

Prevention & Control of Viral Hepatitis Infection:

A Strategy for Global Action



World Health
Organization

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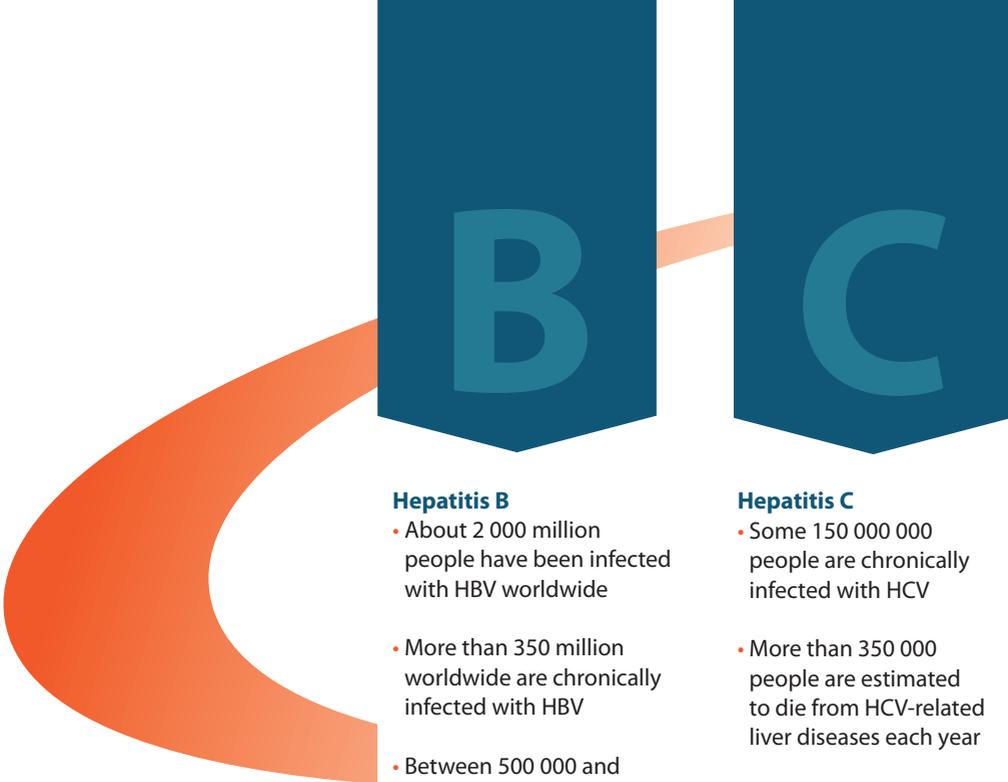
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Table of contents

Disease burden	02
What is viral hepatitis?	05
Prevention & control: a tailored approach	06
Global Achievements	08
Remaining challenges	10
World Health Assembly: a mandate for comprehensive prevention & control	13
WHO goals and strategy for prevention & control of viral hepatitis	14



B

Hepatitis B

- About 2 000 million people have been infected with HBV worldwide
- More than 350 million worldwide are chronically infected with HBV
- Between 500 000 and 700 000 people die annually as a result of HBV infection

C

Hepatitis C

- Some 150 000 000 people are chronically infected with HCV
- More than 350 000 people are estimated to die from HCV-related liver diseases each year

Disease burden

The group of viruses (hepatitis A, B, C, D and E) that cause acute and/or chronic infection and inflammation of the liver gives rise to a major public health problem globally. Hepatitis B (HBV) and C viruses (HCV) are major causes of severe illness and death.

Overall

- Around **500 000 000 persons** are chronically infected (HBV and HCV)
- Approximately **1 000 000 persons** die each year (~2.7% of all deaths) from viral hepatitis related causes, most commonly liver disease including liver cancer
- An estimated **57% of cases** of liver cirrhosis and **78% of cases** of primary liver cancer result from HBV or HCV infection



A

Hepatitis A

- It is estimated that about 1 400 000 new hepatitis A virus (HAV) infections occur globally each year



E

Hepatitis E

- Infection in pregnancy is associated with a high risk of obstetrical complications, poor fetal outcomes, and results in maternal death in one out of five cases.

Need for action: 80% of countries identified hepatitis as an urgent public health problem

Table 1.

Hepatitis B and / or C considered an urgent public health issue

	Total countries	% of region
Africa	29	97%
Americas	15	75%
Eastern Mediterranean	11	92%
Europe	28	65%
South-East Asia	4	57%
Western Pacific	19	90%
World	106	80%

(N=133)

Source: Viral Hepatitis: Global Policy, World Hepatitis Alliance, 2010

A collage of various flowers, including green and yellow ones, set against a blue background with white geometric lines. The text 'ekphoto' is overlaid in the center.

ekphoto

What is viral hepatitis?

Viral hepatitis is an inflammation of the liver caused by one of the five hepatitis viruses, referred to as types A, B, C, D and E. While all hepatitis viruses cause liver disease, they vary in important ways.

Hepatitis A virus (HAV) is present in the faeces of infected persons and is most often transmitted through consumption of contaminated water or food. Certain sex practices can also spread HAV. Infections are in many cases mild, with most people making a full recovery and remaining immune from further HAV infections. However, HAV infections can also be severe and life threatening. Most people in areas of the world with poor sanitation have been infected with this virus. Safe and effective vaccines are available to prevent HAV.

Hepatitis B virus (HBV) is transmitted through exposure to infectious blood, semen, and other body fluids. HBV can be transmitted from infected mothers to infants at the time of birth or from family member to infant in early childhood. Transmission may also occur through transfusions of HBV-contaminated blood and blood products, contaminated injections during medical procedures, and through injection drug use. HBV also poses a risk to healthcare workers who sustain accidental needle stick injuries while caring for infected-HBV patients. A safe and effective vaccine is available to prevent HBV.

Hepatitis C virus (HCV) is mostly also transmitted through exposure to infectious blood. This may happen through transfusions of HCV-contaminated blood and blood products, contaminated injections during medical procedures, and through injection drug use. Sexual transmission is also possible, but is much less common. There is no vaccine for HCV.

Hepatitis D virus (HDV) infections occur exclusively in persons who are infected with HBV. The dual infection of HDV and HBV can result in a more serious disease and worse outcome. Safe and effective hepatitis B vaccines provide protection from HDV infection.

Hepatitis E virus (HEV), like HAV, is transmitted through consumption of contaminated water or food. HEV is a common cause of hepatitis outbreaks in developing parts of the world and is increasingly recognized as an important cause of disease in developed countries. Safe and effective vaccines to prevent HEV infection have been developed but are not widely available.

Prevention & control: a tailored approach

Because hepatitis A, B, C, D and E viruses differ in their global distribution and routes of transmission, prevention and control strategies need to be tailored. A comprehensive approach to the prevention of viral hepatitis includes a number of strategies.

Primary Prevention

- Safe and effective vaccines are widely available for the prevention of HAV and HBV infection and HEV vaccines are being developed.
- Screening blood used for transfusion and blood products can prevent transmission of HBV and HCV.
- Standard precautions in health care and community settings can prevent transmission of viral hepatitis.
- Safe injection practices can protect against HBV and HCV transmission.
- Safer sex practices, including minimizing the number of partners and using barrier (condom) protective measures has been shown to protect against HBV and HCV transmission.
- Harm reduction practices for injecting drug users prevent HBV and HCV transmission.
- Occupational safety prevents transmission to health care workers at high risk.
- Safe food and water provide protections against HAV and HEV.





Secondary & Tertiary Prevention

Early diagnosis provides the best opportunity for effective medical support. It also allows those infected to take steps to prevent transmission of the disease to others, for example through counselling and use of preventive services. It allows precautions to be undertaken to protect the liver from additional harm, specifically, by eliminating alcohol and certain drugs which are toxic to the liver.

Antiviral agents against HBV and HCV exist. Treatment of HBV infection has been shown to reduce the risk of liver cancer and death. It is estimated that 20–30% of persons with HBV infection could benefit from treatment. However, drugs active against HBV are not widely available or utilized in persons infected with HBV.

Currently, recommended antiviral agents used for treatment of human immunodeficiency virus (HIV) infection do not adequately suppress HBV, which is of great concern for the estimated 10% of HIV-infected persons in Africa who are co-infected with HBV.

HCV is generally considered to be a curable disease but for many persons this is not a reality. Scientific advances and intense research and development have led to the development of many new oral antiviral drugs for HCV infection. A great number of HCV specific oral drugs are in the late stage of development; some have been recently registered. These are more effective and better tolerated. Much still needs to be done to ensure that these new treatment advances lead to greater access and treatment responses in resource constrained areas of the world.

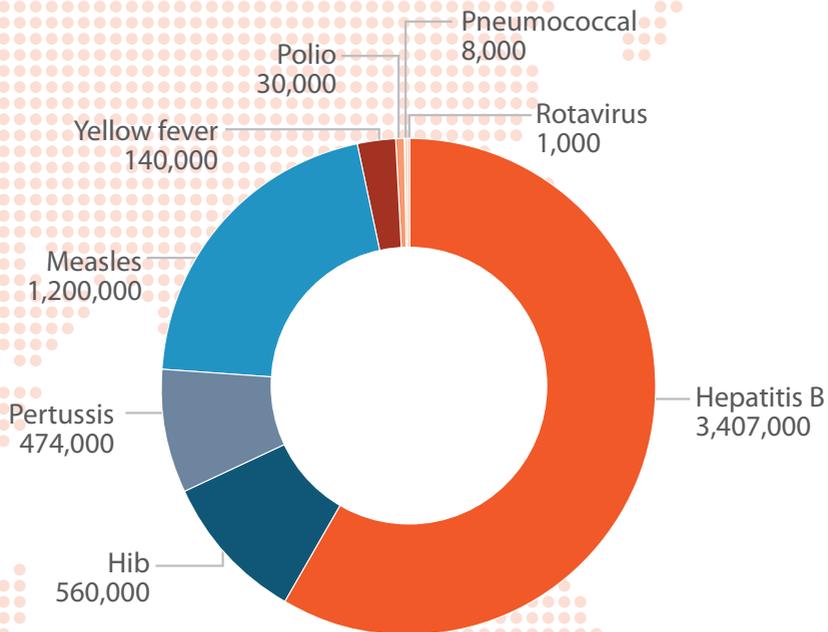
Global Achievements

- As of 2009 91% of WHO Member States included the hepatitis B vaccine in their infant immunization programs and over 70% of infants received 3 doses of this vaccine which provides them with life-long protection from HBV.
- As of 2010, 178 countries have introduced the hepatitis B vaccine. This intervention has prevented approximately 1,307,000 future deaths.
- WHO's advice, guidance and technical support is assisting countries in ensuring the safety and quality of blood and blood products, their availability, equitable access and effective use to meet the needs of all patients requiring blood transfusion
- Similarly, WHO has developed policy guidance and guidelines on best practices for all injections including phlebotomy and lancet procedures which are widely available and enable countries to establish safe injection and phlebotomy services
- Persons with active chronic hepatitis B and HIV infections now can benefit from new WHO anti-retroviral treatment guidelines
- New global burden of disease studies by WHO have demonstrated the high burden of disease from HAV and HEV globally
- WHO has developed tools to assess injection practices and assist countries develop evidence based injection safety strategies. By 2009, two thirds of the 96 low and middle income countries which underwent this process had implemented safe injection programs.
- WHO has defined core components for infection prevention and control (IPC) programmes, providing systematic approach to prevention of hepatitis and other communicable diseases in healthcare settings.

Hepatitis B infant immunization: A well accepted strategy that works!

Figure 1.

Future deaths prevented through continuous investments into routine immunization programmes



Source: WHO Department of Immunization, Vaccines and Biologicals, 2010 and Investing in immunisation through the GAVI Alliance, 2011

Remaining challenges

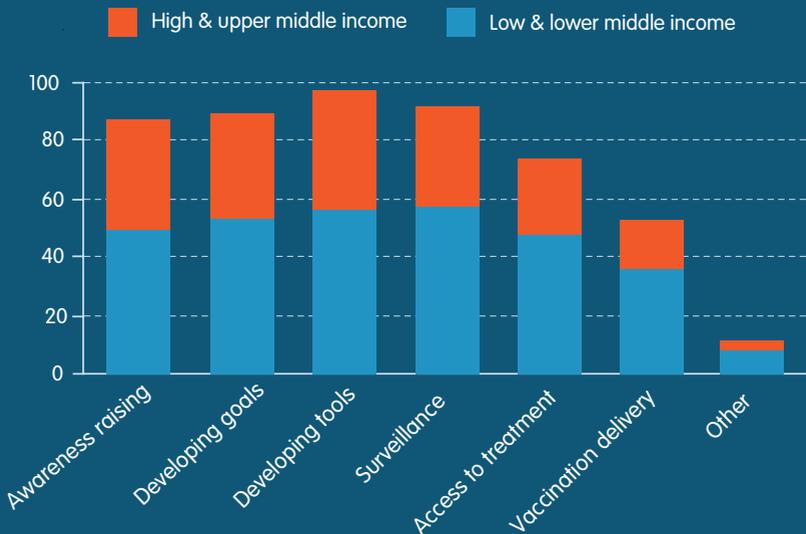
Despite these tremendous successes, more needs to be done to prevent and control viral hepatitis.

- Many people who could benefit from vaccines to prevent hepatitis A and B still have not received them.
- WHO-recommended hepatitis B vaccine at birth is still only given routinely in less than half of Member States and only 25% of infants have received this vaccine
- Vaccination coverage in some countries lags behind the global targets
- Unsafe health-care practices remain common in some parts of the world
- Unnecessary injections continue to be common
- Reuse and needle stick injury prevention syringes which would prevent reuse of syringes on patients and needle stick injuries in health care workers are still expensive and not accessible in resource-constrained settings where most unsafe practices are occurring
- Unsafe injections are still common in many developing countries
- Implementation of Standard Precautions is still a challenge in many healthcare facilities, dramatically increasing the risk of hepatitis transmission associated with health care.
- Medical waste is often not properly treated
- Non-volunteer blood donors are still used in some countries
- Unscreened blood and blood products are still used in some areas
- Unsafe water and sanitation are the norm for many millions of people
- Millions of people are unaware of their chronic hepatitis virus infection and its consequences, and they risk transmitting it to their families and partners
- Millions of chronically infected persons do not have timely access to testing, care and effective treatments to delay development of disease and prevent disability.
- Treatment for chronic viral hepatitis is still not available for most people in resource-constrained settings.



Figure 2.

A call for technical assistance: Country needs





World Health Assembly: a mandate for comprehensive prevention & control

In 2010, the World Health Assembly adopted resolution WHA63.18 which calls for a comprehensive approach to the prevention and control of viral hepatitis. In doing so, Member States have recognized the tremendous burden caused by viral hepatitis.

As stipulated in on viral hepatitis, adopted by the World Health Assembly in May 2010, the WHO Secretariat is working closely with the Member States of the Organization to develop the necessary guidelines, strategies, time-bound goals and tools for the surveillance, prevention and control of viral hepatitis. To Provide the necessary support to the development of scientific research related to the prevention, diagnosis and treatment of viral hepatitis, and improving the assessment of global and regional economic impact and the estimates of the burden of viral hepatitis.

To Mobilize support for the strengthening of surveillance systems, prevention and control programmes, diagnostic and laboratory capacity, and management of viral hepatitis to developing countries in an equitable, efficient, and suitable manner, and strengthening the WHO Safe Injection Global Network. Further, it encourages all interested parties, from the United Nations and Member States to civil society, patient groups and the private sector to collaborate to support this endeavour.

WHO goals and strategy for prevention & control of viral hepatitis

Goals

Using a public health approach, the goal of the WHO viral hepatitis strategy is:

- to reduce the transmission of the various agents that cause viral hepatitis;
- to reduce the morbidity and mortality due to viral hepatitis and improve the care of patients with viral hepatitis;
- and to reduce the socio-economic impact of viral hepatitis at individual, community and population levels.

To accomplish this mandate, WHO will take a health systems approach, including scaling up successful interventions and developing new approaches at WHO while mobilizing much needed resources. The Secretariat's work will follow four strategic axes, starting with products developed by WHO and leading to plans and results within an operational framework for countries to achieve specific outcomes.



Strategic axis 1. Raising awareness and mobilizing resources

The expected results of these education and a greater awareness among policy makers, health professionals, and the public about viral hepatitis and to stimulate the strengthening of preventive and control measures. At the same time there should be no discrimination against people with hepatitis and a greater willingness of people to find out if they are infected.

In 2011 WHO marked the 28th of July as World Hepatitis Day. This day was advanced the objectives in this strategic axis through activities in many nations and communities around the world. WHO supported these activities through collaboration with civil society by publishing fact sheets, news releases, media contacts, an informative video, an official statement by the Director General and specific country technical assistance.

Strategic axis 2. Data for policy and action

Accurate data enable policy makers and decision makers at all levels to understand the burden of disease caused by viral hepatitis, to prioritize resources, and to tailor different interventions, from immunization to antiviral therapy, from screening the blood supply to ensuring safe health-care environments and practices. Surveillance, serological surveys, and outbreak investigations are powerful tools for prevention and control.

A high priority has been placed on developing improved estimates of global, regional and country-level disease burden due to viral hepatitis. These estimates need continual updating as well as use for country policy development. Current efforts are being made to communicate results and develop tools to enable governments to produce evidence-based and cost-effective policies and plans.





Strategic axis 3. Prevention of transmission

Successful prevention efforts need to be adapted to growing populations, changing epidemiology, and new economic constraints. However, along with these challenges come opportunities to re-examine policies on immunization such as immunization schedules, the protection of health-care workers, policies between countries and cultures, and innovative solutions for the future. Just as the advent of the AIDS epidemic in the 1980s led to campaigns that successfully changed many behaviours, continued health promotion needs to concentrate on behaviours which puts people at risk of infection and can be changed. Safer sex continues to be a key message for the prevention of viral hepatitis. Emphasis also needs to be placed on formulating safe food and water strategies for countries to use.

Strategic axis 4. Screening, care and treatment

Developments in the world of therapeutic agents for hepatitis B and C have recently been rapid, to the extent that hepatitis C can be cured and chronic hepatitis B can be controlled in the long-term. Guidelines for screening, care and treatment of patients with hepatitis B and C, especially for those in resource-constrained settings and for dealing with issues of drug resistance, will be of utmost importance. The Secretariat is developing a package of resources to support screening of people for possible infection with hepatitis viruses and to provide appropriate pre and post-test counselling, a framework for care and treatment and support to countries to develop local policy and programmes. In addition, WHO will also be working on a training package for health-care providers for implementation at all levels.

The cost of some treatments in itself forms a barrier to access to care that requires innovative solutions involving essential drug lists and efforts to make pricing appropriate to the ability of the ability to pay.



A future where viral hepatitis is prevented and cured

WHO has established a dedicated team at its Geneva headquarters that will coordinate work with partners and Member States to develop tools and products to advance the important work in each of these axes. This work will lead to plans and results within a country-level operational framework to achieve the mandate as prescribed by the World Health Assembly in WHA63.18.

To make prevention, care and treatment available to those who need it will require an immense effort and will require applying lessons learned from other health areas.

Annex X

Resolution WHA63.18 Viral hepatitis

The Sixty-third World Health Assembly,

Having considered the report on viral hepatitis;¹

Taking into account the fact that some 2000 million people have been infected by hepatitis B virus and that about 350 million people live with a chronic form of the disease;

Considering that hepatitis C is still not preventable by vaccination and around 80% of hepatitis C virus infections become a chronic infection;

Considering the seriousness of viral hepatitis as a global public health problem and the need for advocacy to governments, all parties and populations for action on health promotion, disease prevention, diagnosis and treatment;

¹ Document A63/15.

Expressing concern at the lack of progress in the prevention and control of viral hepatitis in developing countries, in particular in sub-Saharan Africa, due to the lack of access to affordable, appropriate treatment and care as well as an integrated approach to the prevention and control measures of the disease;

Considering the need for a global approach to all forms of viral hepatitis – with a special focus on viral hepatitis B and C, which have the higher rates of morbidity;

Recalling that one route of transmission of hepatitis B and C viruses is parenteral and that the Health Assembly in resolution WHA28.72 on utilization and supply of human blood and blood products recommended the development of national public services for blood donation and in resolution WHA58.13 agreed to the establishment of an annual World Blood Donor Day, and that in both resolutions the Health Assembly recognized the need for safe blood to be available to blood recipients;

Reaffirming resolution WHA45.17 on immunization and vaccine quality which urged Member States to include hepatitis B vaccines in national immunization programmes;

Considering the need to reduce liver cancer mortality rates and that viral hepatitises are responsible for 78% of cases of primary liver cancer;

Considering the collaborative linkages between prevention and control measures for viral hepatitis and those for infectious diseases like HIV and other related sexually transmitted and bloodborne infections;

Recognizing the need to reduce incidence to prevent and control viral hepatitis, to increase access to correct diagnosis and to provide appropriate treatment programmes in all regions;

Further recognizing the need for universal coverage for safe injection practices as promoted through the WHO Safe Injection Global Network,

1. RESOLVES that 28 July or such other day or days as individual Member States decide shall be designated as World Hepatitis Day in order to provide an opportunity for education and greater understanding of viral hepatitis as a global public health problem, and to stimulate the strengthening of preventive and control measures of this disease in Member States;

2. URGES Member States:

- (1) to implement and/or improve epidemiological surveillance systems and to strengthen laboratory capacity, where necessary, in order to generate reliable information for guiding prevention and control measures;
- (2) to support or enable an integrated and cost-effective approach to the prevention, control and management of viral hepatitis considering the linkages with associated coinfection such as HIV through multisectoral collaboration among health and educational institutions, nongovernmental organizations and civil society, including measures that strengthen safety and quality and the regulation of blood products;
- (3) to incorporate in their specific contexts the policies, strategies and tools recommended by WHO in order to define and implement preventive actions, diagnostic measures and the provision of assistance to the population affected by viral hepatitis including migrant and vulnerable populations;
- (4) to strengthen national health systems in order to address prevention and control of viral

- hepatitis effectively through the provision of health promotion and national surveillance, including tools for prevention, diagnosis and treatment of viral hepatitis, vaccination, information, communication and injection safety;
- (5) to provide vaccination strategies, infection-control measures, and means for injection safety for health-care workers;
 - (6) to use national and international resources, either human or financial, to provide technical support to strengthen health systems in order to provide local populations adequately with the most cost-effective and affordable interventions that suit the needs of local epidemiological situations;
 - (7) to consider, as necessary, national legislative mechanisms for the use of the flexibilities contained in the Agreement on Trade-Related Aspects of Intellectual Property Rights in order to promote access to specific pharmaceutical products;¹
 - (8) to consider, whenever necessary, using existing administrative and legal means in order to promote access to preventive, diagnostic and treatment technologies against viral hepatitis;
 - (9) to develop and implement monitoring and evaluation tools in order to assess progress towards reducing the burden from viral hepatitis and to guide evidence-based strategy for policy decisions related to preventive, diagnostic and treatment activities;
 - (10) to promote the observance of 28 July each year, or on such other day or days as individual Member States may decide, as World Hepatitis Day;
 - (11) to promote total injection safety at all levels of national health-care systems;

3. REQUESTS the Director-General:

- (1) to establish in collaboration with Member States the necessary guidelines, strategies, time-bound goals and tools for the surveillance, prevention and control of viral hepatitis;
- (2) to provide the necessary support to the development of scientific research related to the prevention, diagnosis and treatment of viral hepatitis;
- (3) to improve the assessment of global and regional economic impact and estimate the burden of viral hepatitis;²
- (4) to support, as appropriate, resource-constrained Member States in conducting events to mark World Hepatitis Day;
- (5) to invite international organizations, financial institutions and other partners to give support to, and assign resources for, the strengthening of surveillance systems, prevention and control programmes, diagnostic and laboratory capacity, and management of viral hepatitis to developing countries in an equitable, most efficient, and suitable manner;
- (6) to strengthen the WHO Safe Injection Global Network;
- (7) to collaborate with other organizations in the United Nations system, partners, international organizations and other relevant stakeholders in enhancing access to affordable treatments in developing countries;
- (8) to report to the Sixty-fifth World Health Assembly, through the Executive Board, on the implementation of this resolution.

² The WTO General Council in its Decision of 30 August 2003 (i.e. on Implementation of paragraph 6 of the Doha Declaration on the TRIPS Agreement and Public Health) decided that “pharmaceutical product’ means any patented product, or product manufactured through a patented process, of the pharmaceutical sector needed to address the public health problems as recognized in paragraph 1 of the Declaration. It is understood that active ingredients necessary for its manufacture and diagnostic kits needed for its use would be included.”



World Health Organization
20 Avenue Appia
1211 Geneva 27
Switzerland

www.who.int/topics/hepatitis