Hepatitis A

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Key facts

To better understand public health terms included in this Disease Tool (e.g. What is a case definition? or What is an infectious agent?), consult our page on Key concepts on epidemiology.

Importance

Hepatitis A occurs sporadically globally. Infection is common in low-income countries with poor sanitary conditions and hygienic practices. In those contexts, nearly 90 per cent of children have been infected with the hepatitis A virus before the age of ten years and often do not experience any noticeable symptoms. In middle- and high-income countries with good sanitation and hygiene conditions, infection rates are low. When the virus gets introduced in such communities, the presence of good sanitation and hygiene practices prevents person-to-person transmission, stopping the outbreak rapidly.

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Case definition

A **case definition** is a set of uniform criteria used to define a disease for public health surveillance. It enables public health officials to classify and count cases consistently.

*The following are standard case definitions to allow national health authorities to interpret data in an international context. However, during an outbreak case definitions may be adapted to the local context and the Red Cross Red Crescent should use those agreed/established by national health authorities. NB: Consider that during community-based surveillance, **volunteers** should use broad (simplified) case definitions (referred to as community case definitions) to recognize most or all possible cases, provide relevant risk communication and appropriate actions and encourage them to seek care. Other actors such as **healthcare workers or investigators** studying the cause of a disease, on the other hand, can use more specific case definitions that may require laboratory confirmation.*

Suspected case: Discrete onset of an acute illness with signs/symptoms of acute viral illness (e.g. fever, malaise, fatigue) associated with:

- Clinical signs of liver damage, which include anorexia, nausea, jaundice, dark urine, right upper quadrant tenderness)
- This includes: laboratory testing of liver function showing raised values in tests such as ALT, AST and Bilirubin (raised alanine aminotransferase [ALT] levels more than 10 times the upper limit of normal laboratory levels).

Confirmed case: a case with laboratory confirmation OR an epidemiological link to a confirmed case.

WHO case definition source of information:
https://www.who.int/docs/default-source/outbreak-toolkit/latest-update---11-october/hepatitis-a-outbreak-toolbox---250919.pdf?sfvrsn=2a4711ed_2

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Alert / epidemic threshold

An **alert threshold** is the pre-defined number of alerts that suggest the beginning of a possible disease outbreak and therefore warrant immediate notification.
Epidemic thresholds are the minimum number of cases indicating the beginning of a particular disease's outbreak.

An outbreak of hepatitis is often suspected by a clinical healthcare worker, who notices an unusual number of patients with acute jaundice syndrome within a short period of time. These patients present with one or more of the following features: similar clinical symptoms, residence in the same area or location, sharing the same water supply.

If baseline information from the same geographical area for previous years is available, it can be used to verify whether the number of cases in the present year is unusually high compared to that in previous years over the same period.

For acute jaundice syndrome in emergency settings, alert thresholds of "five or more cases with acute jaundice syndrome in one location in one to a few weeks" and of "five cases with acute jaundice syndrome or 1.5 times the baseline rate" have been suggested to help early detection of potential outbreaks of hepatitis.

Risk factors

- Poor sanitary conditions and hygienic practices like lack of handwashing possibilities or lack of functioning toilets.
- Areas of conflict and humanitarian emergencies where sanitation and safe water supply pose special challenges and settings that are crowded.
- Using or injecting drugs.
- Sexual activity with an infected person.
- Water contaminated with human faeces, for example from sewage, septic tanks and latrines, is a source of infection. Unsafe domestic water storage and handling.
- Food when prepared or stored in unhygienic conditions.
- Fish and seafood from faecal waste polluted water that is consumed raw or not properly cooked.
- Men who have sex with men are at a higher risk of contracting the disease.

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Attack rate (AR)

The **attack rate** is the risk of getting a disease during a specific time period (such as during an outbreak).

Attack rates will vary from one outbreak to another. In case of an outbreak, consult the latest information provided by health authorities.

- Between 2.6 per cent and 27.6 per cent in nurseries, 2.9 per cent and 50 per cent in primary schools, and 12 per cent and 25 per cent in households.

Groups at increased risk of severe illness (most vulnerable)

- People with chronic liver disease.
- Immunosuppressed persons such as those receiving chemotherapy, transplant recipients or HIV carriers.
- People with chronic diseases such as renal disease, cancer, chronic lung or liver disease and diabetes.

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Infectious agent

Infectious agents are bacteria, viruses, fungi, prions and parasites. A disease caused by an infectious agent or its toxic products is defined as an infectious disease.

Hepatitis A virus.

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Reservoir / host

A **reservoir of infection** is a living organism or material in or on which an infectious agent lives and/or usually multiplies. Reservoirs include humans, animals and the environment.

A **susceptible host** is a person at risk of being infected. The level of susceptibility depends on age, sex, ethnicity and genetic factors, specific immunity also depends on other factors that affect an individual's ability to resist infection or to limit its ability to cause infection.

A **zoonotic disease** or **zoonosis** is an infectious disease that has jumped from a non-human animal to humans.

Humans.

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How disease is spread (modes of transmission)

Categorisation of **modes of transmission** varies from one agency to another. In addition, some infectious

agents can be transmitted by more than one mode. A list of modes of transmission can be found in the key concepts to serve as guidance to better understand the diseases included in this website.

- **Faecal oral transmission:** Person-to-person contact (unwashed hands, object contaminated with human waste). Food and water contaminated with human waste (stools), mainly fruits, vegetables, shellfish, ice and water. Sharing eating utensils that are contaminated.
- **Sexual transmission:** Can occur from any sexual activity with an infected person (such as oral-anal sex).
- **Vehicle-borne transmission:** Exposure to infectious body fluids as a result of contamination of drugs and needle-sharing among people who inject drugs.

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Incubation period

This time from when infection occurs to the onset of symptoms is called the **incubation period**. It is a range of days and it can be different for each disease.

14—50 days.

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Period of infectiousness

Period of infectiousness is the time interval during which an infected person can transmit the infection to other susceptible persons.

Two weeks before onset of first symptoms until two weeks after the onset of jaundice.

Clinical signs and symptoms

- Some sufferers, especially children, show no signs of having the disease at all. Hepatitis A is very contagious, and people can even spread the virus before they feel unwell.
- Symptoms include fatigue, fever, loss of appetite, abdominal pain, nausea, rash, itching, dark urine and pale stool, and yellowing of the skin or whites of the eyes (jaundice).
- Hepatitis A virus does not cause chronic hepatitis. Rarely it can lead to fulminant liver failure and death.

Other diseases with similar clinical signs and symptoms

Other viral hepatitis, yellow fever, leptospirosis, dengue fever, malaria.

Diagnosis

- Cases of hepatitis A are not clinically distinguishable from other types of acute viral hepatitis.
- Specific diagnosis is made by the detection of HAV-specific IgM antibodies in the acute disease and IgG antibodies lifelong in the blood after an infection or vaccination.
- Additional tests include reverse transcriptase polymerase chain reaction (RT-PCR) to detect the hepatitis A virus RNA and may require specialized laboratory facilities.

Vaccine or treatment

Please refer to the appropriate local or international guidelines for clinical management. All clinical management including the administration of any treatment or vaccine should be conducted by health professionals.

- There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and may take several weeks or months. Sometimes hospitalization is required.
- Hepatitis A vaccine is used in a few countries; greater use of the vaccine has the potential to control outbreaks. No vaccine is licensed for children younger than one year of age. Planning for large-scale immunization programmes should involve careful economic evaluations and consider alternative or additional prevention methods, such as improved sanitation and health education for improved hygiene practices. Whether or not to include the vaccine in routine childhood immunizations depends on the local context.

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Immunity

There are two types of immunity:
- **Active immunity** results when exposure to an agent triggers the immune system to produce antibodies to that disease.
- **Passive immunity** is provided when a person is given antibodies to a disease rather than producing them through his or her own immune system.

- Lifelong immunity after natural infection.
- Vaccination results in long-term protection.

Which interventions are most effective for prevention and control?

The following is a list of activities considered for Red Cross Red Crescent volunteers to take part in. It is not an exhaustive list of all prevention and control activities for the specific disease.

- Communicate risks about the disease or epidemic, not only to share information on prevention and mitigation measures, but also to encourage informed decision-making, positive behaviour change and

maintenance of trust in the Red Cross Red Crescent response. This includes the identification of rumours and misinformation around disease—frequent during health emergencies—to manage them appropriately. Volunteers should use the most context-appropriate communication techniques (ranging from social media to face-to-face interactions).

- Community education and engagement activities to encourage the adoption of protective behaviours around water, sanitation and hygiene including:
  - Hand hygiene: Handwashing with soap at critical times (before breastfeeding, after changing napkins, before cooking, before eating, after using toilets). This includes not only communication and community mobilization activities to promote handwashing with soap practices, but also when possible providing handwashing stations in public spaces (e.g. markets, schools).
  - Safe drinking water: promote methods including chlorination; filtration; solar disinfection; boiling). Water storage containers should be protected from contamination and kept clean
  - Food hygiene:
    - Consume properly cooked food and eat it while still hot.
    - Raw milk and products made from raw milk should be avoided. Encourage people to drink only pasteurized or boiled milk.
    - Wash fruits and vegetables carefully. If possible it is best that vegetables and fruits are peeled.
    - Plates and utensils must be kept off the ground.
    - Food must be covered and protected from flies at all times.

- Safe disposal of faeces (use of improved sanitation facilities). Latrines/toilets should be maintained clean and a handwashing device (with soap and water) must be present near the latrines.
- Promote safe sex practices, including use of condoms.
- Social mobilization for vaccination, including Information, Education and Communication (IEC) activities on the benefits of the hepatitis vaccine, the routine vaccination schedule in-country and/or Supplementary Immunization Activity (SIA) campaign dates and locations (in conjunction with other interventions).

Epidemic characteristics and RCRC indicators and targets

The first table below includes data that should be gathered from health authorities and relevant non-governmental actors to understand the progress and characteristics of the epidemic in the specific country and area of intervention. The second table includes a list of suggested indicators that can be used for monitoring and evaluating Red Cross Red Crescent activities; wording of indicators may be adapted to specific contexts. Target values for a specific indicator can vary widely from one context to another and therefore managers should define them based on the specific population, area of intervention and programmatic capacity. Exceptionally, some indicators in this website may include target values when these are globally agreed as a standard; e.g. 80 per cent of individuals who slept under an insecticide-treated net (ITN) the previous night—the normative World Health Organization benchmark for universal coverage with ITNs.

Epidemic characteristics and progression
Cases per week in total population / children under 5 years
Case-fatality rate

Epidemic characteristics and progression
Attack rate
Hepatitis A vaccine coverage (outbreak control; not routine immunization)
Red Cross Red Crescent activities
Number of volunteers trained on a specific topic (e.g. Epidemic Control for Volunteers (ECV); Community-based surveillance (CBS); WASH training; CBHFA training, etc.) ***Numerator*:** Number of volunteers trained Source of information: Training attendance sheets
Suspect cases detected by volunteers who were encouraged to seek healthcare and who arrived at a health facility *(NB. This indicator requires the implementation of a system in collaboration with the health facility, whereby health workers specifically asked the patient how they heard about the service)* ***Numerator:*** Suspect cases detected by volunteers in a determined period preceding this survey (e.g. two weeks) for whom advice or treatment was sought from a health facility ***Denominator:*** Total number of suspect cases in the same period preceding the survey Source of information: Survey
Percentage of people recognizing at least one transmission route and at least one measure for preventing the disease transmission ***Numerator*:** Total number of people who recognized at least one transmission route and at least one measure for preventing the disease transmission during the survey ***Denominator*:** Total number of people surveyed Source of information: Survey
Number of community members who received epidemic prevention and control material (e.g. soap, chlorination tablets, mosquito nets, IEC material) ***Numerator*:** Number of community members who received materials Source of information: Distribution lists
Percentage of households where soap (or ash) is available for handwashing ***Numerator*:** Total households where soap or ash was available during the survey ***Denominator*:** Total households surveyed Source of information: Survey

See also:

- For Community Engagement and Accountability (CEA) indicators for activities accompanying ECV actions, please refer to: IFRC *CEA toolkit (Tool 7.1: Template CEA logframe, activities and indicators).* Available at: https://www.ifrc.org/document/cea-toolkit

Impact on other sectors

Sector	Link to the disease
WASH	The presence of good sanitation and hygiene practices decreases faecal oral transmission.
Food security	Drinking water and water supplies contaminated with human waste can transmit hepatitis A. Food contaminated with human waste, mainly fruits, vegetables, shellfish and ice and sharing eating utensils that are contaminated are another transmission mode avoidable by peeling fruits or vegetables and cleaning the food thoroughly using clean kitchen utensils.
Nutrition	Malnutrition increases the risk for severe hepatitis A disease. An adequate nutritional balance is an important part of the therapy for those with hepatitis A, including the replacement of fluids that are lost from vomiting and diarrhoea.
Shelter and settlements (including household items)	Functional latrines with appropriate faecal sludge management, handwashing facilities and good waste management are important to decrease transmission risk. Hepatitis A outbreaks are of particular concern in population movement and crowded settings.
Psychosocial support and mental health	As in the case of a range of other diseases, hepatitis can have several negative impacts on psychological, social and emotional aspects of a person's life, apart from its physical effects only. Psychological reactions may include fear of social stigma, anxiety and worry about the outcome, social withdrawal, among others.
Education	When schools do not have clean running water or basic toilets, these can add transmission risks in places where there are outbreaks ongoing. Children may then be at risk of getting the disease if attending classes, or at risk of losing out on education if staying at home. Schools and other facilities dedicated to children and youth can offer an important space for them to engage, mobilize and raise awareness around health education issues. With support, trust and appropriate capacity-building, young people can be effective advocates for the adoption of preventive measures during an epidemic and are those best placed to mobilize their peers.
Livelihoods	Illness leads to reduction in productivity as people may not be able to work due to disease. This can lead to a loss of income due to the reduction in work activity and to the diversion of resources to seek medical treatment. This can be critical for hepatitis A because the symptomatic infection is most common in adults of working age.

Sector	Link to the disease
Gender and sex	In many societies, women have primary responsibility for sanitation, health and water supply in the household. Women do not only ensure that there is water for drinking, but also for cooking, cleaning, caring for domestic animals, personal hygiene and caring for the sick. It is therefore key that epidemic response activities take into consideration the central role women have in water management.

References:

- CDC (2021) Global Viral Hepatitis: Millions of People are Affected. Viral Hepatitis. Available at: https://www.cdc.gov/hepatitis/global/index.htm
- WHO (2021) Hepatitis A. Fact Sheets. Available at: https://www.who.int/news-room/fact-sheets/detail/hepatitis-a