious epidemic	36. Vector control	37. Mosquito nets	38. Waste disposal and clean-up campaigns	39. Preparing and using disinfectants	40. Building an incinerator for medical waste	41. Handling and slaughtering animals	42. Promoting safe sex	43. Social mobilisation and behaviour change
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25. Monkeypox																							
26. Rift Valley fever																							
27. Hand, foot and mouth disease (HFMD)																							
28. Cluster of unexplained illness or deaths																							
29. Acute malnutrition																							

Session 4.4. Community message tools

By the end of this session, you will be able to:

- Discuss community message tools
- Use community message tools to promote health during epidemics

Part 4.4.1. What are the community message tools?

Community messaging is based on some core principles:

- Takes steps to actively involve communities, who are at the centre of preparedness and response.
- Contextualizes information socially and culturally.
- Recognizes diversity and vulnerabilities in communities.
- Monitors, learns and revises in a continuous cycle.
- Is accountable.
- Encourages effective coordination and partnerships.
- Values volunteers.
- Emphasizes two-way communication. Moving beyond a list of key messages, it focuses on facilitating a conversation that supports individual choice and decisions based on fact.

The community message cards in the toolkit contain drawings and a message. Each card has a different message that relates to a specific action. You should use the cards to guide you when you start a discussion with the community.

The number on each card helps you to find them easily. If you look again at the action cards, the number on each card tells you which community message tools you should use.


An example of a community message tool

COMMUNITY MESSAGE TOOLS

Community message tool 1

1

Preparing and giving oral rehydration solution (ORS)



SUGAR: 8 level teaspoons
SALT: 0.5 level teaspoon
WATER: 1 litre

Cholera can be prevented by:

- Drinking safe water, water that has been boiled at least one minute.
- Keeping water in a clean container with a cover.
- Eating hot and cooked food.
- In times of an epidemic avoid eating seafood, fish and raw food (fruits and vegetables can be contaminated). Do not eat fruit or vegetables that you have not peeled yourself.
- Wash your hands with soap or ashes after using the latrine and before eating.
- Food preparers should wash their hands before touching or preparing food.
- Protect food from flies.

It is important to remember that community messages change. You cannot always use the same message in every community. The printed tools in the toolkit are only examples of the kinds of message you should share with your community. It is important to adapt messages to your local context, and make sure they are in line with information provided by health authorities. If possible, adapt the tools before an epidemic starts, during the preparedness phase.

Part 4.4.2. List of community message tools

1. Preparing and giving oral rehydration solution (ORS).
2. Caring for a person with fever.
3. Breastfeeding.
4. Storing water properly.
5. Use of clean safe drinking water.
6. Using a clean latrine.
7. Protecting yourself against mosquitoes.
8. Washing hands with soap.
9. When to wash hands.
10. Steps for washing hands in epidemics.
11. Cleaning up places where mosquitoes breed.
12. Good food hygiene.
13. Good personal hygiene.
14. Vaccinations for children.
15. Using vaccination cards.
16. Attending vaccination campaigns.
17. Sleeping under mosquito nets.
18. Coughing correctly.
19. Safe burial practices.
20. Collecting and disposing of rubbish.
21. Social distancing.
22. Good ventilation.
23. Encouraging healthy behaviours in a community.
24. Finding sick people.
25. Handling and slaughtering animals.
26. Practising safe sex.
27. Keeping rodents out.
28. Preparing and giving zinc.
29. Attending nutrition checks.

Session 4.5. How to assemble and use the toolkit

By the end of this session, you will be able to:

- Assemble and use the toolkit for any kind of epidemic

Part 4.5.1. How to assemble and use the toolkit

After the health authorities have declared an epidemic and announced what disease is causing it, you will need to begin using your toolkit.

Step 1

Look at the **disease cards**. Find the disease card that matches the disease that your health authorities have said is causing the epidemic. Read it to refresh your memory of the disease. Give attention to the following:

- What causes the disease?
- How is it transmitted?
- What symptoms does it cause?
- How is it prevented and controlled?
- What can volunteers do to help?

Look at the back of the card to find specific questions you should ask when assessing an epidemic caused by this disease.

Step 2

Find the number on the front of your **disease card** and match it to the number on the **action cards**. This is how you will find out what actions need to be taken to deal with the epidemic your community is facing.

- Read the matching action cards and use them to make a plan and then take action. Remember to:
 - Identify who is vulnerable in your community.
 - Establish the source and cause of the epidemic.
 - Use the cards to identify specific actions you can take to help people during the epidemic.

Step 3

Look at the number on the front of the **action cards** that you chose. This time, look for the number that matches numbers on the **community message cards**. Not all action cards link to community messages.

Use these cards to help you remember the key messages you should discuss and share with members of your community. The cards carry important messages that everyone in your community will need to know to avoid spreading the epidemic. The cards will also tell you how to show people what they should do to take care of themselves or others if they become sick. Remember to:

- Read the cards carefully and many times so that you understand the messages you need to share.
- Share the cards and messages with others in your community so that everyone has the information they need. Use them to teach people the DO'S and DON'TS of each epidemic.

Session 4.6. Diseases that cause epidemics

By the end of this session, you will be able to:

- Discuss the different groups of diseases that cause epidemics.
- Explain the main volunteer actions for each group of diseases.

Part 4.6.1. What are the disease groups?

Many kinds of disease cause epidemics. It is useful to put them in groups. This helps us to understand the nature of different diseases and manage epidemics better.

Diseases can be grouped in several ways. For example, we can group them according to which germs cause them, how they are transmitted, or what symptoms they cause.

In this training package, we group diseases in a way that will help you understand how to **prevent** or **manage** the epidemics they cause. On this basis, we have formed seven disease groups. These are:



1. Faecal-oral infections.
2. Diseases preventable by vaccination.
3. Diseases transmitted by mosquitoes.
4. Acute respiratory infections.
5. Haemorrhagic (bleeding) fevers.
6. Zoonotic diseases (diseases spread by animals).
7. Other diseases.

Because it is usually easier to remember drawings than names, we will use “icons” (graphic symbols) for each disease group. We will talk a little bit about each group and the diseases in it, how the diseases are transmitted, what symptoms they cause, and how to prevent and manage the epidemics for which they are responsible.

Some of the above diseases are also foodborne and waterborne diseases, or also transmitted mainly in health care settings (nosocomial infections), or during sexual activity, etc.

“Zoonotic diseases” are transmitted by animals or insects. Animals or insects that transmit diseases to people are called vectors. Vectors include mosquitoes, sand flies, triatomine bugs, blackflies, ticks, tsetse flies, mites, snails, fleas, chickens, monkeys, camels and fruit bats. The animals or insects in question are not necessarily sick; some are healthy when they transmit severe human diseases.

Many diseases fall into more than one group. For example, yellow fever has been placed in the group “Diseases preventable by vaccination” because the main prevention and control measure is vaccination; but it is also transmitted by a vector (mosquitoes) and could have been grouped under “Diseases spread by mosquitoes” or “Zoonotic diseases”.

You do not need to remember by heart all of the information about these groups. We will talk about them again later on, and you will be given a toolkit with this training manual. The toolkit will help you to remember the diseases and also to prevent and manage the epidemics they cause.

Group 1. Faecal-oral infections

Disease tools:

1. Acute diarrhoeal disease
2. Cholera
3. Hepatitis A
4. Hepatitis E
5. Typhoid fever
6. Acute bloody diarrhoea



This disease group includes acute diarrhoeal diseases (including cholera) and other diseases that do not cause diarrhoea but have the same principal mode of transmission (hepatitis A and E and typhoid fever).

Diarrhoea

is when a child (or an adult) passes three or more liquid stools in a day.

It can cause a child to lose so much body water and minerals that he or she dries out (dehydrates).

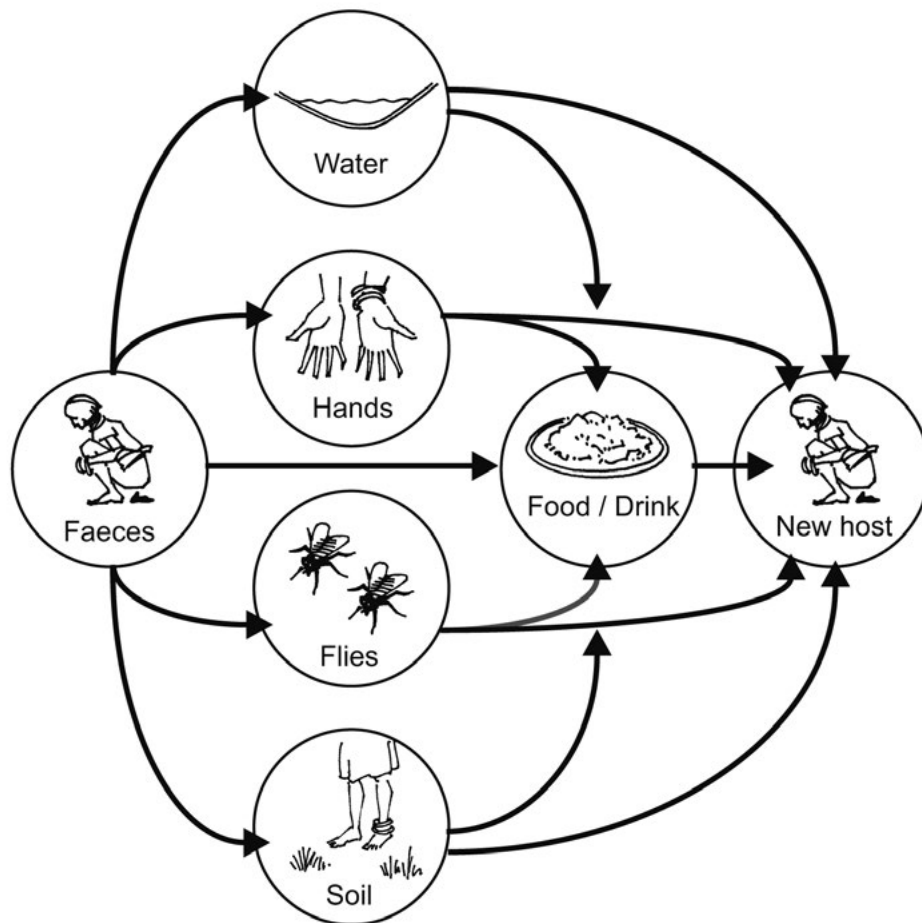
In some cases, diarrhoea can cause death if it is not treated.

Many children get diarrhoea. On many occasions, it can be cured simply. But sometimes it can spread and cause an epidemic. There are different kinds of diarrhoeal disease. Some take the form of watery stools; in others, blood comes out with the stools. A diarrhoeal disease called cholera is particularly severe.

How are these diseases transmitted?

Faecal-oral transmission occurs when microorganisms from an infected stool of one person enter the mouth of another. This may occur if faeces contaminate food or the water supply or when germs are transferred from hand to mouth because the hands have touched contaminated items and have not been well washed afterwards.

Figure 14. Faecal oral transmission



What symptoms do they cause?

Children are particularly subject to severe forms of diarrhoeal disease. When children get diarrhoea, they start to have frequent loose stools. This causes their bodies to lose water and minerals. Other symptoms of diarrhoea include stomach pains, fever, cramps, nausea and vomiting. When a child loses a lot of water, he or she can become dehydrated.

In areas where it is common, many children get hepatitis A. Most will have no symptoms. In some children, the symptoms of liver disease occur: the skin and whites of the eyes become yellow and the child has fever, tiredness, abdominal pain and diarrhoea. This disease can be prevented by a vaccine. In areas where hepatitis A is rare, adults mainly get the infection and it will be more severe.

Hepatitis E causes the same symptoms as hepatitis A, but it is very dangerous for pregnant women.

Persons with typhoid fever usually have a sustained high fever. They may also feel weak, have stomach pains, a headache, or loss of appetite. A vaccine protects against typhoid fever.

Two kinds of diarrhoea are particularly severe:

1. **Dysentery.** Blood comes out with the stools.
2. **Cholera.** This disease causes more severe symptoms and very watery stools that look like “rice water”.

How do we prevent epidemics?

Epidemics of faecal-oral infections can be prevented by some simple actions:

- **Hygiene.** Wash hands with soap at critical times, especially after going to the toilet, after cleaning children’s bottoms, and before preparing food and eating.
- **Drink only clean and safe water.** Where safe drinking water (including bottled water) is unavailable, boil or filter water or treat it with chlorine, and store it in clean containers.
- **Eat safe food.** Wash vegetables and fruits with safe water, thoroughly cook meat and other animal products, store food in clean conditions and reheat food before eating it.
- **Build appropriate sanitation facilities (latrines) in the community.** This will help reduce the likelihood that stools will contaminate water or food. Special care should be taken with children’s stools, which should be properly disposed of in the latrine or buried.
- **Breastfeed babies during the first six months of life.** Exclusive breastfeeding will protect infants and prevent severe forms of diarrhoea. Breastfeeding should not be interrupted when a child is sick because it is not the cause of the diarrhoea and has a continuous beneficial effect on survival.

How to deal with cases of these diseases?

When dealing with diarrhoea cases, the key point is to replace the water and minerals the sick person is losing. It is vital to correct dehydration. This is done by detecting diarrhoea early and giving the person water, sugar and salts. These can take the form of an oral rehydration solution (ORS), made from a packet, or home-made fluids such as rice water or soup or breastfeeding. Zinc supplements reduce the duration of diarrhoeas. In cases of severe dehydration or shock it is necessary to give intravenous fluids to the affected person.

Hepatitis A and E usually cause mild infections in children, but in adults, especially pregnant women, the condition is dangerous and may require hospitalization.

Typhoid fever is treated with antibiotics.

How to detect an epidemic?

We suspect an epidemic of diarrhoea when many more people than usual, especially children, have diarrhoea and are dehydrated at one time, and cases are more severe than normal.

We suspect cholera when adults, as well as children, have severe diarrhoea and dehydration and some of them die as a result.

An epidemic of hepatitis is suspected when many people have symptoms of liver disease (e.g., yellowing of the eyes).

An epidemic of typhoid fever is suspected when more people than usual have high fever without symptoms of respiratory diseases.

Early detection of an epidemic is more likely when there is disease surveillance. Early detection permits a prompt response which can save many lives.

The epidemic

Who?

Severe forms of diarrhoeal diseases mainly affect children, especially those under five years of age who are malnourished. (Children are most likely to suffer sickness and death as a result of diarrhoea.)

Severe diarrhoeas, especially cholera, can affect anyone, including adults. Severe forms of hepatitis mainly affect adults.

Where?

Epidemics happen more often in places and communities that lack safe water or have poor sanitation facilities.

When?

Epidemics are more likely at times when safe drinking water is less available or there is no safe drinking water and no clean water for washing/bathing.

Why?

Exposure of water (or food or other things) to stools as a result of poor sanitation causes disease. Germs enter the water from the stools and can cause diarrhoea in people who drink the water. When the community's water sources are contaminated, this can cause an epidemic.

How to deal with an epidemic?

If an epidemic caused by faecal-oral infection occurs in your community, here are some things that should be done:

- Build trust with members of the community.
- Involve the community in efforts to control the epidemic.
- Familiarize yourself with the community's culture.
- Find out the source and cause of the epidemic disease (unsafe water, inappropriate latrines, unsafe hygiene practices).
- Treat water (by boiling or filtering it or treating it with chlorine) and store water safely.
- Identify cases of the disease.
- Care for dehydrated children at home with ORS or home-made fluids (rice water, soup, breast milk) and zinc supplement.
- Refer very sick and dehydrated children to health facilities.
- Promote hygiene in local communities and among families.
- Establish community oral rehydration points for early treatment and referral.
- Apply safety procedures for handling and burying dead bodies.

Learn

It is very important to recognize dehydration in children when looking for cases of diarrhoeal disease. This skill will help you to decide who should be treated with an ORS at home and who should be referred to the health centre or hospital.

The table below will help you recognize dehydration and its severity.

Table 4. Stages of dehydration

Dehydration stage	Signs	Treatment
No dehydration	Skin goes back normally when pinched, thirst has subsided, urine has been passed, pulse is strong.	ORS at home; zinc supplement in children up to 15 years old.
Moderate dehydration	Restlessness and irritability, sunken eyes, dry mouth and tongue, increased thirst, skin goes back slowly when pinched, decreased urine, decreased tears, depressed fontanel (soft membrane on head) in infants.	ORS plus very close surveillance; zinc supplement in children up to 15 years old.
Severe dehydration	Lethargy or unconsciousness, very dry mouth and tongue, skin goes back very slowly when pinched ("tenting"), weak or absent pulse, low blood pressure, little or no urine.	In a health facility or in a hospital: IV therapy plus antibiotics plus ORS; zinc supplement in children up to 15 years old.

What can volunteers do?

Volunteers can play a critical role in communicating with and mobilizing communities. They can encourage people to change their behaviour and adopt safe personal and domestic hygiene practices. They can help teach caregivers about oral rehydration and the importance of breastfeeding. They can advise parents and families to take very sick children to health centres.

Volunteers can look for new cases of infection and inform staff at the health centre. They can take part in investigating the source and cause of the epidemic.

Most importantly, volunteers can:

- Help detect cases of disease in their local communities.
- Help families to identify warning signs of dehydration, especially in children.
- Refer people with severe dehydration and fever, or people at high risk such as elderly or pregnant women.
- Talk to members of affected communities to understand their concerns, fears and typical water, sanitation, hygiene and community care practices.
- Help to mobilize the community to take action to protect itself, and influence the community to change harmful forms of behaviour (using BCC).
- Show mothers and caregivers how to prepare oral rehydration solution (ORS) for dehydrated children.
- Set up and run oral rehydration points (ORPs) in affected communities. See IFRC ORP guideline/ORP training manual.
- Alert the health authorities to new cases or outbreaks.
- Provide psychosocial support to sick people and their families.
- In a major epidemic, work with other Red Cross Red Crescent partners in cholera treatment centres or mobile hospitals.

Participate

Discuss within your group whether an epidemic might be caused by a faecal-oral infection. Look at the disease tools for faecal-oral infections and select the action and message tools for each. Discuss with your facilitator the similarities and differences between the tools for each disease in this category. Take note that the same method is used to prevent all the diseases in this category.

Group 2. Diseases preventable by vaccination



Disease tools:

7. Acute respiratory infections preventable by vaccine: diphtheria, mumps, rubella, chickenpox, whooping cough
8. Measles
9. Meningococcal meningitis
10. Polio
11. Yellow fever

A vaccine

A vaccine is a biological preparation that improves immunity to a particular disease, helping people to resist an infection before it happens. Most vaccines are delivered by injection but some of them can also be given orally.

A range of diseases can be prevented and controlled by vaccination. Each is different and spreads in a different way. For volunteers, the important thing is to know how to prevent epidemics of such diseases from occurring and how to assist with vaccination campaigns.

Diseases that are prevented by vaccines include **polio, whooping cough (or pertussis), diphtheria, pneumonia, tetanus, viral hepatitis A and B (liver infection), measles, mumps, rubella, chickenpox, typhoid fever, yellow fever, dengue, meningitis (H1b and meningococcal meningitis), cholera and some other diseases.**

How are these diseases transmitted?

Diseases in this group are transmitted in different ways. Polio, cholera, hepatitis A and typhoid fever are transmitted by contact with hands and objects that are dirty, or by consuming water or food that is contaminated by infected stools in a similar way to diarrhoeal diseases. Yellow fever and dengue are transmitted by vectors (mosquitoes). Hepatitis B is transmitted by sexual intercourse or contact with blood, including blood passed from mother to child. Other diseases are transmitted by droplets emitted by coughing or sneezing.

What symptoms do they cause?

The symptoms can also be different because they are disease specific. In each case, nevertheless, it is critical to prevent them by helping to bring children to health workers who will vaccinate them. All these diseases can cause death in young children and in adults.

How do we prevent epidemics of these diseases?

Epidemics of these diseases can be prevented by some simple actions:

- Specific vaccines will prevent many people from being infected by the diseases in this group.
- If enough people in a community are vaccinated against these diseases, epidemics of these diseases will not occur.
- Yellow fever and dengue epidemics can also be prevented by controlling mosquitoes and protecting people from being bitten.
- Improving living conditions, hygiene and sanitation and reducing overcrowding help to prevent polio, typhoid, hepatitis A, measles and meningitis. Action in this area is especially important in refugee and displaced persons' camps.

About vaccines

The vaccines for diseases in this group are usually very effective. Some (in particular, polio, measles, mumps, rubella, diphtheria, tetanus and whooping cough) should be given to every child as part of a routine vaccination schedule. As volunteers, you should tell people in your local community to always take their children to health centres for vaccinations that are due.

These are the vaccines for the different diseases in this group:

- **Measles, mumps and rubella (MMR).** The vaccine is given in two doses. In countries where measles causes many deaths, the first dose is given at nine months and the second at between 15 and 18 months. In countries where few children die from measles, the first dose is given at 12 months and the second usually at school entry.
- **Polio.** The vaccine is given by drops in the mouth or by injection. It should be given to children three to four times in their first year, followed up with one or two booster doses during childhood.
- **Diphtheria, tetanus and pertussis.** Vaccines are usually given in a combined form together with an anti-tetanus vaccine (called DTP) and sometimes with a vaccine against hepatitis B and Hib (called pentavalent). It is recommended to give children three doses during the first year of life.
- **Meningococcal meningitis.** The vaccine should be given to persons between one and 29 years of age who live in 26 African countries where this form of meningitis is prevalent. In other countries the vaccine schedule differs.
- **Hepatitis.** A vaccine can be given to children as part of regular childhood immunization programmes, and to travellers with other vaccines.
- **Typhoid fever.** Vaccination is recommended to control endemic typhoid, for outbreak control, and in the context of other efforts to control the disease.

How to deal with cases of these diseases?

When people are sick with one of the above-mentioned diseases, there is little that volunteers can do to cure them. These diseases are dangerous and require prompt medical treatment. The best way to help is to recognize when a child is sick (which you will learn to do with the help of the toolkit) and refer him or her to the nearest hospital or health facility.

How to detect an epidemic?

1. Polio. An epidemic is suspected when children suffer from paralysis.
2. Measles. An epidemic is suspected when many children have fever with a rash on the skin, a runny nose, and sometimes eye infections.
3. Meningitis. An epidemic is suspected when many people have fever with a bad headache and stiff neck.

The epidemic

Who?

Polio is passed to children through dirty hands or less frequently by contaminated water and food. Measles is passed when people cough and sneeze. Some forms of meningitis are transmitted by droplets, while others are transmitted by close contact or water.

Where?

Diseases in this group are concentrated in certain places and countries. These places are usually in countries where vaccination coverage is low.

When?

Polio, meningitis and measles epidemics (as well as other diseases) often occur when people are overcrowded (living in refugee camps, for example, or displaced by a natural disaster).

How to deal with an epidemic?

If an epidemic of a vaccine-preventable disease occurs in your community, several actions need to be taken:

- Build trust with members of the community.
- Involve members of the community in efforts to control the epidemic.
- Familiarize yourself with the community's culture.
- Promote mass vaccination to bring the epidemic under control.
- Improve water, sanitation and hygiene where required, to reduce the spread of polio, typhoid and hepatitis (and some other diseases).
- Improve living conditions and reduce overcrowding to reduce the spread of measles and meningitis.
- Detect new cases in the community and refer them to health facilities for treatment.

What can volunteers do?

Volunteers do not usually give vaccines, either during routine vaccination programmes or vaccination campaigns. However, you can do many other things to support the health authorities during vaccination. They include:

- **Monitoring.** It is important to ensure that vaccination campaigns cover all the people who needs to be vaccinated. In particular, make sure that people who are especially vulnerable or stigmatized are reached by the campaign.
- **Community-based surveillance.** Help members of the community identify cases of infection. Tell them how to deal with them.
- **Social mobilization and community engagement.** Talk to members of the community to understand their ideas and concerns about vaccination. Find out whether they trust the health authorities and the information they provide. Listen for rumours or misinformation about vaccinations. Social mobilization is one of the most valuable things volunteers can do. Because volunteers belong to the community, they can address its concerns, encourage families to get their children vaccinated, and follow up children who are missed.
- **Psychosocial support.** Give sick people and their families support.
- **Screening for malnutrition in children less than five years of age.** Vaccination campaigns are a good opportunity to screen for severe or acute malnutrition in children under five years old, who can be at high risk of getting very sick.

Participate

Discuss in your group a possible epidemic of a vaccine preventable disease in your community. Look at the disease tools for vaccine preventable diseases and select the appropriate action and message tools for each disease. Discuss with your facilitator the similarities and differences between the tools for each disease in this category.

It is important to recognize that regular vaccination and mass vaccination campaigns are the most effective way to end epidemics in this category of diseases. Discuss how you would support a mass vaccination campaign in your community. What difficulties would arise if you decided to vaccinate all the vulnerable people in your community?

Group 3. Diseases transmitted by mosquitoes



Disease tools:

- 12. Chikungunya
- 13. Dengue fever
- 14. Malaria
- 15. Zika virus infection

Mosquitoes transmit many diseases to humans when they penetrate the skin with their proboscis to draw blood. The diseases they transmit include **chikungunya, dengue fever, malaria and Zika virus infection.**

How are these diseases transmitted?

This group of diseases is transmitted by mosquitoes that carry germs. When mosquitoes bite someone, they insert the germs into the blood of that person, causing him or her to get the disease.

What symptoms do they cause?

The diseases in this group are caused by different germs. However, they all cause high fever, acute physical pain and tiredness. Malaria causes a fever that goes up and down, with spells of extreme fever and shivering. Dengue fever can sometimes cause bleeding of the gums and bleeding under the skin, in addition to fever. Zika virus disease includes mild fever, skin rash, conjunctivitis, muscle and joint pain, and malaise or headache. Chikungunya causes fever and severe joint pain and sometimes muscle pain, headache, nausea, fatigue and rash.

How do we prevent the spread of these diseases?

These diseases are controlled principally by preventing mosquitoes from breeding and biting humans. This is done in several simple ways:

a) Vector control

- Apply appropriate insecticide or larvicide to outdoor water storage containers.
- Prevent mosquitoes from breeding by covering domestic water storage containers and emptying and cleaning them every week.
- Take action to reduce the number of habitats suitable for egg-laying.
- Dispose of solid waste properly and remove mosquito habitats that are man-made.

b) Avoid contact with mosquitoes

- Protect yourself from physical contact with mosquitoes by using bed-nets, window screens, long-sleeved clothes and materials treated with insecticide.

How to deal with cases of these diseases?

Volunteers cannot treat people who are sick from a disease that mosquitoes have transmitted. Those who are sick need to be treated by health professionals in a health centre. Volunteers can help by identifying cases of high fever (suspected malaria or dengue fever) and referring them to health professionals. Depending on the diseases and tasks, volunteers may need to wear personal protection equipment, including insect repellent.

How to detect an epidemic?

When many more people than usual have a high fever combined with any of the other symptoms mentioned above, in a place known to have malaria, dengue fever, Zika virus disease or Chikungunya, an epidemic is suspected. It is the role of the health authorities to confirm an outbreak.

The epidemic

Who?

Anyone can suffer from diseases transmitted by mosquitoes, but young children are especially vulnerable. People who sleep without mosquito nets or beside water on which mosquitoes lay their eggs are more at risk. People who are new to an area that has high rates of malaria or dengue may be at increased risk.

Where?

Mosquito-borne diseases are present in several regions and countries all the time. Most of these places are tropical with ponds or lakes.

When?

Epidemics occur more frequently in the rainy season, when mosquitoes breed more intensively, or after natural disasters (especially floods).

Why?

People are more likely to be bitten and acquire these diseases when mosquitoes breed in the rainy season, when there are unusual numbers of mosquitoes, or if people do not protect themselves against mosquito bites.

How to deal with an epidemic?

If an epidemic of a disease transmitted by mosquitoes occurs in your community, you can take several actions:

- Build trust with members of the community.
- Involve members of the community in efforts to control the epidemic.
- Familiarize yourself with the culture of your community.
- Detect suspected cases and refer them to health facilities for treatment.
- Distribute mosquito nets and teach people how to use them.
- Teach members of the community how to identify the disease and protect themselves from mosquitoes.
- Control breeding sites, spray houses with insecticides, sleep under long-lasting insecticidal nets (LLINs).
- New vaccines and preventive medicines are being developed for some vector-borne diseases. These may be used in epidemics in the future.

What can volunteers do?

Managing an epidemic involves treating cases but also preventing the disease from spreading and slowing the epidemic down. Volunteers can play a major role in helping to slow epidemic diseases transmitted by mosquitoes.

You can:

- Distribute mosquito nets and teach the community how to use them.
- Mobilize members of the community to adopt safe practices and teach people to identify and prevent the diseases (using BCC).
- Monitor the disease through house-to-house visits.
- Refer cases to health facilities.
- Organize community clean-up campaigns to eliminate mosquito breeding sites.
- Participate in vector control, after receiving training, under the supervision of water and sanitation or vector control specialists.
- Give psychosocial support to sick people and their families.

Participate

Discuss in your group a possible mosquito-borne epidemic in your community. Look at the disease tools for mosquito-borne diseases and select the appropriate action and message tools for each. Discuss with your facilitator the similarities and differences between the tools for each disease in this category.

It is important to recognize that behaviour change and vector control are the most effective ways to end epidemics in this category. Discuss in your group how difficult vector control would be in your community.

Group 4. Acute respiratory infections



Disease tools:

16. Acute respiratory infections

Acute respiratory infections

occur when germs affect the respiratory system of a person and cause an infection.

Acute respiratory infections are diseases that affect the respiratory tract. They can be mild, causing only some pain or coughing, but can also be very severe, causing fever, difficulty in breathing, and coughing. Very serious cases may lead to death if they are not treated properly or quickly. These diseases mainly cause epidemics when living conditions (overcrowded houses and tents) allow them to spread easily.

Some acute respiratory infections, such as pertussis (whooping cough), can be prevented by vaccination. These have been described in a previous section.

How are these diseases transmitted?

Acute respiratory infections are transmitted by droplets released into the air when a sick person coughs or sneezes. The droplets contain germs and can be breathed in by other people, causing them to become sick too.

What symptoms do they cause?

Acute respiratory infections can be mild or very severe and can result in death if they are not treated. Usually, they cause fever with a wet (with sputum) or dry cough. This can make it very difficult for those infected (usually children) to breathe. Children with respiratory infections appear exhausted and pale.

How do we prevent the spread of these diseases?

The spread of acute respiratory infections can be prevented by some simple actions:

- Adopt safe habits, including coughing etiquette and regular handwashing. This will reduce the spread of respiratory infections, can prevent epidemics, and will reduce their impact if they occur.
- Improve shelters and density of occupation; generally reduce overcrowding in the community.
- Identify people in the community who are sick with respiratory infections before they spread the infection to others.
- Take prompt steps to treat and refer children and vulnerable people who have a cough or difficulty breathing.
- Take steps to improve the amount and quality of food available to the community.
- Tell members of the community about respiratory diseases and explain how they can prevent and manage them.

How to deal with cases of these diseases?

Acute respiratory infections are sometimes hard to treat, and sick individuals will need to be cared for by health professionals. The main role of volunteers is to identify cases and refer them to health facilities. In addition, volunteers can help children who have acute respiratory infections by promoting recommended dietary practices, including nutritious foods and appropriate fluid intake (water, juices and soups).

How to detect an epidemic?

An epidemic of acute respiratory infections is suspected when many people (especially if they live in crowded conditions) have fever, a cough and difficulty breathing.

The epidemic

Who?

Acute respiratory infections can affect anyone, but children are more at risk and suffer worse symptoms. Children suffering from malnutrition are especially at risk of respiratory infections.

Where?

Acute respiratory infections happen most frequently in crowded places (such as shelters and camps, schools, health centres or hospitals) where droplets coughed or sneezed pass easily from one person to another.

When?

Acute respiratory infections can occur at any time of the year. However, they are more likely to occur when it is cold because people close windows and there is less fresh air inside buildings.

Why?

Respiratory infections spread more easily and can result in epidemics when people live in overcrowded conditions, for example because they have been displaced by a natural disaster or war.

How to deal with an epidemic?

If an epidemic of acute respiratory infections occurs, the following actions should be taken:

- Build trust with members of the community.
- Involve members of the community in efforts to control the epidemic.
- Familiarize yourself with the culture of the community.
- Take steps to identify people who are sick and refer them to health facilities.
- Improve shelters. Increase airflow where possible, and reduce overcrowding.
- Improve nutrition; provide children with good food.
- Obtain prompt treatment of sick people in clinics and health facilities.

What can volunteers do?

During an epidemic of this group of diseases, volunteers can do very useful work promoting health and can also identify cases and refer them to appropriate health facilities for treatment. In particular, you should:

- Monitor the spread of the epidemic by working with the community to carry out house-to-house visits to assess living conditions and detect people who have fever, a cough and difficulty breathing.
- Refer people with acute respiratory infections to health centres or hospitals.
- Encourage people who have a respiratory infection, especially children, to have plenty of healthy food and liquids.
- Improve conditions in shelters. If possible, increase the flow of fresh air and reduce overcrowding.
- Give psychosocial support to sick people and their families.
- Promote sound health practices:
 - Encourage people to adopt good habits, such as handwashing, and cover their mouth and nose when they cough or sneeze.
 - Explain the symptoms of respiratory infections.
 - Explain to parents and carers how to manage sick children.
 - Advise parents and carers to take sick children to a health facility.
 - Teach good nutrition.
 - Encourage people to give fluids to sick children.

What is a pandemic?

A pandemic is an epidemic that spreads to many countries in a short period of time and affects a high proportion of the population. It can be caused by any disease that spreads easily and is new to the population. In the past, there have been pandemics of influenza, the plague and cholera.

Acute respiratory infections and pandemics

At the moment, there is no influenza pandemic. The germ that will cause an influenza pandemic does not yet exist. It will come to exist when the germ that causes influenza changes (mutates) in certain ways.

Some influenza germs start in animals and mutate to affect humans. Birds, pigs and camels have all been sources of influenza or respiratory infections that have had the potential to become pandemics. If a germ that affects animals can mutate to infect humans, it can mutate again to become more easily transmissible from one person to another. Then a rare serious disease becomes a serious disease that can spread very rapidly to very large numbers of people across the world, because people have no immunity to the new germ. This is what we call a pandemic.

If a pandemic occurs, millions of people could fall sick and many could die. In addition, a pandemic would affect all aspects of normal life. For example, hospitals would be overwhelmed with patients, travel services would come to a halt, schools and other institutions would close. In such a situation, local resources (such as volunteers) will be vital to help people overcome the effects of the disease, care for patients, manage the pandemic, and, when it is over, help people to return to normal life.

Influenza pandemics have occurred in the past. They include the “Spanish flu” of 1918-1919, the “Asian flu” of 1957-1958, the “Hong Kong flu” of 1968-1969, and most recently “swine flu”, which started in 2009 but was not transmitted directly from pigs or swine.

How are avian and pandemic influenza transmitted?

Avian influenza passes between birds through their fluids, feathers and faeces. It can spread in the same way to humans and cause them to become ill. It can also potentially spread to humans from the meat or eggs of sick chickens or other infected (live and dead) birds that have not been cooked thoroughly. Note that classical human influenza spreads by respiratory rather than faecal-oral means.

Pandemic influenza, like the respiratory infections we talked about earlier in the chapter, is transmitted by droplets released into the air by coughing or sneezing. The droplets carry germs and can be breathed in by others, causing them also to become sick. It is important to know that the droplets emitted by coughing or sneezing do not go very far: they only travel about 1.5 metres. This means that if we are further than 1.5 metres from a sick person, we are very unlikely to catch the disease from them. We should always remember this when dealing with pandemic influenza, because keeping a safe distance from sick people (called “**social distancing**”) is the most effective prevention measure. It is still important to maintain hand hygiene, because those who are sick may sneeze into their hands and transmit germs when they turn doorknobs, hold bus handrails, etc.

What symptoms do avian and pandemic influenza cause?

Both **avian** and **pandemic influenza** can cause severe infections in humans. The symptoms are very similar to those associated with regular acute respiratory infections, and include: sudden illness, fever, a cough, shortness of breath and, in some cases, chills, a runny nose, sore throat, tiredness, and upset stomach or loss of appetite. These symptoms may be very severe if those affected have had no previous exposure and are meeting the virus for the first time.

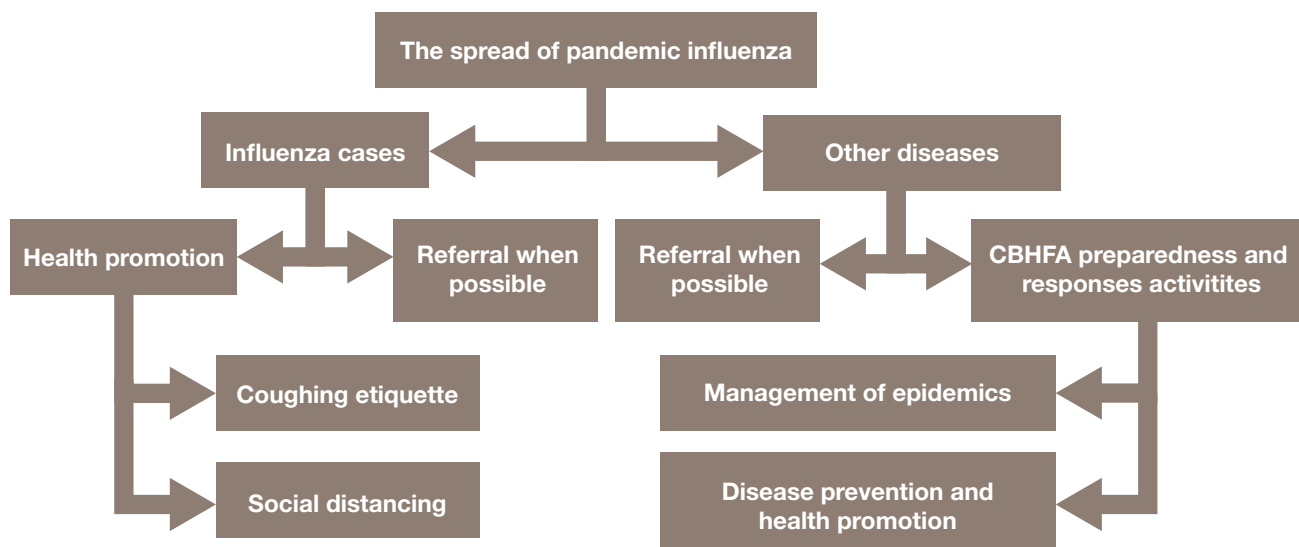
How to prevent the spread of avian and pandemic influenza?

We can prevent the spread of **avian influenza** and **other illnesses caused by animals** by detecting the disease early in the animals and reporting sick animals. Veterinary authorities should then quarantine potentially infected flocks; if they test positive, they should be humanely killed. It is important to educate communities about having contact with infected poultry, particularly the hazards of preparing and consuming sick birds (or in some cases making blood pudding). Cooking meat and eggs thoroughly sharply reduces the chances of infection.

How to deal with cases of pandemic influenza?

The best ways to deal with cases of **pandemic influenza** are to isolate sick people, to practice social distancing in the community, and to refer people with symptoms rapidly to health facilities. When a pandemic occurs, many people who have different diseases will not receive medical attention because hospitals and clinics will be overwhelmed by influenza patients. This means that those diseases will need to be dealt with by other means. The diagram below shows how to manage influenza patients in the community and how to help people with other illness who may not be able to obtain treatment because hospitals and clinics are overwhelmed.

Figure 15. Spread of pandemic influenza



How to deal with an influenza pandemic?

The best way to deal with an epidemic or a pandemic is to be well prepared. The International Federation of Red Cross and Red Crescent Societies is part of a worldwide effort to prepare for an influenza pandemic, alongside National Societies, governments and many other national and international partners.

When a pandemic occurs, volunteers can do a number of things to help. In particular:

- Avoid getting ill yourself. Adhere strictly to social distancing, handwashing, and other recommended hygiene practices. Use personal protection equipment when you are in a clinical setting.
- Reduce the spread of the disease by promoting recommended health practices, such as social distancing and hygienic habits.
- Help maintain public infrastructure. When a pandemic occurs, many services (including water and sanitation, schools, health facilities, transport systems) will be disrupted. Work will need to be done to keep such services in operation.
- Take care of people suffering from other diseases. While health facilities are coping with patients who have influenza, they may not be able to treat people who have other diseases. Most of them will have to be cared for by other health services or the community.

What can volunteers do?

Volunteers will be one of the cornerstones of National Society efforts to deal with an influenza pandemic. You will be asked to carry out the tasks listed above.

Participate

Discuss in your group a possible epidemic of an acute respiratory infection in your community. Look at the disease tools for acute respiratory infections and select the action and message tools for each. Discuss with your facilitator the similarities and differences between the tools for each disease in this category.

It is important to recognize that the most effective ways to end epidemics in this category are promotion of good coughing etiquette, handwashing, social distancing, vaccination of children under five, and early referral. Discuss the challenges of changing behaviour in your community.

Discuss the difference between epidemics and pandemics.

Compare volunteer roles in epidemics with volunteer roles in pandemics.

Group 5. Haemorrhagic (bleeding) fevers



Disease tools:

- 17. Ebola virus disease
- 18. Lassa fever
- 19. Marburg haemorrhagic fever

So far in this manual you have read about a range of infections that cause epidemics. Some can be treated by improving living conditions, social distancing and handwashing, reducing overcrowding, or ensuring that the water supply is clean. Others require vaccination or, in severe cases, referral to a health facility.

Haemorrhagic fevers

are severe infections that can spread rapidly. A special effort is needed to control them. Some of these fevers are new and we are less prepared to deal with them.

This group of diseases includes three infections that are very similar. They are in the same group because: they are caused by similar germs; they spread in the same way; and they all cause very severe symptoms. Although these diseases are not very common, they are very dangerous and can cause death to many people. Their names are: **Ebola virus disease, Marburg fever and Lassa fever.**

Sometimes the cause of an epidemic is not known because it is a new disease or because the diagnostic procedure is not available. We should treat such epidemics with particular care **until the germ that causes them is confirmed** because they can be highly contagious.

How are these diseases transmitted?

Ebola, Marburg fever and Lassa fever are transmitted by contact with the body fluids of an infected person or animal, including blood, vomit, saliva, urine, stools, etc. They can also be transmitted through contact with the bodies of people who have died from the disease, or contact with any object that an infected person has touched, such as bed sheets, surfaces, tools, etc.

The main concerns with these diseases is that they have the potential to pass from one person to another and can cause the death of a high proportion of the people they infect.

What symptoms do they cause?

Ebola, Marburg fever and Lassa fever cause very severe symptoms, including bleeding, fever, headache, pain of different kinds, diarrhoea, vomiting and failure of organs. They can cause the death of many of the people they infect.

How do we prevent these diseases?

Ebola, Marburg fever and **Lassa fever** occur in only a few countries. It is hard to prevent them, but if people know about them and are able to detect them early, an epidemic that starts can be brought under control more easily. Ebola and Marburg fever can also affect animals such as bats and monkeys. Transmission from animals to humans can be stopped by not eating bush meat (or cooking it very well), and by not eating or touching sick or dead animals. In most cases Lassa fever is spread by contact with rat urine, though human-to-human transmission can also occur. It is important to reduce contact with rats and observe recommended hygiene practices, especially when handling food and cooking utensils.

How to deal with cases of these diseases

The best way to deal with cases of these diseases is to isolate sick individuals and keep them at a safe distance from other people, because other people are likely to be infected if they come too close. Above all, refer those who are sick to specialized health facilities as soon as possible. It is very important to always use **personal protection equipment (PPE)** when dealing directly with people who are sick from **Ebola, Marburg fever** and **Lassa fever**.

Personal protection equipment

is equipment that protects us from coming into direct contact with sick people, their body fluids, or anything that can cause us to be infected, including objects and surfaces that someone who has the disease may have touched.

Epidemics of Ebola, Marburg fever and Lassa fever can generate fear and panic in the community. It is extremely important to communicate effectively in such situations. Explain the disease to members of the community and tell them how to prevent it. Communities may have to change or adapt their normal practices, especially practices related to caring for the sick and the dead.

How to detect an epidemic?

An epidemic is suspected when many people (especially if they live in areas where one of the diseases is known to have been present in the recent past) have symptoms of a severe disease or a number of people who have been in close contact die suddenly in a short period of time.

The epidemic

Who?

Ebola, Marburg fever and Lassa fever can affect anyone. Any person in the epidemic area may be affected, but some people are more at risk than others. People at risk include health workers (such as doctors and nurses) and family members of sick people, because both groups are physically in contact with people who have the disease. Also at high risk are people who have been in close contact with animals and their droppings.

Where?

Ebola and Marburg fever generally occur in only a few countries in Africa. Ebola is present in the Democratic Republic of the Congo (DRC), Gabon, Guinea, Liberia, Sierra Leone, South Sudan, and Uganda. Marburg fever is present in Angola, the DRC and Uganda. Lassa fever is present in West Africa.

When?

Epidemics of Ebola, Marburg fever and Lassa fever can occur at any time of the year.

How to deal with an epidemic?

If an epidemic of **Ebola**, **Marburg fever** or **Lassa fever** occurs, you should take several actions.

- Familiarize yourself with the culture of the community, and in particular with how the community cares for the sick and the dead.
- Build trust with members of the community.
- Involve the community in efforts to control the epidemic.
- Take steps to protect yourself from getting the disease. Use PPE if you are involved in high risk activities.
- Take steps to detect people who are sick and refer them to specialized health facilities.
- Clean items and surfaces that have been touched by sick people or by dead bodies. Use very strong cleaning products, such as bleach and other products that kill germs effectively. (This is a special activity and requires special training.)

- Bury people who have died of **Ebola, Marburg fever** and **Lassa fever** safely. (This is a special activity and requires special training.)
- Teach community members how to protect themselves from the infection.
- Manage rumours and misinformation.
- Give psychosocial support to communities and families and also to health workers and volunteers.

What can volunteers do?

When dealing with **Ebola, Marburg fever** and **Lassa fever** epidemics, the most important action that volunteers can take is to protect themselves. You should not take risks and should do everything possible to avoid falling sick, because, if you do not, you will add to the epidemic and will not be able to help others. It is essential to use PPE whenever you are in close contact with sick people. We explain below how to do this.

Volunteers do not normally care for patients who have Ebola, Marburg fever or Lassa fever because people who are infected need highly specialized treatment given by health professionals. However, volunteers can make effective contributions in other ways.

- Risk communication. Take steps to mobilize members of the community to protect themselves against infection and modify their behaviour in accordance with medical recommendations (using BCC). This is your main role. Talk to the community about the epidemic, and teach people how to protect themselves, how to care for relatives who are sick, and how to deal with dead bodies.
- Encourage leaders and members of the community to help detect new cases and refer them to health facilities.
- Respond to rumours in the community and report rumours to health authorities.
- Teach members of the community how to make strong disinfectants and cleaning products and how to apply them. Distribute cleaning tools.
- Give psychosocial support to sick people and their families.
- It is unusual for volunteers to help care for patients or deal with the burial of dead bodies, but you may be asked to do this if no one else can. It should be done after appropriate specialized training, under the strict supervision and instruction of specialists. Full PPE should be used at all times.
- On rare occasions, after receiving training, you may be asked to monitor or trace the contacts of patients. This too should be done under specialist supervision; appropriate PPE should be worn.

What to do when a cluster of unexplained illnesses or deaths occurs?

As mentioned earlier in the chapter, diseases can sometimes be caused by a completely new organism. Recent examples include SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome). Health authorities may also need time to confirm what is causing people to become sick or die. If you are not sure what is causing an epidemic, act as you would act if you were dealing with Ebola, Marburg fever or Lassa fever. Take every precaution until you are sure how the disease is spread and how best to protect yourself and others.

Participate

Discuss together the possibility of a haemorrhagic fever epidemic in your community. Look at the disease tools for haemorrhagic fevers and select the action and message tools for each. Discuss with your facilitator the similarities and differences between the tools for each disease in this category.

Discuss the best way to detect the presence of haemorrhagic fever in a community.

Discuss what precautions volunteers should take if they work in highly infectious disease epidemics.

GROUP 6. Zoonotic diseases spread by animals



Disease tools:

- 20. Plague
- 21. Anthrax
- 22. Hantavirus pulmonary syndrome
- 23. Leptospirosis
- 24. Middle East respiratory syndrome or MERS coronavirus
- 25. Monkeypox
- 26. Rift Valley fever

Zoonoses are infectious diseases of animals or rodents that can be transmitted to humans, causing severe illness or death. The animals in question may be affected by the disease themselves, or may remain (or appear to be) healthy; in either case, they can transmit the disease to humans. Part 1.4.4. of the manual discusses the importance of One Health. The One Health approach emphasizes that infectious diseases depend on many factors: human, animal and environmental. Animals can be infected by many germs, some of which may affect humans. People who are exposed to animals every day, because they farm or hunt or have pets, are at greater risk.

Scientists estimate that more than six in every ten known infectious diseases in people, and three in four new or emerging infectious diseases in people, are spread by animals. The zoonotic diseases that can cause epidemics include anthrax, leptospirosis, monkeypox, hantavirus pulmonary syndrome (HPS), Middle-East respiratory syndrome coronavirus (MERS-CoV), and Rift Valley fever (RVF); but many more are known, and many new diseases have probably not yet been discovered.

How are these diseases transmitted?

Zoonoses can be transmitted by touching the saliva, blood, urine, mucous, faeces, or other body fluids of an infected animal, as a result of petting or touching, or being bitten or scratched; or by touching areas where animals live and roam, or objects or surfaces that animals have contaminated with germs. Zoonoses may also be transmitted when people eat or drink unsafe animal products (such as unpasteurized milk, undercooked meat, or eggs), or raw fruits and vegetables that have been contaminated with faeces from an infected animal.

Some zoonoses can be transmitted by insects. (See the section on diseases transmitted by mosquitoes.)

Illustration 6. Insect vectors



Table 5. Disease transmission by animals

Disease	Animals	Transmission
Rift Valley fever	Sheep, cattle, other animals. Signs and symptoms in infected animals: abortion; juvenile deaths.	Transmitted by mosquito bites, droplets in the air, the blood of sick animals, or the bodies of dead infected animals.
Avian influenza	Wild and domestic poultry (birds). Signs and symptoms in infected animals: Death or neurological signs; there may be no signs of illness.	Transmitted through droplets in the air, feathers, and potentially the eggs and meat of infected birds.
Monkeypox	Mainly monkeys. Also rats, squirrels and prairie dogs. Signs and symptoms in infected animals: in most cases none. Skin sores, breathing problems in prairie dogs.	Transmitted by touching infected animals or their body fluids; the bites or scratches of an infected animal; the meat of an infected animal.
Plague	Mainly rats. Also rabbits, squirrels and prairie dogs. Signs and symptoms in infected animals: none in the above cases. The disease may cause cats and occasionally dogs to fall sick.	Transmitted by flea bites, droplets in the air, and the bodies of dead infected animals.
Leptospirosis	Cattle, pigs, rodents (mainly rats). Signs and symptoms in infected animals: abortion, liver and kidney disease. No symptoms in rats.	Transmitted by contact (with the eyes or mouth, through a cut, 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 in the air of rodent urine or faeces; the bodies of dead infected rodents; bites or scratches.
Anthrax	Sheep, cattle (cows) and other animals. Signs and symptoms in infected animals: sudden death in sheep and cattle; neck swelling and breathing difficulties in pigs, dogs and cats.	Transmitted by spores in the air, and by contact with or eating infected animal products.

What symptoms do they cause?

Zoonotic infections can be mild and even without any obvious symptoms. (This is very common in the case of leptospirosis.) Sometimes the symptoms are severe and the disease life-threatening. Anthrax can cause different forms of symptom (cutaneous [affecting the skin], intestinal, and respiratory). Leptospirosis can cause severe damage to the kidneys or liver. HPS and MERS-CoV usually cause coughing and shortness of breath. Monkeypox appears with fever and rash. Rift Valley fever is associated with a fever, headache, and joint and muscle pains.

How do we prevent the spread of these diseases?

Some zoonoses can be prevented by vaccinating animals (for example, for anthrax). Many infections will be prevented by hand hygiene and use of personal protection equipment (PPE) when in contact with animals and pets. In general, people should avoid contact with sick animals, and in particular should not eat sick animals.

It is important to cook animal products (meat, milk) thoroughly, to use only pasteurised milk when making dairy products, and to avoid eating unwashed vegetables and fruit.

How to deal with cases of these diseases?

Volunteers cannot treat patients who have a zoonosis disease, because they require specialized care from health professionals in a health centre. Volunteers can make a very useful contribution by identifying cases and referring them to health professionals.

How to detect an epidemic?

An epidemic of zoonosis is suspected in several circumstances. Zoonosis is sometimes detected in animals first, for example in the case of Rift Valley fever. An unusual number of sick or dying young animals and abortions can indicate an outbreak. In other instances, it is sometimes detected when many people are sick with an unusual illness, or when many people fall sick who have been in contact with animals or their products.

The epidemic

Who?

People who were in contact with animals or were in spaces contaminated by animal excreta; people who consumed infected milk, eggs, meat or dairy products.

Farm workers and hunters are commonly affected (fishermen uncommonly). It can also affect people who were not in direct contact with animals, but who inhaled their excreta or consumed animal products.

Where?

Zoonoses are present worldwide, but not equally distributed. MERS-CoV is mainly present in the Middle East, HPS mainly in the Americas, RVF mainly in Africa and the Middle East, monkeypox mainly in Africa. Leptospirosis is a global problem wherever water is contaminated by animal excreta. Anthrax is commonly transmitted to people who handle or eat affected animals (which have generally died suddenly).

When?

Zoonosis epidemics can occur at any time, but they are more frequent during periods of intensive contact between humans and animals (for example, hunting and fishing seasons).

How to deal with an epidemic?

If a zoonosis epidemic occurs, you should do several things:

- Familiarize yourself with the culture of the community, especially hunting, farming and food production practices.
- Build trust with members of the community.
- Involve members of the community in efforts to control the epidemic.
- Take steps, in cooperation with the community, to detect sick people promptly and refer them swiftly to health facilities.
- Take steps, again in cooperation with the community, to detect sick animals.
- Improve hand and food hygiene.
- Restrict contact with animals. Use personal protection equipment (PPE).

What can volunteers do?

With this group of diseases, volunteers can contribute by promoting recommended health practices and by identifying cases and referring them to appropriate health facilities for proper care and treatment. You can:

- Make house-to-house visits to assess living conditions and identify sick people who have been in contact with animals, animal products or animal excreta.
- Report sick animals.
- Refer sick individuals to health centres or hospitals.
- Ensure that people have access to safe food and water.
- Give psychosocial support to sick people and their families.
- Assist animal health authorities with vaccination and elimination of sick animals under the supervision of technical experts.
- Mobilize members of the community and persuade them (using BCC) to adopt recommended health practices. In particular you should:
 - Persuade people to wash their hands after dealing with animals and use personal protection equipment (PPE) (e.g. gloves, masks, shoes).
 - Explain the symptoms of the animal-borne disease in question.
 - Encourage people who are sick to go to a health facility.
 - Advise people how to prepare safe food.
 - Recommend that people should limit their contact with animals and with animal excreta.
 - Strongly discourage people from eating sick or dead animals.
 - Underline the importance of reporting sick animals.

Participate

Discuss in your group the possibility of a zoonotic disease epidemic in your community. Look at the disease tools for zoonotic infections and select the action and message tools for each disease. Discuss with your facilitator the similarities and differences between the tools for each disease in this category.

Discuss the important role of One Health in preventing epidemics.

Group 7. Other diseases



Disease tools:

- 27. Hand, foot and mouth disease (HFMD)
- 28. Unexplained clusters of illness or death
- 29. Acute malnutrition (see 4.7.3.)

Hand, foot and mouth disease

Hand, foot and mouth disease (HFMD) is a common highly infectious disease of infants and children caused by a virus. It is characterized by fever, painful sores in the mouth, and a rash with blisters on hands, feet and also buttocks. It is common in many Asian countries.

How is the disease transmitted?

HFMD is mainly transmitted by direct contact with the saliva, nose mucous, blister fluid or faeces of an infected person. Infected persons are most contagious during the first week of the illness, but sometimes they are able to transmit the disease for several weeks (since the virus persists in stools).

HFMD is not transmitted to or from pets or other animals.

Any person who has not already been infected is at risk of infection, but not everyone who is infected becomes ill.

HFMD occurs mainly in children under 10 years old, and most commonly in children younger than five years of age.

What symptoms does it cause?

A fever and sore throat are usually the first symptoms of hand, foot and mouth disease. Usually, one or two days after the fever begins, painful blisters develop in the mouth.

A non-itchy skin rash develops over one to two days with flat or raised red spots, some with blisters. The rash is usually located on the palms of the hands and soles of the feet; it may also appear on the buttocks and/or genitals.

A person with HFMD may not have symptoms or may have only the rash or only mouth ulcers.

The epidemic

Who?

Hand, foot and mouth disease (HFMD) is a common, highly infectious disease of infants and children caused by a virus.

Where?

Individual cases and outbreaks of HFMD occur worldwide. In tropical and subtropical countries, outbreaks can occur all year round. In recent years, most outbreaks have occurred in Asian countries.

When?

At any time of the year.

How to prevent the spread of the disease?

No specific antiviral drugs or vaccines protect against HFMD. The risk of infection can be lowered by good hygiene practices and prompt medical attention for children showing severe symptoms.

Preventive measures include:

- Covering the mouth and nose when sneezing or coughing.
- Being clean and observing good hygiene practices at home and in public places (schools, kindergartens, etc.).
- Cleaning and disinfecting contaminated surfaces and dirty items with soap and water.
- Washing hands with soap.
- Keeping sick children home from school, kindergarten or other gatherings until they have recovered.
- Avoiding close contact with people with HFMD.
- Identifying sick children rapidly and referring them to a health clinic when required.
- Seeking medical care.
- Ensuring that children have access to safe, clean drinking water.
- Use of appropriate sanitation facilities.

How to deal with cases of the disease?

Currently, there is no specific treatment for HFMD. Patients should drink plenty of water and may require treatment to ease their symptoms, in particular to reduce fever and the pain of ulcers. If the fever persists and child is very sick, it is important to seek medical care.

How to detect an epidemic?

When many more people than usual get symptoms and are diagnosed with the disease.

How to deal with an epidemic?

If an epidemic of HFMD occurs in your community, you should take the following actions:

- Build the trust of members of the community.
- Involve members of the community in efforts to control the epidemic.
- Familiarize yourself with the culture of the community.
- Provide information about the disease and its transmission and what can be done to prevent it.
- Take steps to detect sick people promptly and refer severe cases to health facilities.
- Promote recommended hygiene and sanitation practices.
- Ensure that members of the community have access to safe and clean water.

What can volunteers do?

Volunteers can contribute by promoting recommended health practices and by identifying cases and referring them to appropriate health facilities for proper care and treatment. You can:

- Make house-to-house visits in cooperation with the community to assess living conditions and detect people with HFMD symptoms.
- Refer severe cases to a health facility.
- Make sure that people have access to healthy food and, if malnutrition is a problem, make sure that children receive good nutrition.
- Give psychosocial support to sick people and their families.
- Promote recommended health and sanitary practices, by explaining:
 - How HFMD is transmitted.
 - How to prevent HFMD.
 - How to care for sick children.

Underline that it is important to:

- Take sick children to a health facility.
- Provide good nutrition.
- Give sick children fluids.

Clusters of unexplained illnesses or deaths

As mentioned earlier in the manual, sometimes diseases can be due to a completely new organism (recent examples are SARS and MERS), or health authorities need time to ascertain what is causing people to become sick or die. If you are unsure what is causing an epidemic, behave as you would if you were dealing with Ebola, Marburg fever or Lassa fever. Take the highest level of precaution until you are sure how the disease is spread and how best to protect people.

Session 4.7 Other important infections and conditions

It is important to know a little bit about some other infections that we have not yet mentioned. These infections do not cause epidemics that happen very rapidly or at certain periods, like diarrhoeas or respiratory infections. But they affect many millions of people around the world and cause a lot of sickness and death. For this reason, we need to know about them.

Part 4.7.1. HIV infection

The human immunodeficiency virus (HIV) is a germ that causes infection in humans only. It attacks the immune system (the body's defence against diseases) and gradually destroys it. HIV is present in blood, breast milk, semen and vaginal fluids in amounts sufficient to cause infection. When people are infected with HIV, they are known as "people living with HIV" (PLHIV).

An individual can live with HIV without symptoms for years. When people with HIV are no longer able to resist infection because they have lower immunity, a group of serious illnesses can affect them and lead to their death. If the HIV infection is diagnosed early, treatment can **preserve the person's defence system**. For most of the people living with HIV who are taking medication, HIV is a chronic infection and they continue to live as healthy people, as long as they take the medication.

Ways in which HIV is transmitted:

- Unprotected sexual contact. People most commonly contract HIV through having unprotected sex.
- Blood contact. HIV can be transmitted through unsafe blood transfusions, or by sharing needles and syringes or other sharp objects contaminated with infected blood.
- Mother-to-child transmission. Mothers can pass HIV to their babies during pregnancy, childbirth or breastfeeding.

Ways in which HIV is NOT transmitted

- Social contact. HIV is not transmitted by hugging, kissing, shaking hands, breathing the same air, coughing, sneezing, sweat, tears or contact through sport.
- Shared use of objects. HIV is not transmitted by toilet seats, food utensils, drinking cups, clothes, public baths or swimming pools.
- Insect bites. HIV is not transmitted by mosquitoes, bed bugs or other insects.

Ways to prevent HIV transmission

- Safer sex. This can be achieved in a range of ways (including abstinence, being faithful to your partner, avoiding casual sex, having non-penetrative sex, using condoms every time, etc.).
- Preventing mother-to-child transmission. Specific treatments are recommended during pregnancy, childbirth and breastfeeding.
- Harm reduction. This strategy involves stopping risky or harmful behaviours that increase the likelihood that individuals will get HIV.
- Testing for HIV. Taking an HIV test permits early diagnosis and treatment. This reduces the risk of HIV transmission (including for people living with HIV and people who take medications as a prophylaxis).
- “Universal precautions”. A carer takes precautions against infection by ensuring that he or she has no contact with blood or body fluids during caring activities.

It is important to know about HIV infection because people living with HIV are more likely to get sick and to die during an epidemic. Because people living with HIV are more vulnerable, it is important to help them in epidemic situations; however, they may be reluctant to disclose their status, so every precaution should be taken to protect their privacy.

Part 4.7.2. Tuberculosis

Tuberculosis (TB) is a disease that mainly affects the lungs but can also affect other organs. In some respects it is similar to the respiratory infections we discussed earlier, but it is transmitted and heals much more slowly.

TB is a serious disease, but curable. Infection occurs when TB germs are coughed into the air by people who have TB and then breathed in by people who do not have TB.

People who are in close contact with a person who has TB are more at risk. A person infected with TB should cover his or her mouth and nose with a handkerchief when coughing or sneezing to avoid spreading the germs until treatment has controlled the disease. TB develops easily and becomes serious when the body is weak. For example, people who smoke, are malnourished, are infected with HIV, or have an alcohol or drug abuse problem are more vulnerable to TB infection.

TB is suspected when someone has a cough for more than two weeks, is coughing up blood, has a fever, night sweats, chest pain, or pain when breathing or coughing, suffers from loss of appetite and weight and is tired. Anyone who has some of these symptoms should go to the local health facility or TB clinic for an examination.

TB germs take a very long time to control so treatment is very long. A person with TB must take a combination of several drugs for no less than six months. Most TB cases can be cured with the right treatment, but it is very important to take the medication regularly and to complete the full course of treatment. This said, some kinds of TB germ are resistant to current medication and are much harder and sometimes impossible to cure.

People living with HIV are at greater risk of developing TB, which can be life-threatening.

Participate

In your group, discuss how the presence of high rates of TB or HIV in your community might affect your epidemic response plan. What actions could you take to reduce the risk that people with HIV or TB will contract other epidemic diseases?

More information about HIV and TB, and what volunteers can do to prevent their spread and support people who have been infected, can be found in the CBHFA manuals.

Part 4.7.3. Malnutrition

The importance of nutrition in emergencies

Emergencies can exacerbate many of the causes of malnutrition by reducing access to food and safe water, health services, social care, and sanitation, and so raise rates of illness and death. In particular, the incidence of acute malnutrition (wasting) may increase after a sudden fall in the availability of adequate food and the spread of disease. The management of acute malnutrition often becomes a priority in emergencies because it is life-saving. Chronic malnutrition (stunting) and micronutrient deficiencies may also worsen, because emergencies tend to undermine infant and young child feeding practices. Emergency nutrition interventions should target children under five years old (6-59 months) and pregnant and lactating women (PLWs), who are particularly vulnerable.

Key nutrition interventions in emergencies

- a. Prevent and manage acute malnutrition.
- b. Protect and promote appropriate infant and young child feeding practices.
- c. Manage micronutrient deficiencies.
- d. Make multi-sectoral interventions to prevent further deterioration in nutritional status.

Malnutrition emergencies

Malnutrition can become an emergency of its own. If many more children than normal become malnourished, it is a malnutrition emergency. You can think of this in a similar way to the other epidemic diseases we have discussed. Malnutrition is preventable, predictable, can tend to occur in certain seasons, and can increase suddenly due to a change in risk factors. When more children than normal are affected by malnutrition, you should respond as you do to an epidemic. Mobilize volunteers and communities to prevent it, detect and refer cases, and support families who are affected, until the situation returns to normal.

What are the symptoms of acute malnutrition?

There are two types of acute malnutrition: marasmus and kwashiorkor. They look different and have different symptoms.

Participate

List the signs and symptoms of malnutrition below

1. _____
2. _____
3. _____
4. _____

Now, discuss the signs and symptoms with your facilitator. How many symptoms did you get right?

How to prevent acute malnutrition?

Preventing malnutrition requires a multi-sectoral response. The aim should be to:

- Improve access to water and sanitation.
- Improve access to nutritious and appropriate food, through distribution of food or cash.
- Improve care practices, including exclusive breastfeeding, complementary feeding and hygiene.
- Promote vaccinations.
- Detect and refer malnutrition cases at an early stage.

How to deal with cases of acute malnutrition?

Unlike many of the other diseases in this toolkit, that require care in a health facility, the best way to treat children and adults with malnutrition is at home, supported by regular visits to a health facility, usually over a six to eight week period. Especially in remote areas, volunteers can play a vital role in treating malnutrition.

All children under five years of age who are identified as being acutely malnourished need to be referred to a health facility. There, the nurses or health workers will check for other illnesses and decide whether the child is moderately or severely malnourished. If the child is sick or has no appetite, he or she will be admitted to hospital for specialist care. If well and hungry, the child will receive antibiotics, medicine to treat worms, sometimes vaccinations, and will be given a special food that is specifically and only for children who have malnutrition.

Children with moderate acute malnutrition (MAM) may be given different food. This may be a flour known as corn soya blend (CBS) that can be made into porridge, or packets of a food that resembles peanut butter with added vitamins and minerals.

Children with severe acute malnutrition (SAM) are given a very dense, peanut paste (in some non-African countries it may be different) that is very high in calories and contains extra vitamins and minerals. This special food is easy to eat and digest and helps children to put on weight quickly. Children should continue to breastfeed and eat other foods if they are available.

Volunteers can encourage mothers to give the special food at home, ensure that mothers return to the clinic for follow up and support, and promote recommended health and hygiene practices. In remote locations, volunteers may be trained to distribute the special food.

How to detect malnutrition?

Children with malnutrition can be detected in several ways. To prevent malnutrition emergencies and stop children from dying, it is vital to identify cases in the community quickly and refer them for treatment to the health facility.

If you see children with symptoms of malnutrition, you should refer them immediately to the health centre to be checked.

If you have been trained and have equipment, you can also check children by weighing and measuring them. This is called “weight for height”. Checking children against the normal weight and height range shows whether they are growing properly or are malnourished. See Action tool 16.

You can check for malnutrition more easily and quickly by measuring the circumference of the upper arm of children under five years old. This test is called the middle upper arm circumference test, or MUAC. If they have been trained, volunteers can do the MUAC test. You measure the upper arm of children, using a special tape with red, yellow and green colour sections. If the circumference falls in the tape’s red or yellow sections, the child is likely to be malnourished and should be referred to a health facility. See Action tool 17.

How a malnutrition emergency is declared?

A malnutrition emergency is declared when more children under five are underweight than normal. This can be assessed on the basis of surveys that count how many children are malnourished. A malnutrition emergency is normally declared if more than 10 per cent of all children under five years old are malnourished.

Malnutrition emergency

Who?

Children under five are most at risk, but pregnant and lactating women can also be severely affected. Elderly people and people with certain chronic illnesses (including HIV and TB) can also be badly affected by malnutrition and require extra care and support.

Where?

Malnutrition can occur in any community that experiences food shortages. However, the majority of malnutrition crises occur in Sub-Saharan Africa. Chronic malnutrition, known as stunting, can also be present in Asia, and in parts of the Americas, the Middle East and North Africa.

When?

The number of children with malnutrition may increase at any time but a “hunger season” often occurs in the period before a new harvest because communities have exhausted their food stores. Malnutrition is also likely to rise after disasters, especially drought. Crises can often be predicted based on levels of food security in the community.

How to deal with an epidemic?

Technically, malnutrition crises are not “epidemics”; however, the response to them is similar. Malnutrition can occur in seasons, just like malaria or influenza, and can affect many children at once because of drought or food insecurity. When there is a large increase in the number of children with acute malnutrition, we should react as we do when there is a steep increase in illnesses due to an infectious disease.

As volunteers, you should:

- Familiarize yourself with the culture of the community, especially its feeding and care practices.
- Build trust with community members.
- Involve members of the community in efforts to improve nutrition and care practices.
- Take steps to detect and refer malnourished children and pregnant and lactating women quickly.
- Promote recommended hand and food hygiene practices.

What can volunteers do?

Volunteers can greatly assist efforts to prevent and treat malnutrition. By promoting recommended health practices and identifying cases and referring them to health facilities, you can help children to recover quickly.

You can:

- Make house-to-house visits to measure children’s MUAC. See Action tool 16.
- Refer malnourished children, and pregnant and lactating women, to health centres or hospitals.
- Ensure children have access to safe food and water.
- Give families psychosocial support.
- Assist with food distributions.
- Follow up patients admitted to community-based management of acute malnutrition (CMAM) programmes.
- Mobilize members of the community and encourage the adoption of recommended health and hygiene practices (using BCC). In this area, you can advise the community on:
 - The importance of exclusive breastfeeding.
 - Feeding practices.
 - Hygiene promotion.
 - Vaccination.

Glossary

Action tools

The blue cards in your toolkit. They describe actions that need to be taken in epidemics.

Active surveillance

Surveillance becomes more active in an epidemic. Volunteers help to find new cases, and sometimes trace the contacts of sick people. Applying the simplified case definitions in the toolkit, they report and refer sick people for examination and treatment in health facilities.

Acute respiratory infections

These occur when germs affect the respiratory system, including the lungs, and cause an infection. These infections can also cause epidemics and may result in death, especially of very sick children who are not treated.

Anthrax

A zoonosis. Humans generally acquire the disease directly or indirectly from infected animals or occupational exposure to infected or contaminated animal products. A veterinary vaccine is effective against anthrax.

Carriers

Some people carry germs but do not become sick. Although they look healthy, these people can still pass the germs they have to others. (They are called carriers because they carry the germs in their bodies.)

Case management

What you do to care for individuals who are sick. Case management includes, for example, providing ORS if a person is suffering from diarrhoea, or managing a child with a fever. In some cases, you will need to refer sick individuals to hospital or the nearest doctor. (See also Referral.)

Chicken pox (varicella)

An acute, highly contagious disease. It is usually a mild disorder in childhood but tends to be more severe in adults. It is characterized by an itchy vesicular rash (blisters) that usually starts on the scalp and face. It is initially accompanied by fever and malaise.

Chikungunya

A viral disease transmitted to humans by infected mosquitoes. It causes fever and severe joint pain. Other symptoms include muscle pain, headache, nausea, fatigue and rash.

Cholera

A diarrhoeal disease that causes severe symptoms and large amounts of watery stools that look like “rice water”. Any person can get this type of diarrhoea, including adults.

Community message tools

The bigger cards in your toolkit that have large drawings on them. Use them in your health promotion activities to deliver messages to the community about what people should and should not do to protect themselves.

Community-based surveillance (CBS)

A whole of society, all-hazard surveillance approach for rapidly detecting, reporting and responding to infectious diseases at community level. It involves the community in efforts to detect outbreaks of disease in remote locations that may be beyond the reach of traditional surveillance systems. CBS supports existing surveillance systems and does not replace them.

Dehydration

This occurs when a person, usually a child, loses a lot of water and minerals in his or her stools through diarrhoea. It is like “drying out”. It is very dangerous and can cause death.

Dengue fever

A disease transmitted by vector (particularly Aedes mosquitoes) that causes fever and sometimes bleeding of the gums and under the skin. Any person can suffer from this disease, but it especially affects young children. People are more at risk if they live in areas with standing water in which mosquitoes breed. (Note. Aedes mosquitoes are daytime biters and mosquito nets are therefore not a very effective protection against dengue fever. However, people sick with dengue should use nets to prevent transmission of the disease to other people in the house and community.)

Detergents/disinfectants

Very strong cleaning chemicals, such as bleach, which can eliminate or kill germs and so prevent infections from spreading.

Diphtheria

Causes a thick covering in the back of the throat. It can lead to difficulty breathing, heart failure, paralysis, and even death. Vaccines are recommended for infants, children, teenagers and adults.

Diarrhoea or diarrhoeal disease

Occurs when a child (or an adult) passes three or more loose stools in a day. It can cause the child to lose so much body water and so many salts that he or she becomes dehydrated. This can cause death if not treated.

Disease tools

The red cards in your toolkit. They describe the diseases that can cause epidemics.

Dysentery

A type of diarrhoea that causes an infection of the intestines and intestinal bleeding, resulting in severe diarrhoea in which blood and mucous are present in the stools.

Ebola virus disease

A highly contagious disease transmitted by contact with the body fluids of an infected person (blood, vomit, saliva, stools, etc.), as well as by contact with the bodies of people who have died from the disease, or any object or surface that an infected person may have touched (bed sheets, surfaces, tools, etc.). It causes a very severe disease that can kill many of the people who are infected by it. The symptoms include bleeding, fever, headache and different forms of pain.

Epidemic

An epidemic occurs when many more people than usual in a community have the same infection at the same time, exceeding the community's ability to cope.

Epidemic assessment

Collection and analysis of information about the nature, extent and cause of an epidemic. To make it possible to respond properly to the epidemic, you ask questions, collect and analyse information, and use and report the information to others. It answers the questions: Who? What? Where? When?

Epidemic risk

The likelihood that an epidemic of a disease will occur in a community. It takes account of the vulnerability of the community, the diseases that are present and the surrounding environment.

Germ

A very small organism, too small to see with human eyes, that makes people and animals sick. Germs can pass from one person or animal to another person or animal, causing a disease to spread (which may result in an epidemic).

Hand, foot and mouth disease

A common infectious disease of infants and children. It is characterized by fever, painful sores in the mouth, and a rash with blisters on hands, feet and also buttocks. It is common in many Asian countries.

Hantavirus pulmonary syndrome

A severe, sometimes fatal, respiratory disease in humans caused by infection by a hantavirus. Anyone who comes into contact with rodents that carry hantavirus is at risk.

Health promotion

The delivery of prevention and health messages to the community in a simple, understandable and effective way that helps to prevent and control diseases and improve people's health. It includes any activity that informs members of a community how to protect themselves from diseases and prevent diseases from spreading to others.

Hepatitis A

A liver disease caused by an infection that is transmitted by dirty hands, or through water and food that have been contaminated by the stools of people who have the disease. It causes the skin and whites of the eyes to become yellow and is accompanied by fever, tiredness, abdominal pain and diarrhoea. This disease can be prevented by vaccination.

Hepatitis E

A liver disease caused by an infection that is transmitted mainly through water that has been contaminated by the stools of people who have the disease. It causes the skin and whites of the eyes to become yellow and is accompanied by mild fever, nausea and vomiting. It very dangerous to pregnant women.

Highly contagious diseases

This group of diseases is particularly dangerous because they spread very rapidly and dynamically and extra efforts are required to control them. They include Ebola virus disease, Marburg haemorrhagic fever and Lassa fever. Some of the diseases in this category are dangerous because they are new and we are less prepared to deal with them.

HIV (the human immunodeficiency virus)

A germ that attacks the immune system (the body's defence against diseases). HIV is present in blood, breast milk, semen and vaginal fluids and can be transmitted through unprotected sexual contact, blood contact and from the mother to her baby.

Hygiene

Practices that protect people from getting infections from blood and certain body fluids. You should always wash your hands with soap and water after handling anything that could carry germs, after going to the toilet, and before and after eating. Avoid wiping your face or mouth with your hands. Wash and disinfect all equipment, clothes and vehicles used during an epidemic. Wear face masks, gloves or boots, if these are required and are available.

Immunity

Not all people who carry the germs that cause a particular disease fall sick. Some people can resist an infection. When this happens, the person is said to be “immune” to the disease. Immunity can be acquired in different ways. A person may become immune because he or she has been ill from the disease before; because he or she carried the germ before, without becoming ill; or because he or she has been vaccinated against the disease.

Infection

A disease that can be transmitted from one person to another. Infections are caused by different kinds of germs and can be transmitted to people in several ways.

Infection cycle

This term explains how infections occur and how one sick person can spread germs to other people in different ways. Germs may spread and infect people: (a) directly, through touching, coughing, sneezing or having sex; (b) indirectly, through a vector; or (c) indirectly, through contact with our environment or surroundings, for example with contaminated water, food, air, soil, etc.

Isolation

The separation of those who are sick from those who are not sick. Sometimes when people are very sick, we have to keep them away from other people until they are better so that they do not make more people sick.

Lassa fever

An acute viral haemorrhagic illness that occurs in West Africa. It is transmitted to humans via contact with food or household items contaminated by rodent urine or faeces. Person-to-person infection can also occur, particularly in hospitals that lack adequate infection prevention and control measures.

Leptospirosis

A bacterial disease that affects both humans and animals. Humans become infected through direct contact with the urine of infected animals or with a urine-contaminated environment (such as recreational water). The germs enter the body through cuts or abrasions on the skin, or through the mouth, nose and eyes.

Malaria

A disease transmitted by a vector (mosquitoes). It causes a fever that rises and falls, with spells of extreme heat and shivering. Anyone can suffer from this disease, which especially affects young children. People who sleep without mosquito nets and live beside water surfaces where mosquitoes lay their eggs are more at risk.

Malnutrition

A condition that occurs when people, especially children, do not have enough food to meet their needs. It is not an infection. Children who suffer malnutrition become weak and cannot resist infections. They are more likely to become sick and to die in the event of an epidemic.

Marburg haemorrhagic fever

A highly contagious disease transmitted by contact with the body fluids of an infected person (blood, vomit, saliva, stools, etc.), or through contact with the bodies of people who have died from the disease, or contact with any surface or object that an infected person may have touched (bed sheets, surfaces, tools, etc.). It causes very severe symptoms, including bleeding, fever, headache and different forms of pain and can kill many of the people who contract it.

Measles

A very infectious disease that particularly affects children. It causes a rash and fever and is passed in crowded places by droplets from coughing and sneezing. It can be prevented by vaccine. (Two doses are given by injection, starting at nine months of age, plus vitamin A drops in the mouth).

Meningitis

A severe disease that can be prevented by vaccine (an injection given in early childhood in places where the infection is a threat). There are several types of meningitis. They include bacterial meningitis (for example, meningococcal meningitis); and viral meningitis. Bacterial meningitis causes fever, headache and a stiff neck, and is passed through droplets from coughing or sneezing. Children are more likely to be affected.

Middle East respiratory syndrome coronavirus (MERS-Cov)

A viral respiratory disease caused by a germ that was first identified in Saudi Arabia in 2012. Although the majority of human cases of MERS-Cov have been attributed to human-to-human infections in health care settings, current scientific evidence suggests that dromedary camels are a major reservoir host for the virus and an animal source of MERS-Cov infection in humans.

Monkeypox

A rare disease that occurs primarily in remote parts of Central and West Africa, near tropical rainforests. The monkeypox virus can cause illness and death in humans. It is transmitted to people from different wild animals but human-to-human transmission does not seem to play an important role.

Oral rehydration solution (ORS)

The main way to treat people who suffer from diarrhoea and dehydration. ORS can be prepared from packets or at home from water, sugar and salt. Follow the instructions on the packet to find out how much water you need to dilute the contents of each packet. Do not keep for more than 24 hours.

Oral rehydration point

The first level of treatment for cholera. It improves access to ORS at community level. ORP points provide rehydration solution quickly, but also screen and refer sick people. ORP can be an information hub for people in the community and collect information on the local state of an epidemic.

Mumps

Generally a mild childhood disease that usually affects children between five and nine years of age. However, the mumps virus can infect adults and, when it does, complications are more likely to be serious (meningitis, orchitis and deafness). It is prevented by vaccination.

Passive surveillance

A method used to detect epidemics at an early stage; a warning tool. During the preparedness phase, volunteers talk informally to people and health professionals in the course of their ordinary work and take note of any diseases that present in an unusual way. In essence, volunteers keep their eyes and ears open and report the unusual. (See also active surveillance.)

Personal protection equipment (PPE)

Equipment worn to protect the wearer from direct contact with sick people, their body fluids, or objects or surfaces that might transmit an infection (such as items or surfaces that may have been touched by someone who has a disease).

Plague

A severe disease transmitted to humans by the bite of infected fleas, by touching or skinning infected animals, or by inhaling droplets from the cough of an infected person or animal.

Polio

A disease that causes paralysis in children. It spreads where water is contaminated with germs through infected stools, especially in overcrowded environments. It can be prevented by vaccine (injection or drops in the mouth given in infancy).

Prevention

Any activity that stops a disease from spreading. Examples include the distribution of mosquito nets, provision of clean water or vaccination campaigns. Prevention activities may benefit all the members of a community or a subgroup of people who face a specific risk.

Referral

The act of sending a sick person for medical treatment to a doctor or nurse, a local clinic or a hospital. When people become so sick during epidemics that families and volunteers can no longer provide adequate care at home, they need care and treatment by professional medical staff. Volunteers refer when they help people to reach medical professionals and health facilities, and advise people on the services they need, where to find them, and who to see.

Rift Valley fever

A disease transmitted from sick animals by a vector. It can cause bleeding of the gums and under the skin, in addition to a fever. It can also cause the skin and the whites of the eyes to become yellow (jaundice). Anyone can suffer from this disease, but it especially affects young children. People who are in close contact with infected animals are more at risk. The disease can also be transmitted by mosquito bites.

Rubella

A contagious, generally mild viral infection that occurs most often in children and young adults. It is the leading vaccine-preventable cause of birth defects. Rubella infection in pregnant women may cause foetal death or congenital defects known as congenital rubella syndrome.

Seasonal chart

Shows the times of the year in which epidemic risks are highest in a particular area.

Social distancing

A method for preventing the spread of a disease by ensuring that healthy people remain at a distance of at least 1.5 metres from people who are sick. In an influenza outbreak, for example, social distancing can reduce the risk of an epidemic or pandemic.

Social mobilization

An activity that promotes community participation. Volunteers often take steps to encourage members of the community to participate in efforts to deal with an epidemic or adopt recommended health and hygiene practices. This is social mobilization. Volunteers are well equipped to mobilize the communities in which they live because they know them and members of the community know them.

Surveillance

A system for detecting new cases of a disease in the community and refer them to health facilities for care and treatment. Surveillance includes activities that educate people about diseases, locate sick individuals, and identify the illnesses from which they are suffering.

Tuberculosis (TB)

An infection that chiefly affects the lungs. Though it resembles them, TB is transmitted and heals much more slowly than respiratory infections. It is a serious disease but in most cases is curable. TB is an air-borne disease that spreads when people who have TB cough and pass the germs to people who do not have TB.

Typhoid fever

A systemic infection, usually contracted through ingestion of contaminated food or water. In acute form, the illness is characterized by prolonged fever, headache, nausea, loss of appetite, and constipation or sometimes diarrhoea.

Vaccine

A medicine that helps people to gain immunity against disease and resist an infection before it occurs. Some vaccines are in the form of injections and others can be given by mouth.

Vector

An insect or animal that can carry germs and spread them to humans or between humans. Examples of vectors include mosquitoes, flies, rats, bats, chickens or monkeys.

Vulnerability

In the context of health, a measure of the probability that different individuals will become sick. Germs and infectious diseases do not affect every person in the same way. Some people fall sick easily when they come into contact with germs, while others do not. (See also Immunity.)

Whooping cough (pertussis)

A highly contagious disease of the respiratory tract caused by bacteria that live in the mouth, nose and throat. Many children who are sick with pertussis have coughing spells that last four to eight weeks. The disease is most dangerous in infants and spreads easily from person to person, mainly through droplets produced by coughing or sneezing. It is preventable by vaccination.

Yellow fever

A severe viral disease that causes fever and pain and can be severe. It is transmitted by infected mosquitoes and can be prevented by vaccination. (One injection after nine months of age.)

Zika virus infection

A virus transmitted primarily by Aedes mosquitoes. People with Zika virus infection can have symptoms that include mild fever, skin rash, conjunctivitis, muscle and joint pain, malaise or headache. Zika virus infection during pregnancy is a cause of congenital brain abnormalities, including microcephaly. It can affect the brain and is a trigger for a form of paralysis called Guillain-Barré syndrome.

Zoonosis

Infectious diseases of animals or rodents that can be transmitted to humans. These diseases can cause severe illness or even death. The animals that transmit them may or may not be affected themselves.

The Fundamental Principles of the International Red Cross and Red Crescent Movement

Humanity The International Red Cross and Red Crescent Movement, born of a desire to bring assistance without discrimination to the wounded on the battlefield, endeavours, in its international and national capacity, to prevent and alleviate human suffering wherever it may be found. Its purpose is to protect life and health and to ensure respect for the human being. It promotes mutual understanding, friendship, cooperation and lasting peace amongst all peoples.

Impartiality It makes no discrimination as to nationality, race, religious beliefs, class or political opinions. It endeavours to relieve the suffering of individuals, being guided solely by their needs, and to give priority to the most urgent cases of distress.

Neutrality In order to enjoy the confidence of all, the Movement may not take sides in hostilities or engage at any time in controversies of a political, racial, religious or ideological nature.

Independence The Movement is independent. The National Societies, while auxiliaries in the humanitarian services of their governments and subject to the laws of their respective countries, must always maintain their autonomy so that they may be able at all times to act in accordance with the principles of the Movement.

Voluntary service It is a voluntary relief movement not prompted in any manner by desire for gain.

Unity There can be only one Red Cross or Red Crescent Society in any one country. It must be open to all. It must carry on its humanitarian work throughout its territory.

Universality The International Red Cross and Red Crescent Movement, in which all societies have equal status and share equal responsibilities and duties in helping each other, is worldwide.

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