Communication handbook on high-threat pathogens

A pocket guide for field workers in WHO's Eastern Mediterranean Region to ensure an effective response to potential epidemics

World Health Organization
REGIONAL OFFICE FOR THE Eastern Mediterranean

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Contents

Section 1

Introduction

This handbook is an easy-to-use resource for field staff working in countries in WHO's Eastern Mediterranean Region. It provides crucial information on 15 of the most high-threat pathogens in the Region and important guidance to field staff both before and during a disease outbreak.

Who should use it?

Health and frontline workers working at any level or country within the Region.

Benefit

This handbook will benefit you in many ways. By using it you will be:

Better informed
It will provide you with the most updated and accurate information on 15 of the most high-threat pathogens in the Region.

More resourceful
It will guide you on how to communicate effectively during a potential outbreak.
It will brief you on practical tasks that you can do, as well as tasks to avoid.

Well prepared
You will have "ready to print" and "ready to share" materials in case of outbreaks.

It is strongly recommended that countries translate this handbook into local languages.

Section 2

Role of effective communications during an outbreak

Effective communication has a crucial role to play in preventing outbreaks, as well as in reducing their harmful impact to:

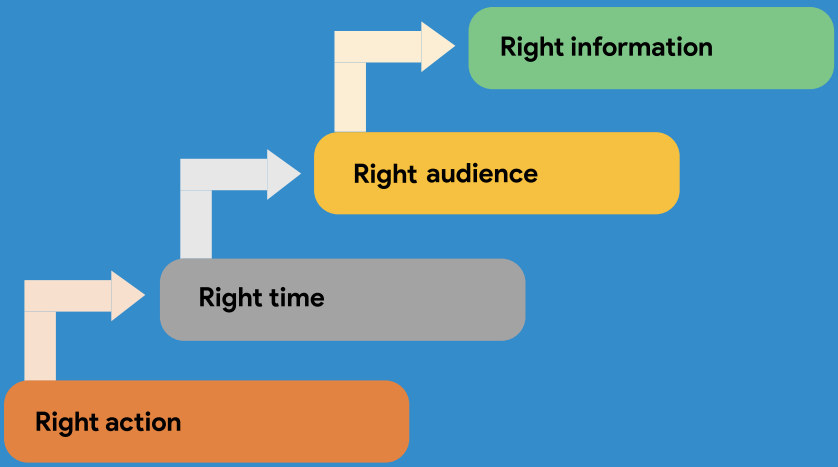
Communities

High-risk groups

Front-line workers

The 4 rights of effective communication

The 4 rights are crucial for effective communication during outbreaks.

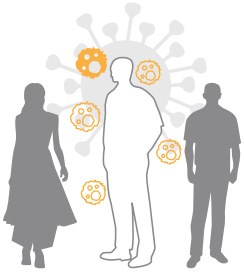


What is the right information?

Information that is clear, accurate and relevant for your target audience.

What can field workers do to deliver the right information?

- Deliver it in a language that the communities understand.
- WHO recommends that all posters are disseminated in the local language of the target audience. You must ensure that the translated content does not lose its intended meaning.
- It is always better to pre-test the information among communities which means that you should share the translated material with a diverse sample of the community to be sure that the translated message is exactly the same as the original message.
- Deliver it in a tone that is respectful.
- Follow the information as provided in this handbook without any modifications.
- Only give communities information that is most relevant to their specific needs (refer to Section 4).
- Ask people to repeat what you have told them to ensure that they have understood it correctly.
- Encourage people to ask questions. Answer them according to the information provided in this handbook.



Who is the right audience?

Generally, anyone who is at risk of a disease is the right audience. The challenge is that people at risk might have different beliefs and cultures, speak different languages, look at health differently, have different literacy levels, live in different environments and have different lifestyles.

What can field workers do to identify and reach the right audience?

- ☑ Identify target audiences with respect to each disease. Section 4 of this handbook will help you to do that.
- ☑ Give the most relevant information to each audience as mentioned in Section 4.
- ☑ Identify the activities that you can do according to your available options. Sections 3 and 4 both identify key activities according to the pathogen and your target audience.
- ☑ Identify networks, associations and platforms that can help you reach the right audience.
- ☑ Use the posters as visual aids for those who can not read.
- ☑ Read out the posters for audiences who may not be able to read or who may be visually impaired.
- ☑ Ask the caregivers of people with hearing disabilities to explain the posters in sign language or other ways needs.

What is the right time?

Timely information can avert major crisis. Right time means that the information is the most up to date and that it should reach your audience early and regularly so that they can take the necessary action in a timely way.

What can field workers do to ensure that they are providing the most updated information at the right time?

- ☑ Mark your calendars for common seasonal diseases like winters for seasonal influenza and summers for dengue.
- ☑ Do not wait for the number of cases to increase. It is always better to disseminate as much information as possible, even if just a few cases have been reported.
- ☑ Keep contact information of key members of communities, front-line health workers and government departments so you do not face delays locating or contacting them in case of an outbreak.
- ☑ During an outbreak information needs are diverse and frequent, share links, important numbers and be ready to disseminate communication products with communities.
- ☑ Until the situation stabilizes, keep communicating.
- ☑ Ask them to verify news and information from reliable and trusted sources, such as the WHO website.
- ☑ Subscribe to WHO's social media pages and online platforms and information resources.
- ☑ Liaise with WHO country offices and concerned government departments.
- ☑ Encourage communities to ask questions. Answer them according to the information provided in this handbook.

What is the right action?

All of the important actions that you would like communities, high-risk groups and health workers to take after you provide them with the right information at the right time. All the necessary actions with respect to audiences and pathogens are mentioned in Section 4.

What can field workers do to inspire the right action?

- ☑ Always introduce yourself and tell people that the advice you are providing is approved and recommended by WHO.
- ☑ Explain to people why they should take an action, for example: During winter, seasonal influenza can spread rapidly so get vaccinated to protect yourself.
- ☑ It is good to count on your fingers the key actions that you want them to perform. This will help them to remember the number of actions that they need to perform.
- ☑ Tell them how they should perform that action, for example: Go to the nearest hospital for a flu shot before the winter season.
- ☑ Ask individuals what factors may hinder their ability to perform an action, such as not being able to afford transportation costs to the nearest hospital.
- ☑ When possible, always demonstrate to the community what you are asking them to do, such as washing hands, applying a mosquito repellent, wearing a mask.
- ☑ Encourage individuals to demonstrate certain actions to other community members.

Section 3

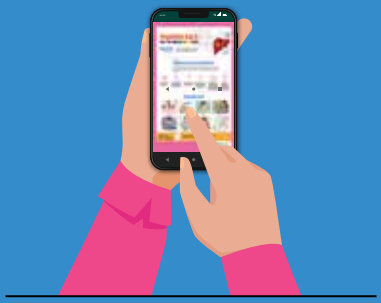
Introduction to communication materials

This handbook contains communication materials on high-risk pathogens in the Region, ready to present, reproduce and disseminate.

1. The posters can be accessed at: https://www.emro.who.int/high-threat pathogens-posters.html posters, and presented on screen to community members.

2. The posters can be accessed by community members and printed.

3. During a potential outbreak, the WHO country office can be contacted to provide you with copies of posters to disseminate among communities.



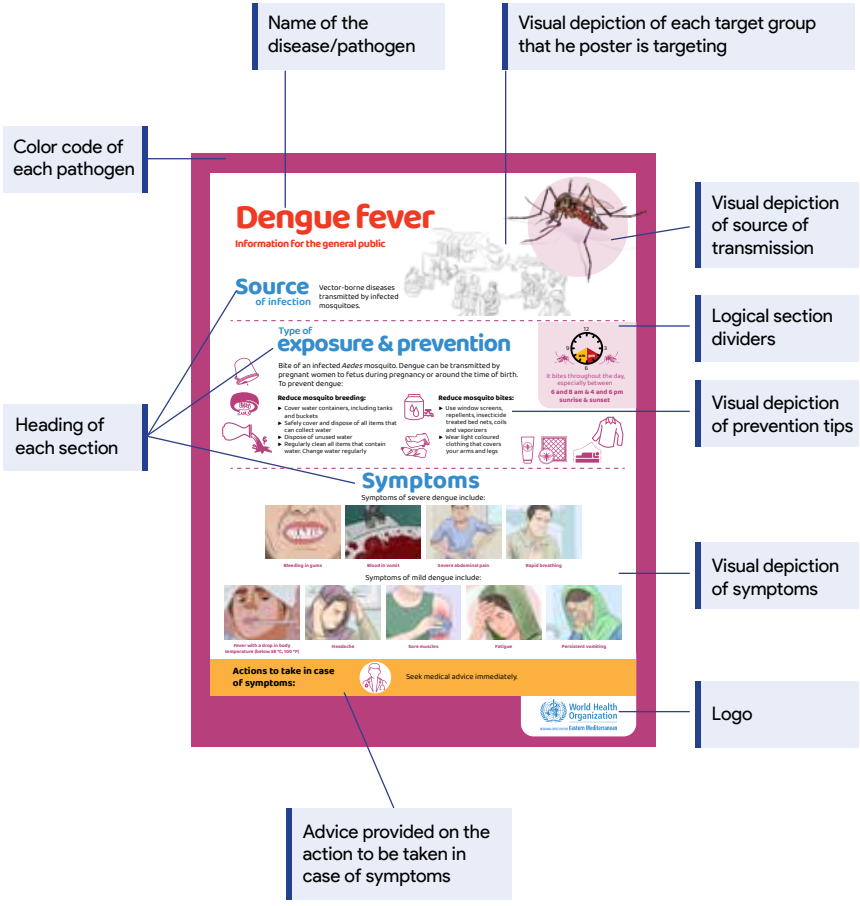
Posters

Table 1 below provides a list of the diseases covered by the posters. It also shows the colour coding for each of the posters and how many posters for each disease have been produced for different target audiences.

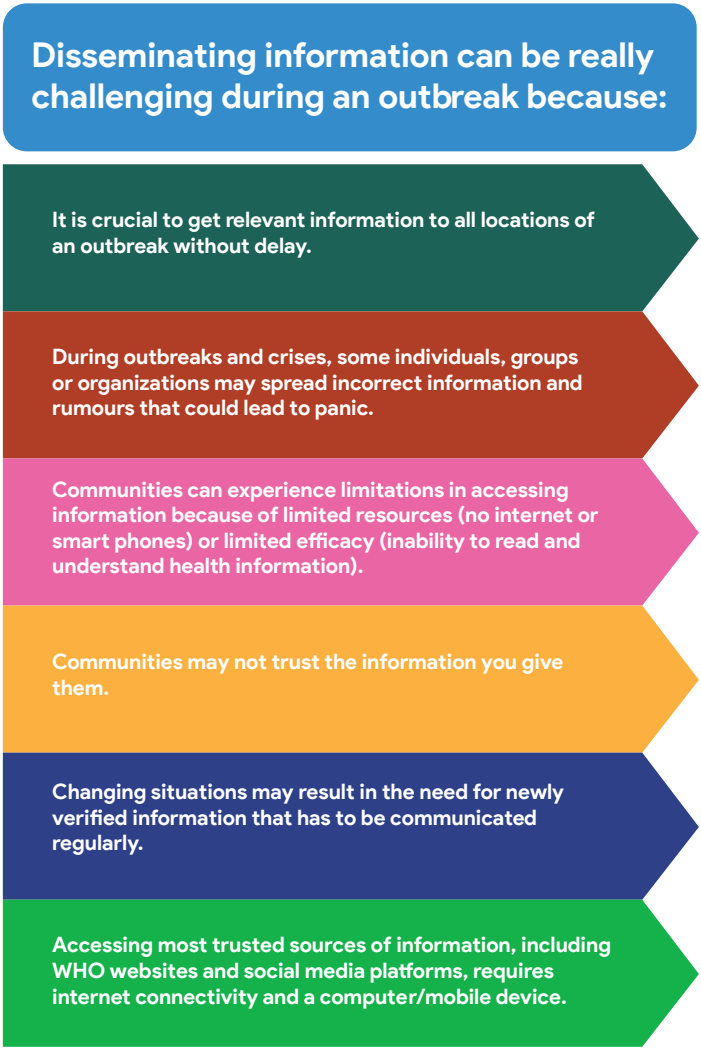
Table 1. List of the 15 disease-specific posters

	Disease	Color code	Number of posters
1	Anthrax		3
2	Chikungunya		3
3	Cholera		4
4	Dengue		3
5	Hepatitis A and E		4
6	Legionnaires' disease		2
7	Leishmaniasis		2
8	Meningitis		3
9	Rabies		2
10	Rift Valley fever		3
11	Seasonal influenza		3
12	Typhoid		2
13	Vector-borne diseases		2
14	Viral hemorrhagic fevers		3
15	Yellow fever		2

The figure below provides an explanation of some of the key visual and text components of each poster. Please familiarize yourself with these before using any poster as a visual aid for communities.

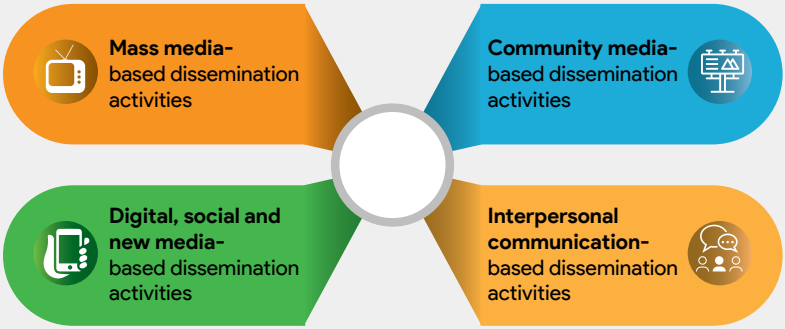


The figure below outlines some of the key factors that must be considered when communicating with the public during an outbreak.



Which different dissemination channels can be used by field workers?

For dissemination, your activities can be classified into four different types depending upon your resources.



How field workers can improve dissemination of communication products:

1) Identify all sources that the community trusts for information. This can be done by asking different members of your community about the information sources that they regularly use, especially for getting news and taking important decisions related to health.
2) Create partnerships at community level with people and trusted institutions including but not limited to:

3) Identify all important sources of information that you can share with communities. They can include:

Mass media

- Mass media means traditional media like TV, radio and newspapers.
- They are especially suited to rapid dissemination needs during a potential epidemic.
- Mass media can disseminate information to a large population in a short time.
- Using media channels can be expensive; however, you could partner with local governments, nongovernmental organizations, UN agencies, development organizations, or the mass media platforms themselves to share the costs.

What type of activities can you do on mass media?

You can partner with media channels for content dissemination for both the pricing-based and social responsibility-based model.

In the pricing model you pay the television or radio channel or newspaper to disseminate communication materials provided that the content to be disseminated is ready like an animation, public service message or designed advertisement.

In social responsibility models, some media channels or platforms are likely to give you free airtime/ placement depending upon how urgent and critical the information is.

In addition to large media organizations, it is also good to liaise with professionals working for those media platforms like journalists, editors, content producers, programme hosts for TV, radio and newspapers. This increases the chances of partnership, especially in case of outbreaks.

Community level media

- Media with restricted reach to specific communities mostly with respect to geography, like public spaces, outdoor signage, community level events and festivals, theatre, folk performances, transit media (buses, taxis, trains) and public areas like airports, bus/railway stations, community centres.
- Community media is especially useful when a disease is affecting only a limited part of a country/province. Thus, the priority is to control the disease in that area and to prevent its spread.
- Community media can vary a lot from country to country depending upon how you define it. However, here the term “community level” is consciously used to identify platforms, channels and opportunities that specific members of the community can create by themselves to reach out to others within their community.

What type of activities can you do on community media?

Consult community experts on popular public places, such as most visited hospitals, educational institutions, places of community and religious gatherings, touristic venues, popular markets, government offices, traffic intersections and other places where communities gather regularly.

You can put printouts of the posters in those areas in partnership with local governments and communities.

You can also share the materials with communities to print themselves and disseminate them where they find most useful. You must liaise with key people within the community who can provide you with the access to public platforms in the interest of public safety.

Digital, social and new media

This includes all content that can be accessed through smart phones, tablets, laptops, desktops and other smart devices through the internet or through local telecommunication networks. These include popular websites, social media platforms, messengers, blogs, internet-based video channels, SMS, automated calls, ringtones and interactive voice response.

What type of activities can you do on digital, social and new media?

Talk to local internet and telecom companies in your area about what can be done to reach out to subscribers.

Talk to the local telecommunication authority to find ways in which critical information can reach the maximum number of people to save lives.

There are many countries in the Region that have a large number of internet subscribers and broadband users with a very active presence on various social media platforms. You may separately map those popular vloggers, bloggers and social media influencers with the most followers in your area to share digital versions of the posters with their followers.

As standard practice always share information from WHO websites or social media platforms as this will add both credibility and consistency to the message.

Train digital media influencers to fact check information from online WHO sources, before broadcasting to larger audiences.

Identify misleading online content for removal and necessary action by regulatory authorities.

Interpersonal communications

Interpersonal communication is especially suited to areas where access to mass, community and digital media is very limited.

What type of activities can you do through interpersonal communication?

Ensure that you are following all necessary health protection standard operating procedures when you are going out in the field.

Involve community leaders or representatives when you are a stranger in the community.

It is always good to team up with local people who have the respect of fellow community members. These could include community leaders, health workers, local doctors, religious leaders, teachers, farmers, professionals etc.

Always consult trusted sources of information, such as the WHO website, to ensure that the information you share is credible and consistent.

Try orienting them once before they can spread the message further. Ask questions from communities after you have explained to them to be sure that they understood the message.

You can use either the printed or digital version of a poster as a visual aid while you explain precautions, symptoms or key actions to each audience. You can also demonstrate key behaviours such as washing hands, boiling water or wearing a mask.

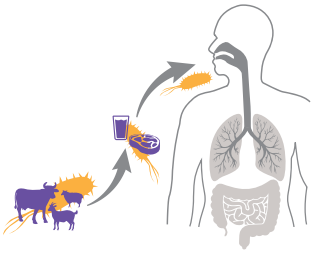
Section 4

Communication materials

This section provides information on each disease and the measures that communities can take to control them.

1. Anthrax

- Bacterium called *Bacillus anthracis* cause anthrax.
- It is not a new disease. It is completely treatable after correct and rapid diagnosis.
- It is caused by direct or indirect contact with infected animals, or occupational exposure to infected or contaminated animal products.



- It is treatable. Take antibiotics only with medical advice.
- Widespread immunization against anthrax is not a feasible option, hence prevention is key.

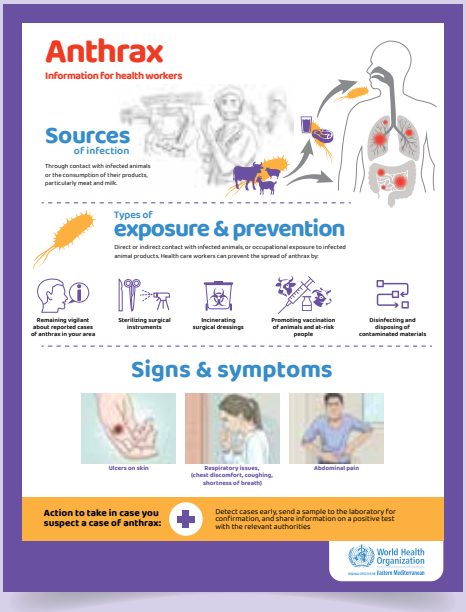
Communication materials on anthrax		
No	**Audience**	**Focus**
1	General public	Measures to control anthrax
2	Health workers	Measures to control anthrax
3	Farmers, butchers, veterinarians and other industry workers	Measures to control anthrax

What you can do to control anthrax

- Share the posters with communities, health workers and those working in the meat and dairy industry, including farmers, butchers, milk collectors, animal skin collectors, veterinians and meat/milk packaging industry.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share posters with local journalists working on the subject of health, as well as dairy, meat, livestock association workers and veterinarians.

For communities

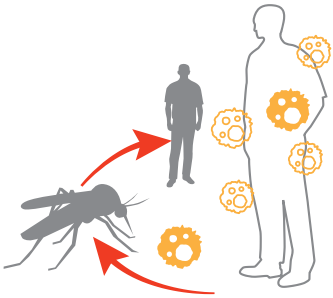
For health workers



For farmers, butchers, veterinarians and other industry workers

2. Chikungunya

- Chikungunya is transmitted by *Aedes* mosquitoes, which primarily bite during the day.
- Outbreaks occur typically in urban settings.
- Recovery may take time and patients may experience complications for a long time.
- Chikungunya is often misdiagnosed as dengue or other diseases.



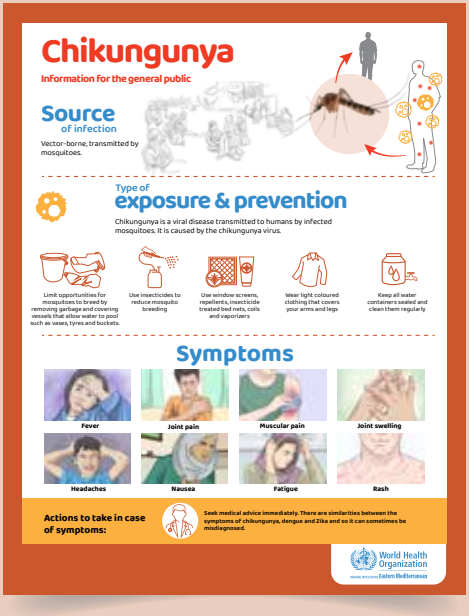
- Severe cases are rare and mostly occur in individuals with pre-existing conditions.
- Avoiding vector exposure is key to reducing transmission in addition to controlling vector breeding.

Communication materials on chikungunya		
No	**Audience**	**Focus**
1	General public	Measures to control chikungunya
2	Health workers	Measures to control chikungunya
3	Workers in the tyre industry	Measures to control chikungunya

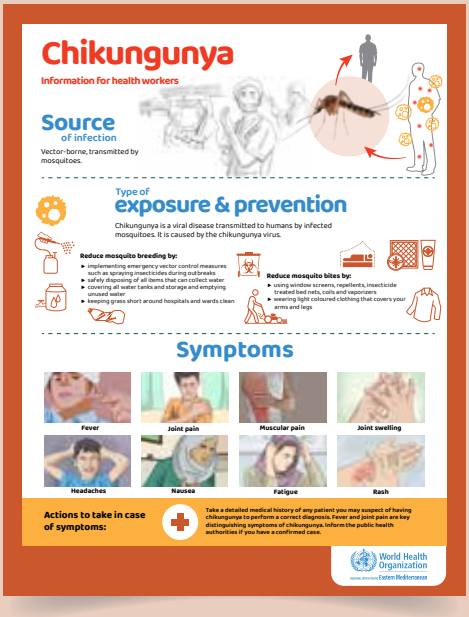
What you can do to control chikungunya

- Share posters with communities, health workers and workers working in the tyre industry. This also includes all communities living near major tyre markets, warehouses, disposal sites and other potential areas in which mosquito breeding is likely to occur.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Provide information to local communities and authorities on ways to reduce mosquito breeding and mosquito bites.

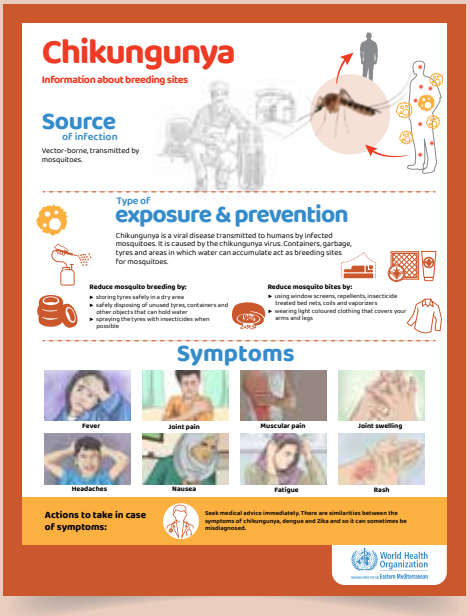
For the general public



For health workers

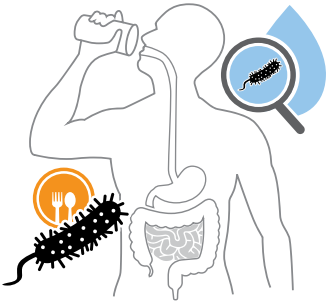


Information about breeding sites



3. Cholera

- Cholera is transmitted by faecally-contaminated water and food.
- Outbreaks can spread rapidly and infect many people.
- Rapid detection of suspected cases and laboratory confirmation are essential.
- Symptoms of cholera include acute watery diarrhoea with no fever.
- Severe forms of cholera can kill within hours: early rehydration is the cornerstone of treatment.



- Oral rehydration solution prevents loss of life from cholera. It can be prepared at home with clean water.
- Oral cholera vaccines are safe and should be used with other prevention and control strategies.

Communication materials on cholera		
No	**Audience**	**Focus**
1	General public	Oral rehydration solution (ORS)
2	General public	Oral cholera vaccine
3	Health workers	Measures to control cholera
4	Food handlers	Measures to control cholera

What you can do to control cholera

- Share posters with communities, health workers and workers associated with the food industry and its allied services. Food growers, processing, packaging, distribution and retail especially fresh vegetables, fruits, grains and seafood.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Local pharmacies, clinics and hospitals can display these posters, especially those related to oral rehydration solution and oral cholera vaccine.

For the general public
(oral rehydration solution)

Cholera

Information for the general public on oral rehydration solution

Sources of infection

Foodborne and waterborne, transmitted by consumption of food and drink contaminated with the bacterium *Vibrio cholerae*.

Types of exposure & prevention

Direct contact with bacterium in water or food. It can spread very quickly, especially in conditions created by emergencies. Cholera can be fatal. Prevent it by:

- Only drinking boiled and clean water
- Using clean water for washing and preparing food, and making ice
- Washing your hands often with soap and safe water
- Cooking food completely, keeping it covered, and eating it hot
- Washing yourself and your children, and diapers and clothes away from drinking-water sources.

Symptoms

Diarrhoea that looks like "rice water" in large amounts | Vomiting | Leg cramps | Weakness | Dehydration

Actions to take in case of symptoms:

Cholera can make a healthy person weak quickly and can cause death within 24 hours. Oral rehydration solution (ORS) can successfully treat 80% of patients. You can continue to breastfeed infants and young children even if you have been diagnosed with cholera.

What is ORS?

ORS is sodium and glucose solution prepared by diluting 1 sachet of readily available ORS in 1 litre of clean and safe water. You can also make it at home by mixing the following:

1. **Half a teaspoon of salt**
2. **Six teaspoons of sugar**
3. **One litre of clean and safe drinking-water or lightly salted rice water**

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For the general public
(oral cholera vaccine)

Cholera

Information for the general public on oral cholera vaccine

Sources of infection

Foodborne and waterborne, transmitted by consumption of contaminated food and drink contaminated with the bacterium *Vibrio cholerae*.

Types of exposure & prevention

Direct contact with bacterium in water or food. It can spread very quickly, especially in conditions created by emergencies. Cholera can be fatal. Prevent it by:

- Only drinking boiled and clean water
- Using clean water for washing and preparing food, and making ice
- Washing your hands often with soap and safe water
- Cooking food completely, keeping it covered, and eating it hot
- Washing yourself and your children, and diapers and clothes away from drinking-water sources.

Symptoms

Diarrhoea that looks like "rice water" in large amounts | Vomiting | Leg cramps | Weakness | Dehydration

Oral cholera vaccine

Oral cholera vaccine (OCV) provides 66–67% protection for at least 2 years against clinically significant cholera in countries or areas reporting outbreaks.

Important instructions for vaccine administration

For infants	For children (2-5 years)	For children aged 6+ and adults
Do not use on infants as OCV is not licensed for infants.	3 oral doses. Each given 1-6 weeks apart.	2 oral doses to be given 1-6 weeks apart.

- **Intake of food and drinks should be avoided for one hour before and after vaccination.**
- **If you do not receive your second dose within 6 weeks you will have to restart vaccination.**

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For health workers

Cholera

Information for health workers

Sources of infection

Foodborne and waterborne, transmitted by consumption of contaminated food and drink contaminated with the bacterium *Vibrio cholerae*.

Types of exposure & prevention

Direct contact with bacterium in water. It can spread very quickly, especially in conditions created by emergencies. Cholera can be fatal.

Staff at health facilities should assess levels of dehydration and diarrhoea.

Signs of mild and severe dehydration include:

- Restlessness
- Sunken eyes
- Lethargy
- Ill-temperedness
- Loss of skin elasticity
- Unconsciousness

Instructions for treating patients

It is recommended that mothers continue to breastfeed regularly even if they have been diagnosed with cholera

Antibiotics are for severe cases only. For mild cases, give oral rehydration salts

Practise hand hygiene and only drink clear water

Use intravascular fluids to hydrate patients

Give zinc to children

Actions to take in case of symptoms:

If you are a health worker and are experiencing symptoms of cholera, seek medical advice immediately. Inform your supervisor, take rest and continue your course of treatment until fully recovered.

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For food handlers

Cholera

Information for food handlers

Sources of infection

Foodborne and waterborne, transmitted by consumption of contaminated food and drink contaminated with the bacterium *Vibrio cholerae*.

Types of exposure & prevention

Direct contact with bacterium in water or food. It can spread very quickly, especially in conditions created by emergencies. Cholera can be fatal.

If you are buying or selling food, prevent cholera by:

- Washing hands before touching food and after using the toilet
- Washing utensils, food ingredients and cutlery with soap and clean water
- Cooking food well and keeping it at a safe temperature
- Not allowing sick people to prepare or handle food
- Using latrines or burying your faeces
- Sanitizing shared washrooms of restaurants or warehouses.

Symptoms

Diarrhoea that looks like "rice water" in large amounts | Vomiting | Leg cramps | Weakness | Dehydration

Actions to take in case of symptoms:

If you are experiencing symptoms of cholera, seek medical advice immediately. Avoid cooking and serving food to others, as doing so will lead to more infections.

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4. Dengue

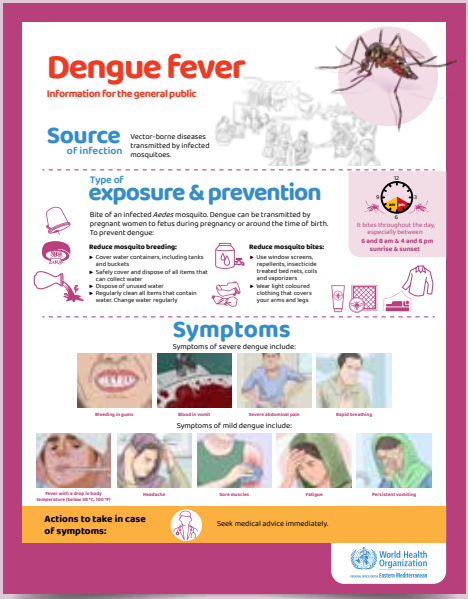
- Dengue is transmitted by female mosquitoes of the species *Aedes aegypti* and, to a lesser extent, by *Ae. albopictus*.
- These mosquitoes are also vectors of chikungunya, yellow fever and Zika viruses.
- WHO classifies dengue into two major categories: dengue (with/without warning signs) and severe dengue.
- Plasma leaking, fluid accumulation, respiratory distress, severe bleeding, or organ impairment can result from severe dengue.
- There is no vaccine for dengue.
- There is no specific treatment for dengue/severe dengue. Early detection, and access to proper medical care lowers fatality rates of severe dengue to below 1%.
- Reducing exposure to vectors and breeding sites is crucial to reducing transmission.

Communication materials on dengue		
No	**Audience**	**Focus**
1	General public	Measures to control dengue
2	Health workers	Measures to control dengue
3	Travellers	Measures to control dengue

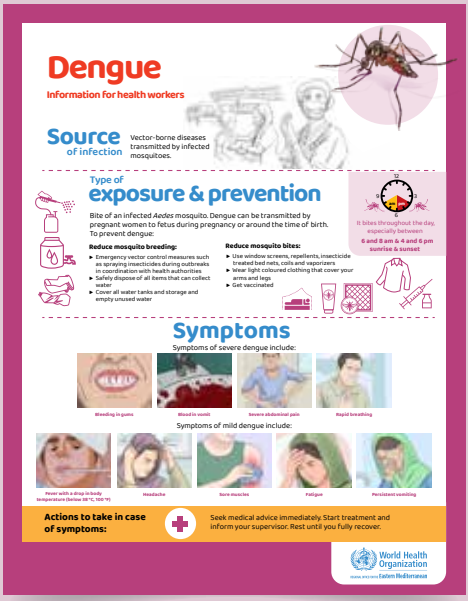
What you can do to control dengue

- Share posters with communities, health workers, and potential travellers to dengue-affected regions.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Provide information to local communities and authorities on ways to reduce mosquito breeding, as well as mosquito bites. Communities living near water reservoirs need to be extra careful.

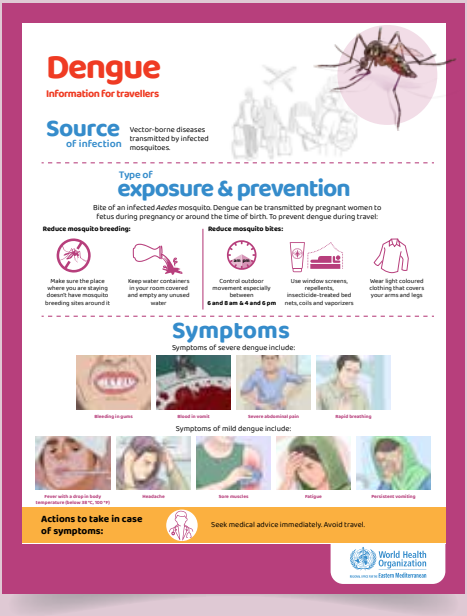
For the general public



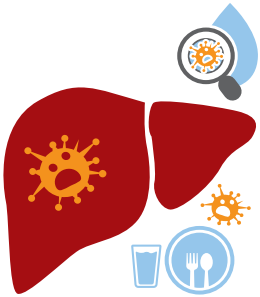
For health workers



For travellers



5. Hepatitis A and E



- Hepatitis is an inflammation of the liver. There are five strains of the virus, referred to as types A, B, C, D and E.
- Hepatitis A virus is transmitted through ingestion of contaminated food and water or through close personal contact with an infected person.
- Safe water supply, food safety, improved sanitation, hand washing and hepatitis A vaccine are effective ways to reduce transmission.
- Hepatitis E is transmitted via the faecal-oral route, principally via contaminated water.
- Pregnant women with hepatitis E, particularly those in the second or third trimester, are at increased risk of acute liver failure, fetal loss and mortality.
- Safe water supply, food safety, improved sanitation and hand washing are best ways to prevent hepatitis E as there is no vaccine. Pregnant women should take extra care.

Communication materials on hepatitis A and E		
No	**Audience**	**Focus**
1	Schools	Measures to control hepatitis A
2	Pregnant women	Measures to control hepatitis E
3	People living in camps	Measures to control hepatitis A and E
4	Health workers	Measures to control hepatitis E

What you can do to control hepatitis A and E

- Share posters with education departments, school associations, trained birth attendants, and health workers, especially those working in camps.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Disseminate the posters to camps, large slums, people living in mud houses with poor sanitation and hospitals with large inflow of pregnant women. Share with birth attendants, especially in rural and open-air communities. Work with local authorities to control open defecation.

For schools

Hepatitis A & E

Information for schools

Sources of infection

Foodborne and waterborne, transmitted through ingesting contaminated food and drink.

Types of exposure & prevention

Hepatitis A and E are transmitted by ingesting contaminated food or drink or through direct contact with an infected person. Poor food hygiene, unsafe water, and lack of sanitation are the leading causes of hepatitis. Prevent it by:

- Getting vaccinated for hepatitis A.
- Washing hands before touching food and after using the toilet
- Only drinking clean and boiled water
- Only using ice or ice products made with clean water
- Cooking food well and keeping it at a safe temperature
- Avoiding open defecation. Use toilets that are clean and have water and soap

Symptoms

Actions to take in case of symptoms: Some medicines should not be taken during hepatitis A, hence avoid self-medication. Seek medical advice and only take medications prescribed by a doctor.

World Health Organization
Working with the Eastern Mediterranean

For pregnant women

Hepatitis E

Information for pregnant women

Sources of infection

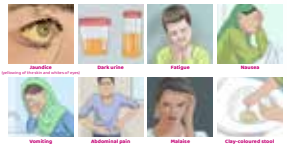
Foodborne and waterborne, transmitted through ingesting contaminated food and drink.

Types of exposure & prevention

Hepatitis E is transmitted by ingesting contaminated food or drink or through direct contact with an infected person. Pregnant women are at increased risk, particularly during the second and third trimester. Prevent hepatitis E by:

- Ensuring hand hygiene and sanitation
- Washing hands before touching food and after using the toilet
- Only drinking clean and boiled water
- Eating clean food, ideally homemade, which is thoroughly cooked
- Avoiding open defecation. Use toilets that are clean and have water and soap

Symptoms



Hepatitis E causes severe liver disease in pregnant women that can lead to:

- **acute liver failure;**
- **fetal loss; and**
- **mortality.**

Actions to take in case of symptoms: Seek medical advice immediately. Fatality rates for pregnant women in their third trimester are high.

World Health Organization
Working with the Eastern Mediterranean

For people living in camps

Hepatitis A & E

Information for people in camp settings

Sources of infection

Foodborne and waterborne, transmitted through ingesting contaminated food and drink.

Types of exposure & prevention

Hepatitis A and E are transmitted by ingesting contaminated food or drink or through direct contact with an infected person. In camps settings in which washrooms are limited, water sources are shared and open defecation occurs, the risk of hepatitis increases. Prevention measures include:

- Getting vaccinated for hepatitis A.
- Washing hands before touching food and after using the toilet
- Only drinking clean and boiled water
- Only using ice or ice products made with clean water
- Cooking food well and keeping it at a safe temperature
- Avoiding open defecation. Use toilets that are clean and have water and soap

Symptoms

Actions to take in case of symptoms: Seek medical advice immediately and only take medication prescribed by a doctor. Do not share personal items like towel, clothes or handkerchieves with others if you have hepatitis A or E.

World Health Organization
Working with the Eastern Mediterranean

For health workers

Hepatitis E

Information for health workers

Sources of infection

Foodborne and waterborne, transmitted through ingesting contaminated food and drink.

Types of exposure & prevention

Hepatitis E is transmitted by ingesting contaminated food or drink or through direct contact with an infected person. Health care workers should take extra care during an epidemic. Prevention measures include:

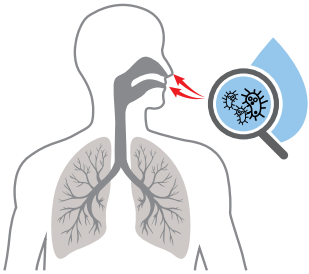
- Wearing personal protective equipment
- Implementing good infection prevention and control measures
- Washing hands before touching food and after using the toilet
- Ensuring food and drink is uncontaminated

Symptoms

Actions to take in case of symptoms: Seek medical advice immediately. Inform your supervisor and rest at home until you are fully recovered.

World Health Organization
Working with the Eastern Mediterranean

6. Legionnaires' disease



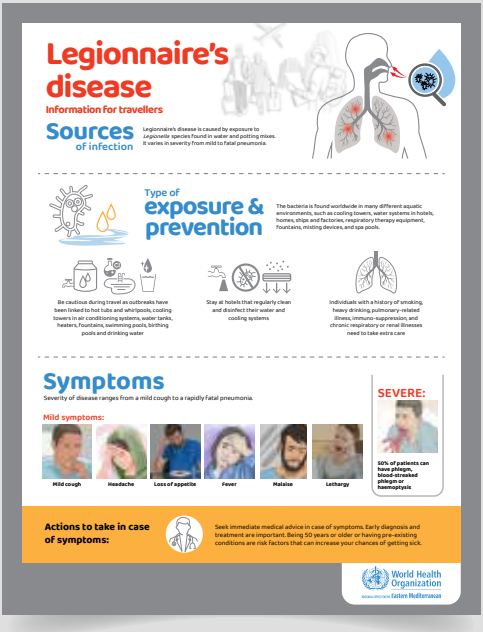
- Legionnaires' disease is a fatal form of pneumonia and is caused by exposure to *Legionella* species found in water and potting mixes.
- The disease is mainly acquired through inhalation of contaminated water droplets.
- The bacterium is found worldwide in many different aquatic environments, such as cooling towers, water systems in hotels, homes, ships and factories, respiratory therapy equipment, fountains, misting devices, and spa pools.
- Delay in diagnosis and treatment, age and existing diseases are high risks for potential Legionnaires' disease. Immediately seek medical advice in case of symptoms.
- Travellers to aquatic environments both natural and artificial should follow precautions.

Communication materials on Legionnaires' disease		
No	**Audience**	**Focus**
1	Travellers	Measures to control Legionnaires' disease
2	Workers in the hotel and tourism industry	Measures to control Legionnaires' disease

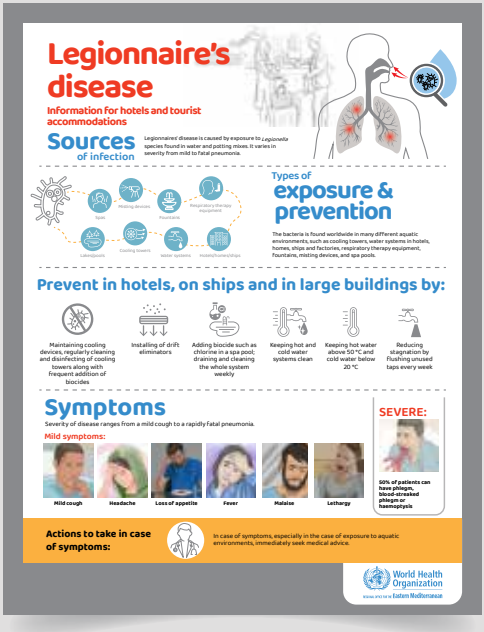
What you can do to control Legionnaires' disease

- Share the posters with tourist resorts and hotels with swimming pools, spas and shared cooling facilities.
- The posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Identify key tourist destinations in your area and disseminate posters among travel associations, train and bus stations, airports and tour operators.

For travellers



For workers in the hotel and tourism industry



7. Leishmaniasis

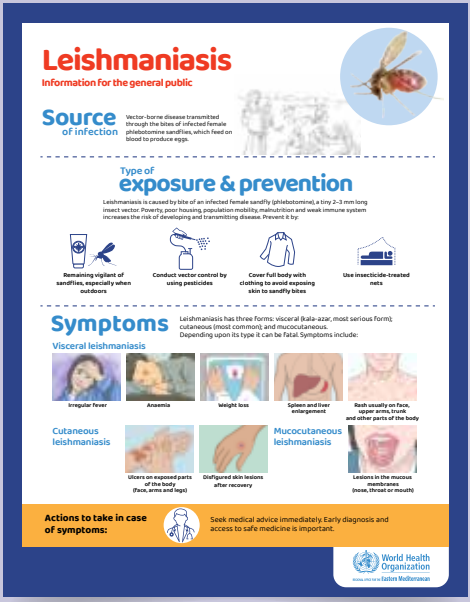
- Leishmaniases are a group of diseases caused by parasites transmitted to humans by the bite of an infected female phlebotomine sandfly, 2–3 mm long, insect vector.
- There are three forms of the disease: cutaneous leishmaniasis, visceral leishmaniasis, also known as kala-azar, and mucocutaneous leishmaniasis.
- Cutaneous leishmaniasis is the most common, visceral leishmaniasis is the most severe and mucocutaneous leishmaniasis is the most disabling form of the disease.
- Early diagnosis and prompt treatment reduces the prevalence of the disease and prevents disabilities and death.
- Vector control helps to reduce transmission of disease by decreasing sandflies.
- Leishmania-HIV coinfected people have a high chance of developing the full-blown clinical disease, and high relapse and mortality rates.

Communication materials on leishmaniasis		
No	**Audience**	**Focus**
1	General public	Measures to control leishmaniasis
2	Internally displaced persons/ refugees	Measures to control leishmaniasis

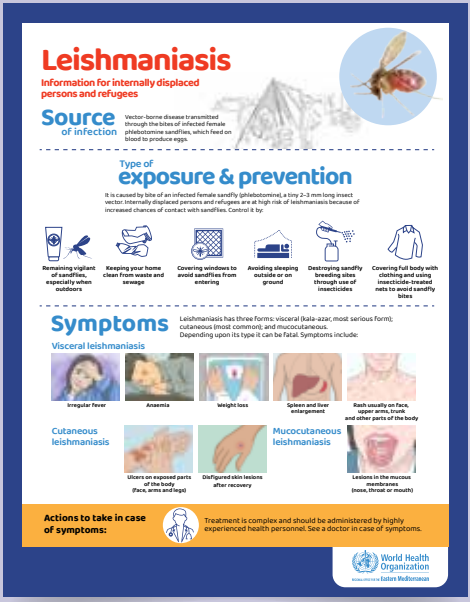
What you can do to control leishmaniasis

- Share the posters in all communities where sandflies are present, especially where communities have a habit of sleeping outdoors at night, exposing them to contact with sandflies.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share posters with local authorities in charge of vector control to reduce the breeding of sandflies in places with dense populations, and governmental authorities with a mandate to regulate refugees and internally displaced persons.

For the general public



For internally displaced persons and refugees



8. Meningococcal meningitis

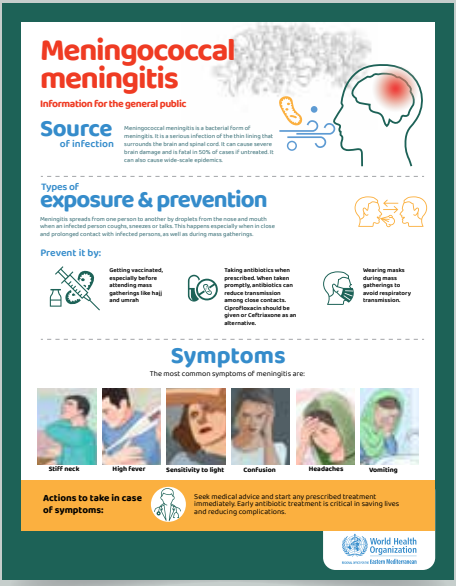
- Meningococcal meningitis is an acute bacterial form of meningitis due to *Neisseria meningitidis*, a serious infection of the meninges (brain membranes).
- It is transmitted through direct contact and respiratory droplets.
- Meningococcal meningitis can have a fatality rate of up to 50% when untreated.
- Specific vaccines are used for prevention and outbreak response.
- Surveillance is critical to detect outbreaks and inform epidemic response.
- Early treatment can save lives and reduce complications.
- Antibiotics reduce transmission risk for close contacts when given promptly.

Communication materials on meningitis		
No	**Audience**	**Focus**
1	General public	Mass gatherings
2	School children	Measures to control meningitis
3	Internally displaced persons	Measures to control meningitis

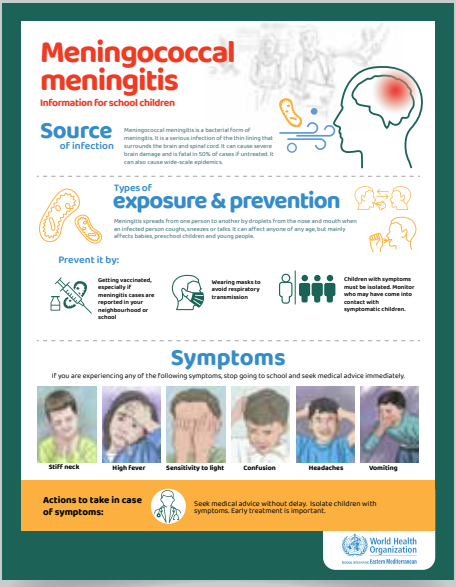
What you can do to control meningitis

- Share the posters with communities, school children, internally displaced persons and refugees, especially on special occasions when mass gatherings like Eid, hajj, marriage ceremonies, etc. take place.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share with travel agents, airports and local transporters to orient all travellers attending a mass gathering.

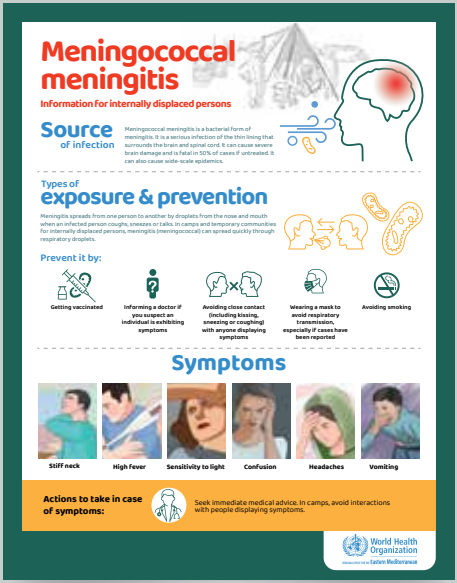
For the general public



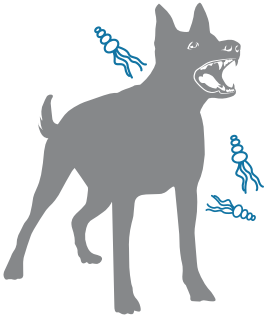
For school children



For internally displaced persons



9. Rabies



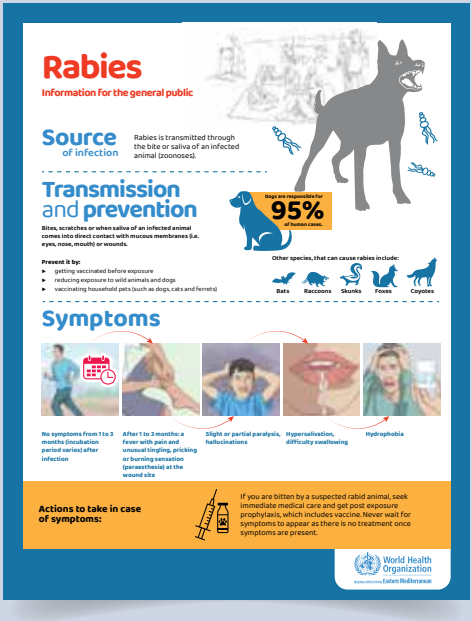
- Rabies is a viral zoonotic disease that causes fatal inflammation of the brain and spinal cord.
- Approximately 99% of human cases are acquired from the bite of an infected dog.
- Transmission can be reduced through vaccination of dogs and prevention of dog bites.
- The burden of disease is high among rural poor populations and children under 15 years.
- Rabies is entirely avoidable through vaccines, medicines and technologies.
- Treatment must start immediately after exposure to the rabies virus as it is fatal after clinical signs appear.
- In case of dog bite, immediate wound washing with soap and water is crucial to saving lives.

Communication materials on rabies		
No	**Audience**	**Focus**
1	General public	Measures to control rabies
2	Children	Measures to control rabies

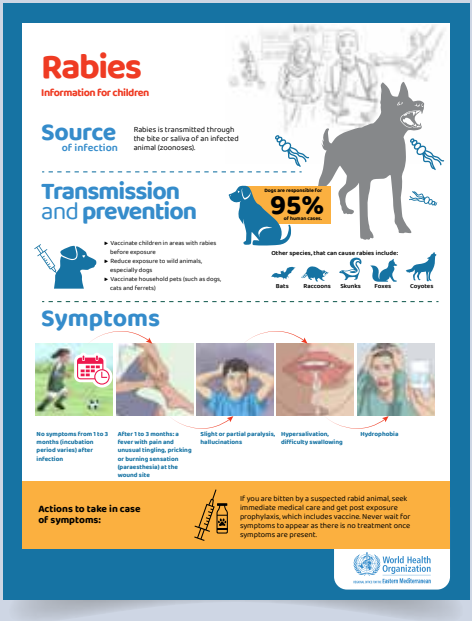
What you can do to control rabies

- Share the posters with communities and children where stray dogs are abundant, especially in regions where dog vaccination is low.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share with teachers in schools so that they can talk to parents and children about the danger of rabies and what to do if someone is bitten by an unvaccinated dog. The posters can also be shared with governmental authorities with a mandate to control and vaccinate stray dogs.

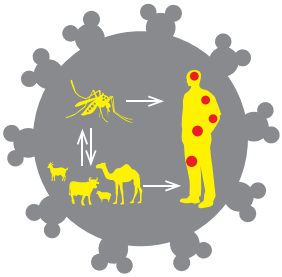
For the general public



For children



10. Rift Valley fever



- Rift Valley fever is a viral zoonosis that primarily affects animals but also has the capacity to infect humans.
- Human infections can result from the bite of infected mosquitoes, or from contact with the blood/organs of infected animals.
- Rift Valley fever can cause significant livestock losses. Livestock vaccination is key to prevention.
- Vector control is also needed to reduce disease transmission.
- Rift Valley fever is difficult to distinguish from other viral haemorrhagic fevers and many other diseases like malaria, shigellosis, typhoid fever, and yellow fever.
- While most human cases are relatively mild, a small percentage of patients develop a much more severe form of the disease.

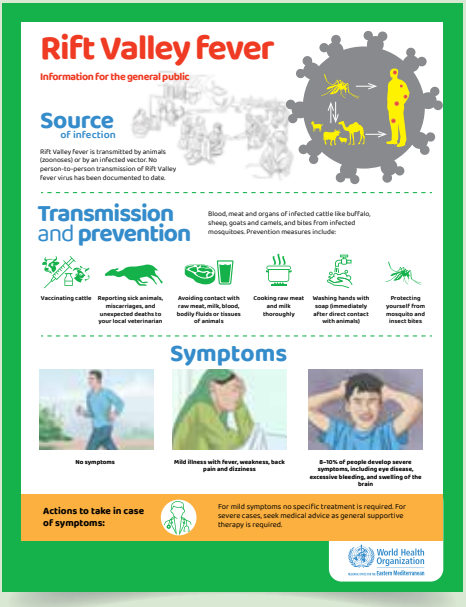
Communication materials on Rift Valley fever		
No	**Audience**	**Focus**
1	General public	Measures to control Rift Valley fever
2	Farmers/animal handlers	Measures to control Rift Valley fever
3	Health workers	Measures to control Rift Valley fever

What you can do to control Rift Valley fever

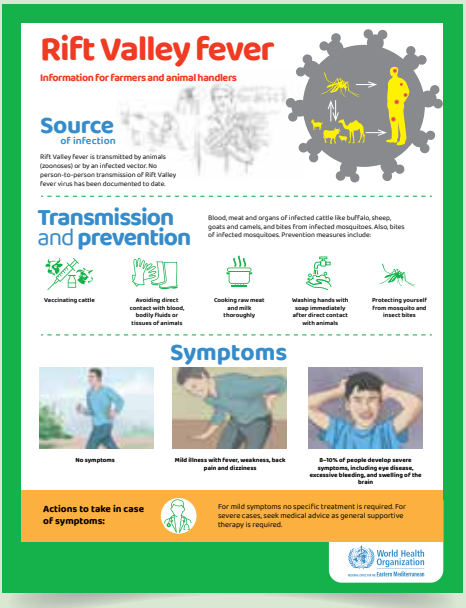
- Share the posters with communities, farmers/animal handlers and health workers in your region, especially in areas where mosquito breeding is high, where people sleep outdoors, or where the livestock and cattle population is high.
- These posters can be accessed at:

  https://www.emro.who.int/high-threat-pathogens-posters.html
- Talk to influential farmers to teach other farmers about safe practices while interacting with cattle and livestock. Also share posters with butchers, meat and dairy producers, packaging and selling agents and governmental authorities with a mandate to control vector breeding and enforce safety laws for the meat industry.

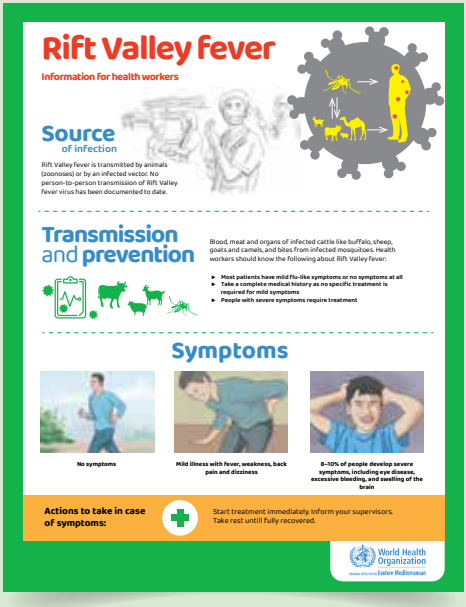
For the general public



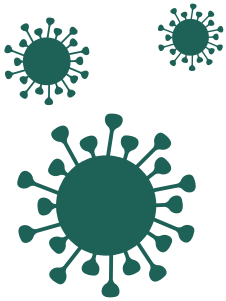
For farmers and animal handlers



For health workers



11. Seasonal influenza



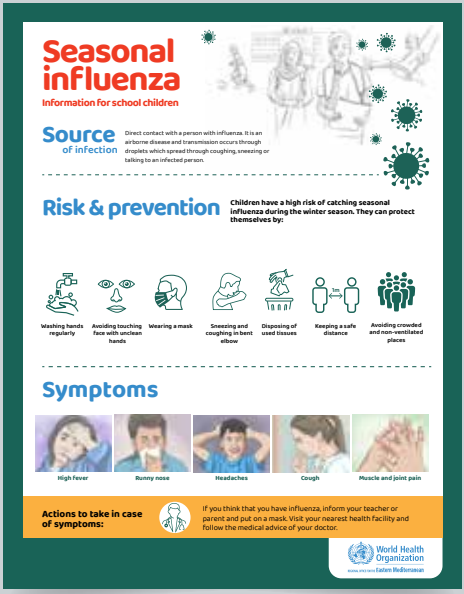
- Seasonal influenza is a respiratory disease transmitted through droplets.
- Influenza A and B viruses can cause epidemics.
- It can be severe and fatal, especially for older people and people with low immunity.
- Annual vaccination is the best way to prevent infection.
- Early treatment with antiviral drugs may reduce complications and deaths.
- Wearing of masks, social distancing, washing hands with soap and annual vaccinations can reduce transmission.
- Border controls do not reduce international spread.

Communication materials on seasonal influenza		
No	**Audience**	**Focus**
1	School children	Measures to control influenza
2	Health workers	Measures to control influenza
3	Older adults and the general public	Measures to control influenza

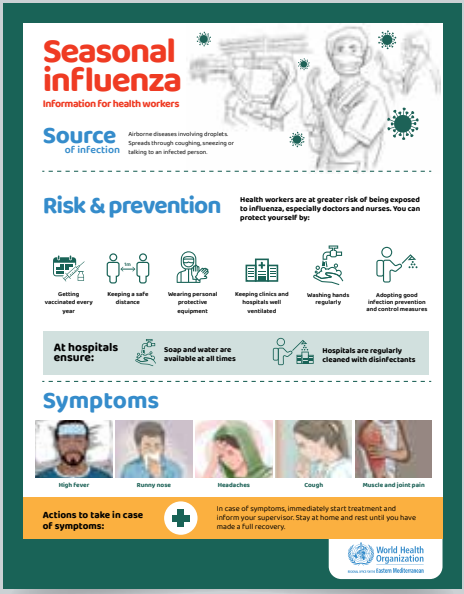
What you can do to control seasonal influenza

- Share the posters with major schools in your area, hospitals, clinics and all associations working for the welfare of older persons.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Before winters, all pharmacies, clinics, hospitals, schools and universities should promote the importance of influenza vaccination, as well as the necessary precautions to guard against influenza.

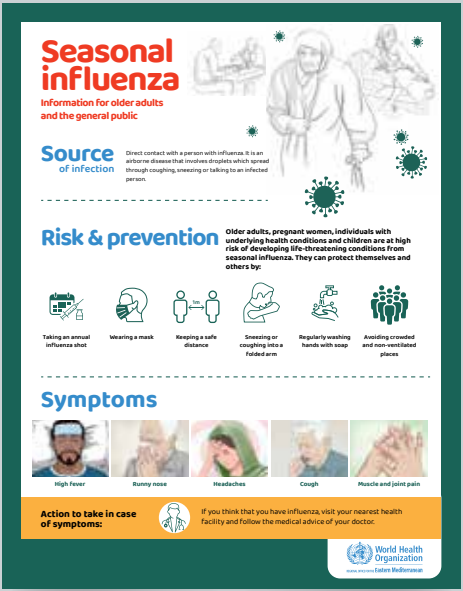
For school children



For health workers



For older adults and the general public



12. Typhoid

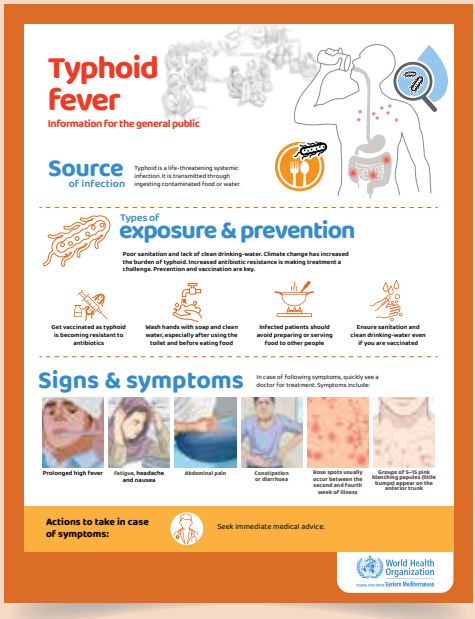
- Typhoid fever is a life-threatening infection caused by the bacterium *Salmonella Typhi*.
- It spreads through contaminated food or water. Once the bacterium are eaten or drunk, they multiply and spread into the bloodstream.
- Antibiotic resistance is making it easier for typhoid to spread and difficult for it to be treated.
- A new typhoid conjugate vaccine, with longer lasting immunity, approved by WHO in 2017, is recommended for children from the age of 6 months.
- Vaccination, access to safe water and adequate sanitation among food handlers can reduce transmission.
- Even vaccinated travellers should avoid consumption of potentially contaminated food and water as vaccination does not provide 100% protection.

Communication materials on typhoid		
No	**Audience**	**Focus**
1	General public	Measures to control typhoid
2	Farmers	Measures to control typhoid

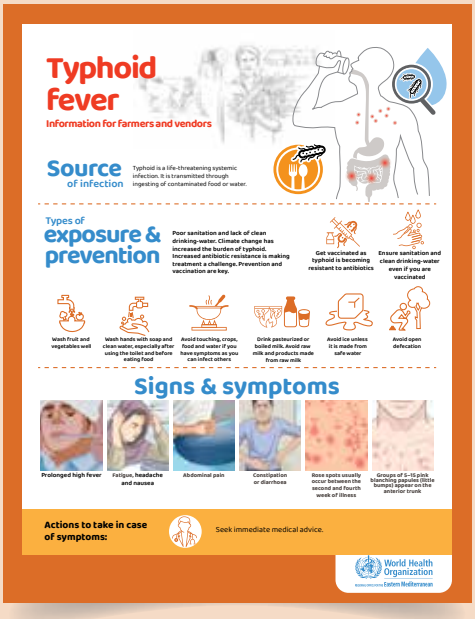
What you can do to control typhoid

- Share the posters with communities and farmers, especially in areas where water sources are not filtered or disinfected.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Farmers, associations, fruit and vegetable vendors and suppliers, sea food suppliers and sellers must be made aware about key precautions they can take to control the spread of typhoid in their area. Share also with governmental authorities with a mandate to improve sanitation and food quality.

For the general public



For farmers and vendors



13. Vector-borne diseases

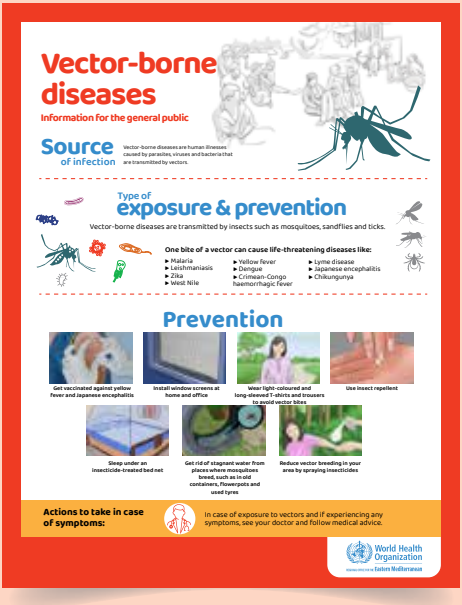
- Vector-borne diseases are human illnesses caused by parasites, viruses and bacteria that are transmitted by vectors.
- Common vectors include mosquitoes, ticks, bugs, flies and other insects.
- The burden of vector-borne diseases is highest in tropical and subtropical areas, and they disproportionately affect the poorest populations.
- Exposure to vectors during pregnancy presents many serious hazards for mother and child.
- Older people, pregnant women, newborns and children are high-risk populations.
- The transmission of vector-borne diseases can be significantly reduced through implementation of effective vector control and prevention interventions.
- Encourage people to get vaccinated against vector-borne diseases like yellow fever and malaria.

Communication materials on vector-borne diseases		
No	**Audience**	**Focus**
1	General public	Measures to control vector-borne diseases
2	Travellers and tourists	Measures to control vector-borne diseases

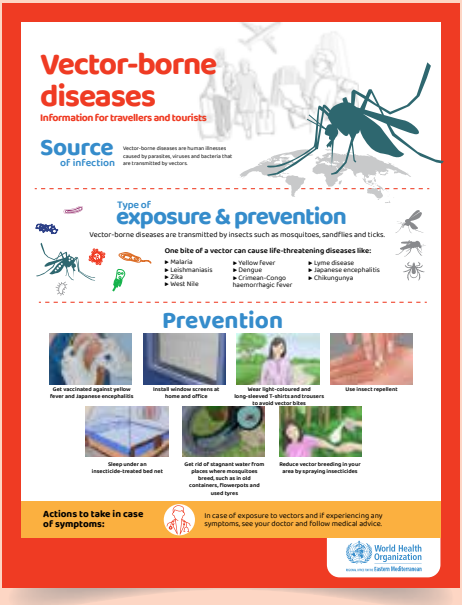
What you can do to control vector-borne diseases

- Share the posters with communities living in mud houses, slums and areas in which mosquitoes breed.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share also with travellers, encouraging them to get vaccinated against those vector-borne diseases for which a vaccine is available like yellow fever. Also share with governmental authorities with a mandate to reduce vector breeding and improve sanitation.

For the general public



For travellers and tourists



14. Viral haemorrhagic fevers

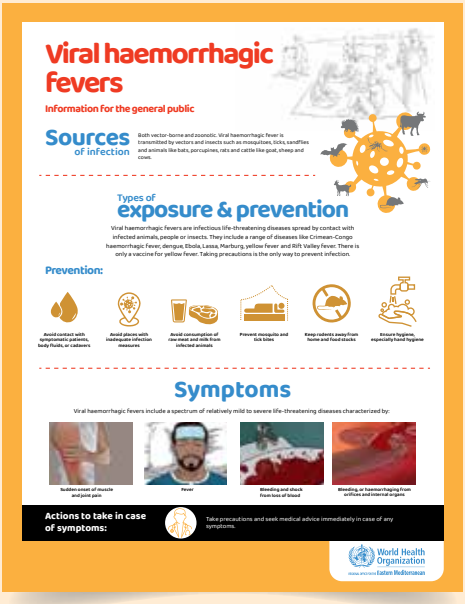
- Viral haemorrhagic fevers are infectious diseases that can cause severe, life-threatening illness.
- They spread through infected animals, including rodents, vectors and consumption of materials contaminated by them.
- They also spread through consumption of meat and unpasteurized milk of infected livestock.
- There is no cure for viral haemorrhagic fevers. There are vaccines for only a few types. Until additional vaccines are developed, the best approach is prevention.
- There are no effective and proven treatment options, apart from supportive care.
- In the Eastern Mediterranean Region, the main viral haemorrhagic fevers are yellow fever, Rift Valley fever, dengue fever, Crimean–Congo haemorrhagic fever and Ebola virus disease.
- Improved food sanitation, vector control and vaccination reduce transmission.

Communication materials on viral haemorrhagic fevers		
No	**Audience**	**Focus**
1	General public	Measures to control viral haemorrhagic fevers
2	Health workers	Measures to control viral haemorrhagic fevers
3	Farmers	Measures to control viral haemorrhagic fevers

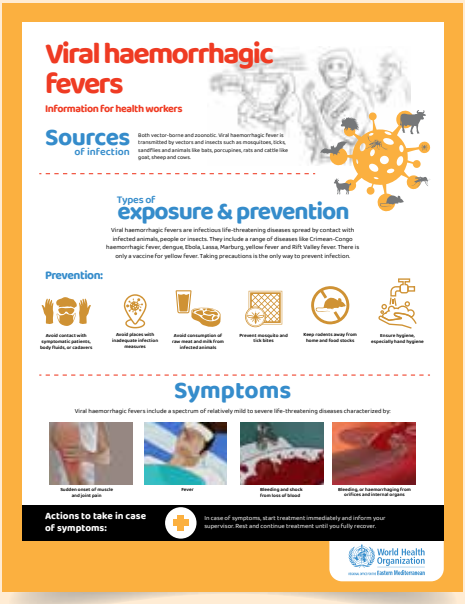
What you can do to control haemorrhagic fevers

- Share the posters with communities, health workers and farmers in areas where human-to-animal and human-to-vector exposure is high.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share with farmers associations, people living near jungles and in areas where exposure to bats, porcupines, rodents, cattle and vectors is likely.

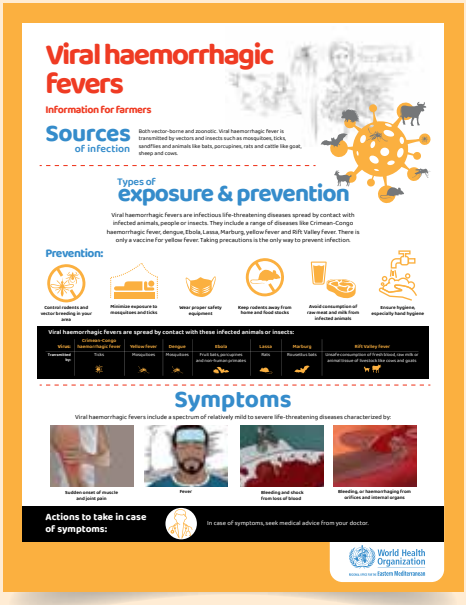
For the general public



For health workers

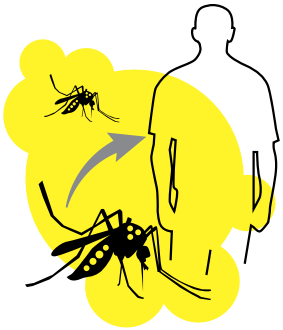


For farmers



15. Yellow fever

- Yellow fever virus is transmitted to people primarily through the bites of infected *Aedes aegypti* mosquitoes.
- Emergency mass vaccination and vector control are the two main ways to control outbreaks.
- Yellow fever vaccine is safe and provides lifelong immunity.
- Routine immunization for children is key to preventing outbreaks.
- Yellow fever is hard to distinguish from diseases with similar symptoms.
- Early clinical management improves survival.

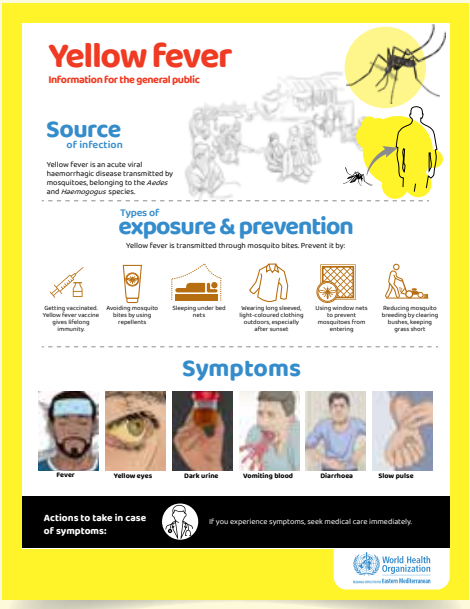


Communication materials on yellow fever		
No	**Audience**	**Focus**
1	General public	Measures to control yellow fever
2	Travellers	Measures to control yellow fever

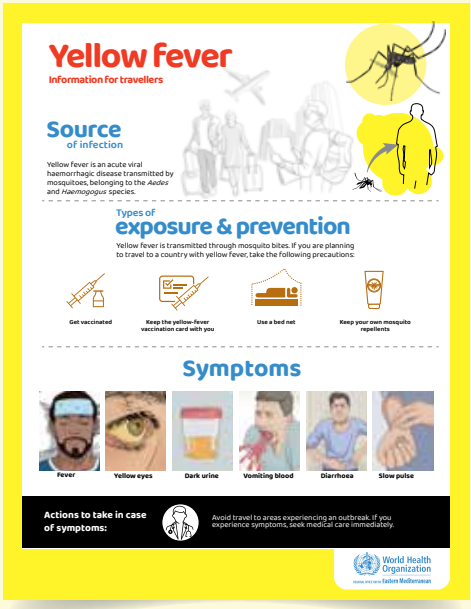
What you can do to control yellow fever

- Share the posters with communities living in countries with yellow fever or travellers to those countries.
- These posters can be accessed at:
  https://www.emro.who.int/high-threat-pathogens-posters.html
- Share with travel associations, major airports and flight operators to countries with yellow fever.

For the general public



For travellers



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