# Integrating epidemic risk into eVCA tools

## Summary to support the CRF in its training and work in the DRC

### A - A few essential definitions

#### **Epidemic**

AN EPIDEMIC is a disease that affects a large number of people in a community, population or region. An epidemic only occurs when new cases of the disease significantly exceed what is expected/usual.

#### **Pandemic**

A PANDEMIC is an epidemic that spreads over several countries or continents. A simple way to tell the difference between an epidemic and a pandemic is to remember the "P" in pandemic, which means that a pandemic has a passport. A pandemic is an epidemic that travels.

#### **Endemic**

ENDEMICS are diseases that are constantly present in a specific area. Malaria is endemic in certain regions of Africa. An endemic can lead to an epidemic.

#### **Epidemic outbreak**

AN EPIDEMIC OUTBREAK is a larger than expected increase in the number of endemic cases. It can also be a single case when a disease appears for the first time in a new region. If not quickly controlled, an outbreak can become an epidemic.

An outbreak is endemic when it occurs consistently but is limited to a particular region. This makes the spread and rates of the disease predictable. Malaria, for example, is considered endemic in certain countries and regions.

### B - Integrating epidemic risk into the eVCA tool[[1]](#footnote-0) :

#### **Secondary data**

In the case of potential consideration of an epidemic risk, make sure you have a health specialist on your review team who is able to find, read, understand and analyse health-related information.

In many circumstances, primary documents are written by men about men. Bear this in mind when consulting secondary sources. Also look for sources that were written by women or about women.

To integrate the epidemic risk, you need to identify the type of epidemic that the community could face. You can find information about the community from the Ministry of Health, written reports or documents from hospitals, medical centres or any health workers based in the community concerned.

Resource persons/organisations for the integration of the epidemic risk: the relevant departments of the Ministry of Health, health workers, doctors, nurses, midwives, etc., MSF, MdM, Oxfam, or any organisation working in the field of health in the commune concerned. MSF, MdM, Oxfam, or any organisation working in the field of health in the commune concerned.

Here are a few links to help you gather information before visiting the communities:

* [GIEWS - Global Information and Early Warning System](http://www.fao.org/giews/en/)
* [WHO Global Health observatory](https://www.who.int/data/gho/data/countries)
* [UNICEF Fact Sheet](https://www.unicef.org/reports/unicef-fact-sheet)

Ensure that the following information is collected:

* History of risks in the community, including epidemic risks such as Ebola or malaria.
* Health problems (malnutrition, infant mortality, immunisation rates, etc.). Source: government/UN publication.
* Health services (number of health centres, services per level of health centre, number of people served by each health centre, etc.) Source: government publication.

#### **Seasonal calendar,**

Considering the impact of weather conditions and natural hazards on epidemic outbreaks[[2]](#footnote-1) , map, discuss and analyse the impact of climate change on these epidemics.

Epidemics can occur spontaneously at any time of the year, but certain seasonal factors increase the risk of diseases spreading more rapidly, leading to outbreaks. In fact, some epidemics occur at specific times of the year, showing seasonal patterns. Taking cholera as an example, changes can be observed, for example, depending on the season (the rainy season), specific conditions (such as seasonal pilgrimage) or type of activity (such as the fishing season). Many epidemic outbreaks are repeated in the same season or at the same time of year. For malaria, for example, the potential epidemic risk is higher during the rainy season. Malaria peaks during the rainy season can be common and do not necessarily result in an epidemic. An epidemic only occurs when new cases of the disease significantly exceed what is expected.

If we understand the seasonal factors likely to increase the risk of diseases developing into epidemics in our communities, we are better able to prevent and control epidemics that we can anticipate. To do this, we need to map the relationship between seasonal changes in the weather, community activities and events, and their impact on the risk of epidemics. A seasonal calendar shows the potentially dangerous periods of the year when the risk of an epidemic is highest. Each disease has its own seasonal pattern. The team therefore needs to know the nature of the pathogen[[3]](#footnote-2) and its transmission route. This means involving a health specialist in the discussions. Transmission routes can be found on the [epidemic control toolkit](https://epidemics.ifrc.org/fr/volunteer/disease) website.

It is particularly important to encourage the group to talk about events in the "health/illness" category, as the illnesses that strike are different from one community to another. Explain that during the discussion, other events can be added if necessary. These could be cultural events that may have an effect on health and safety. Note seasonal variations in the availability of resources such as food, water and income (migration for work). Include periods of food insecurity. Identify periods of high workload, stress, interpersonal violence and suicide.

Related facilitation issues :

* + Risk: What are the times of year when the risk to people's health and lives is lowest? The higher risks?
  + Possible actions: What actions should be considered during the low and high risk months?
  + Change in frequency: Has there been a change in the calendar of events in recent years? How has this changed?
  + Impact of the changes : What effects have these changes had on your household and/or community?
  + Other questions: The facilitator should note other important events and discuss them with the group.

#### **Maps of the locality (risk and capacity maps).**

Mapping is a very useful tool for identifying exposure to epidemic health risks. To incorporate epidemic risk into your eVCA mapping, it is essential to understand the route of transmission of the disease in question. You can find this information on the [IFRC's epidemic control toolkit website](https://epidemics.ifrc.org/fr/volunteer/disease). And it's always advisable to have a member of the EVCA team with a health background.

For example, mapping is a data collection tool that is useful for assessing exposure to cholera. You should know that cholera is a faecal-oral disease. A person can contract cholera by drinking water or eating food contaminated with the cholera bacterium. During an epidemic, the source of contamination is usually the faeces of an infected person contaminating the water or food. So you need to draw up a map:

* + Open defecation sites and non-functional latrines.
  + Water sources near contaminated sites.

There is a large group of diseases which, like cholera, have a high epidemic potential and whose exposure is strongly linked to the level of access to drinking water and sanitation in the community. This is the case for hepatitis A, typhoid fever, acute watery diarrhoea, measles, etc.

Mapping is also highly relevant for diseases that are transmitted by an animal vector. For example, in communities that have experienced outbreaks of dengue fever in the past, it is advisable to map bodies of water (clean or muddy, stagnant or not) where the Aedes mosquito can easily breed and neighbourhoods with poor housing/shelters where people are highly exposed to mosquito bites. There are emerging animal-borne diseases that are less well known than dengue or malaria, such as Rift Valley fever, whose epidemic risk is increasing, and which can be well assessed by mapping. In this case, mapping of areas where livestock (cattle, sheep, goats and camels) are kept and in close contact with humans is necessary for a proper risk assessment.

The factors that increase the community's vulnerability to health risks can be mapped:

* + Very poor families without adequate shelter, often living in overcrowded conditions, with poor hygiene and lacking basic necessities such as insecticide-treated mosquito nets, drinking water, hygienic toilets and soap.
  + Families that include people with special needs (elderly, disabled, people with chronic illnesses such as HIV/AIDS).
  + Families with malnourished children.

Mapping is also very useful for mapping the local capacities that enable communities to manage the risk of health epidemics:

* + Health infrastructure and facilities (clinic, hospital, local pharmacy or first-aid point).
  + Social care facilities (retirement homes, primary schools).
  + Presence of trained health staff in the community (trained midwife, Red Cross and Red Crescent volunteers, community health worker, veterinary surgeon, traditional healer, etc.).
  + Sites/places where health information is communicated (churches, local NGOs, Red Cross branch).
  + Informal water vendors, water pump technicians, plumbers, latrine builders, latrine emptiers, etc.
  + Availability of tools and manpower for communal clean-up, debris removal and water evacuation.

It is recommended that the mapping be supplemented by cross-sectional walks and direct observations when assessing the epidemic risk. The cross-sectional walk makes it possible to enrich all the data relating to exposure to epidemic risks (see below).

During EVCA mapping, communities may have identified sites at risk of flooding. It is important to note that increased epidemic risk can be a secondary effect of primary natural hazards such as flooding. Flooding results in stagnant water which increases the breeding opportunities for mosquitoes. It is important to capture this dual risk in your map, particularly in communities that have experienced flooding episodes in the past, with associated epidemics.

#### **Cross walk,**

Cross-sectional walks can be used to complement or verify the mapping information (see above) - they may involve observations of WASH facilities, hygiene practices at household level, schools, access for disabled people, sanitation facilities, etc. or discussions with community members and key informants about specific hazards observed.

To include epidemics in cross-sectional walks, it is essential to first understand the route of transmission of the disease being studied. This starts with the community information sheet to identify the potential disease, followed by analysis and understanding of the route of transmission. This information can be found on the [Epidemic Control Toolkit](https://epidemics.ifrc.org/fr/volunteer/disease) website. At least one member of the eVCA team should have experience in the health field to help understand and identify what needs to be taken into account. Once the transmission route is well understood, the cross walk can be well planned.

Like mapping, above, the cross-country walk is a data collection tool, useful for assessing exposure to cholera. You should therefore plan your cross-country walk to observe :

* + Open defecation sites and non-functional latrines.
  + Water sources close to contaminated sites.
  + Measure the distance between water sources and non-functioning latrines that present a high risk of leakage of contaminated faecal matter.
  + Observe household latrines and their hygienic condition.
  + Check how many latrines have a hand-washing station nearby, with signs of use.
  + Visit the local market and check whether street food vendors sell food in hygienic conditions.
  + Check that communal latrines in public areas such as markets are maintained in hygienic conditions.

Like cartography, transverse walking is also highly relevant for diseases that are transmitted by an animal vector. It can therefore be used to observe :

* bodies of water (clean or muddy, stagnant or not)
* neighbourhoods with poor housing/shelters
* if livestock (cattle, sheep, goats and camels) are kept in closer contact with humans.

For communities located in areas prone to Ebola, you can take a walk in the nearby forest to observe areas where humans may come into contact with wild animals or animal corpses. You can walk around the local market to see the wild animal meat available for sale.

The factors that increase the community's vulnerability to health risks can be observed during your cross-sectional walk. For example, in areas prone to cholera, you can plan a cross-country walk in a very poor neighbourhood where you can check whether families do not have adequate shelter, whether they live in overcrowded spaces, whether hygiene is poor and whether they do not have basic items such as insecticide-treated mosquito nets, drinking water, hygienic toilets and soap.

The cross-sectoral walk is also very useful for checking the local capacities that enable communities to manage the risk of an epidemic:

* + Walk to the nearest health facility (health centre, hospital, local pharmacy or first aid point) to check distance and accessibility. On site, check whether qualified personnel and medical equipment are available.
  + Walk to the sites/places where health information is communicated (churches, local NGOs, Red Cross office) and look at the communication materials available, if they are easy to understand by all members of the community.

#### **Direct observation**

Point to observe to identify basic healthcare and WASH (water, sanitation and hygiene) needs:

First look at the community information sheet to find out which disease to investigate. Identify the route of transmission of the disease using the [IFRC outbreak control toolkit website](https://epidemics.ifrc.org/fr/volunteer/disease). This will tell you what observations to make. Consult the recommendations in the cross walk tool. For example, to assess the risk of cholera, observations should include

* Sanitation (sewers, availability of running water, functionality and type).
* Typical sanitation used by individual families and communal sanitation facilities, the practice of handwashing with soap and the availability of soap in the household.
* The distance to travel to a health centre and the waiting time.
* Presence of qualified staff, medical equipment and medicines in the health centre.
* Existence of referral systems (ambulances) to the referral health centre.
* Source of water for the community and distance to be travelled, accessibility and waiting time
* Quality of drinking water source (turbidity, colour, odour).

#### **Focus group discussion - Semi-structured interview**

To integrate health into eVCA group discussions, it is essential to include :

* + doctors and nurses, other healthcare providers such as community health workers, midwives, traditional healers and midwives
  + regional/local health ministry staff (particularly those responsible for community health)
  + staff from local and international NGOs working on community health programmes in the surrounding area
  + community health committee leaders

List of health-related questions for interviews and guided group discussions

* + Are there any health risks, safety issues or first aid needs in the community (e.g. landfill sites, lakes or ponds, dangerous roads)?
  + What are the most common emergencies and priority health problems among the most vulnerable people?
  + What epidemics and illnesses have occurred in the community in recent years?
  + What factors do community members believe cause health problems? For example, is diarrhoea caused by a lack of hygiene and sanitation, or by a lack of health education and poverty?
  + Are certain illnesses more common at certain times of year?
  + Have you noticed that certain illnesses have increased or decreased over the last 5 to 15 years?
  + Are certain illnesses more common when it rains?
  + Are certain illnesses more common in dry weather?

If the answer to any of the above questions is "yes", ask these questions:

* Which ones and/or where?
* Why do you think this is the case?
* Who is most affected?
* What actions are people / the community taking?
* If you know that it's going to rain / that the dry season is coming / that a certain season is approaching when a disease is more common - what do you do?
* What could you do differently?
* Where do you get most of your information about health problems from?

#### **Problem tree**

When identifying the causes of the increased risk of an epidemic, it is advisable to have someone with a health background in the group who can ensure that participants fully understand the routes of transmission of the disease in question. Diseases are transmitted to humans by various routes (contaminated water, droplets in the air, contact with contaminated body fluids, etc.). The causes at the bottom of the tree should reflect the different factors that trigger the spread of the disease, leading to an epidemic. It is also useful to consult the [IFRC's toolbox for controlling epidemics](https://epidemics.ifrc.org/fr/volunteer/disease). It contains disease information sheets describing the routes of transmission.

1. presented by the CRF at the training session for trainers in January 2023 [↑](#footnote-ref-0)
2. e.g. diarrhoea, cholera, acute respiratory infections [↑](#footnote-ref-1)
3. Describes something that causes disease, in particular a germ capable of causing infection. [↑](#footnote-ref-2)