

TECHNICAL REPORT

Surveillance and prevention of hepatitis B and C in Europe

Stockholm, October 2010

www.ecdc.europa.eu

ECDC TECHNICAL REPORT

Surveillance and prevention of hepatitis B and C in Europe



The production of this technical report was coordinated by Marita van de Laar. The analysis of the survey covered by this report was commissioned by the European Centre for Disease Prevention and Control (contract ECD.1710) and conducted by Greet Hendrickx, Alex Vorsters, and Pierre Van Damme (University of Antwerp, Belgium).

Suggested citation: European Centre for Disease Prevention and Control. Surveillance and prevention of hepatitis B and C in Europe. Stockholm: ECDC; 2010.

First published: October 2010 Revised edition: November 2010 This edition has been revised at the request of Norway; revisions are reflected in Section 4.1. ISBN 978-92-9193-216-0 doi 10.2900/3321

© European Centre for Disease Prevention and Control, 2010 Reproduction is authorised, provided the source is acknowledged.

Contents

| Executive summary | 1 |
|--|------|
| 1 Introduction | 3 |
| 2 Scope and method | |
| 2.1 Survey method and limitations | 5 |
| 2.2 Response | 5 |
| 3 Surveillance systems for HBV and HCV | 6 |
| 3.1 Description of surveillance systems | 6 |
| 3.2 Objectives for hepatitis surveillance | 9 |
| 3.3 Case definitions | 9 |
| 3.4 Cases included in hepatitis B reporting | . 10 |
| 3.5 Cases included in hepatitis C reporting | . 10 |
| 3.6 Data collection | . 13 |
| Source of data | . 13 |
| Collected data | . 13 |
| Format of data | . 13 |
| Duplicates and underreporting | . 13 |
| Frequency of analysis | |
| 3.7 Summary | |
| | |
| 4 Prevention programmes for HBV and HCV | . 16 |
| 4.1 Screening programmes | |
| 4.2 Immunisation programmes for hepatitis B | . 17 |
| Universal HBV vaccination | |
| Risk group vaccination | |
| Vaccination coverage | |
| Summary | . 21 |
| | |
| 5 Epidemiology | . 22 |
| 5.1 Hepatitis B | . 22 |
| 5.2 Hepatitis C | . 23 |
| | |
| 6 Discussion and conclusion | . 26 |
| | |
| Annex 1. Tables | . 27 |
| Annex 2. Country overview on HBV and HCV surveillance and prevention | |
| Austria | |
| Belgium | |
| Bulgaria | |
| Cyprus | |
| Czech Republic | |
| Denmark | |
| Estonia | |
| Finland | |
| France | |
| Germany | . 73 |
| | |

| Greece | 76 |
|----------------|------|
| Hungary | 79 |
| Iceland | 82 |
| Ireland | 85 |
| Italy | 88 |
| Latvia | 91 |
| Liechtenstein | 94 |
| Lithuania | 97 |
| Luxembourg | .100 |
| Malta | .103 |
| Netherlands | .106 |
| Norway | .109 |
| Poland | .112 |
| Portugal | .115 |
| Romania | .118 |
| Slovakia | .121 |
| Slovenia | .124 |
| Spain | .127 |
| Sweden | .130 |
| United Kingdom | .133 |

Abbreviations

| AER | Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm: ECDC; 2009 |
|------|---|
| ANC | Antenatal care |
| DU | Drug user |
| HBV | Infection with hepatitis B virus |
| HCC | Hepatocellular carcinoma |
| HCV | Infection with hepatitis C virus |
| ICER | Incremental cost-effectiveness ratio |
| IDUs | Injecting drug users |
| LYG | Life years gained |
| MSM | Men who have sex with men |
| n/a | not available; not applicable |
| QALY | Quality-adjusted life year |
| STD | Sexually transmitted disease |
| STI | Sexually transmitted infection |
| | |

Executive summary

Scope

This survey was carried out to map existing national surveillance systems and prevention programmes for hepatitis B and C in the EU/EEA.

Hepatitis B

Surveillance in Europe

All countries indicated that they maintain a passive mandatory reporting system for hepatitis B. In 15 countries there was only one specific surveillance system, whereas four countries had multiple surveillance systems. The national objectives of surveillance are very similar in different countries but the case definitions were not always in line with the objectives; eight countries indicated that they implemented the EU-2008 case definition, and three were using the EU-2002 case definition. In total, 21 countries were using a case definition that closely resembled the EU definition. Based on the various case definitions, 28 countries report confirmed cases, and 27 include acute hepatitis B cases. Chronic cases are included in the reports of 17 countries; asymptomatic cases are often omitted. Twenty-six countries reported to collect case-based data at the national level, but the frequency of analysis varies between countries. A basic data set (age, gender, place of residence, date of onset of disease, date of reporting) is collected in 26 countries, but detailed data on epidemiological risk and impact of the disease are often missing.

Epidemiology in Europe

The number of newly reported cases per 100 000 population in 2007 as reported by 27 countries ranges from 0 to 15.0, with an average of 1.5 (Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm: ECDC; 2009). The number of reported HBV cases in the EU/EEA countries per 100 000 population has declined from 6.7 to 1.5 between 1995 and 2007. Tracking trends and making comparison between countries can be challenging, as surveillance systems differ considerably and recent changes may impact the presented data.

Prevalence of HBV in the general population varies widely between countries, with low to intermediate HBsAg carrier rates in Slovakia (1.6%), Italy (1%), Belgium and France (around 0.6%), Finland, Hungary, the United Kingdom (all below 0.5%), and Bulgaria (3.8%). Screening for HBV in pregnant women is conducted in 24 countries, but not in Belgium, Bulgaria, Lithuania, Luxembourg and Romania. Prevalence in pregnant women varies between 1.15% in Greece and 0.14% in Finland. There are also screening programmes for injecting drug users (15 out of 29 countries), prisoners (11 countries), STI clinic attendees (nine countries), and persons with multiple sex partners (two countries). HBV prevalence in IDU reported by eight countries was higher than in the general population. The prevalence in IDU varies widely, ranging between 0.5% in Norway and 50% in Denmark. Prevalence among healthcare workers in Denmark and Germany was shown to be similar to the general population.

Screening and vaccination

Universal vaccination programmes for infants, children or adolescents were implemented in 22 countries. Seven countries (Denmark, Finland, Iceland, Norway, Sweden, the Netherlands, and the United Kingdom) have implemented selective vaccination programmes targeted at risk groups. Additional prevention programmes for different risk groups were usually targeted at those at increased risk for HBV due to occupational exposure. In addition, there is a wide variety of risk-group vaccination programmes. Only half of the countries with a routine vaccination programme indicated heterogeneous coverage rates, but the coverage rate in infants (one to two years) seems to be above 95% (except in Austria, Malta, and France).

Hepatitis C

Surveillance in Europe

All EU/EEA countries indicated that they have implemented a reporting system for hepatitis C (either national or targeted at one specific population). In 14 countries there was one specific surveillance system, but 15 countries indicated that they use multiple surveillance systems to monitor hepatitis C. The national objectives of surveillance are very similar in the different countries but it appears that case definitions were not always in line with the objectives. Eleven countries indicated that they have implemented the EU-2008 case definition, and four countries apply the EU-2002 case definition. Despite this, there is a wide variety in the implementation of case definitions in the Member States, especially in the case classification. All countries included confirmed acute cases in their

surveillance systems¹, and 18 countries also included chronic cases. Some countries indicated that they collected a mixture of cases, and no serological markers were available to differentiate between acute and chronic hepatitis C. This hampers the interpretation of available data across countries. Twenty-six countries reported to collect case-based data at the national level, but the frequency of analysis varies between countries. In addition to clinical reporting, 19 countries collect data from laboratories as a part of their surveillance system; 10 countries do not include laboratory reporting. A basic data set (age, gender, place of residence, date of onset of disease, date of reporting) is collected in 26 countries, but information on detailed epidemiological risk and impact of the disease are often missing. Underreporting seems to be common, due to the asymptomatic character of the disease.

Epidemiology in Europe

The number of newly reported cases per 100 000 population in 2007, as reported by 27 Member States, range between 0 and 36, with an average incidence of 6.9 cases per 100 000 (AER, ECDC 2009). The number of reported HCV cases in the EU/EEA countries per 100 000 population has increased from 4.5 to 6.9 between 1995 and 2007. Plotting trends and comparing data between countries is difficult and needs to be done with caution, as surveillance systems differ considerably and recent changes may impact the presented data. For HCV, the interpretation is further hampered by the asymptomatic nature of infection so that reported numbers may reflect testing practices rather than true incidence and because no distinction can be made between acute and chronic disease.

Prevalence data on HCV for the general population are rather scarce; prevalence ranges from 2.6% in Italy in 2007 to 0.12% in Belgium in 2003. A relative high prevalence was reported by Bulgaria (1.2%) and Slovakia (1.56%). Eleven Member States reported prevalence data in IDU ranging from 25% to 75%. In 2006–07, Italy reported the lowest prevalence (10.8%–25.6%) and Norway the highest (70%). The HCV prevalence data are based on serological markers for hepatitis C, but this does not indicate which part of the population are carriers and thus infective.

Prevention in Europe

Half of the countries indicated that they have implemented screening programmes for risk groups: 16 countries have programmes for IDUs, 11 for prisoners. It remains unclear whether many countries have implemented programmes to monitor the infection rate in healthcare workers. There appears to be a need for more screening programmes for risk groups, hard-to-reach populations, and the general population, but before implementing any measure a thorough investigation should be carried out, based on a cost-effectiveness analysis and the availability of effective treatment.

Conclusion

This report collected and analysed data from 29 EU/EEA countries in regard to hepatitis B and C surveillance and prevention programmes. Although all countries have systems in place that collect data at the national level, these systems differ in the way they apply case definitions and make use of collected data.

As viral hepatitis is a frequent and often underreported disease, this report tries to summarise the latest available prevalence data at EU level. Harmonising the available surveillance data in order to improve comparability of data among countries will be a major challenge in the next few years.

¹ Acute confirmed cases of hepatitis C in France were surveyed only in 2006 and 2007 and for a specific population, e.g. HIV-infected men who have sex with men.

1 Introduction

Hepatitis B (HBV) and C (HCV) are viral infections which can cause acute and chronic hepatitis and are the leading causes for hepatic cirrhosis and cancer, thus creating a significant burden to healthcare systems due to the high morbidity/mortality and costs of treatment. According to the World Health Organization (WHO), one third of the world's population has been infected with HBV, and more than 350 million suffer from chronic infection ^[1]. Approximately 15–40% of infected patients will develop cirrhosis, liver failure or hepatocellular carcinoma. HBV accounts for an estimated 600 000 deaths each year, mainly due to the consequences of chronic hepatitis, such as cirrhosis and liver cancer ^[ii]. The risk of developing a chronic form depends on age at infection: the younger the patient, the higher the risk of developing chronic hepatitis: chronic infection is seen in 90% of infants infected at birth, 30 to 50% of children infected between the age of one to four years, and 1 to 10% of those infected at older age or as adults.

HBV can effectively be prevented by vaccination ^[iii]. A safe and effective HBV vaccine has been available since the 1980s and can prevent acute and chronic infection with an estimated effectivity of 95% ^[iv]. In 1992, the WHO recommended to implement universal vaccination against hepatitis B for newborns in all countries with an HBV prevalence rate higher than 5% in 1995. All other countries were recommended to implement universal vaccination in 1997 ^[v].

With regard to HCV, it has been estimated that 170 million persons have chronic infection and that three to four million new cases occur each year ^[vi]. Initial infection is frequently asymptomatic or mild (70%–90% of cases). Of those infected, 50–80% later develop chronic infection, and cirrhosis (up to 50%) and liver cancer (1%–5%) over a period of 20 to 30 years. Although other studies show a somewhat lower percentage of cirrhosis and liver cancer ^[vii], HCV is a major public health problem. A person with HCV can infect others from one to several weeks before symptoms. In case of chronic infections, infectivity may persist indefinitely.

There is no vaccine against HCV infection ^[viii]. Research is in progress but the high mutability of the HCV genome complicates vaccine development. The greatest impact on HCV disease burden will likely be achieved by focusing efforts on reducing the risk of HCV transmission from nosocomial exposures (e.g. screening of blood, rigorous implementation of infection control, reducing unsafe injection practices) and high risk behaviours (e.g. injection drug use). Relevant measures to reduce transmission are early diagnosis, effective prevention and screening programmes, as well as appropriate treatment ^[ix, x]. It is known that a large number of people carrying the HCV virus are not aware of being infected due to high proportion of asymptomatic infections ^[vi, xi].

HBV is transmitted by either percutaneous or mucous membrane contact with infected blood or other body fluid. The virus is found in highest concentrations in blood and serous exudates. The primary routes of transmission are perinatal, early childhood exposure, sexual contact, and percutaneous exposure to blood or body fluids (i.e. injections, needle stick, blood transfusion). Most perinatal infections occur among infants of pregnant women with chronic HBV infection. The distribution patterns and risk groups differ widely across the EU. Sexual transmission has been estimated to account for 30% to 50% of new infections among adults in industrialised countries. The most common risk factors include multiple sex partners and history of a sexually transmitted infection. Finally, unsafe injections and other unsafe percutaneous procedures are a major source of blood-borne pathogen transmission (HBV, HCV, HIV) in many countries: the risk of HBV infection from needle stick exposure to HBsAgpositive blood is ~30%. Worldwide, unsafe injection practices account for ~8 to 16 million HBV infections each year ^[IV]. In the past, HBV was frequently transmitted via blood transfusion, but due to improved testing of blood donors the estimated residual risk of acquiring HBV infection via this route ranges from 0.49 to 10 per million transfusions in Europe ^[xxii, xii, xiv, xv, xvi].

In the second half of the 20th century, HCV was transmitted widely through the use of parenteral injections, invasive medical and surgical procedures, and transfusion of blood products. An epidemic explosion in IDUs followed and for two decades has remained the main transmission route accounting for the majority of new HCV infections. The risk for perinatal infections ranges from 3% to 10% in different populations. Sexual transmission is thought to be relatively infrequent. However, in many cases, no recognisable transmission factor or route can be identified. In Europe, HCV is mainly associated with injecting drug use (blood-to-blood contact, sharing syringes and needles), nosocomial transmission, or other parenteral exposure such as needle stick injuries, body piercing or tattooing ^[xi, xviii, xviii]. In most countries, injecting drug use accounts for 30% to 60% of all reported HCV cases. Another common risk factor is having had a blood transfusion before 1991. In 10% to 54% of cases, the risk factor is undetermined or unknown ^[xix]. It has been observed that high-risk sexual behaviour among (predominantly HIV-positive) men who have sex with men (MSM) may predispose to HCV infection probably via permucosal route (and mucosal damage rather than by sexual contact) ^[xx, xxi, xxii]. The implementation of effective anti-HCV testing methods and virus inactivation procedures in the late 1980s and early 1990s, as well as recent introduction of HCV-RNA tests significantly improved blood transfusion safety _[xiv]. The estimated residual risk for acquiring HCV via blood products ranges from 1 to 40 per 10 million transfusions ^[x, xiii, xiv, xvi]. Regardless of this improvement,

nosocomial transmission of HCV via other routes, such as contaminated substances or multiple dose vials as well as via haemodialysis, is still a concern and should be further investigated ^[xxiii].

In the European Union (EU), the European Economic Area (EEA) and neighbouring countries, the occurrence of HBV and HCV is known to differ across countries ^[xxiv]. Between 1995 and 2007, around 83 000 cases of HBV were reported at EU/EEA level, but the number of reporting countries varies (AER, ECDC 2009). During this period, a steady decrease was observed (see Table 1 below).

Table 1. Number of confirmed cases of hepatitis B reported at EU/EEA level, 2005–07

| Reporting year | Number of HBV cases | Reporting countries |
|----------------|---------------------|---------------------|
| 2005 | 6977 | 25 |
| 2006 | 7494 | 28 |
| 2007 | 6481 | 27 |

Source: Annual Epidemiological Report on Communicable Diseases in Europe 2009. Stockholm: ECDC; 2009.

In 2007, 6 481 confirmed cases of hepatitis B virus infections were reported by 27 EU/EEA Member States, giving an overall notification rate of 1.5 per 100 000 inhabitants (ECDC 2009). Between 1995 and 2007, almost 310 000 HCV cases were reported in EU/EEA countries, but it needs to be noted that the number of reporting countries varies from one year to another. During this period, a steady increase in the incidence of reported HCV cases was observed. In 2007, 27 591 cases of hepatitis C virus infections were reported by 27 EU/EEA Member States and 26 840 of these were confirmed, giving an overall notification rate of 6.9 per 100 000 inhabitants (ECDC 2009) ^[xxiv]. Over the last few years, HBV incidence has been decreasing while HCV incidence rates have been rising ^[xxv]. At the country level, the incidence of reported cases is variable, and abrupt changes in incidence can be seen. These trends probably reflect changes in surveillance systems or prevention activities rather than true changes in incidence.

The prevalence of HBV and HCV infection varies markedly in different populations. Both diseases are concentrated in certain subpopulations such as injecting drug users who have a prevalence rate ten times higher than the general population. The prevalence is also higher in men who have sex with men as compared with the heterosexual population. In 1999, WHO estimated the worldwide prevalence of HCV at 3%. Most affected areas are Africa (5%) and the Eastern Mediterranean region (4.6%), followed by the Western Pacific region (3.9%), and South-East Asia (2%). The Americas and Europe had the lowest prevalence estimates, 1.7% and 1%, respectively ^[xxvi]. According to national estimates, 8.8 million (1.3%) people are infected in 22 European countries ^[xxvii]. In Europe, the prevalence of HCV can be roughly divided in three patterns: in Northern Europe, the epidemic is mainly transmitted by IDU, with overall prevalence rates between 0.1 and 1%. In Central Europe, the HCV prevalence is intermediate, ranging from 0.2% to 1.2%. In Southern Europe, the overall prevalence ranges between 2.5% and 3.5% ^[xix].

It is obvious that good surveillance data are essential for public health action and planning, as well as policy making. In 2006, the harmonisation process of surveillance of viral hepatitis in the EU was identified by the European Parliament as one of the priorities for the European Centre for Disease Prevention and Control (ECDC). Currently, data is collected by several national surveillance systems but the comparison of these surveillance data is hampered by differences in surveillance systems, the population under surveillance, the data sources, and the unknown proportion of unreported infections. Also, there is no agreement on practice, need, and usefulness of reporting chronic and asymptomatic cases. All in all, there is a clear need to strengthen and harmonise the many surveillance systems in Europe.

ECDC has carried out a survey to map existent national surveillance systems and prevention programmes among EU/EEA countries as this would provide an ideal foundation for the development of a protocol for enhanced surveillance of hepatitis B and C in the European Union.

The major objectives of the survey were:

- to gather detailed information on national surveillance systems and screening programmes for HBV and HCV; and
- to collect information on the national prevention programmes targeting hepatitis B and C.

The main objective of this study is to provide an overview of existing surveillance systems by not only showing the diversity that exists between the countries but also by indicating the potential for ensuring harmonisation and consistency.

2 Scope and method

2.1 Survey method and limitations

All 27 EU Member States and Iceland, Liechtenstein, and Norway were invited to participate in a web-based survey on surveillance and prevention of hepatitis B and C. The link to this survey was sent to the nominated contact points for hepatitis B and C of the Member States' competent bodies for surveillance. The survey included separate parts for hepatitis B and C. Each questionnaire was divided into four sections: a) general aspects, b) source of data collected, c) other questions related to surveillance, and d) prevention. The questionnaires are included in the annex to this report.

Questionnaires were sent in September 2008, and by October 2009 the collected data had been extracted and entered in a database. In December 2009, after analysis of the data in Microsoft Excel, the countries' correspondents were asked to update and validate the country-specific data (see Annex 2). All data are available at the country level and in an accumulated EU/EEA format. Data collected on vaccination programmes was validated and completed with data from the VENICE Project Work Package 1–3 report (www.venice.cineca.org) and EUVAC (www.EUVAC.net).

Also collected were prevalence data on hepatitis B and C in the general population, pregnant women, and IDUs. The following limitations of the study must be taken into account:

- Not all countries answered all questions.
- Despite an explanatory wordlist issued by ECDC ('ECDC definitions of some attributes of the surveillance systems'), participants understood and interpreted definitions and terminology differently.
- Blank fields or missing data can only be interpreted as 'Respondent did not provide requested information in the questionnaire' (unless specified otherwise). This does not necessarily mean that the information is not available.
- Questionnaires that cover a wide range of topics, e.g. surveillance systems, burden of disease, and vaccination policies, often generate questions that cannot always be answered.
- Screening programmes were not defined in detail.

2.2 Response

All countries completed both surveys, with the exception of the Czech Republic (only HCV questionnaire) and Liechtenstein (only HBV questionnaire). This resulted in a high response rate of 29/30 for each disease. This response rate allows us to analyse the collected survey data at the European level. As no overall validation was performed, any appraisal of the presented review or inter-country comparison should be performed with caution. The respondents and non-respondents by country and disease are shown in Annex 1, Table A1.

To facilitate the analysis and the comparison between countries, the data for each country is presented in a country overview (Annex 2). These profiles consist of two parts: 1) surveillance system, and 2) prevention, and are present in a consistent page layout which reflects the questionnaire's content and wording. A third part on burden of disease and epidemiology might be added later, once the surveillance data have been submitted and validated.

3 Surveillance systems for HBV and HCV

All countries have systems for the surveillance and prevention of hepatitis B and C in place, but there are major differences in methodology (Table 2). Hepatitis B and hepatitis C surveillance systems are part of the national surveillance in all participating countries (29/29). Almost all countries have a mandatory reporting system for HBV (93%; 27/29) and HCV (90%; 26/29). Hepatitis C reporting is voluntary in France, Italy, and the United Kingdom; hepatitis B reporting is voluntary in Italy and the United Kingdom .

3.1 Description of surveillance systems

The vast majority of countries have a passive surveillance system: 90% (25/29) for HBV and 83% (24/29) for HCV.

There are doubts whether ECDC's definition of an active surveillance system² was taken into account when the respondent described their national 'active surveillance systems' in the questionnaire: in Austria, the Czech Republic and Liechtenstein, active surveillance is described as a system which stipulates that physicians or laboratories report all suspected or confirmed cases directly to the office of public health; in Slovakia, epidemiologists investigate all reported cases (suspected or laboratory-confirmed) and follow up with the patient and his direct contacts; and in the United Kingdom, the active surveillance systems for HBV and HCV are described as including information from multiple sources.

A more detailed analysis of the surveillance systems shows that almost half of the countries (52% or 15/29 for HBV, and 48% or 14/29 for HCV) have a country-specific surveillance system in place³. Several countries report more than one HBV/HCV surveillance system for their countries; three countries report that, although they have several parallel surveillance systems, there is one system that is considered the most comprehensive (HBV in France, Spain and the United Kingdom; HCV in Finland, Spain and the United Kingdom). Two countries report that several surveillance systems exist, but that none can be seen as dominant (HBV and HCV systems in Belgium; HCV systems in France). In five countries (Hungary, Italy, Latvia, Romania and Slovakia), the HBV and HCV reporting systems are part of a syndromic surveillance system, which makes it possible to differentiate the reported cases according to the aetiology. Seven countries report to collect data on HBV in STI clinics, four report HCV data in STI clinics, and seven countries collect data for both HBV and HCV through a laboratory network. Five countries perform sero-surveillance in the general population, while only four countries collect data from sentinel surveillance systems (Table 3).

Sero-surveillance in the general population was reported for six different countries: combined hepatitis B and C sero-surveillance was organised in Belgium (one region), France, Slovakia and the United Kingdom; in Germany, samples were only tested for hepatitis B, and in the Czech Republic only for hepatitis C (there was no additional information available for the United Kingdom). Sero-surveillance studies can contribute to assess the burden of disease, as they account for asymptomatic infections as well as chronic infections. Asymptomatic infections are often not included in the national surveillance systems.

Other country-specific surveillance or screening programmes focusing on risk groups are performed, on a more or less regular basis, in Denmark (pregnant women), Finland (IDUs and prisoners), Iceland (alcohol and drug addicts), and the United Kingdom (IDUs). Hungary, Iceland and Ireland also consider their national databases for blood and blood-borne products as a special surveillance programme for HBV and HCV. In France, the surveillance system for HBV and HCV is based on a combination of different screening programmes and sero-surveys. Although other HBV/HCV reporting systems are rather rare in the participating countries, they are an important source of data to measure the burden of disease in a given country.

² A surveillance system based on a public health officials initiative to contact physicians, laboratory or hospital staff or other relevant sources to report data

³ 'Own surveillance system' is considered 'country-specific'.

| Information on the from 29 countries | he national surveillance system according to responses s, by disease | Number of HBV | countrie: HCV |
|--------------------------------------|---|------------------|------------------|
| Type of surveil | lance | | |
| | Mandatory | 27 | 26 |
| | Voluntary | 2 | 3 |
| | Passive | 25 | 24 |
| | Active | 4 | Į |
| Type of surveil | lance system | | |
| | Own system | 15 | 14 |
| | Several surveillance systems, one of which is the most comprehensive | 3 | - |
| | Several surveillance systems, none is the most comprehensive | 1 | - |
| | Syndromic surveillance of viral hepatitis | 5 | ļ |
| | Other | 5 | ļ |
| Objectives | | | |
| | Monitor trends | 29 | 29 |
| | Detect outbreaks | 26 | 2 |
| | Monitor changes in disease distribution | 28 | 2 |
| | Evaluate and plan control measures | 28 | 2 |
| | Improve knowledge of epidemiology | 27 | 28 |
| | Other | 5 | - |
| Case definition | ls | | |
| | EU 2002/253/EC | 3 | 4 |
| | EU 2008/426/EC | 8 | 1 |
| | Possibly EU (lack of information) | 5 | |
| | Extended EU | 5 | |
| | No case definition | 3 | |
| | Other | 5 | |
| Case classificat | | | |
| | Possible | 1 | |
| | Probable | 15 | (|
| | Confirmed | 28 | 2 |
| | Acute | 29 | 2 |
| | Chronic | 17 | 18 |
| | Asymptomatic | 9 | 12 |
| | Suspected | 1 | |
| Data collection | • | - | |
| Source of data | Physicians | 28 | 28 |
| | Laboratory | 19 | 19 |
| | Hospital | 19 | 19 |
| | Other | 4 | |
| Availability | Case-based | 26 | 2 |
| wanability | Aggregated | 8 | |
| Format | Electronic | 23 | 2 |
| onnac | Paper | 13 | 1 |
| Including duplica | | 4 | 1. |
| Underreporting | No | 3 | |
| chach cporting | Exists | 26 | 2 |
| Frequency of dat | | 20 | Ζ. |
| | | 5 | |
| | Daily Weakly | 5 | |
| | Weekly Biweekly | 8 | |

Table 2. Summary of information on national surveillance systems for Hepatitis B and C

| Information on | the national surveillance system according to responses | Number of | |
|------------------|---|-----------|-----|
| from 29 countr | ies, by disease | HBV | HCV |
| | Monthly | 10 | 10 |
| | Biannually | 2 | 3 |
| | Yearly | 18 | 19 |
| Screening prog | rammes | | |
| | Pregnant women | 24 | 3 |
| | Military recruits | 3 | 1 |
| | Injecting drug users | 15 | 16 |
| | STI clinic patients | 9 | 6 |
| | Multiple sex partners | 1 | 1 |
| | Prisoners | 11 | 10 |
| | Haemodialysis patients | 20 | 20 |
| | Long-term healthcare facilities | 2 | (|
| | Healthcare workers | 7 | 7 |
| | Workers who are occupationally exposed to the virus | 11 | ç |
| | Blood and organ donors | 26 | 27 |
| Link to other re | egisters | | |
| | Liver transplant | 5 | 5 |
| | Liver cancer | 6 | 6 |
| | Mortality | 8 | 8 |
| | Hospital registers | 8 | 8 |
| Prevention | | | |
| Universal vacci | nation | 22 | n/a |
| | Infants | 11 | n/a |
| | Adolescents | 8 | n/a |
| | Both | 12 | n/a |
| Risk group vac | cination | | , - |
| | Neonates born to HBsAg+ mothers | 21 | n/a |
| | Individuals at risk for HBV due to occupation | 26 | n/a |
| | Haemodialysis patients | 22 | n/a |
| | Chronic liver disease patients | 12 | n/a |
| | STI clinic patients | 10 | n/a |
| | Multiple sex partners | 10 | n/a |
| | Injecting drug users | 17 | n/a |
| | Household contacts of HBsAg+ patients | 22 | n/a |
| | Contacts of infected persons | 17 | n/a |
| | Other risk groups | 17 | n/a |

Note: Detailed information on all surveillance systems by country and disease is available in Table A2 (Annex 1).

Table 3. Sources for other HBV/HCV surveillance systems

| | Number of countries | STI clinic | Laboratory network | Sentinel surveillance | Sero-surveys in general population | Others |
|-----|---------------------|------------|--------------------|--------------------------|--|--------|
| HBV | | 9 | 7 | 4 | 5 | 5 |
| HCV | | 6 | 7 | 4 | 5 | 5 |

3.2 Objectives for hepatitis surveillance

The national objectives for hepatitis surveillance seem to be very similar in all countries. Almost all predefined surveillance objectives in the questionnaires were confirmed by the countries.

A few countries identified additional surveillance objectives (might be applicable to other countries as well), for instance the screening of pregnant women to prevent mother-to-child transmission. Romania added as an additional objective 'to monitor the impact of the universal vaccination programme', and Slovakia added 'to evaluate existing preventive measures'. Other surveillance objectives identified by Ireland ('to facilitate resource allocation and healthcare planning'; 'to guide public health action') and by Luxembourg ('monthly publication of statistics required by law') are included in the category of country-specific objectives.

| | | Monitoring trends | Detect Outbreaks | Monitoring changes in disease distribution | Evaluation and planning of control measures | Improve knowledge of epidemiology | Other |
|-----|-----|----------------------|---------------------|--|---|---|-------|
| HBV | Yes | 29 | 26 | 28 | 28 | 27 | 5 |
| ПDV | No | 0 | 3 (DK, FR, RO) | 1 (HU) | 1 (LI) | 2 (LI, RO) | 24 |
| HCV | Yes | 29 | 26 | 27 | 28 | 29 | 2 |
| пси | No | 0 | 3 (DK, FR, RO) | 2 (HU,ES) | 1 (ES) | 0 | 27 |

Note: The Czech Republic did not participate in the HBV survey; Liechtenstein did not take part in the HCV survey.

In some countries, surveillance-related activities (organisation of surveillance, case definitions, data collection, data format, and frequency of analysis) were not always in line with the official surveillance objectives. For instance, the objective 'outbreak detection' is very difficult to meet if data are only analysed once a year. Also, 'planning and evaluating control measures' will be flawed if chronic cases are not included in the surveillance of hepatitis and in the case definitions.

Based on the above results only limited efforts from the countries are needed to harmonise the national surveillance objectives with the ECDC long-term surveillance objectives of communicable diseases, 2008–2013 ^[xxviii]:

- Provision of relevant public health data, information and reports to decision-makers, professionals and healthcare workers, in an effort to ensure informed decision-making for actions
- Monitoring of trends in communicable diseases
- Detection and monitoring of multi-state infectious disease outbreaks
- Evaluation and monitoring of prevention and control programmes
- Identification of population groups at risk
- Contributions to the assessment of the burden of communicable diseases
- Generation of hypotheses on (new) sources, modes of transmission, and groups most at risk

3.3 Case definitions

Although most countries run (national) surveillance systems for HBV and HCV, major differences exist between case definitions. It must be noted that the survey was performed in a period when the new EU case definitions⁴ replaced the previous cases definitions (2002/253/EC), effective 1 January 2009. During the validation round for country profiles from December 2009 to January 2010, a number of countries took the opportunity to update the information on case definitions.

An analysis of the case definitions used in the surveyed countries shows that 16/29 countries have implemented one of the European case definitions for hepatitis B; 20/29 have done so for hepatitis C. Some of them have extended the case definitions with extra laboratory criteria; in Romania, France and Ireland not only acute hepatitis B cases are reportable but chronic cases with HBsAg persistence in more than six months are included. Portugal included probable hepatitis C cases if epidemiologically linked to Laboratory-confirmed cases. The case definition for hepatitis C seems to be more harmonised than for hepatitis B; 12/29 countries have implemented the EU 2008 case definition. In Luxembourg, no case definitions are in place for both hepatitis B and C surveillance; in Lithuania, no case definition is in place for hepatitis B. Detailed information on national case definitions is provided for hepatitis B (Annex 1, Table A3a) and hepatitis C (Annex 1, Table A3b).

Two-thirds of the surveyed countries (21/29) use an EU-related case definition for hepatitis B (EU 2002, EU2008, possibly EU, EU extended). Over 75% (24 /29) of the countries are using an EU-related case definition for hepatitis C, including 11/29 which use the EU 2008 case definition.

⁴ 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC laying down case definitions for reporting communicable diseases to the Community network under Decision No 2119/98/EC of the European Parliament and of the Council

3.4 Cases included in hepatitis B reporting

Case classifications (possible, probable, and confirmed) and stage of infection (chronic and acute) were also addressed in the survey. All other countries reported that confirmed cases were included in the surveillance (in Belgium, cases are collected based on IgM and/or HBe antigen); half of them also include probable cases. In addition to the surveillance based on EU-case definitions, Austria includes 'suspected' cases in their national surveillance (definition is part of the Austrian approach). All countries reported that they include acute hepatitis B cases in their surveillance systems. National systems were historically based on newly acquired infections in patients with clinical symptoms compatible with acute hepatitis. Laboratory reporting made it possible to also include asymptomatic individuals with newly acquired infections or newly diagnosed chronic infections. More than half of the countries (17/29) reported that they include chronic hepatitis B cases, and about one third (9/29) also include asymptomatic cases.

The majority of the countries that include acute, chronic or asymptomatic cases in the reporting system can also distinguish the different stages of infection (14/17). Only Belgium, Iceland and Luxembourg, who only distinguish between acute and chronic and/or asymptomatic case, cannot differentiate different stages among confirmed cases. Reporting is not always compliant with the national case definition, particularly in respect to case classification and stage of infection. This can be illustrated by comparing the results of those countries that report data based on EU case definitions (Table 5). Estonia has implemented the EU 2008 case definitions on 1 January 2009. Although Germany and Romania (Romania has started to implement the EU 2008 case definitions) both use the EU 2002 case definition, they do not include probable cases. Among the countries using the EU 2008 case definitions, Austria, Latvia, Lithuania and Slovenia also include chronic and/or asymptomatic cases, although these cases are not defined in the case definitions. Only Malta, Portugal and Spain (three out of 11 countries that use the EU case definitions) report the case classification or stage of infection according to EU case definitions.

3.5 Cases included in hepatitis C reporting

All countries report confirmed hepatitis C cases through their national surveillance systems (in Belgium, cases are collected based on PCR+). Latvia, Malta, Portugal and Spain include probable cases; in addition to the surveillance based on EU-case definitions, Austria includes 'suspected' cases in their national surveillance. All countries include acute hepatitis C in the national surveillance system except Finland, Norway, Romania (all cases are included, but not the different stages of infection) and France (national surveillance was implemented in 2006 and 2007 only, targeting a specific population (HIV-infected MSM). Two-thirds (18/29) of the countries reported that they include chronic cases of hepatitis C. Although there are no serological markers currently available to accurately differentiate between acute and chronic infections, a number of countries indicated that they can differentiate these types of infection.

Hepatitis C reporting is not always compliant with the national case definition, particularly when the EU case definitions are used as the basis of national case definitions and for case classification and stage of infection: Austria, Latvia, Malta, Poland, Portugal and Spain report probable cases, although they are not mentioned in the EU case definitions. Austria also reports possible cases. Lithuania includes asymptomatic cases in its surveillance reporting, despite the fact that the EU 2002 case definition is based on clinical symptoms. Half of the countries use the EU case definitions (15/29), but in eight countries the reported case classification and stage of infection shows discrepancies with the used definition.

| | Probable | Confirmed | Acute | Chronic | Asymptomatic | Differentiated |
|----------------------|----------|-----------|-------|---------|--------------|----------------|
| 2002/253/EC | | | | | | |
| 2008/426/EC | - | | | | | |
| Austria | | | | | | |
| Belgium ⁵ | | | | | | |
| Bulgaria | | | | | | |
| Cyprus | | | | | | |
| Czech Republic | | | | | | |
| Denmark | | | | | | |
| Estonia ⁶ | | | | | | |
| Finland | | | | | | |
| France ⁷ | | | | | | |
| Germany | | | | | | |
| Greece | | | | | | |
| Hungary | | | | | | |
| Iceland | | | | | | |
| Ireland | | | | | | |
| Italy | | | | | | |
| Latvia | | | | | | |
| Liechtenstein | | | | | | |
| Lithuania | | | | | | |
| Luxembourg | | | | | | |
| Malta | | | | | | |
| Netherlands | | | | | | |
| Norway | | | | | | |
| Poland | | | | | | |
| Portugal | | | | | | |
| Romania | | | | | | |
| Slovakia | | | | | | |
| Slovenia | | | | | | |
| Spain | | | | | | |
| Sweden | | | | | | |
| United Kingdom | | | | | | |
| Number of countries | 15 | 28 | 29 | 17 | 9 | |
| | Included | | | | | |

Table 5. Overview of case classification and the stage of infection used in HBV surveillance system compared with EU case definition

Not included

Information not available

 $^{^{\}scriptscriptstyle 5}$ Cases are collected based on IgM and/or HBe antigen.

⁶ EU 2008 case definition was implemented on 1 January 2009.

⁷ Since the early 2000s, several HBV surveillance systems have been implemented at the national level in France, but none is based on the EU 2008 acute HBV infection case definition. These systems included the overall and newly diagnosed HBsAg screening activity (anonymous screening, laboratory sentinel survey, blood donations) and the surveillance of newly referred chronic hepatitis B infected patients in reference centres. Prevalence studies on specific populations (e.g. MSM, drugs users) are implemented.

| | probable | confirmed | Acute | chronic | asymptomatic | differentiated |
|----------------------|--------------|-----------|-------|---------|--------------|----------------|
| 2002/253/EC | | | | | | |
| 2008/426/EC | | | | | | |
| Austria | | | | | | |
| Belgium ⁸ | | | | | | |
| Bulgaria | | _ | | | | |
| Cyprus | | | | | | |
| Czech Republic | | | | | | |
| Denmark | | | | | | |
| Estonia ⁹ | | | | | | |
| Finland | | | | | | |
| France ¹⁰ | | | | | | |
| Germany | | | | | | |
| Greece | | | | | | |
| Hungary | | | | | | |
| Iceland | | | | | | |
| Ireland | | | | | | |
| Italy | | | | | | |
| Latvia | | | | | | |
| Liechtenstein | | | | | | |
| Lithuania | | | | | | |
| Luxembourg | | | | | | |
| Malta | | | | | | |
| Netherlands | | | | | | |
| Norway | | | | | | |
| Poland | | | | | | |
| Portugal | | | | | | |
| Romania | | | | | | |
| Slovakia | | | | | | |
| Slovenia | | | | | | |
| Spain | | | | | | |
| Sweden | | | | | | |
| United Kingdom | | | | | | |
| Number of countries | 5 | 29 | 27 | 18 | 10 | 9 |
| | | | | | | |
| | Included | | | | | |
| | Not included | | | | | |

Table 6. Overview of the case classification and stage of infection used in HCV surveillance system, compared with the EU case definitions

Included
Not included
Information not available

It can be concluded that there is a significant heterogeneity between the national surveillance systems for hepatitis B and hepatitis C with respect to case definitions and case classification, the reporting of acute and chronic cases, and the inclusion of asymptomatic cases. However, a majority of countries already report confirmed case for hepatitis B and C, and all countries include acute cases. More than half of the countries (17/29 for hepatitis B, 18/29 for hepatitis C) include chronic cases although in some cases no differentiation can be made between acute and chronic cases.

⁸ Cases are collected based on PCR+.

⁹ Implemented EU 2008 case definition since 1 January 2009.

¹⁰ Surveillance on confirmed acute cases of hepatitis C at the national level was implemented only among HIV-infected MSM and only in 2006 and 2007.

3.6 Data collection

Source of data

Surveillance data for HBV and HCV can originate from multiple and different data sources, like clinicians, laboratories, hospitals, municipal health services, and blood banks. In all countries, the clinicians are the most important source of data; in the Netherlands, the physicians report their cases to the municipal health services that report to the central level. Two-thirds of the countries (19/29) also collect data from laboratories and hospitals. In Finland, a parallel system exists for blood banks and antenatal screening (carried out by the same clinicians and laboratories): duplicates are later eliminated by means of a unique personal identifier at the national level. Germany included additional data from another source but provided no details. Detailed information for every country is available in Table A4.

Collected data

A 'basic' data set is collected in most countries, recording age, gender, place of residence, date of reporting, etc. Some countries add variables such as 'country of birth' (included by 16 countries) and 'probable country of infection' (19 countries) (Table 7). Additional epidemiological information is available for a considerable number of countries (sexual transmission, drug use, family details, and healthcare-related information). Although some countries included 'changes in disease distribution' and 'improved knowledge of epidemiology' on their list of objectives for surveillance, the data needed to meet these objectives (e.g. transmission routes, risk factors and the impact of the disease: hospitalisation data, length of hospitalisation, ICD) are not included in the set of variables. Detailed information is available in Table A5a for HBV and in Table A5b for HCV.

Ten countries can link their hepatitis surveillance data to other databases to import or compare data on liver transplantations, liver cancer, mortality, and hospital register information (Table 8). Most of these countries reported that links are technically possible but not established regularly.

Format of data

The majority of countries (90%) collect and provide the surveillance data as individual case based data at central level. Only three countries (Bulgaria, Poland and Romania¹¹) have aggregated data on central level. The majority of countries (80%) have implemented electronic disease surveillance systems. Four countries (Bulgaria, Norway, Poland and Romania) collect hepatitis C data using a traditional paper-based system, three do the same for hepatitis B (Poland, France and Liechtenstein). More information on data formats used in national surveillance systems is available in Table A4.

Duplicates and underreporting

Five countries (Belgium, Ireland, Luxembourg, Spain, United Kingdom) have indicated that there is a possibility that duplicate datasets exist in the national surveillance of hepatitis B and C. An additional four countries also mention possible duplicates for hepatitis C (Czech Republic, France, Germany, and Norway). All these countries, with the exception of Belgium and France, include the patient ID in the collected surveillance data. In almost all countries (HBV 26/29, HCV 27/29) underreporting is a problem in the national surveillance system. The extent of underreporting remains unknown for the majority of countries (21 for HBV, 24 for HCV). Two countries report that there is probably no underreporting for hepatitis B and C (Iceland, Slovakia). The provided estimates for underreporting range from 5% to 6% (Hungary: HBV/HCV) up to 50% (Denmark: HBV/HCV) ^[xxix]. Ireland and the UK estimate a 25% underreporting for HBV, and France calculates underreporting at 23% for HBV. No further details on the estimates were provided; the differences in underreporting due to the methodology of the surveillance or the asymptomatic character of the disease were not addressed.

Frequency of analysis

More than 60% (HBV 18/29, HCV 19/29) of the countries analyse and report surveillance data at the central and national level annually; fewer than half of the countries produce monthly statistics. Portugal, Ireland and the United Kingdom provide a quarterly analysis of the data. Austria, Bulgaria, Cyprus, Denmark, Latvia, Slovenia and Slovakia have the ability to analyse surveillance data more frequently, even on a daily basis, if need be, for example in case of an outbreak. Depending on disease surveillance objectives, the frequency of analysis may have to be increased and harmonised across Europe. Detailed information is available in Table A4.

¹¹ Started to implement case-based data collection since 2009

| | | HBV (number of countries) | HCV (number of countries) |
|----------------------------------|--|------------------------------|------------------------------|
| Basic data | Patient ID | 24 | 22 |
| | Date of birth or age | 29 | 29 |
| | Gender | 29 | 29 |
| | Country of birth | 16 | 16 |
| | Place of residence | 28 | 27 |
| | Date of onset of the disease | 26 | 23 |
| | Date of diagnosis | 21 | 21 |
| | Date of reporting/notification | 27 | 28 |
| | Date used for statistics | 19 | 18 |
| | The country where infection most likely acquired | 19 | 19 |
| | Immunisation status | 24 | 11 |
| | Outcome | 18 | 15 |
| Clinical and case classification | Clinical symptoms | 16 | 13 |
| information | Laboratory results | 23 | 24 |
| | Epidemiological information | 21 | 22 |
| Transmission route/risk factors | Homosexual contact | 16 | 14 |
| | Heterosexual contact | 16 | 13 |
| | Injecting drug use | 21 | 21 |
| | Mother HBsAg/HCV positive | 19 | 15 |
| | Close family member HBsAg/HCV positive | 20 | 17 |
| | Sex partner HBsAg+ | 17 | 17 |
| | Blood or blood product transfusion | 21 | 21 |
| | Invasive healthcare procedure/dental treatment | 18 | 20 |
| | Organ transplantation | 16 | 17 |
| | Haemodialysis | 18 | 19 |
| | Needle injury or other occupational exposure | 18 | 19 |
| | Tattooing/body piercing | 18 | 19 |
| | Other | 8 | 8 |
| Other factors | Hospitalisation | 19 | 17 |
| | Length of hospitalisation | 8 | 8 |
| | ICD code diagnosis | 8 | 10 |
| | Genotype information | 1 | 3 |

Table 7. Set of variables in national surveillance systems for hepatitis B and C

Table 8. Links of surveillance database to at least one other register, by country

| | Liver transplant | Cancer of the liver | Mortality | Hospital register |
|----------------|---------------------|------------------------|--------------|-------------------|
| Bulgaria | | | \checkmark | \checkmark |
| Denmark | \checkmark | \checkmark | \checkmark | \checkmark |
| Finland | \checkmark | \checkmark | \checkmark | \checkmark |
| Iceland | \checkmark | \checkmark | \checkmark | \checkmark |
| Lithuania | | | | \checkmark |
| Malta | | \checkmark | \checkmark | |
| Romania | | | | ✓ |
| Slovakia | \checkmark | \checkmark | \checkmark | \checkmark |
| Sweden | | | \checkmark | |
| United Kingdom | \checkmark | \checkmark | \checkmark | \checkmark |

3.7 Summary

Below is a summary of the information provided on national surveillance systems for hepatitis B and C in the EU and EEA countries.

Major similarities:

- All countries have surveillance in place for both hepatitis B and C.
- A majority of surveyed countries operates a passive mandatory hepatitis surveillance system.
- National objectives for surveillance are very similar in all countries.
- Although there is a wide variety in case definitions, most Member States include confirmed and acute cases in their reporting system.
- Clinicians are the major source of data for the surveillance systems.
- 80% of the surveyed countries have case-based data available, at the national level and in an electronic database.
- A basic set of data (age, gender, place of residence, date of onset of disease, and date of reporting) is collected in most countries.
- Underreporting is common, but to an unknown extent. Duplicates are rather uncommon.

Major differences:

- The administration of disease surveillance for hepatitis B and C varies widely across countries, e.g. there is a wide range of case definitions and case classifications. It needs to be noted that the EU case definitions are not consistently implemented.
- Chronic and asymptomatic cases are often not included in the surveillance data.
- The frequency of data analysis and data reporting varies across countries.
- There is a wide variety in the set of variables collected, particularly in respect to epidemiological risk factors and the impact of the disease (length of hospitalisation, ICD code).
- A number of Member States have the possibility to link hepatitis surveillance to other registers of morbidity and mortality.

The surveillance of hepatitis B and hepatitis C is mostly mandatory in EU/EEA countries; more countries tend to use the EU 2008 case definition for hepatitis C than for hepatitis B.

4 Prevention programmes for HBV and HCV

4.1 Screening programmes

In all countries except Luxembourg at least one screening programme is in place for HBV or HCV. Screenings for hepatitis B virus infections in pregnant women are conducted in more than 80% (24/29) of the countries, while in Bulgaria, Lithuania, Luxembourg, and Romania this programme is not implemented; in Belgium¹² the programme is not implemented at the national level. For Norway, only selective screening programmes are in place.

Blood and organ donors and haemodialysis patients are also screened in most countries, except for Iceland (HBV in blood and organ donors), Liechtenstein (HBV, HCV), Luxemburg (HBV, HCV) and Finland (HBV in haemodialysis patients). In Austria, Denmark, Estonia, Netherlands, and Romania, haemodialysis patients are not screened for HBV and HCV. Half of the countries conduct hepatitis B screening programmes for specific groups at risk, e.g. injecting drug users (15/29), STI clinic patients (9/29), and prisoners (11/29). Two countries operate a programme for persons with multiple sex partners (2/29)¹³.

| | HBV | HCV |
|-----------------------|-----|-----|
| Austria | | |
| Belgium ¹² | | |
| Bulgaria | | |
| Cyprus | | |
| Czech Republic | | |
| Denmark | | |
| Estonia | | |
| Finland | | |
| France | | |
| Germany | | |
| Greece | | |
| Hungary | | |
| Iceland | | |
| Ireland | | |

| ¹² Belgium: Screening for HBV among pregnant women is recommended; a vaccination programme for neonates born from |
|--|
| HBsAg-positive mothers exists. |

¹³ Ireland: Only if the person attended as a patient of an STI clinic.

Programme implemented

No programme Not applicable

Italy Latvia Liechtenstein Lithuania Luxembourg Malta Netherlands Norway¹⁴ Poland Portugal Romania Slovakia Slovenia Spain Sweden United Kingdom

¹⁴ Norway: Selected groups only for both hepatitis B and C.

Specific screening programmes target multiple risk groups. Screening of healthcare workers for hepatitis B is implemented in six countries (Belgium, France, Germany, Italy, Malta, and Romania). An additional eight countries (Hungary, Ireland, Latvia, Lithuania, Poland, Portugal, Spain, and the United Kingdom) indicated that they run a screening programme for 'workers who are occupationally exposed to the virus'.

Screening programmes which target injection drug users (IDUs) or prisoners usually include both hepatitis B and C infections, except in France where IDUs are only screened for hepatitis C. Cyprus, Germany, Malta, Romania, Slovakia, and Spain have an HCV screening programme in STI clinics; Germany operates an HCV screening programme for persons with multiple sex partners. Detailed information on all screening programmes is provided in Table A6a for hepatitis B and Table A6b for hepatitis C.

4.2 Immunisation programmes for hepatitis B

Hepatitis B vaccination has shown to be effective in the reduction of new infections. The vaccine is 95% effective in preventing infection and its chronic consequences and has an outstanding record of safety and effectiveness ^[iv].

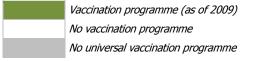
Universal HBV vaccination

In 1991, WHO advised all countries to add Hepatitis B inoculation to in all universal vaccination programmes. A number of countries have not complied with this recommendation, based on their national epidemiological situation. Seven countries (Denmark, Finland, Iceland, the Netherlands, Norway, Sweden, and the United Kingdom) have opted for a selective hepatitis B vaccination programme targeting risk groups. 22 out of 29 EU/EEA countries have implemented a universal vaccination programme for infants and adolescents or both, in addition to a selective immunisation programme (Table 9). In Slovenia, a universal vaccination programme exists for children before entering primary education.

| | Universal vaccination programmes | | | | | | | |
|----------------|----------------------------------|---------|-------------|-------|------------------------|--|--|--|
| | Universal | Infants | Adolescents | Other | Adolescents (catch up) | | | |
| Austria | | | | | | | | |
| Belgium | | | | | | | | |
| Bulgaria | | | | | | | | |
| Cyprus | | | | | | | | |
| Czech Republic | No information ava | ailable | | | | | | |
| Denmark | | | | | | | | |
| Estonia | | | | | | | | |
| Finland | | | | | | | | |
| France | | | | | | | | |
| Germany | | | | | | | | |
| Greece | | | | | | | | |
| Hungary | | | | | | | | |
| Iceland | | | | | | | | |
| Ireland | | | | | | | | |
| Italy | | | | | | | | |
| Latvia | | | | | | | | |
| Liechtenstein | | | | | | | | |
| Lithuania | | | | | | | | |
| Luxembourg | | | | | | | | |
| Malta | | | | | | | | |
| Netherlands | | | | | | | | |
| Norway | | | | | | | | |
| Poland | | | | | | | | |
| Portugal | | | | | | | | |
| Romania | | | | | | | | |

Table 10. Universal vaccination programmes for HBV in 29 EU/EEA countries

| Universal vaccination programmes | | | | | | | | | |
|----------------------------------|-----------|-------------|-------|------------------------|--|--|--|--|--|
| Universal | Infants | Adolescents | Other | Adolescents (catch up) | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | Universal | | | | | | | | |



Although the majority of countries have included hepatitis B in their universal vaccination programmes, the programmes are heterogeneous and show a wide variation in immunisation schedules (timing and number of doses) and vaccine formulation (monovalent, hexavalent) exists. Countries with a neonatal vaccination programme integrated in the universal vaccination programme have comparable schedules. In addition to the routine childhood vaccination programme for newborns or infants, catch-up programmes for older children and adolescents were also carried out in Austria, Belgium, Cyprus, France, Germany, Greece, Hungary, Italy, Latvia, Liechtenstein, Romania, and Slovenia.

Risk group vaccination

In addition to their universal vaccination programmes, most countries have implemented additional programmes for risk groups, usually for those at increased risk of acquiring HBV via occupational exposure (26/29). Vaccination programmes for neonates born to HBsAg-positive mothers (21/29), haemodialysis patients (22/29), and household contacts of HBsAg-positive patients (22/29) are implemented in at least 70% (23/29) of the countries. 23 countries (79%) also have vaccination programmes for HBV among IDUs.

| | | Risk group | vaccination | | | | | | | | |
|----------------|-----------|---|--|-------------------------------|---|------------------------|--|----------------------------|--|---|-------------------------|
| | universal | Neonates born to HBsAg + mothers | Individuals at risk for HBV due to occupation | Haemodialys is patients | Chronic liver disease patients | STI clinic patients | Persons with multiple sex partners | Injecting drug users | Household contacts of HBsAg+ patients | Contacts with infected persons | Other risk groups |
| Austria | | | | | | | | | | | |
| Belgium | | \checkmark | \checkmark | \checkmark | | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark |
| Bulgaria | | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark |
| Cyprus | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | |
| Czech Republic | | No informa | tion available | | | | | | | | |
| Denmark | | \checkmark | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | \checkmark |
| Estonia | | | \checkmark | | | | | | | | |
| Finland | | \checkmark | \checkmark | | | | | \checkmark | \checkmark | | \checkmark |
| France | | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark |
| Germany | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark |
| Greece | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark | \checkmark | \checkmark | |
| Hungary | | \checkmark | \checkmark | \checkmark | | | | | \checkmark | \checkmark | |
| Iceland | | \checkmark | \checkmark | \checkmark | | | | | \checkmark | \checkmark | |
| Ireland | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark |
| Italy | | \checkmark | \checkmark | ✓ | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | |
| Latvia | | \checkmark | \checkmark | \checkmark | | | | | | | |
| Liechtenstein | | | | | | | | | | | |
| Lithuania | | | \checkmark | ✓ | | | | | | | |
| Luxembourg | | | \checkmark | | | | | | | | |
| Malta | | \checkmark | \checkmark | \checkmark | | \checkmark | | \checkmark | \checkmark | \checkmark | |
| Netherlands | | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | | \checkmark |
| Norway | | \checkmark | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | \checkmark |

| | | Risk group | vaccination | | | | | | | | |
|----------------------|-----------|---|--|-------------------------------|---|------------------------|--|----------------------------|--|---|-------------------------|
| | universal | Neonates born to HBsAg + mothers | Individuals at risk for HBV due to occupation | Haemodialys is patients | Chronic liver disease patients | STI clinic patients | Persons with multiple sex partners | Injecting drug users | Household contacts of HBsAg+ patients | Contacts with infected persons | Other risk groups |
| Poland ¹⁵ | | \checkmark | \checkmark | \checkmark | \checkmark | | | | \checkmark | \checkmark | \checkmark |
| Portugal | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | | \checkmark | \checkmark | \checkmark | |
| Romania | | | \checkmark | | | | | | \checkmark | | |
| Slovakia | | \checkmark | \checkmark | \checkmark | \checkmark | | | | \checkmark | \checkmark | \checkmark |
| Slovenia | | \checkmark | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | |
| Spain | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | |
| Sweden | | \checkmark | \checkmark | \checkmark | | | \checkmark | \checkmark | \checkmark | \checkmark | |
| United Kingdom | | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | \checkmark | ✓ |
| No countries | | 22 | 27 | 23 | 14 | 11 | 11 | 18 | 23 | 18 | 12 |



Universal vaccination programme (as of 2009)

No universal vaccination programme

Countries without universal vaccination programmes (Denmark, Finland, Iceland, Netherlands, Norway, Sweden, and the United Kinodom) or countries which recently added hepatitis B vaccination to their routine vaccination programme (Ireland) for the most part have extensive vaccination programmes for risk groups. All countries have at least one hepatitis B prevention programme (Table 11). Exceptions are Austria and Liechtenstein, where vaccination is offered only in universal programmes.

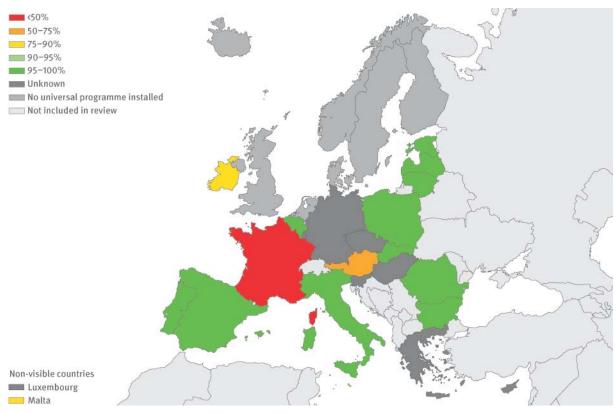
Specific risk group vaccination programmes focus on thalassaemia (Belgium), blood and organ transplantation (Belgium), mentally disabled people or Down's syndrome (Belgium, France, Netherlands), HIV infection (Bulgaria, Poland), MSM (Denmark, Norway, Netherlands, United Kingdom), prisoners (France, Ireland, United Kingdom), social workers (Netherlands), newborns with at least one parent from an HBV-endemic country (Netherlands, Norway), migrants from countries with medium to high endemicity (Norway), sex workers (Norway), patients infected with other types of hepatitis (Slovakia). Most frequently mentioned are travellers to countries with a high prevalence of hepatitis B (Belgium, Bulgaria, France, Germany, Ireland, United Kingdom).

Vaccination coverage

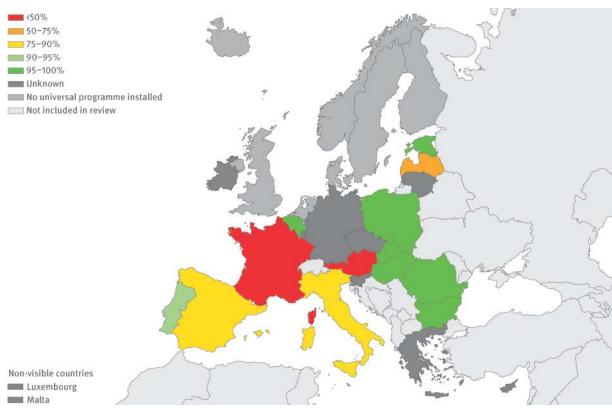
More than half of the countries with a universal vaccination programme calculated and reported vaccine coverage. In general, the coverage for infant vaccination programmes is rather high (on average above 90%). Belgium, Bulgaria, Estonia, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, and Spain report coverage rates in infants younger than two years that surpass 95%. Austria, Malta and Portugal report a coverage rate of 30%, 76% and 97%, respectively, in one-year-old infants. In Austria, the coverage rate in infants of two years is 83%, France reports 35% for the same age group.

¹⁵ Vaccination recommended for STI clinic patients, persons with multiple sex partners, injecting drug users.

Map 1. Reported hepatitis B vaccination coverage rate in infants of one to two years



Map 2. Reported hepatitis B vaccination coverage rate in adolescents 10 to 15 years



The coverage rate in adolescents is generally lower than in infants, except for Estonia, Poland, Romania and Slovakia. Hungary, which includes the inoculation of 14-year-olds in the routine vaccination programme, reports a coverage rate between 95% and 98%. Despite the catch-up programmes in France, Italy, and Latvia, the coverage rates in the 14- to 15-year-olds are considerably lower at 42%, 80%, and 74%, respectively. In Austria, the coverage rates in adolescents vary between 24% for 11-year-olds and 43% for 14-year-olds. In Greece and Spain, the coverage rates are below 90%: 87% (15-year-olds, Greece) and 78% (14-year-olds, Spain).

Summary

Prevention programmes for hepatitis B and C in the surveyed EU/EEA countries can be summarised as follows:

- Most countries have at least one screening programme in place for HBV or HCV.
- Blood and organ donor screening programmes are implemented in most Member States, as this is required by EU legislation.
- Almost all countries recommend the screening of pregnant women, except for some countries which have included the vaccination of neonates in their routine vaccination programmes.
- 22 out of 29 Member States included hepatitis B in the routine childhood vaccination programme. Seven countries do not vaccinate children routinely and use selective immunisation programmes instead.
- Hepatitis B vaccination is recommended in almost all Member States for those individuals at increased occupational risk.
- Risk group vaccination programmes vary widely across countries.
- The reported coverage rates are heterogeneous, but for most countries with a routine vaccination programme the coverage rate in infants is above 95%.

5 Epidemiology

5.1 Hepatitis B

The number of reported cases per 100 000 population varies widely across countries. In 2007, Denmark, Finland, France, Greece, Malta, Poland, Portugal, and Slovenia reported an incidence lower than 1 per 100 000 (Slovenia included chronic cases in the data). Cyprus, Germany, Ireland, Italy, Lithuania, the Netherlands, Slovakia, Spain, and Sweden reported a slightly higher incidence rate: 1 to 2.5 cases per 100 000. Relatively high incidence rates were reported by Latvia (7.2), Austria (7.8), and Bulgaria (9.8). The highest incidence rate was reported by Iceland (15/100 000), which can partly be explained by the fact that Iceland included chronic hepatitis B cases.

The difference in hepatitis B incidence rates across Europe could be partly due to differences in case definitions and classifications, and requires further investigations. Comparability can be improved through harmonisation of datasets, e.g. by distinguishing between acute and chronic hepatitis, or using a uniform case definition for laboratory-confirmed cases. A major challenge is the possibility to distinguish between acute and chronic cases, as the current data for most countries represent a mixture of acute and chronic cases.

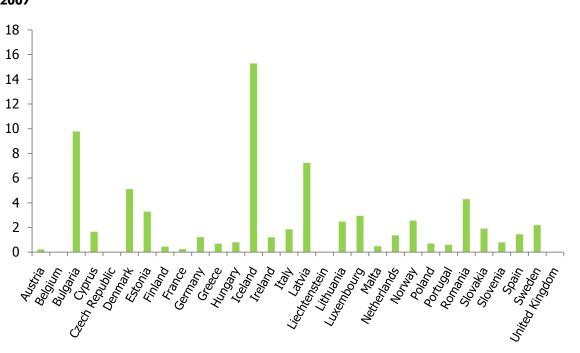


Figure 1. Number of reported hepatitis B cases per 100 000 population in the 29 EU/EEA countries, 2007

Acute and chronic cases included for AT, BE, IS, LU, PL, SL

Source: ECDC Annual Epidemiological Report 2009

Prevalence data on HBsAg in the general population were limited, ranging from 3.8% in Bulgaria to 0.01% in Denmark: Slovakia (1.6%); Italy (1%); Belgium and France (around 0.6%); Finland, Hungary and the United Kingdom (>0.5%) (Table 12). According to the predefined HBsAg prevalence ranges for HBV infection – high (>8%), intermediate (2-8%), and low (<2%) – all reporting countries can be classified as low-prevalence countries, with the exception of Bulgaria which ranks as intermediate.

The variation in HBsAg prevalence in pregnant women is less distinct and varies between 1.15% (Greece) and 0.15% (Finland), while the prevalence in IDUs is higher and ranges between 0.5% in Norway and 50% in Denmark (2007 data). In most countries, the trend in reported hepatitis B cases seems to be decreasing, except for Cyprus, Iceland, Luxembourg, and Sweden. Abrupt changes in the number of reported HBV cases may have several causes: a change in the surveillance system (Lithuania) or an outbreak among IDUs (Latvia 1999–2002). Further investigations of the trends in connection with changes in surveillance systems are needed. Most European countries seem to have a low incidence, below 5 cases per 100 000 population. The inclusion or exclusion of chronic cases in the reported surveillance data affects trends noticeably, as can be seen in Bulgaria, the Netherlands, Poland, and Sweden. The implementation of enhanced surveillance for hepatitis B will further improve the comparability of reported cases across EU/EEA countries.

| HBV | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------------|----------|-------|-------|-------|-----------|-------|-------|-------|--------|--------|
| General pop | oulation | | | | | | | | | |
| Belgium | | | | | 0.66% | | | | | |
| Bulgaria | | | 3.80% | | | | | | | |
| Denmark | | | | | | | | | 0.01% | 0.01% |
| Finland | | | | | | | 0.23% | | | |
| France | | | | | | 0.65% | | | | |
| Hungary | | 0.30% | | | | | | | | |
| Italy | | | | | | | | | 1.00% | |
| Slovakia | | | | 1.60% | | | | | | |
| Sweden | 0.03% | 0.04% | 0.04% | 0.05% | 0.03% | 0.03% | 0.05% | 0.04% | 0.03% | 0.02% |
| United Kingdom | 0.37% | | | | | | | | | |
| Pregnant wor | nen | | | | | | | | | |
| Czech Republic | | | 0.20% | | | | | | | |
| Denmark | | | | | | | | | 0.26% | 0.26% |
| Estonia | | | | | | | | 0.30% | 0.20% | |
| Finland | | | | | | | 0.10% | 0.14% | | |
| Greece | | | | | | 1.15% | | | | |
| Italy | | | | | | | | | 0.86% | |
| Netherlands | | | | | | | | 0.40% | 0.34% | 0.33% |
| United Kingdom | | | | | | | | | 0.31% | 0.35% |
| Injecting drug | g users | | | | | | | | | |
| Bulgaria | | | | | | | | 5.63% | | |
| Cyprus | | | | | | | | 2.08% | 7.80% | |
| Denmark | | | | | | | | | 50.00% | 50.00% |
| France | | | | | | 1.91% | | | | |
| Greece | | | | | 2.3%-5.8% | | | | | |
| Italy | | | | | | | | | | 13.70% |
| Norway | | | | 3.00% | 4.00% | 3.00% | 0.80% | 0.90% | 0.50% | 1.20% |
| Poland | | | | | | | | | 5.00% | |
| Slovenia | | | | | 10.40% | | | | | |
| Sweden | | | | | | | | | | 1% |

Table 12. HBV prevalence (HBsAg) per 100 000 population, 29 EU/EEA countries: general population, pregnant women, and IDUs

5.2 Hepatitis C

There is a wide variety in reported data since hepatitis C is often asymptomatic and no clear diagnostic criteria are available to differentiate between acute and chronic cases. The diversity in reported data was higher than for hepatitis B. The HCV incidence rate in 2007 varies between 36.7 cases per 100 000 (Ireland) and 0.05 (Greece). Countries which reported only acute hepatitis C cases in 2007, had an incidence rate below 1.4 cases/100 000; with Estonia as the sole exception (2.7/100 000). Countries which included chronic cases displayed much higher incidence rates: Iceland (31), Ireland (36.7), and Sweden (20.6) report incidences above 20/100 000.

As is the case with hepatitis B, the presented data for hepatitis C are difficult to interpret because of differences in surveillance systems, case definitions, etc., and any interpretation or comparison should be conducted with caution. Trends in HCV incidence data suggest an increasing trend over time.

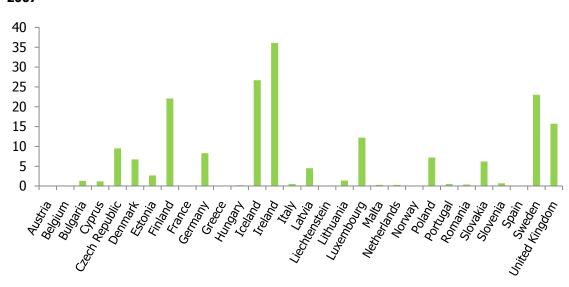


Figure 2. Number of reported hepatitis C cases per 100 000 population in the 29 EU/EEA countries, 2007

Acute and chronic cases included for AT, DE, IS, LI, MT, NO, SL, ES

Source: ECDC Annual Epidemiological Report 2009

HCV prevalence data are available for the general population (nine countries) and injection drug users (11 countries) (Table 13). The prevalence in the general population ranges from 2.6% in Italy (2007) to 0.12% in Belgium (2003). In 2001, the Czech Republic and the Netherlands reported prevalence below 0.5%, while Bulgaria reported a prevalence of 1.2% in the general population. There is a wide variety in the reported HCV prevalence in IDUs, ranging from 25% to 70%. Of the seven countries reporting HCV prevalence in IDUs between 2006 and 2008, Italy reported the lowest prevalence (10.8–25.6%), and Norway the highest (70%).

HCV prevalence among national samples of injecting drug users vary from around 10% to 95%, with half of the countries reporting levels in excess of 40%. Slovenia reported prevalence below 25% in national samples of injecting drug users. HCV prevalence levels can vary considerably within a given country, reflecting both regional differences and the characteristics of the sampled population. For example, in the United Kingdom local studies report levels between 29% and 60%, while in Italy different regional estimates range from around 36% to 92%.

For 2006–08, three of the ten countries providing data on injecting drug users report a HCV prevalence of more than 40% (^{xxx}).

| HCV | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------------|----------|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| General pop | oulation | | | | | | | | | | |
| Belgium | | | | | | 0.12% | | | | | |
| Bulgaria | | | | 1.20% | | | | | | | |
| France | | | | | | | 0.84% | | | | |
| Hungary | | | 0.70% | | | | | | | | |
| Italy | | | | | | | | | | 2.60% | |
| Netherlands | | | | 0.40% | | | | | | | |
| Slovakia | | | | | 1.52% | | | | | | |
| Sweden | | 0.13% | 0.13% | 0.09% | 0.09% | 0.08% | 0.06% | 0.08% | 0.05% | 0.07% | 0.04% |
| United Kingdom | | | | | | 0.50% | | | | | |
| Injecting dru | g users | | | | | | | | | | |
| Belgium | | | | | | | | 50.00% | | | |
| Bulgaria | | | | | | | | | | 57.01% | |

Table 13. HCV prevalence per 100 000 population, 29 EU/EEA countries: general population, pregnant women, and IDUs

| HCV | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|-------------------|--------|--------|--------|--------|-----------------|--------|--------|--------|--------|--------|----------------|
| Cyprus | | | | | | | | | 29.59% | 34.31% | |
| Denmark | | | | | | | | | | 70.00% | 70.00% |
| Finland | | | | | | | | 53.00% | | 57.00% | |
| France | | | | | | | 59.80% | | | | |
| Greece | | | | | 43.3%- 61.7% | | | | | | |
| Italy | | | | | | | | | | | 10.8– 25.6% |
| Norway | | | | | 79.00% | 74.00% | 68.00% | 69.00% | 70.00% | 64.00% | 68.40% |
| Slovenia | | | | | 21.00% | 22.50% | | | | | |
| Sweden | | | | | | | | | | | 83% |
| United Kingdom | 41.00% | 35.00% | 35.00% | 36.00% | 39.00% | 42.00% | 41.00% | 42.00% | 41.00% | 39.00% | 40.00% |

6 Discussion and conclusion

Viral hepatitis has a significant impact on national healthcare systems. Without monitoring hepatitis B and C it would be impossible to contribute to the various prevention and control programmes, or gain an understanding of the magnitude of the problem. This report presents a broad overview of national surveillance systems and prevention programmes for hepatitis B and C in EU/EEA Member States.

All countries have national surveillance systems for HBV and HCV in place, with very similar objectives but the attributes of the surveillance systems are very heterogeneous. Differences exist with respect to case definitions; the inclusion of possible, probable and confirmed cases; the inclusion of acute, chronic and asymptomatic cases; and on the question whether a distinction can be made between these types. Ideally, a case definition for hepatitis should include a clinical description, laboratory criteria, and a case classification – possible, probable and confirmed. This issues need to be addressed when developing an enhanced surveillance protocol.

Most countries collected a basic set of data (patient ID, date of birth, gender, place of residence, date of reporting, immunisation status), but detailed data on risk factors or the source of infection are missing. This type of information is crucial for informing and guiding prevention policies, and should be added soon.

Data on the impact of the disease (hospitalisation data, length of hospitalisation, and ICD) are crucial for burden of disease and healthcare studies and should be discussed as well. The interpretation of incidence and prevalence data for hepatitis B and C is hampered by the many differences between the current surveillance systems, which use different case definitions, survey different population segments, obtain data from different sources, and leave an unknown percentage of infections unreported. An inter-country comparison of these data is difficult and should be conducted with caution and preferably only on data on trends.

Enhanced surveillance of hepatitis B and C at the EU level should provide added value by collecting more reliable and comparable data across countries, in order to accurately compare trends in hepatitis B and C and monitor risk groups across countries. A major challenge is the case-based surveillance of hepatitis C. It is currently not possible to differentiate between acute and chronic cases, which will hamper the correct interpretation of future surveillance data.

Hepatitis B vaccination programmes are conducted in all countries. 22 countries have included HBV vaccination in their routine vaccination programmes, and a further seven countries have implemented selective vaccination programmes targeted at risk groups. Vaccination coverage could be improved in some countries, ranging from 30% to 100% in infants. To evaluate vaccination strategies, studies on surveillance, sero-epidemiology and coverage need to be harmonised and thus become comparable. In general, prevention strategies at the European level would benefit from further harmonisation.

We conclude that harmonisation of EU surveillance represents an added value as it makes it possible to assess the disease burden, evaluate prevention and control strategies, and define epidemiological trends or transmission patterns. The results of this survey will be used to strengthen the enhanced surveillance of hepatitis B and C at the EU level.

Annex 1. Tables

Table A1. Overview of participating EU/EEA countries in the HBV and HCV surveillance and prevention survey
Table A2. Summary of existing surveillance systems in the 29 EU/EEA countries
Table A3a. Details on case definitions used by the 29 EU/EEA countries in their HBV surveillance systems
Table A3b. Details on case definitions used by the 29 EU/EEA countries in their HCV surveillance systems
Table A4b. Characteristics of HBV/HCV surveillance systems: data sources, data types and data formats of database, and frequency of analysis
Table A5a. Information collected in HBV surveillance systems in the 29 EU/EEA countries
Table A5b. Information collected in HCV surveillance systems in the 29 EU/EEA countries
Table A5a. Hepatitis B screening programmes implemented in 29 EU/EEA countries

Table A6b. Hepatitis C screening programmes implemented in 29 EU/EEA countries

Table A1. Overview of participating EU/EEA countries in the HBV and HCV surveillance and prevention survey

| | | HBV | HCV |
|----------------|----|--------------|--------------|
| Austria | AT | \checkmark | \checkmark |
| Belgium | BE | \checkmark | \checkmark |
| Bulgaria | BG | \checkmark | \checkmark |
| Cyprus | CY | \checkmark | \checkmark |
| Czech Republic | CZ | | \checkmark |
| Denmark | DK | \checkmark | \checkmark |
| Estonia | EE | \checkmark | \checkmark |
| Finland | FI | \checkmark | \checkmark |
| France | FR | \checkmark | \checkmark |
| Germany | DE | \checkmark | \checkmark |
| Greece | GR | \checkmark | \checkmark |
| Hungary | HU | \checkmark | \checkmark |
| Iceland | IS | \checkmark | \checkmark |
| Ireland | IE | \checkmark | \checkmark |
| Italy | IT | \checkmark | \checkmark |
| Latvia | LV | \checkmark | \checkmark |
| Liechtenstein | LI | \checkmark | |
| Lithuania | LT | \checkmark | \checkmark |
| Luxembourg | LU | \checkmark | \checkmark |
| Malta | MT | \checkmark | \checkmark |
| Netherlands | NL | \checkmark | \checkmark |
| Norway | NO | \checkmark | \checkmark |
| Poland | PL | \checkmark | \checkmark |
| Portugal | PT | \checkmark | \checkmark |
| Romania | RO | \checkmark | \checkmark |
| Slovakia | SK | \checkmark | \checkmark |
| Slovenia | SI | \checkmark | \checkmark |
| Spain | ES | \checkmark | \checkmark |
| Sweden | SE | \checkmark | \checkmark |
| United Kingdom | UK | \checkmark | \checkmark |

| | HBV | | | | | HCV | | | | | |
|-------------------|--|---------------------|---|--|---|--|-----|--|---|--|--|
| | In national surveillanc e system | Man- da- tory | Passive or other | Surveillance syst | em | In national surveillanc e system | | Passive or other | Surveillance system | | |
| Austria | Yes | Yes | Active: Every physician has to report suspected and confirmed cases and deaths. Laboratories are included in the mandatory reporting system. | Other | Laboratory- confirmed cases | Yes | Yes | Active: Every physician has to report suspected and confirmed cases and deaths. Laboratories are included in the mandatory reporting system. | Other | Laboratory- confirmed cases | |
| Belgium | Yes | Yes | Passive | Several surveillance systems for HBV, of which no single system is the major one (please describe below) | Mandatory notification Sentinel laboratory | Yes | Yes | Passive | Several surveillance systems for HCV, of which no single system is the major one (please describe below) | Mandatory notification Sentinel laboratory | |
| Bulgaria | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | | |
| Cyprus | Yes | Yes | Passive | Other | (*) | Yes | Yes | Passive | Other | (*) | |
| Czech Republic | No results a | vailable | | | | Yes | Yes | Active: Physicians report to PHC | Own system for HCV | | |
| Denmark | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | | |
| Estonia | Yes | Yes | Passive | Other | HBV is a notifiable disease. Information is provided by GPs, hospitals, and microbiological laboratories. Surveillance of HBV is a part of the national surveillance system. | Yes | Yes | Passive | Other | HCV is a notifiable disease. Information is provided by GPs, hospitals and micro- biological laboratories. Surveillance of HCV is a part of the national surveillance system. | |
| Finland | Yes | Yes | Passive | Own system for HBV | Part of the general surveillance system for infectious diseases; part of the screening programme for expecting mothers | Yes | Yes | Passive | Several surveillance systems for HCV, one of which is the major and most comprehen sive one. | The main system is the National Infection Register, which is the mandatory system for notifiable diseases. The secondary system is a sampling- based, anonymous prevalence estimation system for injecting drug users which functions as a sentinel surveillance system. This is carried out every one to two years | |

Table A2. Summary of existing surveillance systems in the 29 EU/EEA countries

| | HBV | | | | | HCV | | | | |
|--------------------|--|---------------------|---|---|--|--|----------------|-------------------------------|---|---|
| | In national surveillanc e system | Man- da- tory | Passive or other | Surveillance syst | em | In national surveillanc e system | | Passive or other | Surveillance system | |
| France | Yes | Yes | Passive | Several surveillance systems for HBV, one of which is the major and most comprehensive one | Mandatory reporting of acute hepatitis B Chronic cases: seroprevalence surveys, lab and reference sentinel systems, blood donor surveillance | Yes | Volun- tary | Active: Depends on surveys | Several surveillance systems for HCV, of which no single system is the major one (please describe below) | |
| Germany | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Greece | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Hungary | Yes | Yes | Passive | HBV reporting is included in syndromic surveillance of viral hepatitis | | Yes | Yes | Passive | HCV reporting is included in syndromic surveillance of viral hepatitis | |
| Iceland | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Ireland | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Italy | Yes | Volun- tary | Passive | HBV reporting is included in syndromic surveillance of viral hepatitis | (**) | Yes | Volun- tary | Passive | HCV reporting is included in syndromic surveillance of viral hepatitis | (**) |
| Latvia | Yes | Yes | Passive | HBV reporting is included in syndromic surveillance of viral hepatitis | | Yes | Yes | Passive | HCV reporting is included in syndromic surveillance of viral hepatitis | |
| Liechten- stein | Yes | Yes | Active: The laboratories report every positive HBV- test to the Office for Public Health and the office makes further inquiries. | Own system for HBV | | No results a | 1 | | | |
| Lithuania | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Luxem- bourg | Yes | Yes | Passive | Other | HBV notified via mandatory notification system | Yes | Yes | Passive | Other | HBC notified via mandatory notification system |

| | HBV | | | | | HCV | | | | |
|------------------|--|---------------------|---|---|--|--|-----|--|---|--|
| | In national surveillanc e system | Man- da- tory | Passive or other | Surveillance syst | rem | In national surveillanc e system | | Passive or other | Surveillance system | |
| Malta | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Nether- lands | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Norway | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Poland | Yes | Yes | Passive | Own system for HBV | System is integral part of the national communicable disease surveillance system | Yes | Yes | Passive | Own system for HCV | System is integral part of the national communicable disease surveillance system |
| Portugal | Yes | Yes | Passive | Other | Included in the national mandatory surveillance system for communicable diseases | Yes | Yes | Passive | Other | One mandatory surveillance system for several communicable diseases, including acute hepatitis C. Hepatitis C reporting system is called PT-HCV |
| Romania | Yes | Yes | Passive | HBV reporting is included in syndromic surveillance of viral hepatitis | | Yes | Yes | Passive | HCV reporting is included in syndromic surveillance of viral hepatitis | |
| Slovakia | Yes | Yes | Active: Slovak epidemiologists investigate each reported suspect case or each laboratory positive result directly with patient and her or his direct contacts | HBV reporting is included in syndromic surveillance of viral hepatitis | | Yes | Yes | Active: Any suspect case of viral hepatitis is investigated by epidemiologists | HCV reporting is included in syndromic surveillance of viral hepatitis | |
| Slovenia | Yes | Yes | Passive | Own system for HBV | | Yes | Yes | Passive | Own system for HCV | |
| Spain | Yes | Yes | Passive | Several surveillance systems for HBV, one of which is the major and most comprehensive one | | Yes | Yes | Passive | Several surveillance systems for HCV, one of which is the major and most comprehen sive one | HCV is included in the syndromic surveillance of viral hepatitis. In addition, data on HCV are collected through a voluntary reporting system based on reports sent by the microbiology laboratories in hospitals (see supplemen- tary information at the end of the questionnaire) |
| Sweden | Yes | Yes | Passive | Own system for HBV | SmiNet | Yes | Yes | Passive | Own system for HCV | SmiNet |

| | HBV | | | | | HCV | | | | |
|-------------------|--|---------------------|---|--|--|---------------------|------------------|--|--|--|
| | In national surveillanc e system | Man- da- tory | Passive or other | Surveillance syst | In national surveillanc e system | Man- da- tory | Passive or other | Surveillance system | | |
| United Kingdom | Yes | Volun- tary | Active: Includes information from multiple sources (primarily the laboratory carrying out the testing) to detect changing patterns in hepatitis B. Blood specimens are tested to determine acute hepatitis B infection. | Several surveillance systems for HBV, one of which is the major and most comprehensive one. | | Yes | Volun- tary | Active: Includes information from multiple sources, including the microbiology laboratory, to detect changing patterns of hepatitis C infection. Blood specimens are tested to determine hepatitis C exposure. | Several surveillance systems for HCV, one of which is the major and most comprehen sive one. | |

- (*) Cyprus: 57 communicable diseases are mandatorily notified to the Director of Medical and Public Health Services (MPHS) by all practising medical doctors (See Quarantine Law and its amendments.) Reporting is done by completion of a specific form which is submitted to the District Medical Officer who forwards it to the Unit for Surveillance and Control of Communicable Diseases (MPHS Central Offices). For a number of diseases (i.e. plague, yellow fever, cholera, meningococcal meningitis) notification is within 24 hours and simultaneously to the District Medical Officer and the Director of Medical and Public Health Services. Data are entered in a database (EPI-INFO) and analysed.
- (**) Italy: The national surveillance system for acute viral hepatitis infection (SEIEVA, Sistema Epidemiologico Integrato dell'Epatite Virale Acuta), coordinated by the National Centre for Epidemiology, Surveillance and Health Promotion of the Istituto Superiore di Sanità, has as the main goal to promote the monitoring and control of acute viral hepatitis infection at the local and national levels. Epidemiological data are combined with laboratory data to estimate the impact of various risk factors, allowing prevention programmes to be defined and evaluated. Specific goals of the surveillance are:
 - to determine the number of cases of acute viral hepatitis infection, by specific type of infection;
 - to calculate the incidence of acute viral hepatitis infection, by type of infection, date and place of disease onset, age, and gender;
 - to identify outbreaks in a timely manner;
 - to calculate the proportion of cases exposed to specific risk factors, by type of infection;
 - to study variations over time in the relative and attributable risks associated with specific types of exposure, by type of infection; and
 - to develop control strategies based on the identification of risk factors at the local level.

The general method of SEIEVA is:

 to interview infected persons using an individual questionnaire (SEIEVA form) which includes information on sociodemographic and risk factors; questionnaire is administered before results of serological tests are obtained;

- to provide information on the results of serological tests;
- to contact the transfusion centre and record information obtained on a specific form if the infected person reports that he/she had received a blood transfusion in the six months prior to disease onset;
- to conduct, when applicable (mainly when outbreaks are identified), case control and cohort studies.

Table A3a. Details on case definitions used by the 29 EU/EEA countries in their HBV surveillance systems

| | | | Hepatitis B case definition | | | | | | | | | |
|----------|--|--|---|--|--|---|---|--|--|--|--|--|
| Country | Classification | Content | Clinical description | Laboratory criteria for diagnosis | Possible | Case classification Probable | Confirmed | | | | | |
| | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels. | IgM antibody to hepatitis B core antigen (anti-HBc) positive Detection of HBV nucleic acid in serum | Possible: n/a | Probable: A case that is HBsAg+ and has a clinical picture compatible with acute hepatitis | Confirmed: A case that is laboratory confirmed | | | | | |
| | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | Possible case: n/a | Probable case: Any person meeting the dinical criteria and having an epidemiological link | Confirmed case: Any person meeting the dinical and the laboratory criteria | | | | | |
| | | | | | | | | | | | | |
| Austria | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, internittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | | no definition available | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria | | | | | |
| Belgium | No official case definition | | | IgM+ and/or HBe antigen | | | | | | | | |
| Bulgaria | Extended EU case definition | Acute hepatitis B | Cases with clinical symptoms compatible with hepatitis, e.g. gradual development of the symptoms and jaundice or elevated serum aminotransferase levels | Detection of IgM antibodies against Hepatitis B virus core antigen (anti-HBc IgM +) Demonstration of HBV nucleic acid in the serum | n/a | A case that is HBsAg+ and has a clinical picture compatible with an acute hepatitis | Confirmed lab test | | | | | |
| | | Chronic hepatitis B | A case with a clinical presentation compatible with chronic hepatitis and laboratory findings | Presence of hepatitis B virus surface antigen (HBsAg) over a period of more than 6 months. Demonstration of HBV nucleic acid in the serum over a period of more than 6 months | n/a | A case clinically compatible with chronic hepatitis | A case dinically compatible with chronic hepatitis that is laboratory confirmed | | | | | |
| Cyprus | Possibly an EU case definition | Acute hepatitis B | | | n/a | n/a | HBsAg+ and compatible clinical presentation | | | | | |
| Denmark | Possibly an EU case definition | Acute hepatitis B | clinical symptoms | HBsAg+ or only specific lab test | n/a | n/a | According to clinical signs and laboratory confirmation | | | | | |
| | | Chronic hepatitis B | | Confirmed laboratory signs for more than 6 months | n/a | n/a | Confirmed lab test | | | | | |
| Estonia | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g., fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | Yes, but no definition available | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria | | | | | |
| Finland | Other | Acute hepatitis B | | Acute hepatitis B case. EITHER 1. laboratory-reported HBV core-antigen IgM antibody positive case; OR 2. physician-reported case with clinical symptoms compatible with acute hepatitis or fresh HBV infection AND (simultaneously) laboratory-verified HBV Surface antigen positivity OR simultaneously laboratory-verified HBV DNA/RNA + | n/a | n/a | n/a | | | | | |

| Country | Classification | Content | | Hepatitis B case d | | Case classification | |
|----------------------------|--|--|--|--|----------|--|---|
| | | | Clinical description | diagnosis | Possible | Probable | Confirmed |
| | | Chronic hepatitis B | | All reported HBsAg+ cases not meeting the acute hepatitis case definition | n/a | n/a | n/a |
| France | Extended EU case definition | Acute hepatitis B | Acute symptomatic (Missing definition) | IgM + OR (if IgM unknown) anti-HBc+ and HbsAg+ in clinical context | n/a | n/a | |
| | | Chronic hepatitis B | | HBsAg carriage >6 months | n/a | n/a | n/a |
| Germany | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels. | Laboratory case definition: At least one of the following three oriteria: detection of hepatitis B virus nucleic acid in serum (e.g. PCR), HBsAg+ (e.g. ELISA) confirmed by a different HBsAg test (e.g. HBsAG- NT) OR HBsAg+ and anti- HBc+, IgM anti-HBc+ (e.g. ELISA). Confirmed: laboratory criteria and clinical criteria are fulfilled. | n/a | n/a | Confirmed lab test |
| Greece | Extended EU case definition | Acute hepatitis B | An acute illness with discrete onset of symptoms (e.g. jaundice) or elevated serum aminotransferase level | IgM anti-HBc+ or HBV DNA+ | n/a | Meets clinical criteria and HBsAg+ | Meets clinica criteria and i laboratory confirmed |
| | | Asymptomatic hepatitis B | | HbsAg+, asymptomatic infants <12 m/o: should be notified, other asymptomatic case, anti- HBc IgM+ or HbsAg+: should not be notified | | | |
| Hungary | Possibly an EU case definition | Acute hepatitis B | | Lab confirmation: hepatitis B core antigen (IgM anti-HBc+) or HBV DNA in the blood | n/a | HBsAg-positive patient with clinical symptoms | Lab confirmed |
| lceland | Other | Acute hepatitis B | n/a | | n/a | n/a | All newly lab confirmed HBV cases are reportable, both acute and chronic cases, regardless of symptoms |
| | | Chronic hepatitis B | n/a | Laboratory-confirmed cases with serological tests and medical history compatible with previous HBV infection | n/a | n/a | No data |
| Ireland | Extended EU case definition | Acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels. | IgM antibody to hepatitis B core antigen (IgM anti- HBc+) Detection of HBV nucleic acid in serum | n/a | Probable: A case that is HBsAg+ and has a clinical picture compatible with an acute hepatitis | Confirmed: A case that is laboratory confirmed |
| | | Chronic hepatitis B | | HBsAg+ and antibodies to hepatitis B, anti-HBc+ and IgM to Hbc, persistence of more than 6 months of either HBsAg or HBV nucleic acid in serum | n/a | n/a | Confirmed: A case that is laboratory confirmed |
| Italy | Possibly an EU case definition | Acute hepatitis B | | IgM anti-HBc+ and HBsAg+. | n/a | n/a | Lab confirmed |
| Latvia | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | n/a | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria |
| Liechtenstein Lithuania | No case definition 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: Fever, Jaundice, Elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | n/a | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria |

| Country | Classification | Content | Clinical description | Hepatitis B case d | | Case classification | |
|-------------|--|--|--|---|--|---|--|
| | | | Clinical description | diagnosis | Possible | Probable | Confirmed |
| Malta | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | IgM anti-HBc+ Detection of HBV nucleic acid in serum. | n/a | A case that is HBsAg+ and has a clinical picture compatible with an acute hepatitis | A case that is laboratory confirmed |
| Netherlands | Extended EU case definition | Acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Heaptitis B virus core IgM or HBsAg+ | n/a | n/a | Any person meeting the clinical and the laboratory criteria |
| | | Chronic hepatitis B | | HBsAg+ | n/a | n/a | Confirmed lab test |
| Norway | Other | Acute hepatitis B | Person with clinical acute hepatitis (not specified) | Any person with clinical acute hepatitis and presence of HbsAg and presence of at least one of the following laboratory criteria: HbeAg, HBV-RNA, anti- Hbc (IgG or IgM) OR any person with confirmed anti-Hbc seroconversion during the last 12 months and the presence of at least one of the following laboratory criteria: HbsAb (with no history of previous vaccination) | n/a | n/a | Confirmed lab test |
| | | Chronic hepatitis B | n/a | Detection of HBsAg and HBcAb over more than 6 months and no clinical picture of acute hepatitis | n/a | n/a | Confirmed lab test |
| Poland | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | IgM antibody to hepatitis B core antigen (IgM anti- HBc+) Detection of HBV nucleic acid in serum | n/a | A case that is HBsAg+ and has a clinical picture compatible with an acute hepatitis | Confirmed lab test |
| Portugal | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatgue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | Yes, but no definition available | Person with disease compatible with the case definition for clinical HBV, epidemiologically related to a confirmed case 30 to 180 days before onset of symptoms | Any person meeting the clinical and the laboratory criteria |
| Romania | | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | IgM antibody to hepatitis B core antigen (IgM anti- HBc+) Detection of HBV nucleic acid in serum | n/a | A case that is HBsAg+ and has a clinical picture compatible with an acute hepatitis | Confirmed lab test |
| Slovakia | Possibly an EU case definition | Acute hepatitis B | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | Laboratory confirmed (not specified) | n/a | Not specified | Any person meeting the clinical and the laboratory criteria |
| Slovenia | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | n/a | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria |
| Spain | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting communicable diseases to the Community network – acute hepatitis B | Any person with a discrete onset of symptoms (e.g. fatigue, abdominal pain, loss of appetite, intermittent nausea and vomiting) AND at least one of the following three: fever, jaundice, elevated serum aminotransferase levels | Hepatitis B virus core IgM antigen-specific antibody response | n/a | Any person meeting the clinical criteria and having an epidemiological link | Any person meeting the clinical and the laboratory criteria |

| | | | | Hepatitis B case d | efinition | | |
|-------------------|----------------|---------------------|----------------------|---|-----------|---|--|
| Country | Classification | Content | Clinical description | Laboratory criteria for diagnosis | | Case classification | |
| | | | | | Possible | Probable | Confirmed |
| Sweden | Other | Acute hepatitis B | No data | HBsAg+ OR HBV-DNA+ AND Anti-HBc IgM+ OR HBV-DNA+ with or without detectable HBsAg AND not detectable anti- HBc | n/a | Any case meeting the clinical criteria and having an epidemiological link | Any case meeting the clinical and the laboratory criteria |
| | | Chronic hepatitis B | n/a | HBV chronic infection: HBsAg+ AND anti-HBcIgG+ AND not detectable or low levels of HBV anti- core IgM (anti-HBc IgM) | n/a | n/a | Confirmed lab test |
| United Kingdom | Other | Acute hepatitis B | Not specified | HBsAg+ and anti-HBc IgM+ AND abnormal liver function tests showing a pattern consistent with acute viral hepatitis. | n/a | n/a | Confirmed lab test |
| | | Chronic hepatitis B | | Chronic HBV case definition Hepatitis B surface antigen (HBsAg+) twice, at least 6 months apart OR HBsAg+ and anti-HBc IgM2, negative and anti- HBc+. | n/a | n/a | Confirmed lab test |

Table A3b. Details on case definitions used by the 29 EU/EEA countries in their HCV surveillance systems

| Country | Classification | Content | Clinical description | Hepatitis C case of Laboratory criteria for | | Case classificatior | 1 |
|-------------------|--|---|---|---|-----------------------|-----------------------|---|
| · | | | · · · · · · · · · · · · · · · · · · · | diagnosis | Possible | Probable | Confirmed |
| | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting to the Community – hepatitis C | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | Detection of HCV- specific antibodies Detection of HCV nucleic acid from clinical samples | Possible: n/a | Probable: n/a | Confirmed: A symptomatic case that is laboratory confirmed |
| | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | At least one of the following two: Detection of hepatitis C virus nucleic acid in serum OR hepatitis-C-virus- specific antibody response confirmed by a different antibody test | Possible case: n/a | Probable case: n/a | Confirmed case: Any person meeting the laboratory criteria |
| Austria | 2008/426/EC: | Case definitions for | Not relevant for surveillance | At least one of the | Possible case: | Probable case: | Confirmed |
| Austria | Commission Decision of 28 April 2008 amending Decision 2002/253/EC | reporting to the Community – hepatitis C | purposes | Ac least offe of the following two: Detection of hepatitis C virus nucleic acid in serum OR hepatitis-C-virus-specific antibody response confirmed by a different antibody test | n/a | n/a | case: Any person meeting the laboratory criteria |
| Belgium | No case definition | | | PCR + | | | PCR positive patient |
| Bulgaria | Extended EU case definition | Acute hepatitis C | Cases with clinical symptoms compatible with hepatitis, e.g. gradual development of the symptoms and jaundice or elevated serum aminotransferase levels | Demonstration of HCV- specific antibodies and HCV nucleic acid in clinical specimens | n/a | n/a | A clinical case that is laboratory confirmed |
| | | Chronic hepatitis C | A case with a clinical presentation compatible with chronic hepatitis and laboratory findings | Demonstration of HCV- specific antibodies for a long period (years) and nucleic acid in clinical specimens for a long period (years) | n/a | n/a | A case clinically compatible with chronic hepatitis that is laboratory confirmed |
| Cyprus | Possibly an EU case definition | Hepatitis C (acute and chronic) | Compatible clinical picture (not specified) | Not specified | n/a | n/a | According to clinical signs and laboratory confirmation |
| Czech Republic | Other | Hepatitis C (acute and chronic) | Compatible clinical picture (not specified) | Anti-HCV Ab positive | n/a | n/a | According to clinical signs and laboratory confirmation |
| Denmark | Possibly an EU case definition | Acute hepatitis C | Clinical signs (not specified) | Specific lab test for microbiological agent | n/a | n/a | According to clinical signs and laboratory confirmation |
| | | Chronic hepatitis C | n/a | Confirmed laboratory signs for over 6 months | n/a | n/a | Confirmed lab test |
| Estonia | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting to the Community – hepatitis C | Viral hepatitis: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | Detection of HCV-specific antibodies Detection of HCV nucleic acid from clinical samples | n/a | n/a | Any person meeting the laboratory criteria |
| Finland | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | n/a | Anti HCV + OR HCV RNA + | n/a | n/a | Any person meeting the laboratory criteria |
| France | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | n/a | Anti HCV + OR HCV RNA + OR HCV seroconversion | n/a | n/a | Any person meeting the laboratory criteria |
| Germany | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test (e.g. immunoblot). | n/a | n/a | Confirmed cases: newly laboratory- confirmed hepatitis C, regardless whether acute or chronic |

| Country | Classification | Content | Clinical description | Hepatitis C case c Laboratory criteria for | | Case classification | 1 |
|---------------|--|---|--|--|----------|---|--|
| country | | Content | | diagnosis | Possible | Probable | Confirmed |
| Greece | Extended EU | Hepatitis C (acute) | An acute illness with discrete onset of symptoms (e.g. jaundice) or elevated serum aminotransferase level | AND IgM anti-HAV – AND anti-HBC IgM – OR | n/a | n/a | According to clinical signs and laboratory confirmation |
| Hungary | Possibly an EU case definition | Acute hepatitis C | Clinical signs (not specified) | HCV RNA + Anti-HCV + OR HCV RNA + | n/a | n/a | According to clinical signs and laboratory confirmation |
| Iceland | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA + (in serum) OR Anti-HCV + (confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |
| Ireland | Extended EU | Hepatitis C (acute and chronic) | In symptomatic cases, clinical picture compatible with hepatitis, i.e. discrete onset of symptoms and/or jaundice or elevated serum aminotransferase levels. Asymptomatic cases are common. | Anti-HCV + OR HCV RNA + | n/a | n/a | Any person meeting the laboratory criteria |
| Italy | Possibly an EU case definition | Acute hepatitis C | Not relevant for surveillance purposes | Lab confirmation (not specified) | n/a | n/a | Any person meeting the laboratory criteria |
| Latvia | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA + (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |
| Liechtenstein | No information | | | | | | |
| Lithuania | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA + (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |
| Luxembourg | No case definition | | | | n/a | n/a | С |
| Malta | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting to the Community – hepatitis C | In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | Anti-HCV + OR HCV RNA + | n/a | n/a | Symptomatic case that is laboratory confirmed. |
| Netherlands | Other | Hepatitis C (Acute) | Having symptoms (like icterus or increased liver function disorder) or exposure to relevant risks if present in recent period, including medical treatment | Appearance of antibodies against HCV or increase in laboratory reactivity | n/a | n/a | Every new diagnosis of HCV must be notified, suspecting a recent infection (previous year) |
| Norway | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA + (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |
| Poland | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | HCV RNA + (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |
| Portugal | Extended EU | Hepatitis C (acute) | Acute disease with insidious initial symptoms (fever, malaise, anorexia, nausea, asthenia) and elevation of serum transaminases, with or without icterus | Lab confirmation (not specified) | | Case with clinical symptoms and epidemiologica Ily linked to confirmed cases during the incubation period | |
| Romania | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting to the Community – hepatitis C | In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated serum aminotransferase levels | Anti-HCV + OR HCV RNA + | n/a | n/a | Symptomatic case that is laboratory confirmed. |
| Slovakia | Possibly an EU case definition | Hepatitis C (acute and chronic) | Not specified | Not specified | n/a | n/a | Symptomatic case that is laboratory confirmed |
| Slovenia | 2008/426/EC: Commission Decision of 28 April 2008 amending Decision 2002/253/EC | Case definitions for reporting to the Community – hepatitis C | Not relevant for surveillance purposes | HCV RNA + (e.g. PCR); anti-HCV + (e.g. ELISA), confirmed by a different antibody test | n/a | n/a | Any person meeting the laboratory criteria |

| | | | | Hepatitis C case of | lefinition | | |
|-------------------|---|---|--|---|------------|---------------------|--|
| Country | Classification | Content | Clinical description | Laboratory criteria for diagnosis | (| Case classification | ı |
| | | | | | Possible | Probable | Confirmed |
| Spain | 2002/253/EC: Commission Decision of 19 March 2002 | Case definitions for reporting to the Community – hepatitis C | An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g. anorexia, abdominal discomfort, nausea, vomiting and jaundice) and increase in transaminase (ALT, AST) | Anti-HCV + OR HCV RNA + | n/a | Not specified | Symptomatic case that is laboratory confirmed |
| Sweden | Other | Case definitions for reporting to the Community – hepatitis C (Acute) | Not relevant for surveillance purposes | HCV acute infection: seroconversion to anti- HCV within 6 months between samples | n/a | n/a | Any person with recent seroconversior |
| | | Case definitions for reporting to the Community – hepatitis C (Chronic) | Not relevant for surveillance purposes | HCV RNA + anti-HCV + | n/a | n/a | Any person meeting the laboratory criteria |
| United Kingdom | Other | Hepatitis C (acute) | Not relevant for surveillance purposes | Recent seroconversion OR HCV RNA +or antigen + and anti-HCV - or equivocal in immune- competent individual OR anti-HCV + and anti-HAV IgM – AND anti-HBC IgM – AND anti-HBC IgM – AND abnormal liver function tests with a pattern consistent with acute viral hepatitis in someone with recent exposure to HCV, e.g. needle-stick injury, dialysis, recent injecting drug use. | n/a | n/a | Any person meeting the laboratory criteria |
| | | Hepatitis C (chronic) | Not relevant for surveillance purposes | Anti-HCV+ or HCV RNA + AND not meeting case definition for acute HCV | n/a | n/a | Any person meeting the laboratory criteria |

Source of data Format Frequency Туре Country Comments Other based Aggregated Physicians Laboratory Biannually Electronic Monthly Hospital Biweekly Weekly Other Paper Daily Disease Yearly Case I If necessary a daily analysis is possible. \checkmark HBV \checkmark \checkmark \checkmark ~ \checkmark Austria If necessary, a daily analysis HCV \checkmark \checkmark 1 1 ~ \checkmark is possible. \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark Belgium HBV 1 \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HCV Immediately in case of outbreak Bulgaria HBV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark ~ Immediately in \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HCV case of outbreak \checkmark \checkmark ~ HBV \checkmark Opportunistic Cyprus \checkmark \checkmark \checkmark \checkmark Opportunistic HCV No Czech \checkmark Information provided HBV Republic \checkmark \checkmark \checkmark HCV \checkmark \checkmark Denmark HBV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark Ad hoc HCV \checkmark \checkmark ~ \checkmark 1 \checkmark \checkmark Ad hoc HBV \checkmark \checkmark \checkmark \checkmark 1 \checkmark ~ \checkmark Estonia \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HCV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark ** Finland HBV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HCV Blood bank screening Idem Source of data and format are related to the comprehensive system on acute HBV infection \checkmark ~ ~ France HBV 3 to 10 years, depending on surveys National health insurance database \checkmark \checkmark \checkmark ~ \checkmark \checkmark \checkmark ~ HCV \checkmark Germany HBV \checkmark \checkmark \checkmark \checkmark Physicians and laboratory \checkmark \checkmark \checkmark HCV \checkmark \checkmark \checkmark \checkmark Physicians and laboratory \checkmark \checkmark \checkmark \checkmark ~ Greece HBV v ~ \checkmark ~ \checkmark \checkmark \checkmark \checkmark ~ ~ HCV HBV \checkmark \checkmark ~ \checkmark ~ \checkmark Hungary 1 1 \checkmark \checkmark \checkmark 1 \checkmark \checkmark HCV Iceland HBV ./ ./ \checkmark \checkmark ./ ./ \checkmark 1 HCV 1 1 \checkmark 1 \checkmark \checkmark \checkmark \checkmark Ireland HBV \checkmark \checkmark \checkmark Quarterly \checkmark $\overline{\checkmark}$ \checkmark \checkmark \checkmark \checkmark \checkmark HCV Quarterly \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark Italy HBV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HCV ~ \checkmark As often as HBV \checkmark \checkmark \checkmark \checkmark \checkmark Y \checkmark Latvia necessary Laboratories – detection of hepatitis C virus As often as \checkmark \checkmark \checkmark ~ HCV \checkmark \checkmark \checkmark \checkmark necessary nucleic acid in serum Liechten- \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HBV stein No \checkmark ~ information HCV provided HBV \checkmark \checkmark \checkmark \checkmark \checkmark ~ Y Lithuania HCV \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark Y Luxem-bourg \checkmark \checkmark \checkmark \checkmark \checkmark HBV HCV 1 1 1 1 1 \checkmark Malta HBV \checkmark HCV \checkmark \checkmark Nether- \checkmark \checkmark \checkmark \checkmark \checkmark \checkmark HBV lands

Table A4. Characteristics of HBV/HCV surveillance systems: data sources, type and format of database, and frequency of analysis

| | | Source of | f data | | | | Form | nat | Туре | | Fre | que | ncy | | | | |
|-------------------|---------|--------------|--------------|--------------|-------|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------------|--------------|--|
| Country | Disease | Physicians | Laboratory | Hospital | Other | Comments | Electronic | Paper | Case based | Aggregated | Daily | Weekly | Biweekly | Monthly | Biannually | Yearly | Other |
| | HCV | √ | \checkmark | | | | √ | | √ | | | \checkmark | | | | ✓ | |
| Norway | HBV | \checkmark | \checkmark | \checkmark | | | | \checkmark | \checkmark | | \checkmark | | | | | | |
| | HCV | \checkmark | \checkmark | \checkmark | | | | \checkmark | \checkmark | | \checkmark | | | | | | |
| Poland | HBV | \checkmark | \checkmark | | | | | \checkmark | | \checkmark | | | \checkmark | | | \checkmark | |
| | HCV | ✓ | | | | | | \checkmark | | \checkmark | | | \checkmark | | | \checkmark | |
| Portugal | HBV | ~ | | | | | ✓ | | ✓ | | ✓ | \checkmark | | \checkmark | | \checkmark | |
| | HCV | ✓ | | | | | ✓ | \checkmark | ✓ | | | | | ✓ | ~ | ✓ | Quarterly |
| Romania | HBV | \checkmark | | \checkmark | | Case-based reporting since 2009 | | \checkmark | | \checkmark | | | | ~ | | | |
| | HCV | \checkmark | | ~ | | Case-based reporting since 2009 | | \checkmark | | \checkmark | | | | ~ | | | |
| Slovakia | HBV | ~ | ~ | ~ | | | ~ | | ~ | ~ | | | | ~ | ~ | ~ | Determined by professional needs, regardless of time |
| | HCV | \checkmark | ~ | ~ | | | ~ | | ~ | ~ | | | | ~ | ~ | ~ | Determined by needs |
| Slovenia | HBV | ~ | ~ | ~ | | | ~ | | ~ | ~ | | | | ~ | | | More frequently in case of clusters or outbreaks |
| | HCV | ~ | ~ | ~ | | | ~ | | ~ | ~ | | | | ~ | | | More frequently in case of clusters or outbreaks |
| Spain | HBV | \checkmark | | | | | ✓ | | \checkmark | | | | | | | \checkmark | |
| | HCV | \checkmark | \checkmark | | | | ✓ | | ✓ | | | | | | | \checkmark | |
| Sweden | HBV | ✓ | \checkmark | | | | ✓ | | ✓ | | \checkmark | | | | | | |
| | HCV | \checkmark | ✓ | | | | ✓ | | ✓ | | ✓ | | | | | | |
| United Kingdom | HBV | \checkmark | \checkmark | \checkmark | | | ✓ | | \checkmark | | | | | | | | Quarterly |
| | HCV | \checkmark | \checkmark | \checkmark | | | \checkmark | | \checkmark | | | | | | | | Quarterly |

* There are separate parallel systems for blood bank and maternity screening, although these are covered by the physician and laboratory reporting, too. National personal identifier use allows for elimination of duplicate reports

** Annually produced comprehensive reports. Large healthcare facilities have access to regional data with identifiers, the National Public Health Institute (register maintenance) has access to all data with full identifiers.

Table A5a. Information collected in HBV surveillance systems in the 29 EU/EEA countries

| | | AT | BE | BG | сү | DK | EE | FI | FR | DE | GR | HU | IS | IE | п | LV | ц | LT | LU | мт | NL | NO | PL | РТ | RO | SK | SI | ES | SE | UK |
|-------------------------------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | Patient ID | х | | | х | х | х | х | | х | х | х | х | х | | х | х | х | х | х | х | х | х | х | | х | х | х | x | x |
| | Date of birth or age | х | х | х | х | х | х | х | х | х | х | х | х | Х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х |
| | Gender | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х |
| | Country of birth | х | | х | х | х | | х | | | | | х | х | х | | х | | х | х | х | х | | х | | | х | | х | |
| | Place of residence | х | х | х | х | х | х | х | х | х | х | х | х | Х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | |
| data | Date of onset of the disease | х | | х | х | х | х | | х | х | х | х | х | Х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | |
| Basic data | Date of diagnosis | х | | х | | х | х | х | х | х | х | х | х | Х | х | х | х | х | | х | х | х | | | | х | | | х | х |
| | Date of reporting/notification | х | х | х | х | х | х | х | х | х | х | х | х | Х | х | х | | х | х | х | х | х | х | х | х | х | х | | х | х |
| | Date used for statistics | х | х | х | х | х | х | х | | х | х | | х | | | х | | | х | х | х | х | х | | | х | | х | х | х |
| | Country where infection most likely acquired | х | | | x | x | х | х | х | | x | х | х | х | | х | х | х | х | х | х | х | | | | х | | | х | |
| | Immunisation status | х | | х | х | х | х | | х | х | х | х | х | Х | х | х | х | х | х | х | х | х | х | х | х | х | х | | | |
| | Outcome | х | | х | х | | х | | х | | х | х | | х | | х | х | х | | х | | х | х | х | х | х | х | х | | |
| tion on | Clinical symptoms | х | | х | | х | | | х | х | х | х | х | | х | х | х | | | х | | х | х | х | | х | | | | |
| Classification information | Laboratory results | х | х | х | | х | х | х | х | х | х | х | х | х | х | х | | х | | х | х | х | х | х | х | х | | | х | x |
| Class | Epidemiological information | х | | х | х | х | х | | | х | х | х | х | х | х | х | х | х | | х | х | х | х | х | х | х | | | | x |
| | Homosexual contact | | | х | | х | х | | х | х | | | х | х | х | х | х | х | | х | х | | | | | х | | | х | x |
| | Heterosexual contact | | | х | | х | х | | х | х | | | х | Х | х | х | х | х | | х | х | | | | | х | | | х | x |
| | Injecting drug use | | | х | | х | х | х | х | х | | х | х | х | х | х | х | х | | х | х | х | х | | х | х | | | х | x |
| ors | Mother HBsAg+ | | | х | | х | х | х | х | х | х | х | х | Х | х | х | | х | | х | | х | | | х | х | | | х | x |
| ssion route risk factors | Close family member HBsAg+ | | | х | | х | х | | х | х | х | х | х | Х | х | х | х | х | | х | | х | х | | х | х | | | | x |
| e risk | Sex partner HBsAg+ | | | х | | х | х | | х | х | х | х | х | Х | х | х | | х | | х | | х | | | х | х | | | | x |
| route | Blood or blood product transfusion | | | х | | х | х | х | х | х | x | х | х | х | х | х | х | х | | х | | х | х | | х | х | | | х | x |
| sion | Invasive healthcare procedure/dental treatment | | | х | | х | х | | х | х | x | х | х | Х | х | х | | х | | х | | х | | | х | х | | | х | x |
| Transmis | Organ transplantation | | | х | | х | х | | х | х | | х | х | | х | х | | х | | х | | х | | | х | х | | | | x |
| Trar | Haemodialysis | | | х | | х | х | | х | х | x | х | х | Х | х | х | х | х | | х | | х | | | х | х | | | | x |
| | Needle injury or other occupational exposure | | | х | | х | х | | х | х | х | х | х | Х | х | х | | х | | х | х | х | | | | х | | | х | x |
| | Tattooing/body piercing | | | х | | х | х | | х | х | х | х | х | х | х | х | | х | | х | | х | | | х | х | | | х | x |
| | Other | | | | | x | | x | | х | x | | х | Х | | х | | x | | | х | | | | | | | | | |
| | Hospitalisation | х | | x | x | | х | | х | х | | х | | х | х | х | х | х | | х | х | х | х | х | x | х | | | | x |
| ēr | Length of hospitalisation | | | | | | | | | х | x | х | | | | х | | | | х | | | х | | х | х | | | | |
| Other | ICD code diagnosis | | | | x | | х | x | | | | | х | | | х | | х | | | | | х | х | | х | | | | |
| | Genotype information | | | | | | | | | | | | | х | | | | | | | | | | | | | | | | |

| | | AT | BE | BG | сү | cz | DK | EE | FI | FR | DE | GR | HU | IS | IE | п | LV | LT | LU | мт | NL | NO | PL | РТ | RO | SK | SI | ES | SE | UK |
|-------------------------------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | Patient ID | x | | | x | x | x | х | x | | x | x | x | x | x | | x | х | х | x | x | x | x | | | x | x | | x | х |
| | Date of birth or age | х | х | х | х | х | х | х | х | х | х | x | х | х | x | х | х | х | х | х | х | х | х | х | х | х | х | x | x | х |
| | Gender | х | х | х | х | х | х | х | х | х | x | х | х | х | x | х | х | х | х | х | х | х | х | х | х | х | х | х | x | х |
| | Country of birth | х | | х | x | | х | | x | x | | | | х | x | х | | | х | х | х | х | | x | | | | | x | |
| a | Place of residence | х | х | х | х | х | х | х | х | х | x | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | х | x | x | |
| | Date of onset of the disease | х | | х | х | | х | х | х | х | х | х | х | х | | х | х | х | х | х | х | х | х | х | | х | х | | x | |
| Basic data | Date of diagnosis | х | | х | | | х | х | х | x | х | x | x | х | x | х | х | х | | х | х | х | | | | х | | x | x | x |
| ä | Date of reporting/notification | х | х | х | х | х | х | х | х | х | х | x | х | х | x | х | х | х | х | х | х | х | х | х | х | х | х | | x | х |
| | Date used for statistics | х | х | х | х | | х | х | х | | х | х | | х | | | х | | х | х | | х | х | | | х | | | x | х |
| | Country where infection most likely acquired | х | | | x | х | х | х | x | | | x | x | х | x | | х | х | х | х | х | х | | | | х | | | x | х |
| | Immunisation status | х | | | х | | | х | | х | | х | | | | х | х | | х | х | | | х | х | | | | | | |
| | Outcome | х | | х | х | | | х | | | | х | х | | | | х | х | | х | | х | | х | х | х | | x | | |
| on on | Clinical symptoms | х | | х | | | х | | | | х | x | x | х | | х | х | | | х | | х | x | | | х | | | | x |
| Classification information | Laboratory results | х | х | х | | х | х | х | х | х | х | х | х | х | х | х | х | х | | х | х | х | х | х | х | х | | | x | х |
| Class | Epidemiological information | х | | х | | х | х | х | | х | х | х | х | х | х | х | х | х | | х | х | х | х | х | х | х | | | | х |
| | Homosexual contact | | | х | | | х | х | | x | х | | | х | | х | х | х | | х | х | | | | | х | | | x | х |
| | Heterosexual contact | | | х | | | х | х | | | х | | | х | | х | х | х | | х | х | | | | | х | | | x | х |
| | Injecting drug use | | | х | | х | х | х | х | х | х | | х | х | х | х | х | х | | х | х | х | х | | х | х | | | x | х |
| ors | Mother HCV + | | | х | | | х | х | | | х | x | | х | x | х | х | х | | х | | х | | | | х | | | x | x |
| sion route risk factors | Close family member HCV + | | | х | | | х | х | | | х | x | х | х | | х | х | х | | х | | х | х | | х | х | | | | х |
| e risk | Sex partner HCV positive | | | х | | | х | х | | | х | x | х | х | x | х | х | х | | х | | х | | | х | х | | | x | x |
| route | Blood or blood product transfusion | | | х | | х | х | х | х | х | x | х | х | х | х | х | х | х | | х | | х | х | | х | х | | | x | х |
| | Invasive healthcare procedure/dental treatment | | | х | | х | х | х | | x | х | х | x | х | x | х | х | х | | х | | х | x | | х | х | | | x | x |
| Transmis | Organ transplantation | | | х | | х | х | х | | | х | | x | х | x | х | х | х | | х | | х | | | x | x | | | | x |
| Trar | Haemodialysis | | | х | | х | х | х | | x | х | х | х | х | х | х | х | х | | х | | х | | | х | х | | | | х |
| | Needle injury or other occupational exposure | | | х | | х | х | х | | x | х | х | x | х | x | х | х | х | | х | х | х | | | | х | | | x | x |
| | Tattooing/body piercing | | | х | | x | х | х | | x | х | x | x | х | x | x | x | х | | x | | x | | | x | х | | | x | х |
| | Other | | | | | | х | | | | х | x | | х | x | | | х | | | х | | | | | х | | | | |
| | Hospitalisation | х | | х | х | x | | х | | | x | | x | | | x | х | х | | х | х | х | x | x | x | х | | | | х |
| er | Length of hospitalisation | | | | | | | | | | х | х | х | | | | х | | | х | | | x | | х | х | | | | |
| Other | ICD code diagnosis | | | | x | x | | х | x | | | | | х | | | х | х | | | | | x | x | | x | | | | |
| | Genotype information | | | | | | | | | x | | | | | x | | | х | | | | | | | | | | | | |

Table A5b. Information collected in HCV surveillance systems in the 29 EU/EEA countries

| | AT | BE | BG | CY | DK | EE | FI | FR | DE | GR | HU | IS | IE | IT | LV | LI | LT | LU | MT | NL | NO | PL | PT | RO | SK | SI | ES | SE | UK |
|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Pregnant women | Х | | | Х | Х | Х | Х | Х | Х | х | Х | Х | Х | Х | Х | Х | | | Х | Х | Х | Х | Х | | Х | Х | Х | Х | Х |
| Military recruits | | | | | | | | | | | | | | | | | | | Х | | | | Х | | Х | | | | |
| Injecting drug users | | | Х | Х | Х | | | | Х | Х | Х | Х | Х | | | | | | Х | | Х | | Х | Х | Х | Х | | Х | |
| STI clinic patients | | | | Х | | | | Х | Х | Х | | | Х | | | | | | Х | | | | Х | Х | Х | | | | |
| Multiple sex partners | | | | | | | | | Х | | | | | | | | | | | | | | | | | | | | |
| Prisoners | | | | Х | | Х | | Х | Х | | | | Х | | | | | | Х | | Х | | Х | | Х | Х | | х | |
| Haemodialysis patients | | Х | Х | Х | | | | Х | Х | Х | х | Х | Х | Х | Х | | | | Х | | Х | х | Х | | Х | Х | Х | х | Х |
| Long-term healthcare facilities | | | | x | | | | | | | | | х | | | | | | | | | | | | | | | | |
| Healthcare workers | | Х | | | | | | Х | х | | | | Х | Х | | | | | Х | | | | | х | | | | | |
| Workers who are occupationally exposed to the virus | | | | | | | | х | x | | х | | | х | x | | x | | x | | | х | х | | | | x | | x |
| Blood and organ donors | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | | Х | Х | Х | | Х | | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х | Х |

Table A6a. Screening programmes for hepatitis B in 29 EU/EEA countries

Comments:

Austria: Several scientific projects on HBV-screening, but no national prevention programmes;

France: Anonymous testing centres for HBV and HCV;

Germany: For example, HIV-positives which attended an STI clinic;

Ireland: screening of healthcare workers for hepatitis B applies only to healthcare workers involved in exposure-prone

procedures; screening for persons with multiple sex partners would only take place if the person attended an STI clinic; Latvia: 'Expanding Network for Comprehensive and Coordinated Action on HIV/AIDS Prevention Among IDUs and Bridging Population', ENCAP No. 2005305 'Prevalence of HIV and other infections; risk behaviour among injecting drug users and bridging populations in Latvia, Lithuania, Estonia'. Anti-HBc prevalence among IDUs in Latvia: 55.8% (2007); Netherlands: behavioural high risk groups for HBV are screened when receiving the first vaccination;

Slovenia. Screening of prisoners. Most screenings are conducted for risk groups. Slovenia does not have a mandatory military service, the Slovenian armed forces are professional soldiers who are vaccinated against many communicable diseases. They are vaccinated against HBV according to risk assessments connected to their working places and the standards of peacekeeping missions;

N N O AT BE BG CY CZ DK EE FI FR DE GR HU IS IE IT LV LT LU MT PL PT RO SK SI ES SE UK Pregnant women Х Х Х Military recruits Х X X X X X X Х Х Injecting drug users Х Х Х х Х Х Х Х STI clinic patients х Х Х х х х Multiple sex partners Х Prisoners Х Х Х Х Х Х X X Х Х Х Х Х Х Х Х Х Х Х Haemodialysis patients X х Х Х Х Х Х Х Х Х Х Х Long-term healthcare facilities Х Healthcare workers Х Х Х Х Х Х Х Persons occupationally Х Х Х Х Х Х Х Х Х exposed to the virus x x x x x x x X X X

Table A6b. Screening programmes for hepatitis C in 29 EU/EEA countries

Comments:

France: Anonymous testing centres for HBV and HCV

Ireland: Since July 2008, all new healthcare workers who are involved in exposure-prone procedures are offered screening for HCV

Latvia: 'Expanding Network for Comprehensive and Coordinated Action on HIV/AIDS Prevention among IDUs and Bridging Population', ENCAP No. 2005305. 'Prevalence of HIV and other infections; risk behaviour among injecting drug users and bridging population in Latvia, Lithuania, Estonia'. Anti-HCV positive prevalence among IDUs in Latvia (2007): 74.2%. Slovenia: Prisoners are screened if they are injecting drug users or otherwise suspected of being infected.

Sweden: No complete mandatory screening, except for blood and organ donors. Other groups are offered tests, but extent differs in different counties.

Sweden. No complete mandatory screening, except for blood and organ donors. Other groups are offered tests, but extent differs in different counties.

Annex 2. Country overview on HBV and HCV surveillance and prevention

The following tables provide a comprehensive overview of HBV and HCV surveillance and prevention in EU/EEA countries.

Austria

| | HBV | нсу |
|---|--|--|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Every physician has to report suspected and confirmed cases and deaths. Laboratories are included in the Mandatory reporting system. | Every physician has to report suspected and confirmed cases and deaths. Laboratories are included in the Mandatory reporting system. |
| Surveillance system | Other, see below: | Other, see below: |
| Comments | Laboratory-confirmed cases | Laboratory-confirmed cases |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | |
|--------------------------------|--|---|---|--|--|
| Clinical | EU case definition 2008 | | EU case definition 2008 | | |
| Chronic | EU case definition 2008 | | EU case definition 2008 | | |
| Other | | | | | |
| Cases included in surveillance | Possible | | Possible | | |
| | Probable | | Probable | | |
| | Confirmed | with classification | Confirmed | with classification | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | Since 1 January 2009 it is possible to distinguish between | Acute | Since 1 January 2009 it is possible to distinguish | |
| | Chronic | acute and chronic. | Chronic | between acute and | |
| | Asymptomatic | | Asymptomatic | chronic. | |
| | Suspected | | Suspected | | |
| | Other: | Austria has an electronic reporting system with many relevant variables which can be analysed ad hoc if necessary. | Other: | Austria has an electronic reporting system with many relevant variables which can be analysed ad hoc if necessary. | |
| Including duplicates | No | | No | | |
| Underreporting | Underreporting is possible, but of underreporting. | no estimates exist for magnitude | itude Underreporting is possible, but no estimates exi magnitude of underreporting. | | |
| Rate underreporting | | | | | |

| | HBV | | | | | | HCV | | | | |
|----------------|---------------------------------|-------------------------------|----------------------------|--|----------------------------|-----------|--|-----------|----------------|-----------|---|
| Source of data | Physicians | ; | Laborato | ry | Hospi | tal | Physicians | La | ooratory | | Hospital |
| | Other: | | | | | | Other: | | | | |
| Collected data | Basic data | | Patient I | D | | | Basic data | Pa | tient ID | | |
| | | | Date of I | oirth or age | | | | Da | te of birth | or age | |
| | | | Gender | | | | | | nder | | |
| | | | Country | of hirth | | | | | untry of bi | irth | |
| | | | | residence | | | | | ice of resid | | |
| | | | | onset of the diseas | 20 | | | | te of onse | | diceace |
| | | | Date of o | | bC | | | | te of diagr | | uisease |
| | | | | | <u></u> | | | | | | ification |
| | | | | eporting/notification | on | | | | te of repoi | | |
| | | | | d for statistics | | | | | te used fo | | |
| | | | · · · · · | where infection wa | as acquired | | | | • | | ion was acquired |
| | | | | ation status | | | | | munisatio | n status | |
| | | | Outcome | 2 | | | | | tcome | | |
| | Classificat | ion | Clinical s | ymptoms | | | Classificati | on Cli | nical symp | otoms | |
| | | | Laborato | ry results | | | | La | poratory re | esults | |
| | | | Epidemio | ological information | n | | | Ep | idemiologi | cal infor | mation |
| | Trans- mission ro | uto | Homose | kual contact | | | Trans- mission ro | | mosexual | contact | |
| | risk factor | | | xual contact | | | risk factors | | terosexua | l contact | |
| | | | Injecting | drug use | | | | Inj | ecting dru | ig use | |
| | | | Mother H | IBsAg+ | | Mo | ther HCV | positive | | | |
| | | | Close far | nily member HBsA | \g+ | | | Clo | se family | member | HCV- positive |
| | | | Sex part | ner HBsAg+ | | | | Se | x partner l | HCV pos | itive |
| | | | Blood or | blood-product tran | nsfusion | | | Blo | od or bloc | od-produ | ict transfusion |
| | | | Invasive treatmer | healthcare proced It | | | Invasive healthcare procedure/de treatment | | | | |
| | | | Organ tr | ansplantation | | Or | Organ transplantation Haemodialysis | | | | |
| | | | Haemod | alysis | | Ha | | | | | |
| | | | Needle i | njury or other occu | | | edle injury posure | y or othe | r occupational | | |
| | | | | g/body piercing | | Та | ttooing/bo | dy pierc | ing | | |
| | | | Other | | | Ot | ner | | | | |
| | Other | | Hospitali | sation | | | Other | Ho | spitalisatio | on | |
| | | | Length c | f hospitalisation | | | | Le | ngth of ho | spitalisa | tion |
| | | | ICD code | e diagnosis | | | | IC | O code dia | ignosis | |
| | | | Genotyp | e information | | | | Ge | notype inf | formation | 1 |
| Data linked to | Liver tran | nlant | | Liver concor | | | Liver trans | nlant | | Livere | 2222 |
| | | | | Liver cancer | | | Liver trans | | | Liver c | |
| | Hospital re | Jusici | | Mortality | | | Hospital re | .gistel | | Mortal | ity |
| | Other: | different reg unless there | isters, e.g. are scient | ed to link persona through social sec fic reasons. There igh ELGA, the Elec | curity numb are plans f | er, or | Other: | persona | al data acr | oss diffe | lowed to link rent registers, unle s. See note in HBV |
| Format | Electronic | . coporti | Paper | | | | Electronic | Da | per | | |
| Гуре | Case-base | d | Aggrega | ted | Other: | | Case-base | | gregated | | Other: |
| yhe | Case-Dase | u | Ауугеуа | leu | ouler: | | Case-Dase | | yreydled | | oulei. |
| requency | Daily | | Wee | ekly | Biwee | kly | Daily | | Weekly | | Biweekly |
| Other | Monthly | | Biar | nually | Yearly | , | Monthly | | Biannua | ally | Yearly |
| | Other: | | If n | ecessary, daily ana | alysis is pos | sible | Other: | | If neces | | ily analysis is |
| | | | | Laboratory network Supplementary | | | STI clinic surveillance | | Laborate | ory | Supplementary sentinel surveillance |
| - | Regular sero-surveys in general | | | eral population Other | | | Regular se | | ys in gene | ral | Other |
| | | | | | | | μοραιατιοΠ | | | | |

| Screening | | | | | | | | | | | | |
|-------------------------|--|---------------------------------------|----------|--|--|--|--|--|--|--|--|--|
| | Pregnant women | | | | | | | | | | | |
| orogramme | Military recruits | | | | | | | | | | | |
| | Injecting drug users | | | | | | | | | | | |
| | STI clinic patients | | | | | | | | | | | |
| | Multiple sex partners | | | | | | | | | | | |
| | Prisoners | | | | | | | | | | | |
| | Haemodialysis patients | | | | | | | | | | | |
| | Long-term healthcare facilities | | | | | | | | | | | |
| | Healthcare workers | | | | | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | | | | | |
| | Blood and organ donors | | | | | | | | | | | |
| | Other groups** | | | | | | | | | | | |
| /accination | HBV | | | | | | | | | | | |
| orogramme (only HBV) | Universal vaccination | Infants | | | | | | | | | | |
| | | Adolescents | | | | | | | | | | |
| | | Both | | | | | | | | | | |
| | | Other | | | | | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | | | | | | | |
| | | Individuals at risk for HBV due to oc | cupation | | | | | | | | | |
| | | Haemodialysis patients | | | | | | | | | | |
| | | Chronic liver disease patients | | | | | | | | | | |
| | | STI clinic patients | | | | | | | | | | |
| | | Multiple sex partners | | | | | | | | | | |
| | | Injecting drug users | | | | | | | | | | |
| | | Household contacts of HBsAg+ patie | ents | | | | | | | | | |
| | | Contacts of infected persons | | | | | | | | | | |
| | | Other risk groups** | | | | | | | | | | |
| | Other: | | | | | | | | | | | |
| Catch-up programme | Infants up to 6 years: three doses Adolescents from 7 to 18 years: three doses | | | | | | | | | | | |
| /accination coverage | Infants 0 to 2 years | | | | | | | | | | | |
| | Adolescents 10 to 14 years | | | | | | | | | | | |
| | Adults | | | | | | | | | | | |
| | Other groups | | | | | | | | | | | |
| | Not known | | | | | | | | | | | |
| | Coverage: | | | | | | | | | | | |
| | Immunisation coverage (infants): under 1 year: 30%; Immunisation coverage (adolescents): under 11 years | | | | | | | | | | | |

Belgium

| | HBV | НСУ |
|---|---|--|
| Surveillance system | 1 | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Several surveillance systems for HBV, none of which can be characterised as the major one, please describe below | Several surveillance systems for HCV, none of which can be characterised as the major one, please describe below |
| Surveillance system | Other, see below: | Other, see below: |
| Comments | Mandatory notification; sentinel laboratory | Mandatory notification; sentinel laboratory |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|--|----------------------------------|---|------------------------------------|
| Clinical | IgM+ and/or HBe antigen | | PCR+ | |
| Chronic | No case definition | | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | with classification |
| | Confirmed | - | Confirmed | - |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | | Acute | |
| | Chronic | with classification | Chronic | with classification |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | Yes | | yes | |
| Underreporting | Underreporting is possible, but of underreporting. | no estimates exist for magnitude | Underreporting is possible magnitude of underreport | e, but no estimates exist for ing. |
| Rate underreporting | | | | |

| Data | | | | | HC | , | | | | | |
|----------------------------------|------------------------------|----------------|--|---|--|-------------------------|--|---------------------------------|---------------|---|--|
| | HBV | Labourtou | | Lie en itel | - | | Laba | | | l la anital | |
| Source of data | Physicians | Laborator | У | Hospital | _ | sicians | Labo | ratory | | Hospital | |
| | Other: | | | | Oth | | _ | | | | |
| Collected data | Basic data | Patient ID | | | Bas | ic data | | nt ID | | | |
| | | Date of bi | irth or age | | | | Date | of birth o | r age | | |
| | | Gender | | | | | Geno | ler | | | |
| | | Country o | f birth | | | | Cour | try of birt | h | | |
| | | Place of r | esidence | | | | Place | of reside | nce | | |
| | | Date of o | nset of the disease | | | | Date | of onset of | of the di | sease | |
| | | Date of d | iagnosis | | | | Date | of diagno | sis | | |
| | | Date of re | eporting/notification | | | | Date of reporting/notification | | | | |
| | | Date used | for statistics | | | | | used for | statistics | | |
| | | Country w | where infection was a | acquired | | | Cour | try where | infectio | n was acquired | |
| | | Immunisa | ition status | | | | Imm | unisation | status | | |
| | | Outcome | | | | | Outo | ome | | | |
| | Classification | Clinical sy | mptoms | | | sifi- | Clinic | al sympto | oms | | |
| | | Laborator | y results | | cati | on | Labo | ratory res | ults | | |
| | | Epidemiol | ogical information | | | | Epide | emiologica | al inform | ation | |
| | Trans- mission route risk | Homosex | ual contact | | | nsmission e risk | on Homosexual contact | | | | |
| | factors | Heterosex | kual contact | | fact | | Hete | rosexual c | ontact | | |
| | | Injecting | drug use | | | | Injecting drug use | | | | |
| | | Mother H | BsAg+ | 1 | | Moth | lother HCV positive | | | | |
| | | Close fam | ily member HBsAg+ | | | | Close | e family m | ember H | ICV- positive | |
| | | Sex partn | er HBsAg+ | | | | Sex | oartner HO | CV positi | ve | |
| | | Blood or I | blood-product transfu | usion | | | Bloo | d or blood | -product | transfusion | |
| | | Invasive I | nealthcare procedure | | | | Invasive healthcare procedure/dental treatment | | | | |
| | | | nsplantation | | | Orga | | | | | |
| | | Haemodia | | - | | | nodialysis | | | | |
| | | | jury or other occupat | | | Need | Needle injury or other occupational exposure | | | | |
| | | Tattooing | /body piercing | | | | Tattooing/body piercing | | | | |
| | | Other | | | | | Othe | r | | | |
| | Other | Hospitalis | ation | | Oth | er | Hosp | italisation | | | |
| | | Length of | hospitalisation | | | | Leng | th of hosp | oitalisatio | on | |
| | | ICD code | diagnosis | | | | ICD | code diagi | nosis | | |
| | | Genotype | information | | _ | | Geno | type infor | mation | | |
| Data linked to | Liver transplant | | Liver cancer | | Live | r transpla | nt | | Liver c | ancer | |
| | Hospital register | | Mortality | | Hos | pital regis | ter | | Mortali | ty | |
| | Other: | | ta linking could be do | | : | Other: | | Data lini actually | | sible, but was never | |
| Format | Electronic | Par | | ui. | | Electron | ic | Paper | carneu | Jui | |
| Туре | Case-based | | gregated | Other: | | Case-ba | | Aggrega | ited | Other: | |
| Туре | Case-Daseu | Ag | gregateu | ouler. | | Case-Da | iseu | Aggrega | liteu | ouler. | |
| Frequency | Daily | We | ekly | Biweekly | | Daily | | Weekly | | Biweekly | |
| requency | Monthly | | nnually | Yearly | | Monthly | , | Biannua | lkz | Yearly | |
| Other surveillance systems | Other: | | necessary, daily analy | - | | Other: | | If neces | , sary, da | ily analysis is | |
| | STI clinic surveillance | Lat | Laboratory network Supplementary sentinel surveillance | | | STI clinic surveilla | | possible Laborato network | ory | Supplementary sentinel surveillance | |
| | Regular sero-surveys | in general po | opulation | Other | Regular sero-surveys in general Other population | | | | | | |
| | Sero-prevalence stud | ly in 1993, 20 | l in 2011 | Sero-prevalence study in 1993, 2003. May be | | | | 2003. May be | | | |
| | | | | | | repeated | a in 20 | 11 | | | |

| | | HBV | HCV | | |
|-------------------------|---|---------------------------------------|--|--|--|
| Screening | Pregnant women | | | | |
| programme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination | HBV | · · · | · | | |
| programme (only HBV) | Universal vaccination | Infants | | | |
| (•, •, | | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| - | Risk groups vaccination | Neonates born to HBsAg mothers | | | |
| | | Individuals at risk for HBV due to or | ccupation | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ pati | ents | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | | a, organ transplant, patients who will receive led people, travellers to HBV endemic area | | |
| Catch-up | Infants up to 6 years: three doses | | | | |
| programme | Adolescents from 7 to 18 years: three doses | | | | |
| Vaccination coverage | Infants 0 to 2 years | | | | |
| coverage | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage: | | | | |
| | 98% | | | | |

Bulgaria

| | HBV | HCV |
|---|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|---|--|--|
| Clinical | Clinical description: Cases with clinical symptom e.g. gradual development o jaundice or elevated serum Laboratory criteria for diagnosis Detection of IgM antibodies core antigen (anti-HBc IgM Demonstration of HBV nuck Case classification: Possible: n/a Probable: A case that is HB: compatible with acute hepa Confirmed: A case that is la | f the symptoms and aminotransferase levels s: against Hepatitis B virus positive) eic acid in the serum sAg+ and a clinical picture titis. | e.g. gradual development jaundice or elevated seruu Laboratory criteria for diagnos • Demonstration of HCV sp • Demonstration of HCV nu specimens Case classification: • Possible: n/a • Probable: n/a | m aminotransferase levels sis: ecific antibodies |
| Chronic | Clinical description: A case with a clinical preser chronic hepatitis and labora Hepatitis B, chronic Laboratory criteria for diagnosis Presence of hepatitis B virus over a period longer than si Demonstration of HBV nucle period longer than six mont Case classification: Prosable: N/A Probable: A case clinically chepatitis Confirmed: A case clinically hepatitis that is laboratory of | itory findings s: s surface antigen (HBsAg) ix months eic acid in the serum over a ths ompatible with chronic compatible with chronic | period (years) Demonstration of nucleic over a long period (years) Case classification: Possible: N/A Probable: N/A | ratory findings is: ecific antibodies over a long acid in clinical specimens) ly compatible with chronic |
| Cases included in surveillance | Possible | | Possible | |
| | Probable Confirmed | with classification | Probable Confirmed | with classification |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, bu magnitude of underreporting. | t no estimates exist for |
| | | | | |

| | HBV | | | HCV | | | |
|-------------------------|--|---|---|-------------------------------------|---|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | |
| | Other: | | | Other: | | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | |
| conected data | | | ate of birth or age | | Date of birth or | r 209 | |
| | | | | | | aye | |
| | | Gender | | | Gender | | |
| | | Country of birth | | | Country of birth | | |
| | | Place of residence | | | Place of resider | | |
| | | Date of onset of the | alsease | | Date of onset of | | |
| | | Date of diagnosis | | | Date of diagnos | | |
| | | Date of reporting/no | | | Date of reportin | . | |
| | | Date used for statist | | | Date used for s | | |
| | | Country where infec | • | | | infection was acquired | |
| | | Immunisation status | 5 | | Immunisation s | status | |
| | | Outcome | | | Outcome | | |
| | Classification information | Clinical symptoms | | Classification information | Clinical sympto | ms | |
| | Information | Laboratory results | | Information | Laboratory resu | ults | |
| | | Epidemiological information | | | Epidemiologica | l information | |
| | Transmission route risk factors | Homosexual contact | t | Transmission route risk factors | Homosexual co | ontact | |
| | 100015 | Heterosexual contact Injecting drug use Mother HBsAg+ Close family member HBsAg+ | | | Heterosexual contact | | |
| | | | | | Injecting drug use | | |
| | | | | | Mother HCV positive | | |
| | | | | | Close family me | ember HCV- positive | |
| | | Sex partner HBsAg+ | ÷ | | Sex partner HC | X positive | |
| | | Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis | | | Blood or blood- | product transfusion | |
| | | | | | Invasive health treatment | care procedure/dental | |
| | | | | | Organ transpla | Organ transplantation | |
| | | | | | Haemodialysis | Haemodialysis | |
| | | Needle injury or oth | er occupational exposure | | Needle injury o exposure | Needle injury or other occupational exposure | |
| | | Tattooing/body piercing Other | | | | Tattooing/body piercing | |
| | | | | | Other | | |
| | Other | Hospitalisation Length of hospitalisation | | Other | Hospitalisation | | |
| | | | | | | Length of hospitalisation | |
| | | ICD code diagnosis | | | ICD code diagnosis | | |
| | | Genotype information | | | | Genotype information | |
| | | | t regional level, not at central level. | | Information is available only at regional level and | | |
| | Laboratory results: anti-HBc IgM ; anti-HBc | JG ; anti-HBe ; HBe Ag ; anti-HBs; HBsAg | | reported at cent Laboratory resu | | RNA in some cases | |
| Data linked to | Liver transplant | Liver cancer | | | Liver transplant Liver cancer Mo | | |
| | Hospital register | | | Hospital register | r | | |
| | Other: | | i | Other: | | | |
| Format | Electronic | Paper | | Electronic | Paper | | |
| Гуре | Case-based | Aggregated | Other: | Case-based | Aggregated | Other: | |
| | | | | | | | |
| Frequency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly | |
| | Monthly | Biannually | Yearly | Monthly | Biannually | Yearly | |
| | Other: | | n case of outbreak | Other: | - | n case of outbreak | |
| Other | STI clinic surveillance | Laboratory | Supplementary sentinel surveillance | STI clinic surveillance | Laboratory | Supplementary sentinel surveillance | |
| surveillance systems | Regular sero-surveys in general population | | Other | | rveys in general | Other | |
| systems | Regular sero-surveys in general population | | Oulei | Regular sero-su | rveys in general | Oulei | |

| | | HBV | HCV | | |
|-------------------------|---|--|----------------------------------|--|--|
| Screening | Pregnant women | | | | |
| programme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination | HBV | | | | |
| programme (only HBV) | Universal vaccination | Infants | | | |
| | | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | |
| | | Individuals at risk for HBV due to oc | cupation | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ patie | ents | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | HIV infected, persons travelling to co | ountries with high HBV incidence | | |
| Catch-up programme | - | | | | |
| Vaccination coverage | Infants 0 to 2 years | | | | |
| coverage | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage: | | | | |
| | Universal newborn immunisation: 2001: 93,33; 2002: 88.28; 2003: 95.85; 2004: 93.8; 2 | 2005: 96.0; 2006: 95.9; 2007: 95.4; 2 | 2008: 95.7; 2009: 95.6 | | |

Cyprus

| | HBV | HCV | | | | |
|---|--|--------------------------|--|--|--|--|
| Surveillance system | | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | |
| Type of surveillance | Passive | Passive | | | | |
| Surveillance system | Other, see below: | Other, see below: | | | | |
| Comments | 57 communicable diseases are notifiable to the Director of Medical and Public Health Services (MPHS) by all practising medical doctors (Quarantine Law and its amendments). Reporting is done by completion of a specific form which is submitted to the District Medical Officer who forwards it to the Unit for Surveillance and Control of Communicable Diseases (MPHS Central Offices). Data are entered in a database (EPI-INFO) and analysed. | See comment to the left. | | | | |

Objectives

| | HBV | HCV | | | | |
|--|-----|-----|--|--|--|--|
| Monitoring trends | | | | | | |
| Detect outbreaks | | | | | | |
| Monitoring changes in disease distribution | | | | | | |
| Evaluation and planning of control measures | | | | | | |
| Improve knowledge of epidemiology | | | | | | |
| Other | no | no | | | | |

| Definition | HBV | | HCV | |
|--------------------------------|--|------------------------|--|--------------------------------|
| Clinical | Probable: n/a | | Probable and possible: n/a | |
| | Possible: HBsAg+ and compatible clinical presentation Confirmed: Laboratory confirmation and compatible clinical picture | | Confirmed: Clinically compatible case that is laboratory confirmed | |
| Chronic | No case definition | | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | - | Probable | |
| | Confirmed | with classification | Confirmed | with classification |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | WILLICISSIICAUULI | Chronic | WILLI CIASSILICATION |
| | Asymptomatic | - | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, magnitude of underreportin | but no estimates exist for ng. |
| Rate underreporting | | | | |

| Physicians Other: Basic data Basic data Classification information Transmission route risk factors | Pati Datu Gen Cou Plac Datu Datu Datu Cou Imm Out Cin | Intry of birth ce of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptoms | e he disease /notification tistics fection was acquired tus | Physicians Other: Basic data | Patie Date Gen Cour Place Date Date Cour Imm Outo | ntry of birth e of residence e of onset of tl e of diagnosis e of reporting/ e used for stat | he disease notification istics jection was acquired |
|--|--|--|--|---|--|--|---|
| Classification information | Date Gen Place Date Date Date Cou Imm Out Cin Lab | e of birth or a ider intry of birth e of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptome | e he disease /notification tistics fection was acquired tus | Basic data | Date Genu Cour Place Date Date Cour Imm Outo | e of birth or ag der ntry of birth e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where infi nunisation stat | he disease notification istics jection was acquired |
| Classification information Transmission | Date Gen Place Date Date Date Cou Imm Out Cin Lab | e of birth or a ider intry of birth e of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptome | e he disease /notification tistics fection was acquired tus | | Date Genu Cour Place Date Date Cour Imm Outo | e of birth or ag der ntry of birth e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where infi nunisation stat | he disease notification istics jection was acquired |
| Classification information Transmission | Date Gen Place Date Date Date Cou Imm Out Cin Lab | e of birth or a ider intry of birth e of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptome | e he disease /notification tistics fection was acquired tus | | Date Genu Cour Place Date Date Cour Imm Outo | e of birth or ag der ntry of birth e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where infi nunisation stat | he disease notification istics jection was acquired |
| information Transmission | Gen Cou Place Date Date Date Cou Imn Out Clin | Inder Intry of birth ce of residence e of onset of t e of diagnosis e of reporting, e used for sta Intry where in nunisation sta come ical symptoms | e he disease /notification tistics fection was acquired tus | Classification | Gen Cour Place Date Date Date Cour Imm | der ntry of birth e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where inf nunisation stat | he disease notification istics jection was acquired |
| information Transmission | Cou Place Date Date Date Cou Imm Out Clin | Intry of birth ce of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptoms | he disease /notification tistics fection was acquired tus | Classification | Cour Place Date Date Date Cour Imm Oute | ntry of birth e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where info nunisation stat | he disease notification istics ection was acquired |
| information Transmission | Place Date Date Date Cour Imm Out Clin | e of residence e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptoms | he disease /notification tistics fection was acquired tus | Classification | Place Date Date Date Date Cour Imm Oute | e of residence e of onset of th e of diagnosis e of reporting/ e used for stat ntry where infi- nunisation stat | he disease notification istics ection was acquired |
| information Transmission | Date Date Date Cou Imm Out Clin | e of onset of t e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptome | he disease /notification tistics fection was acquired tus | Classification | Date Date Date Date Cour Imm Outo | e of onset of the of diagnosis of reporting/ e used for stat ntry where infi- nunisation stat | he disease notification istics ection was acquired |
| information Transmission | Date Date Cou Imn Out Clin Lab | e of diagnosis e of reporting, e used for sta intry where in nunisation sta come ical symptoms | /notification tistics fection was acquired tus | Classification | Date Date Date Cour Imm Outo | e of diagnosis e of reporting/ e used for stat ntry where infi nunisation stat | notification istics jection was acquired |
| information Transmission | Date Date Cou Imn Out Clin | e of reporting, e used for sta intry where in nunisation sta come ical symptome | /notification tistics fection was acquired tus | Classification | Date Date Cour Imm Outo | e of reporting/ e used for stat ntry where infi nunisation stat | istics ection was acquired |
| information Transmission | Date Cou Imn Out Clin Lab | e used for sta intry where in nunisation sta come ical symptoms | tistics fection was acquired tus | Classification | Date Cour Imm Outo | e used for stat ntry where info nunisation stat | istics ection was acquired |
| information Transmission | Cou Imn Out Clin Lab | intry where in nunisation sta come ical symptoms | fection was acquired tus | Classification | Cour Imm Outo | ntry where info nunisation stat | ection was acquired |
| information Transmission | Imn Out Clin Lab | nunisation sta come ical symptoms | tus | Classification | Imm Outo | nunisation stat | |
| information Transmission | Out Clin Lab | come ical symptoms | | Classification | Outo | | us |
| information Transmission | Clin Lab | ical symptoms | 5 | Classification | | come | |
| information Transmission | Lab | | 5 | LIASSIFICATION | (lini | | |
| Transmission | _ | | | information | | ical symptoms | |
| | Epic | oratory results | | | | oratory results | |
| | | demiological ir | itormation | | Epid | lemiological in | formation |
| route risk factors | Hon | nosexual cont | act | Transmission | | nosexual conta | act |
| | Heterosexual contact | | route risk factors | | Heterosexual contact | | |
| | | | | | | Injecting drug use Mother HCV positive | |
| | Mother HBsAg+ Close family member HBsAg+ Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment | | | | | | |
| | | | | Clos | Close family member HCV- positive | | |
| | | | | Sex | partner HCV p | oositive | |
| | | | | Bloo | od or blood-pro | oduct transfusion | |
| Other | | | | | | e procedure/dental | |
| | Org | an transplanta | ation | | | an transplanta | tion |
| | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other Hospitalisation | | Other | Hae | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other Hospitalisation | | |
| | | | | | | | |
| | | | | Tatt | | | |
| | | | | Othe | | | |
| | | | | Hos | | | |
| | Len | Length of hospitalisation ICD code diagnosis | | | Leng | Length of hospitalisation | |
| | ICD | | | | ICD | ICD code diagnosis | |
| | | | | Gen | Genotype information | | |
| C . / | | | | Construct data to some of | | | and all the second second |
| Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality |
| Hospital register | | | | Hospital register | | | |
| Other: | | | | Other: | | | |
| Electronic | | | | Electronic | | | |
| Case-based | Agg | regated | Other: | Case-based | Ago | gregated | Other: |
| Daily | Wee | ekly | Biweekly | Daily | We | ekly | Biweekly |
| Monthly | | • | Yearly | Monthly | | | Yearly |
| | | , | | - | | | |
| STI clinic surveillance | Labo | oratory | Supplementary sentinel surveillance | STI clinic surveillance | Lab | Doratory | Supplementary sentinel surveillance |
| Regular sero-surve | | | Other | Regular sero-sur | | | Other |
| | route risk factors | route risk factors Het Inje Mot Clos Sex Blo Inv trea Org Hae Org Hae Pres Tatt Other Inv trea Org Hae Nee exp Tatt Other Inv trea Org Hae Nee exp Tatt Oth Inv trea Org Hae Nee exp Tatt Oth Inv trea Org Hae Nee Exp Tatt Oth Inv trea Org Tatt Oth Inv trea Org Inv trea Org Inv trea Org Inv trea Oth Inv trea Org Inv trea Oth Inv trea Org Inv trea Oth Inv trea Inv trea Oth Inv trea Inv trea Inv trea Inv trea Oth Inv trea Inv trea Inv trea Inv trea Inv trea Int Inv trea Int Inv trea Int Inv Inv trea Int Inv Inv Inv trea Int Inv Inv Inv Inv Inv Inv Inv Inv Inv Inv | route risk factors Heterosexual com Injecting drug use Mother HBsAg+ Close family mem Sex partner HBsA Blood or blood-pr Invasive healthca treatment Organ transplanta Haemodialysis Needle injury or close exposure Tattooing/body pi Other Other Hospitalisation Length of hospital ICD code diagnos Genotype informa 1. TRRF are covered by an opened-e factors/risk predisposition. 2. ICD-10 Liver transplant Hospital register Other: Electronic Paper Case-based Aggregated Daily Weekly Monthly Biannually Other: STI clinic surveillance Regular sero-survys in general | route risk factors Heterosexual contact Injecting drug use Mother HBsAg+ Close family member HBsAg+ Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Needle injury or other occupational exposure Tattooing/body piercing Other Other Hospitalisation I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition. 2. ICD-10 coding is used Liver transplant Liver cancer Mospital register Mortality Other: Paper Case-based Aggregated Daily Weekly Biweekly Monthly Bianually Yearly Other: STI clinic Laboratory sentinel surveillance Regular sero-surveys in general Other Supplementary sentinel surveillance | route risk factors Heterosexual contact Injecting drug use route risk factors Mother HBsAg+ Close family member HBsAg+ Rediver the transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other Other Hospitalisation I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition. 2. ICD-10 coding is used I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition. 2. ICD-10 coding is used Liver transplant Liver cancer Mortality Hospital register Other: Other: Daily Weekly Biweekly Daily Monthly Biannually Yearly Other: STI clinic Laboratory network Supplementary sentinel surveillance STI clinic STI clinic Laboratory sentinel surveillance Surveillance STI clinic Surveillance | route risk factors Heterosexual contact Inje Injecting drug use Mother HBsAg+ Inje Mother HBsAg+ Close family member HBsAg+ Mother HBsAg+ Sex partner HBsAg+ Blood or blood-product transfusion Blood Invasive healthcare procedure/dental treatment Tratsplantation Blood Organ transplantation Haemodialysis Needle injury or other occupational exposure Needle injury or other occupational exposure Other Hospitalisation ICD Code diagnosis Icm Genotype information I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition. I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition. I. TRRF are covered by factors/risk predisposition. Liver transplant Liver cancer Mortality Hospital register Other: Case-based Aggregated Other: Other: Daily Weekly Biweekly Daily Meerie Daily Weekly Biweekly Daily Meerie Stil clinic Laboratory Supplementary sentinel surveillance Regular sero-surveys in general | route risk factors Heterosexual contact Heterosexual contact Injecting drug use Mother HBsAg+ Mother HBsAg+ Close family member HBsAg+ Close family member HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Haemodialysis Needle injury or other occupational exposure Needle injury or other occupational exposure Tattooing/body piercing Other Other Other Hospitalisation Length of hospitalisation 1. TRRF are covered by an opened-ended question: Risk factors/risk predisposition 2. ICD-10 coding is used I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition 2. ICD-10 coding is used I. TRRF are covered by an opened-ended question: Risk factors/risk predisposition 2. ICD-10 coding is used Liver transplant Liver cancer Mortality Liver transplant Liver cancer Hospital register Other: Other: Other: Other: Daily Weekly Biweekly Biweekly Daily Weekly Monthiy Biannually Yearly Other: Opportunistic STI clinic Staboratory serverillance Surveillance Laboratory sentinel |

| | | HBV | HCV | |
|-------------------------|---|---------------------------------------|-----------|--|
| Screening | Pregnant women | | | |
| programme | Military recruits | | | |
| | Injecting drug users | | | |
| | STI clinic patients | | | |
| | Multiple sex partners | | | |
| | Prisoners | | | |
| | Haemodialysis patients | | | |
| | Long-term healthcare facilities | | | |
| | Healthcare workers | | | |
| | Workers who are occupationally exposed to the virus | | | |
| | Blood and organ donors | | | |
| | Other groups** | | | |
| Vaccination | HBV | | | |
| programme (only HBV) | Universal vaccination | Infants | | |
| (0) | | Adolescents | | |
| | | Both | | |
| | | Other | | |
| - | Risk groups vaccination | Neonates born to HBsAg mothers | | |
| | | Individuals at risk for HBV due to or | ccupation | |
| | | Haemodialysis patients | | |
| | | Chronic liver disease patients | | |
| | | STI clinic patients | | |
| | | Multiple sex partners | | |
| | | Injecting drug users | | |
| | | Household contacts of HBsAg+ pati | ents | |
| | | Contacts of infected persons | | |
| | | Other risk groups** | | |
| | Other: | | | |
| Catch-up programme | - | | | |
| Vaccination | Infants 0 to 2 years | | | |
| coverage | Adolescents 10 to 14 years | | | |
| | Adults | | | |
| | Other groups | | | |
| | Not known | | | |
| | Coverage: | | | |
| | 17-24 years of age: 12% 2006: HBV1, 98.6% ; HBV2, 97.8%; HBV3, 93.2% | | | |

Czech Republic

| | HBV | HCV | | | | |
|---|-----|--|--|--|--|--|
| Surveillance system | | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | | Mandatory | | | | |
| Type of surveillance | | Physicians report to primary health care | | | | |
| Surveillance system | | Own system for HCV | | | | |
| Comments | | | | | | |

Objectives

| | HCV |
|--|-----|
| Monitoring trends | |
| Detect outbreaks | |
| Monitoring changes in disease distribution | |
| Evaluation and planning of control measures | |
| Improve knowledge of epidemiology | |
| Other | no |

| Definition | | HCV | |
|---|---|--|-----------------------------|
| Clinical | | According to the clinical signs as based on anti-HCV Ab | nd laboratory confirmation, |
| Chronic | | No case definition | |
| Other | | | |
| Cases included in surveillance (highlighted in green) | | Possible | with classification |
| | - | Probable | |
| | | Confirmed | |
| | | Unknown classification | |
| Type of cases | | Acute | with classification |
| | | Chronic | with classification |
| | | Asymptomatic | |
| | | Suspected | |
| | | Other: | |
| Including duplicates | | Yes | |
| Underreporting | | Underreporting is possible, but magnitude of underreporting. | no estimates exist for |
| Rate underreporting | | | |

| | | | HCV | | |
|-------------------------------|---|------|------------------------------------|--|--|
| Source of data | | | Physicians | Laboratory | Hospital |
| | | | Other: | | |
| Collected data | | | Basic data | Patient ID | |
| | | | | Date of birth or | age |
| | | | | Gender | |
| | | | | Country of birth | |
| | | | | Place of residen | ce |
| | | | | Date of onset of | |
| | | | | Date of diagnos | |
| | | | | Date of reportin | |
| | | | | Date used for st | |
| | | | | | nfection was acquired |
| | | | | Immunisation st | |
| | | | | Outcome | |
| | | | Classification | Clinical sympton | าร |
| | | | information | Laboratory resu | |
| | | | | Epidemiological | |
| | | | Tananiaian | | |
| | | | Transmission route risk factors | Homosexual contact | |
| | | | | Heterosexual co | ntact |
| | | | | Injecting drug u | se |
| | | | | Mother HCV pos | itive |
| | | | | Close family member HCV- positive | |
| | | | | Sex partner HC | / positive |
| | | | | Blood or blood-product transfusion | |
| | | | | Invasive healthout | are procedure/dental |
| | | | | Organ transplan | tation |
| | | | | Haemodialysis | |
| | | | - | Needle injury or other occupational exposure | |
| | | | | Tattooing/body | Tattooing/body piercing |
| | | | | Other | |
| | | | Other | Hospitalisation | |
| | | | | Length of hospit | |
| | | | | ICD code diagno | |
| | | | | Genotype inform | nation |
| Data linked to | | | Liver transplant | Liver cance | r Mortality |
| | | | Hospital register | | |
| | | | | | |
| | | | Other: | | |
| format | | | Electronic | Paper | |
| Туре | | | Case-based | Aggregated | Other: |
| Frequency | | | Daily | Weekly | Biweekly |
| ·•• · · · · | | | Monthly | Biannually | Yearly |
| | | | Other: | | case of outbreak |
| Other surveillance systems | | | STI clinic surveillance | Laboratory network | Supplementary sentinel surveillance |
| | I | | Regular sero-sur | | Other |
| | | | population | | |

| | | HCV |
|-----------------------|---|-----|
| Screening | Pregnant women | |
| programme | Military recruits | |
| | Injecting drug users | |
| | STI clinic patients | |
| | Multiple sex partners | |
| | Prisoners | |
| | Haemodialysis patients | |
| | Long-term healthcare facilities | |
| | Healthcare workers | |
| | Workers who are occupationally exposed to the virus | |
| | Blood and organ donors | |
| | Other groups** | |
| Vaccination programme | No information received | |
| (only HBV) | | |

Denmark

| | HBV | HCV | | | | |
|--|---------------------|--------------------|--|--|--|--|
| Surveillance system | Surveillance system | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | |
| Type of surveillance | Passive | Passive | | | | |
| Surveillance system | Own system for HBV | Own system for HCV | | | | |
| Comments | | | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | no | no |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|--|-----------------------------|---|---------------------|
| Clinical | Clinical symptoms AND (HBsAg- test for microbiological agent) | + OR any other specific lab | Clinical symptoms AND specific lab test for microbiologica agent | |
| Chronic | | | Confirmed laboratory markers that has existed for more than six months | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | with classification |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | WILLI CLASSIFICATION | Chronic | WITCIASSIFICATION |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: Acute hepatitis data collected since 1970s; chronic hepatitis data since 2000s | | Other: Acute hepatitis data collected since 1970s; chronic hepatitis data since 2000s | |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible; please give the rate for underreporting (number of reported cases/estimated number of real cases) below. | | Underreporting is possible; ple underreporting (number of re number of real cases) below. | |
| Rate underreporting | 50% | | 50% | |

| | HBV | | | HCV | | |
|-------------------------|------------------------------------|---|-----------------------|------------------------------------|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital |
| | Other: | | | Other: | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | |
| | | Date of birth or age | | | Date of birth or a | ne |
| | | Gender | | | | ge |
| | | | | | Gender | |
| | | Country of birth | | | Country of birth | - |
| | | Place of residence | licopco | | Place of residence Date of onset of t | |
| | | Date of onset of the d | lisease | | | |
| | | Date of diagnosis | Gastian | | Date of diagnosis | |
| | | Date of reporting/noti | | | Date of reporting, | |
| | | Date used for statistic | | | Date used for star | |
| | | Country where infection | on was acquired | | | fection was acquired |
| | | Immunisation status | | | Immunisation sta | tus |
| | Classification | Outcome | | Classification | Outcome | |
| | information | Clinical symptoms | | information | Clinical symptoms | |
| | | Laboratory results | | | Laboratory results | |
| | | Epidemiological inform | ation | | Epidemiological ir | |
| | Transmission route risk factors | Homosexual contact | | Transmission route risk factors | Homosexual cont | act |
| | | Heterosexual contact | | | Heterosexual contact | |
| | | Injecting drug use | | | Injecting drug use | |
| | | Mother HBsAg+ Close family member HBsAg+ Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other Hospitalisation | | | Mother HCV positive | |
| | | | | | Close family member HCV- positive | |
| | | | | Other | Sex partner HCV positive | |
| | | | | | Blood or blood-product transfusion | |
| | | | | | blood of blood pi | |
| | | | | | Invasive healthcare procedure/dental treatment | |
| | | | | | Organ transplantation | |
| | | | | | Haemodialysis | |
| | | | | | Needle injury or other occupational exposure Tattooing/body piercing Other Hospitalisation Length of hospitalisation | |
| | | | | | | |
| | | | | | | |
| | Other | | | | | |
| | | Length of hospitalisati | • | | | |
| | | ICD code diagnosis | | | ICD code diagnosis Genotype information | |
| | | Genotype information | | | | |
| | Epidemiological link | | | | | |
| Data linked to | Liver transplant | Liver cancer | Mortality | Liver transplant | Liver cancer | Mortality |
| | Hospital register | | | Hospital register | | |
| | Other: | Difficult and not carrie basis | d out on a regular | Other: | Difficult and not regular basis | carried out on a |
| Format | Electronic | Paper | | Electronic | Paper | |
| Гуре | Case-based | Aggregated | Other: | Case-based | Aggregated | Other: |
| . 7 PC | | Aggregated | - Culci | | Aggregated | Culch |
| Frequency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly |
| | Monthly | Biannually | Yearly | Monthly | Biannually | Yearly |
| | Other: | Ad hoc | | Other: | Ad hoc | |
| Other | STI clinic surveillance | Laboratory network | Supplementary | STI clinic | Laboratory | Supplementary |
| surveillance systems | | | sentinel surveillance | surveillance | network | Supplementary sentinel surveilland Other |
| | Regular sero-surveys i | n general population | Other | Regular sero-surv population | eys in general | Other |
| | General screening of p | pregnant women. | | | | |

| | | HBV | НСУ |
|--------------------------|---|---------------------------------------|----------|
| Screening | Pregnant women | | |
| programme | Military recruits | | |
| | Injecting drug users | | |
| | STI clinic patients | | |
| | Multiple sex partners | | |
| | Prisoners | | |
| | Haemodialysis patients | | |
| | Long-term healthcare facilities | | |
| | Healthcare workers | | |
| | Workers who are occupationally exposed to the virus | | |
| | Blood and organ donors | | |
| | Other groups** | | |
| Vaccination programme | HBV | | |
| (only HBV) | Universal vaccination | Infants | |
| | | Adolescents | |
| | | Both | |
| | | Other | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | |
| | | Individuals at risk for HBV due to oc | cupation |
| | | Haemodialysis patients | |
| | | Chronic liver disease patients | |
| | | STI clinic patients | |
| | | Multiple sex partners | |
| | | Injecting drug users | |
| | | Household contacts of HBsAg+ patie | ents |
| | | Contacts of infected persons | |
| | | Other risk groups** | |
| | Other: | MSM in Copenhagen municipality | |
| Catch-up programme | - | | |
| Vaccination | Infants 0 to 2 years | | |
| coverage | Adolescents 10 to 14 years | | |
| | Adults | | |
| | Other groups | | |
| | Not known | | |
| | Coverage: | | |
| | | | |

Estonia

| | нви | HCV | | | |
|---|---|---|--|--|--|
| Surveillance system | | | | | |
| Included in the national surveillance system | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | |
| Type of surveillance | Passive | Passive | | | |
| Surveillance system | Other, see below: | Other, see below: | | | |
| Comments | HBV is notifiable disease. Information is provided by GPs, hospitals and microbiological labs. Surveillance of HBV is part of the national surveillance system. | HCV is notifiable disease. Information is provided by GPs, hospitals and microbiological labs. Surveillance of HCV is part of the national surveillance system. | | | |

Objectives

| | HBV | HCV | | |
|--|-----|-----|--|--|
| Monitoring trends | | | | |
| Detect outbreaks | | | | |
| Monitoring changes in disease distribution | | | | |
| Evaluation and planning of control measures | | | | |
| Improve knowledge of epidemiology | | | | |
| Other | no | no | | |

| Definition | HBV | | HCV | |
|--------------------------------|---|--|--|---------------------|
| Clinical | EU 2008 case definition. Confirmed case: Any person wh laboratory criteria. Laboratory criteria: Hepatitis B specific antibody response or HI NA in serum. | virus core IgM antigen- | EU 2008 case definition (as o | f 1 January 2009) |
| Chronic | Confirmed case: a case that me for diagnosis and does not meet acute hepatitis B. Laboratory or hepatitis B core antigen (anti-HI result on one of the following te antigen (HBsAg), hepatitis B e- virus (HBV) DNA or HBsAg+ or positive two times at least six m | t the case definition for riteria: IgM antibodies to BC) negative and a positive ests: hepatitis B surface antigen (HBeAg), hepatitis B HBV DNA positive or HBeAg | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | with classification | Possible | with classification |
| | Probable | | Probable | with classification |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | I | No | I |
| Underreporting | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | Underreporting is possible, by magnitude of underreporting | |
| Rate underreporting | | | | |

| | HBV | | | HCV | | 1 | | |
|-------------------------------|---------------------------------|---------------------------------------|-------------------------------------|----------------------------|---------------------------------------|--|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | | |
| | Other: | | | Other: | | | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | | |
| | | Date of birth of | r age | | Date of birth o | or age | | |
| | | Gender | | | Gender | | | |
| | | Country of birt | h |] | Country of birt | h | | |
| | | Place of reside | nce | | Place of reside | nce | | |
| | | Date of onset of | of the disease | | Date of onset | of the disease | | |
| | | Date of diagno | sis | | Date of diagno | osis | | |
| | | Date of reporti | ng/notification | | Date of report | ing/notification | | |
| | | Date used for s | statistics | | Date used for | statistics | | |
| | | Country where | infection was acquired | | Country where | e infection was acquired | | |
| | | Immunisation s | status | | Immunisation | status | | |
| | | Outcome | | | Outcome | | | |
| | Classification | Clinical sympto | ims | Classification | Clinical sympto | oms | | |
| | information | Laboratory res | ults | information | Laboratory res | ults | | |
| | | Epidemiologica | | | Epidemiologica | | | |
| | Transmission | Homosexual co | ontact | Transmission | Homosexual co | ontact | | |
| | route risk factors | | | route risk factor | rs 🔤 | | | |
| | | Heterosexual c | | | Heterosexual o | | | |
| | | Injecting drug | | | | Injecting drug use | | |
| | | Mother HBsAg- | | | | Mother HCV positive Close family member HCV- positive | | |
| | | Sex partner HE | ember HBsAg+ | | Sex partner H0 | • | | |
| | | · · · · · · · · · · · · · · · · · · · | -product transfusion | | · · · · · · · · · · · · · · · · · · · | -product transfusion | | |
| | | | · | | | Invasive healthcare procedure/dental | | |
| | | Invasive health treatment | ncare procedure/dental | | Invasive health treatment | ncare procedure/dental | | |
| | | Organ transpla | Intation | | Organ transpla | antation | | |
| | | Haemodialysis | | | Haemodialysis | Haemodialysis | | |
| | | Needle injury o exposure | or other occupational | | Needle injury of exposure | or other occupational | | |
| | | Tattooing/body | / piercing | | Tattooing/bod | Tattooing/body piercing | | |
| | | Other | | | Other | Other | | |
| | Other | Hospitalisation | | Other | Hospitalisation | Hospitalisation | | |
| | | Length of hosp | bitalisation | 11 | Length of hosp | Length of hospitalisation | | |
| | | ICD code diagr | nosis | | ICD code diag | ICD code diagnosis | | |
| | | Genotype infor | mation | | Genotype info | Genotype information | | |
| | | | | | | | | |
| Data linked to | Liver transplant | Liver cano | cer Mortality | Liver transplant | Liver can | cer Mortality | | |
| | Hospital register | | | Hospital register | r | | | |
| | Other: | | | Other: | | | | |
| Format | Electronic | Paper | | Electronic | Paper | | | |
| Туре | Case-based | Aggregated | Other: | Case-based | Aggregated | Other: | | |
| Fraguance | Daihe | Modele | Piwookk | Dailer | Maakk | Diversity | | |
| Frequency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly | | |
| | Monthly | Biannually | Yearly | Monthly | Biannually | Yearly | | |
| | Other: | Laboratory | Supplementary | Other: | Laborator | Cupplomentan | | |
| Other surveillance systems | STI clinic surveillance | Laboratory network | Supplementary sentinel surveillance | STI clinic surveillance | Laboratory network | Supplementary sentinel surveillance | | |
| | Regular sero-surv population | eys in general | Other | Regular sero-su population | rveys in general | Other | | |
| | · · | | | 0 | | | | |

| | | HBV | НСУ | | | |
|--------------------------|--|---|----------|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg+ mothers | | | | |
| | | Individuals at risk for HBV due to occupation | | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ pati | ents | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | | | | | |
| Catch-up programme | - | | | | | |
| Vaccination coverage | Infants 0 to 2 years | | | | | |
| | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Not known | | | | | |
| | Coverage (2007, estimated): Infants, 2 years of age: | 95.8%; Adolescents, 14 years of age | :: 95.1% | | | |
| | | | | | | |

Finland

| | HBV | HCV |
|---|---|--|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Several surveillance systems for HCV, one of which is the major and most comprehensive one. |
| Comments | Part of the general surveillance system for Infectious diseases; one of the infections screened from expecting mothers. | The main system is the National Infectious Disease Register, which is the mandatory system for notifiable diseases. The secondary system is a sampling-based anonymous prevalence estimation system for injecting drug users which serves as a sentinel surveillance system. This is performed every one to two years. |

Objectives

| | HBV | HCV | | | |
|--|--|-----|--|--|--|
| Monitoring trends | | | | | |
| Detect outbreaks | | | | | |
| Monitoring changes in disease distribution | | | | | |
| Evaluation and planning of control measures | | | | | |
| Improve knowledge of epidemiology | | | | | |
| Other | To prevent mother-to-child transmission through pregnant women screening | no | | | |

| Definition | HBV | | НСУ | | |
|--------------------------------|--|---|---|---|--|
| Clinical | No case definition | | No case definition | | |
| Chronic | All reported HBV surface antiger the acute hepatitis B infection c | | No case definition | | |
| Other | Acute hepatitis B case. 1. Laboratory reported HBV con positive case; OR 2. Physician reported case with compatible with acute hepatitis AND (simultaneous laboratory v positivity OR simultaneous laboratory DNA/RNA positivity) | clinical symptoms or fresh HBV infection rerified HBV surface antigen | HCV case: Anti-HCV antibody positivi OR HCV RNA positivity | ity | |
| Cases included in surveillance | Possible | with classification | Possible | with classification | |
| | Probable | | Probable | | |
| | Confirmed | | Confirmed | | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | with classification | Acute | with classification | |
| | Chronic | | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | Only included HCV case: Anti-HCV + OR HCV RNA + | |
| Including duplicates | No | | No | | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible magnitude of underreport | e, but no estimates exist for ting. | |
| Rate underreporting | | | | | |

| Data | | | | | | | |
|---|------------------------------------|--|-----------------------|--|--|---------------------------|--|
| | HBV | | | HCV | | | |
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | |
| | Other: | and maternity scr physician and lab | identifier allows for | Other: | Blood bank scr | eening | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | |
| | | Date of birth or a | ge | | Date of birth or | r age | |
| | | Gender | | | Gender | | |
| | | Country of birth | | | Country of birth | 1 | |
| | | Place of residence | 2 | | Place of resider | nce | |
| | | Date of onset of t | he disease | | Date of onset of | of the disease | |
| | | Date of diagnosis | | | Date of diagnos | sis | |
| | | Date of reporting | /notification | | Date of reporti | ng/notification | |
| | | Date used for stat | | | Date used for s | | |
| | | | fection was acquired | | | infection was acquired | |
| | | Immunisation sta | | | Immunisation s | | |
| | | Outcome | | | Outcome | | |
| | Classification | Clinical symptoms | | Classification | Clinical sympto | mc | |
| | information | Laboratory results | | information | Laboratory resu | | |
| | | | | | Epidemiologica | | |
| | | Epidemiological in | | | | | |
| | Transmission route risk factors | Homosexual cont | | Transmission route risk factors | Homosexual contact | | |
| | | Heterosexual con | | | Heterosexual contact | | |
| | | Injecting drug use | 9 | | Injecting drug | | |
| | | Mother HBsAg+ | | | Mother HCV positive | | |
| | | Close family mem | | | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment | | | Sex partner HCV positive | | |
| | | | | | Blood or blood- | product transfusion | |
| | | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplanta | ation | | Organ transplantation | | |
| | | Haemodialysis | | | Haemodialysis | | |
| | | Needle injury or c exposure | other occupational | Needle injury or other occupate exposure | | | |
| | | Tattooing/body pi | iercing | | Tattooing/body piercing | | |
| | | Other | | | Other | | |
| | Other | Hospitalisation | | Other | Hospitalisation | | |
| | | Length of hospita | lisation | | Length of hosp | italisation | |
| | | ICD code diagnos | is | | ICD code diagr | iosis | |
| | | Genotype informa | ation | | Genotype information | | |
| | Nationality is colle | cted as basic data | | Nationality is colle | cted as basic dat | a | |
| | done), HBV surfac | ce antigen status (+ +/-/not done), hist | | Classification:anti-HCV antibody status (+/-/not done) HCV DNA/RNA status (+/-/not done), histology as par clinical diagnosis(positive/empty) Transmission risk factors: sexual contact (to be split in | | | |
| | | Transmission risk factors: sexual contact (to be split in homosexual/heterosexual in 2009); Perinatal transmission; open ended | | | |); Perinatal transmission | |
| | Liver transplant | Liver cancer | Mortality | Liver transplant | Liver canc | er Mortality | |
| Data linked to | | | moreancy | Hospital register | | ci Plot dilty | |
| Data linked to | Hospital register | | | | | | |
| Data linked to | Hospital register Other: | | | Other: | | | |
| | Other: | Paper | | | Paper | | |
| Format | Other: Electronic | Paper Aggregated | Other: | Electronic | Paper Aggregated | Other: | |
| Format | Other: | Paper Aggregated | Other: | Electronic Case-based | Aggregated | Other: | |
| Data linked to Format Type Frequency | Other: Electronic | | Other: | Electronic | Aggregated | | |

| | Other: | a review of the si online (without id healthcare facilitie regional data with National Public He | es have access to identifiers; the ealth Institute (register access to all data | Other: Annually comprehensive reports include a review of the situation; da is online (without identifiers). Large healthcare facilities have access to regional data with identifiers; the National Public Health Institute (register maintenance) has access t all data with full identifiers. | | |
|----------------------------|--|--|--|---|--|-------------------------------------|
| Other surveillance systems | STI clinic surveillance | | | STI clinic surveillance | Laboratory network | Supplementary sentinel surveillance |
| | Regular sero-surv population | eys in general | Other | Regular sero-surver population | eys in general | Other |
| | Very active test-offering (but participation voluntary) needle-exchange sites, prisons and addiction treatme centres. The two former are actively monitored. | | | | nonymous prevale users which serves m (every one to tw | |

| | | HBV | HCV | | | |
|--------------------------|---|--|------------------------------------|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | _ | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | |
| | | Individuals at risk for HBV due to occupation | | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ patients | | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | Blood clotting disorder patients re Household contacts of injecting di Healthcare trainees practicing in a Sex workers Sex partners of acute and chronic | a country with high HBV prevalence | | | |
| Catch-up programme | Injecting drug users, continuous activity at needle exc | change and low-threshold health serv | ice sites. | | | |
| Vaccination | Infants 0 to 2 years | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Coverage Not known | | | | | |

France

| | HBV | нси |
|---|--|---|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Voluntary |
| Type of surveillance | Passive | Depends on surveys |
| Surveillance system | Several surveillance systems for HBV, one of which is the major and most comprehensive one. | Several surveillance systems for HCV, one of which is the major and most comprehensive one. |
| Comments | Mandatory reporting of acute hepatitis B (main system) Chronic cases: seroprevalence surveys, lab and reference sentinel systems, blood donor surveillance | Lab activity for HCV screening; HCV prevalence surveys (drug users, HIV+, MSM, general population); HCV seroconversion surveys: blood donors, occupationally acquired infections in HCW, accidental exposures in HC settings; Newly referred HCV+ patients in hepatology centres |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | no | no |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|--|---|--|-----------------------------------|
| Clinical | Acute symptomatic hepatitis positive IgM antibodies, or (HBc and HbsAg in clinical co | s B defined as a patient with (if IgM unknown) positive anti- ontext of hepatitis | No case definition | |
| Chronic | HBsAg carriage > 6 months | 1 | No case definition | |
| Other | | | Confirmed cases: anti-HCV positivity, HCV RM anti-HCV seroconversion | NA positivity; |
| Cases included in surveillance | Possible | with classification | Possible | with classification |
| | Probable | | Probable | |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | Classification: depends on survey |
| Including duplicates | No | | Yes | |
| Underreporting | Underreporting is possible; see below for rate of underreporting (number of reported cases/estimated number of actual cases) | | Underreporting is possible, magnitude of underreportin | |
| Rate underreporting | 23.4% | | | |

| | HBV | | | | HCV | | | | |
|--------------------|---|--|----------------|--|---|---------------------------------|--|---|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | | |
| | | Date of birth or age | | | | Dat | e of birth or | age | |
| | | Gen | der | | | Ger | nder | | |
| | | Cou | ntry of birth | | | Cou | intry of birth | | |
| | | _ | e of residenc | e | | | e of residen | | |
| | | Date | e of onset of | the disease | | Dat | e of onset o | f the disease | |
| | | Date | e of diagnosis | | | Dat | e of diagnos | is | |
| | | Date | e of reporting | /notification | | Dat | e of reportir | g/notification | |
| | | Date | e used for sta | tistics | | Dat | e used for s | tatistics | |
| | | Cou | ntry where in | fection was acquired | | Cou | intry where | infection was acquired | |
| | | Imn | nunisation sta | itus | | Imr | nunisation s | tatus | |
| | | Out | come | | | Out | come | | |
| | Classification | Clini | cal symptom | S | Classification | Clin | ical symptor | ns | |
| | information | Labo | oratory result | S | information | Lab | oratory resu | lts | |
| | | Epic | lemiological i | nformation | 1 | Epic | demiological | information | |
| | Transmission | Hon | nosexual cont | act | Transmission | | nosexual co | ntact | |
| | route risk factors | Hete | erosexual con | tact | route risk factor | | erosexual co | ontact | |
| | | Inje | cting drug us | e | | Inje | ecting drug ι | ise | |
| | | Mot | her HBsAg+ | | | Mot | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Clos | Close family member HCV- positive | | |
| | | Sex | partner HBsA | \g+ | | Sex | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | | Blog | Blood or blood-product transfusion | | |
| | | Invasive healthcare procedure/dental treatment | | | | | asive health atment | care procedure/dental | |
| | | Organ transplantation | | | | Organ trans | an transplar | ntation | |
| | | Haemodialysis | | | Hae | emodialysis | | | |
| | | Needle injury or other occupational exposure Tattooing/body piercing | | | | edle injury or osure | other occupational | | |
| | | | | | Tat | tooing/body | piercing | | |
| | | Other | | | | Oth | Other | | |
| | Other | Other Hospitalisation | | | Other | Hos | pitalisation | | |
| | | Length of hospitalisation | | | Length of hospitalisation | | talisation | | |
| | | ICD code diagnosis Genotype information | | | | ICD | ICD code diagnosis | | |
| | | | | | Genotype informatio | | | | |
| | Jaundice only; lab antibodies (IgM a | | | s (HbsAg, anti-HBc ve results: ALAT | | | | HIV and HBV co- vel of education, etc. | |
| Data linked to | Liver transplant | | Liver cancer | | Liver transplant | | Liver cance | | |
| | Hospital register | | | | Hospital register | | | | |
| | Other: | | | | Other: | | | | |
| | | Dam | | | | De | | | |
| Format Turno | Electronic Case-based | Pape | | Other: | Electronic Case-based | | per | Other: | |
| Туре | Case-Daseu | Aggi | regated | Other: | Case-Daseu | Ay | gregated | Ouler: | |
| Frequency | Daily | Wee | kly | Biweekly | Daily | We | eekly | Biweekly | |
| | Monthly | Bian | nually | Yearly | Monthly | Bia | annually | Yearly | |
| | Other: | | | | Other: | 3-1 | LO years dep | ending on surveys | |
| Other surveillance | STI clinic | | oratory | Supplementary sentinel surveillance | STI clinic | | boratory | Supplementary | |
| systems | Regular sero-surv | rveillance network s gular sero-surveys in general C | | | surveillance Regular sero-sur population | | twork n general | sentinel surveillanc | |
| | For chronic cases | population For chronic cases only: Network of hepatology reference centres; laboratory network; 10-year intervals between surveys | | | Sero surveys (du every 6 to 10 ye donors, occupat | ears; H0 ionally sures in | CV seroconve acquired info HC settings | ; Newly referred HCV | |

| | | HBV | HCV | | | | |
|--------------------------|--|--|--|--|--|--|--|
| Screening | Pregnant women | | | | | | |
| programme | Military recruits | | | | | | |
| | Injecting drug users | | | | | | |
| | STI clinic patients | | | | | | |
| | Multiple sex partners | | | | | | |
| | Prisoners | | | | | | |
| | Haemodialysis patients | | | | | | |
| | Long-term healthcare facilities | | | | | | |
| | Healthcare workers | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | |
| | Blood and organ donors | | | | | | |
| | Other groups** | | Acute confirmed cases of hepatitis C in France: implemented in 2006 and 2007 only, targeted a specific population (HIV- infected men who have sex with men) | | | | |
| Vaccination programme | НВV | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | |
| | _ | Adolescents | | | | | |
| | | Both | | | | | |
| | | Other | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg+ mothers | | | | | |
| | | Individuals at risk for HBV due to or | ccupation | | | | |
| | | Haemodialysis patients | | | | | |
| | | Chronic liver disease patients | | | | | |
| | | STI clinic patients | | | | | |
| | | Multiple sex partners | | | | | |
| | | Injecting drug users | | | | | |
| | | Household contacts of HBsAg+ pati | ents | | | | |
| | | Contacts of infected persons | | | | | |
| | | Other risk groups** | | | | | |
| | Other: | Prisoners; residents in psychiatric in | stitution; travellers to high-endemic countries | | | | |
| Catch-up programme | | | | | | | |
| Vaccination | | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | |
| | Adults | | | | | | |
| | Other groups | | | | | | |
| | Not known | | | | | | |
| | Coverage: 0-2-year-olds: 35% 10-year-olds: 39% 15-year-olds: 42% Adults: 32% | | | | | | |
| | Audics: 5270 | | | | | | |
| | | | | | | | |

Germany

| | HBV | HCV |
|--|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV | | | | | |
|--|-----|-----|--|--|--|--|--|
| Monitoring trends | | | | | | | |
| Detect outbreaks | | | | | | | |
| Monitoring changes in disease distribution | | | | | | | |
| Evaluation and planning of control measures | | | | | | | |
| Improve knowledge of epidemiology | | | | | | | |
| Other | no | no | | | | | |

| Definition | HBV | | HCV | |
|--------------------------------|--|------------------------------|--|---|
| Clinical | At least one of the following the elevated serum aminotransfera known chronic infection is exclu | se levels, abdominal pain. A | At least one of the following elevated serum aminotrans | g three criteria: jaundice, ferase levels, abdominal pain. |
| Chronic | | | Same as above. | |
| Other | Laboratory case definition: At least one of the following three criteria: detection of hepatitis B virus nucleid acid in serum (e.g. PCR); HBsAg positive (e.g. ELISA), confirmed by a different HBsAg test (e.g. HBsAG-NT); OR HBsAg positive and anti-HBc positive, anti-HBC-IgM positive (e.g. ELISA). Confirmed: laboratory criteria and clinical criteria are fulfilled. | | Laboratory case definition: At least one of the following two criteria: detection of hepatitis C virus nucleic acid i serum (e.g. PCR); hepatitis C virus-specific antibody response (e.g. ELISA), confirmed by a different antiboo test (e.g. immunoblot). Confirmed cases: newly laboratory confirmed hepatitis regardless whether acute or chronic. | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | with classification |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | - | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | | Yes | 1 |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, magnitude of underreportir | |
| Rate underreporting | | | | |

| Source of data | | | | | | | | | |
|-------------------------------|---------------------------------------|--|---------------------|-------------------------------------|-----------------------------------|---------------------------|---|------------------------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | Phys | sicians and lat | ooratory | Other: | Phy | sicians and la | boratory | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | Patient ID | | |
| | | Date of birth or age | | | | Dat | e of birth or a | ge | |
| | | Gender | | | | Ger | nder | | |
| | | | ntry of birth | | | | intry of birth | | |
| | | | e of residence | <u>م</u> | | | ce of residence | P | |
| | | | e of onset of t | | | | e of onset of t | | |
| | | | e of diagnosis | | | | e of diagnosis | | |
| | | | e of reporting, | /notification | | | e of reporting | | |
| | | | e used for stat | | | _ | e used for sta | • | |
| | | | | fection was acquired | | | | fection was acquired | |
| | | | nunisation sta | | | | nunisation sta | • | |
| | | | come | 105 | | | come | 103 | |
| | Classification | | cal symptoms | | Classification | | ical symptoms | c | |
| | information | | | | information | | oratory result | | |
| | | | pratory results | | | _ | | | |
| | | | lemiological ir | | | _ | demiological ir | | |
| | Transmission route risk factors | Hon | nosexual cont | act | Transmission route risk factor | | nosexual cont | act | |
| | | Heterosexual contact | | | | | Heterosexual contact | | |
| | | Injecting drug use Mother HBsAg+ | | | | Inje | Injecting drug use | | |
| | | | | | | Mot | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Clos | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | partner HCV | positive | |
| | | Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing | | | | Blog | od or blood-pr | oduct transfusion | |
| | | | | | | | Invasive healthcare procedure/dental treatment | | |
| | | | | | | Org | an transplanta | ation | |
| | | | | | | Hae | Haemodialysis | | |
| | | | | | | | Needle injury or other occupational exposure Tattooing/body piercing Other | | |
| | | | | | | Tat | | | |
| | | Other Hospitalisation Length of hospitalisation ICD code diagnosis | | Oth | | | | | |
| | Other | | | Other | Hos | Hospitalisation | | | |
| | | | | | Len | Length of hospitalisation | | | |
| | | | | | | ICD code diagnosis | | | |
| | | | enotype information | | | | Genotype information | | |
| | | 1 | | | | | | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Liver transplant Hospital register | | Liver cancer | Mortality | Hospital register | • | Liver cancer | Mortality | |
| | Other: | | | | Other: | | | <u> </u> | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| | | | | | | | | | |
| requency | Daily | Wee | kly | Biweekly | Daily | We | eekly | Biweekly | |
| | Monthly | Bian | nually | Yearly | Monthly | Bia | nnually | Yearly | |
| | Other: | | | | Other: | | | + | |
| Other surveillance systems | STI clinic surveillance | Labo netv | oratory vork | Supplementary sentinel surveillance | STI clinic surveillance | | boratory twork | Supplementary sentinel surveilland | |
| | Regular sero-surveys in general | | general | Other | Regular sero-su population | rveys ir | n general | Other | |
| | population | | | | | | | | |

| | | HBV | НСУ | | | | | |
|--------------------------|---|---|--------------------------------|--|--|--|--|--|
| Screening | Pregnant women | | | | | | | |
| programme | Military recruits | | | | | | | |
| | Injecting drug users | | | | | | | |
| | STI clinic patients | | | | | | | |
| | Multiple sex partners | | | | | | | |
| | Prisoners | | | | | | | |
| | Haemodialysis patients | | | | | | | |
| | Long-term healthcare facilities | | | | | | | |
| | Healthcare workers | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | |
| | Blood and organ donors | | | | | | | |
| | Other groups** | HIV positives | HIV positives | | | | | |
| Vaccination programme | HBV | | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | | |
| | | Adolescents | | | | | | |
| | | Both | | | | | | |
| | | Other | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | | | |
| | | Individuals at risk for HBV due to occupation | | | | | | |
| | | Haemodialysis patients | | | | | | |
| | | Chronic liver disease patients | | | | | | |
| | | STI clinic patients | | | | | | |
| | | Multiple sex partners | | | | | | |
| | | Injecting drug users | | | | | | |
| | | Household contacts of HBsAg+ patients | | | | | | |
| | | Contacts of infected persons | | | | | | |
| | | Other risk groups** | | | | | | |
| | Other: | Travellers who travel to endemic an | eas; post-exposure prophylaxis | | | | | |
| Catch-up programme | Individual catch-up vaccinations are administered dur | ing recommended doctors' visits dur | ing childhood and adolescence. | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | | |
| | Adults | | | | | | | |
| | Other groups | | | | | | | |
| | Not known | | | | | | | |
| | Coverage: Children at school entry: 87% in 2006; 90. | 5% in 2008 | | | | | | |
| | | | | | | | | |

Greece

| | HBV | HCV |
|--|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|---|---|---|
| Clinical | Clinical criteria: an acute illness symptoms (e.g. jaundice); OR elevated serum aminotransfera: Laboratory criteria: IgM anti-HE positive. Confirmed: meets clinical criteria Probable: meets clinical criteria | se levels. Ic positive or HBV DNA a and laboratory confirmed | Clinical criteria: An acute illn symptoms (e.g. jaundice) Ol elevated serum aminotransfe Laboratory criteria: anti-HCV negative AND anti-HB core I positive Confirmed: meets clinical cri Probable: not applicable | R erase levels; / positive and IgM anti-HAV |
| Chronic | No case definition | | No case definition | |
| Other | HbsAg+, asymptomatic infants asymptomatic cases, antiHBc Ic | | Newly diagnosed HCV, asym HCV, first diagnosis). | ptomatic (confirmed by anti- |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | HbsAg+, asymptomatic infants < 12 months: should be notified. Other asymptomatic cases (antiHBc IgM+ / HbsAg+) should not be notified. | Other: | Newly diagnosed HCV, asymptomatic (confirmed by anti-HCV, first diagnosis) |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, b magnitude of underreporting | |
| Rate underreporting | | | | |

| | HBV | | | | HCV | | | | |
|-------------------------------|--|--|---|-------------------------------------|---|--|--|------------------------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | | |
| | | Date | e of birth or a | ige | | Dat | e of birth or | age | |
| | | Gender | | | | Gen | Ider | | |
| | | Country of birth | | | | Cou | ntry of birth | 1 | |
| | | Plac | e of residence | e | | Plac | e of residen | ice | |
| | | Date of onset of the disease | | | | Dat | e of onset o | f the disease | |
| | | Date | e of diagnosis | ; | | Dat | e of diagnos | is | |
| | | Date | e of reporting | /notification | | Dat | e of reportin | g/notification | |
| | | Date | e used for sta | tistics | | Dat | e used for st | tatistics | |
| | | Cou | ntry where in | fection was acquired | | Cou | ntry where | infection was acquired | |
| | | Imn | nunisation sta | itus | | Imn | nunisation s | tatus | |
| | | Out | come | | | Out | come | | |
| | Classification | Clini | ical symptom | S | Classification | Clin | ical symptor | ns | |
| | information | Labo | oratory result | S | information | Lab | oratory resu | lts | |
| | | Epic | lemiological ir | nformation | | Epic | lemiological | information | |
| | Transmission | Hon | nosexual cont | act | Transmission | | nosexual coi | ntact | |
| | route risk factors | Hete | erosexual con | itact | route risk factor | | Heterosexual contact | | |
| | | Inje | cting drug us | e | | Inje | Injecting drug use | | |
| | | Mother HBsAg+ | | | Mot | Mother HCV positive | | | |
| | | Close family member HBsAg+ | | | | Clos | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | | Bloc | Blood or blood-product transfusion | | |
| | | | Invasive healthcare procedure/dental treatment | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplantation | | | Org | an transplar | ntation | | |
| | | Haemodialysis | | | Hae | Haemodialysis | | | |
| | | Needle injury or other occupational exposure | | | | Needle injury or other occupational exposure | | | |
| | | Tattooing/body piercing Other Hospitalisation Length of hospitalisation | | | - | Tattooing/body piercing Other | | | |
| | Other | | | Other | | Hospitalisation | | | |
| | other | | | outer | | Length of hospitalisation | | | |
| | | ICD code diagnosis Genotype information | | | | | ICD code diagnosis | | |
| | | | | | | | Genotype information | | |
| | Clinical symptoms | te fulminant hepatitis | Clinical symptoms: jaundice and acute fulminant her | | | | | | |
| | are reported. Laboratory results: HbsAg, anti-HBc | | | | Laboratory results: anti-HCV (EIA), anti-HCV (RIBA RNA,AST, ALT, other. Transmission risk factors: part of population at risk | | anti-HCV (RIBA), HCV | | |
| | High risk group | | | | | K Tactol | | • | |
| Data linked to | Liver transplant Hospital register | | Liver cancer | Mortality | Liver transplant Hospital register | | Liver cance | er Mortality | |
| | | | | | | | | | |
| | Other: | | | | | Other: | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Гуре | Case-based | | Aggre- gated | Other: | Case-based | | Aggre- gated | Other: | |
| | | | | | | | | | |
| Frequency | Daily | Wee | | Biweekly | Daily | | ekly | Biweekly | |
| | Monthly | Bian | nually | Yearly | Monthly | Bia | nnually | Yearly | |
| | Other: | | | 1 | Other: | | | | |
| Other surveillance systems | STI clinic surveillance | Labo netv | oratory vork | Supplementary sentinel surveillance | STI clinic surveillance | | ooratory twork | Supplementary sentinel surveilland | |
| -, | | | Other | Pequilar coro-cui | nvevs in | eys in general Other | | | |

| | | HBV | нси |
|--------------------------|--|---------------------------------------|---------------|
| Screening | Pregnant women | | |
| programme | Military recruits | | |
| | Injecting drug users | | |
| | STI clinic patients | | |
| | Multiple sex partners | | |
| | Prisoners | | |
| | Haemodialysis patients | | |
| | Long-term healthcare facilities | | |
| | Healthcare workers | | |
| | Workers who are occupationally exposed to the virus | | |
| | Blood and organ donors | | |
| | Other groups** | | |
| Vaccination programme | HBV | | |
| (only HBV) | Universal vaccination | Infants | |
| | _ | Adolescents | |
| | | Both | |
| | | Other | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | |
| | | Individuals at risk for HBV due to oc | cupation |
| | | Haemodialysis patients | |
| | | Chronic liver disease patients | |
| | | STI clinic patients | |
| | | Multiple sex partners | |
| | | Injecting drug users | |
| | | Household contacts of HBsAg+ patie | ents |
| | | Contacts of infected persons | |
| | | Other risk groups** | |
| | Other: | | |
| Catch-up programme | Childhood and adolescent population | | |
| Vaccination | Infants 0 to 2 years | | |
| coverage | Adolescents 10 to 14 years | | |
| | Adults | | |
| | Other groups | | |
| | Not known | | |
| | Coverage (3 doses of vaccination): Children 6 years: 9 | 95.3% in 2006; Adolescents 14 years: | 84.7% in 2006 |

Hungary

| | HBV | HCV |
|--|---|---|
| Surveillance system | - | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | HBV reporting is included in syndromic surveillance of viral hepatitis. | HCV reporting is included in syndromic surveillance of viral hepatitis. |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | no | no |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | |
|--------------------------------|---|---|--|---|--|
| Clinical | Possible (for acute viral hepatiti Probable: HBsAg-positive patier Confirmed: laboratory confirma antibody positivity or HBV DNA | nt with clinical symptoms tion (hepB core IgM | Possible: n/a Probable: n/a Confirmed: laboratory confirmation (HCV-specific antibody or HCV-RNA detection) plus clinical signs | | |
| Chronic | No case definition | | No case definition | | |
| Other | | | | | |
| Cases included in surveillance | Possible | | Possible | | |
| | Probable | with classification | Probable | | |
| | Confirmed | | Confirmed | with classification | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | with classification | Acute | with classification | |
| | Chronic | | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | Classification not needed; only acute cases included | Other: | Classification not needed; only acute cases included | |
| Including duplicates | No | | No | | |
| Underreporting | Underreporting is possible; plea underreporting (number of repo number of real cases) below. | | Underreporting is possible underreporting (number o number of real cases) belo | f reported cases/estimated | |
| Rate underreporting | 5% to 6% | | 5% to 6% | | |

| | HBV | | | | HCV | | | | |
|---------------------------------------|----------------------------------|--|-------------------------|-----------------------|---|--|--------------------------|-----------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Patie | ent ID | | Basic data | Pati | ent ID | | |
| | | | e of birth or a | ae | | | e of birth or ad | ie | |
| | | Gen | | <u> </u> | | Gen | | - | |
| | | | ntry of birth | | | | ntry of birth | | |
| | | _ | e of residence | ٠ ٠ | | _ | e of residence | | |
| | | | e of onset of t | | | | e of onset of t | | |
| | | Date | e of diagnosis | | | Date | e of diagnosis | | |
| | | Date | e of reporting/ | /notification | | Date | e of reporting/ | notification | |
| | | Date | e used for stat | tistics | | Date | e used for stat | istics | |
| | | Cou | ntry where inf | fection was acquired | | Cou | ntry where inf | ection was acquired | |
| | | Imp | unication stat | huo | | Imp | unication stat | | |
| | | | nunisation stat come | tus | | _ | nunisation stat come | us | |
| | Classification | | ical symptoms | | Classification | | ical symptoms | | |
| | information | | oratory results | | information | | oratory results | | |
| | | | lemiological in | | | | lemiological in | | |
| | Transmission | | nosexual conta | | Transmission | | nosexual conta | | |
| | route risk factors | | | | route risk factors | TION | | | |
| | | | erosexual cont | | | | erosexual cont | | |
| | | Injecting drug use | | | | Injecting drug use | | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | | |
| | | Sex partner HBsAg+ | | | | Sex partner HCV positive | | | |
| | | Blood or blood-product transfusion | | | | Blood or blood-product transfusion | | | |
| | | Invasive healthcare procedure/dental treatment | | | | | asive healthcar tment | e procedure/dental | |
| | | Organ transplantation | | | | Organ transplantation | | | |
| | | Hae | modialysis | | | Haemodialysis | | | |
| | | Needle injury or other occupational | | | | Needle injury or other occupational exposure | | | |
| | | exposure | | | | Tattooing/body piercing | | | |
| | | Tattooing/body piercing Other | | | | Other | | | |
| | Other | Hospitalisation | | | Other | Hospitalisation | | | |
| | oulei | | gth of hospital | lisation | outer | Length of hospitalisation | | | |
| | | | code diagnos | | | ICD code diagnosis | | | |
| | | | otype informa | | | | Genotype information | | |
| | Is infection sexual | ly acc | quired? | | Is infection sexua | lly acc | juired? | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | | Hospital register | | | | |
| F | Other: | | Daman | | Other: | | Daman | | |
| Format | Electronic | | Paper | Othern | Electronic | | Paper | Othern | |
| Туре | Case-based | | Aggregated | ouner: | Case-based | | Aggregated | Other: | |
| Frequency | Daily | Wee | kly | Biweekly | Daily | Me | ekly | Biweekly | |
| · · · · · · · · · · · · · · · · · · · | Monthly | | nually | Yearly | Monthly | | nnually | Yearly | |
| | Other: | Dian | | . conty | Other: | | | · carry | |
| Other surveillance | STI clinic | Labo | oratory | Supplementary | STI clinic | Lał | oratory | Supplementary | |
| systems | surveillance | netv | | sentinel surveillance | surveillance | | work | sentinel surveillance | |
| | Regular sero-surverse population | eys in | general | Other | Regular sero-surv population | eys in | general | Other | |
| | National organisat | | or blood and b | lood-borne products | National organisa has its own regist | | or blood and b | lood-borne products | |

| | | HBV | HCV | | | |
|--------------------------|---|---|-----|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | |
| | | Individuals at risk for HBV due to occupation | | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ patients | | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | Programme for school children | | | | |
| Catch-up programme | For 13-year-olds (in 2009) | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Not known | | | | | |
| | Coverage: 95% to 98% in 2008% | | | | | |
| | | | | | | |

Iceland

| | HBV | HCV |
|--|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | нсу | | |
|--------------------------------|--|---------------------------|-----------------------------|---------------------|--|
| Clinical | All newly lab confirmed HBV cas acute and chronic cases, regard | | EU case definitions 2008. | | |
| Chronic | Laboratory-confirmed cases wit medical history compatible with | | EU case definitions 2008. | | |
| Other | Asymptomatic laboratory-confin | med cases are reportable. | | | |
| Cases included in surveillance | Possible | | Possible | | |
| | Probable | | Probable | | |
| | Confirmed | with classification | Confirmed | with classification | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | with classification | Acute | with classification | |
| | Chronic | | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | | |
| Including duplicates | No | | No | | |
| Underreporting | Underreporting not possible. | | Underreporting not possible | 2. | |
| Rate underreporting | | | | | |

| | HBV | | | | HCV | | | | |
|--------------------|---|--|---|--|--|----------------------|--|--|--|
| Source of data | Physicians | Labo | ratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Basic data Patient ID Date of birth or age Gender | | | Basic data | Patient ID | | | |
| | | | | | | Dat | e of birth or | age | |
| | | | | | | Ger | nder | | |
| | | Coun | try of birth | | | Cou | intry of birth | | |
| | | Place | e of residence | 2 | | | e of residen | | |
| | | Date | of onset of t | he disease | | Dat | e of onset of | the disease | |
| | | Date | of diagnosis | | | Dat | e of diagnos | is | |
| | | Date | of reporting/ | notification | | Dat | e of reportin | g/notification | |
| | | Date | used for stat | tistics | | Dat | e used for st | atistics | |
| | | Coun | try where inf | ection was acquired | | Cou | intry where i | nfection was acquired | |
| | | Imm | unisation stat | tus | | Imr | nunisation st | atus | |
| | | Outco | ome | | | Out | come | | |
| | Classification | Clinic | al symptoms | | Classification | Clin | ical sympton | ns | |
| | information | Labo | ratory results | ; | information | Lab | oratory resu | lts | |
| | | Epide | emiological in | formation | | Epic | demiological | information | |
| | Transmission route risk factors | Home | osexual conta | act | Transmission route risk factor | | nosexual cor | ntact | |
| | TOULE TISK TACLOTS | Heter | rosexual cont | tact | TOULE TISK TACLOT | | erosexual co | ntact | |
| | | Injec | ting drug use | 5 | | Inje | ecting drug u | se | |
| | | Moth | er HBsAg+ | | | Mot | her HCV pos | sitive | |
| | | Close | e family mem | ber HBsAg+ | | Clos | se family me | mber HCV- positive | |
| | | Sex partner HBsAg+ | | | | Sex | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | | | Blood or blood-product transfusion | | |
| | | Invasive healthcare procedure/dental treatment | | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplantation | | | | | Organ transplantation | | |
| | | Haemodialysis | | | | Hae | Haemodialysis | | |
| | | Needle injury or other occupational exposure | | | | | Needle injury or other occupational exposure | | |
| | | Tattooing/body piercing | | | | Tat | Tattooing/body piercing | | |
| | | Othe | r | | Other | | | | |
| | Other | Hosp | italisation | Other | Hospitalisation | | | | |
| | | Leng | th of hospita | lisation | | Len | Length of hospitalisation | | |
| | | ICD o | code diagnos | is | | ICD | ICD code diagnosis | | |
| | | Geno | otype informa | tion | | Genotype information | | nation | |
| | Classification: lab HBe antibodies | Classification: lab result: HBsAg, HBc antibodies, HBeAg, HBe antibodies | | | | | t: HCV antibo PCR | odies (ELISA), HCV | |
| | Transmission risk route is always co reporting form. Other: ICD: ICD-1 | llected | | n on transmission not in the standard | | collecte | | on on transmission is not in the standard | |
| Data Palada | | | 1.5 | N4 | | 10 | 11. | | |
| Data linked to | Liver transplant Hospital register | | Liver cancer | Mortality | Liver transplant Hospital register | | Liver cance | er Mortality | |
| | Other: | | | | Other: | | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | d Other: | |
| | | | | | | | | | |
| Frequency | Daily | Week | dy | Biweekly | Daily | We | ekly | Biweekly | |
| - | Monthly | Biann | nually | Yearly | Monthly | Bia | innually | Yearly | |
| | Other: | | | | Other: | | | | |
| Other surveillance | STI clinic | Labor | ratory | Supplementary | STI clinic | La | ooratory | Supplementary | |
| systems | surveillance | netwo | ork | sentinel surveillance | e surveillance | ne | twork | sentinel surveillance | |
| | Regular sero-surv population | eys in g | yeneral | Other | Regular sero-surveys in general Other population | | Other | | |
| | | nd drug | The National Treatment Centre of Addiction Medicine screens alcohol and drug addicts. | | | and dru | t Centre of A ug addicts. Ik screens bl | Addiction Medicine | |

| Screening Pregnant women Indextage Indextage Military recruits Indextage Indextage Tot linic patients Indextage Indextage Multiple sex partners Indextage Indextage Prisoners Indextage Indextage Haemodialysis patients Indextage Indextage Long-term healthcare facilities Indextage Indextage Heathcare workers Indextage Indextage Workers who are occupationally exposed to the virus Indextage Indextage Blood and organ donors Infants Indextage Other groups** Adolescents Both Other groups vaccination Infants Adolescents Risk groups vaccination Nonests born to HBsAg+ mothers Finder Jouenes Individuals at risk for HBV due to occupation Haemodalysis patients Individuals at risk for HBV due to occupation Haemodalysis patients Individuals at risk for HBS due to occupation Haemodalysis patients Individuals at risk for HBS due to occupation Haemodalysis patients Individuals at risk for HBS due to occupation Haemodalysis patients Individuals at risk for HBS due to occupation Multiple sex partners Individuals at risk for HBS due to occupation <td< th=""><th></th><th></th><th>HBV</th><th>HCV</th></td<> | | | HBV | HCV | | |
|--|------------|---|---------------------------------------|----------|--|--|
| Initial y recturds Injecting drug users Injecting drug users Injecting drug users ST1 dnic patients Index of the sex partners Multiple sex partners Index of the sex partners Prisoners Index of the sex partners Heemodalysis patients Index of the sex partners Long-term healthcare workers Index of the sex partners Workers who are occupationally exposed to the virus Infants Blood and organ donors Infants Other groups** Adolescents Both Other Other groups vaccination Infants Multiple sex partners Infants Adolescents Both Other Other Risk groups vaccination Infants Multiple sex partners Injecting drug users Multiple sex partners Injecting drug users Tripecting drug users Other Other : Other risk groups** Others : | | Pregnant women | | | | |
| STI clinic patients Image: Stimulation of the section of the secti | programme | Military recruits | | | | |
| Multiple sex partners Image: Sex partners Image: Sex partners Prisoners Image: Sex partners Image: Sex partners Haemodialysis patients Image: Sex partners Image: Sex partners Long-term healthcare facilities Image: Sex partners Image: Sex partners Workers who are occupationally exposed to the virus Image: Sex partners Image: Sex partners Blood and organ doors Image: Sex partners Image: Sex partners Other groups** Image: Sex partners Image: Sex partners HBV Image: Sex partners Image: Sex partners Other Trains Adolescents Both Other Other Rsk groups vaccination Neonates born to HBsAg+ mothers Rsk groups vaccination Haemodialysis patients Til clinic patients Trains Multiple sex partners Inferts 0 no cupetion Haemodialysis patients Trains 0 Other: Other rescription of HBsAg+ patients Other: Other re | | Injecting drug users | | | | |
| Prisoners Indemodialysis patients Indemodialysis patients Indemodialysis patients Long-term healthcare facilities Indemodialysis patients Indemodialysis Healthcare workers Indemodialysis Indemodialysis Workers who are occupationally exposed to the virus Indemodialysis Indemodialysis Blood and organ donors Indemodialysis Indemodialysis Other groups** Infants Indemodialysis HBV Infants Adolescents Both Other Individuals at risk for HBV due to occupation Risk groups vaccination Heamodialysis patients Individuals at risk for HBV due to occupation Haemodialysis patients Individuals at risk for HBV due to occupation Individuals at risk for HBV due to occupation Heamodialysis patients Individuals at risk for HBV due to occupation Individuals at risk for HBV due to occupation Heamodialysis patients Individuals at risk for HBV due to occupation Individuals at risk for HBSAg+ patients Chronic liver disease patients Injecting drug users Injecting drug users Household contacts of HBSAg+ patients Contacts of Infected persons Other: Other: Other: Catch-up Others 0 to 2 years Infertion 0 to 2 years Adolts Other secupatients Infertion 0 | | STI clinic patients | | | | |
| Haemodialysis patients Indexemodialysis patients Indexemodialysis patients Long-term healthcare facilities Indexemodialysis Healthcare workers Indexemodialysis Workers who are occupationally exposed to the virus Indexemodialysis Biod and organ donors Indexemodialysis Other groups** Infants HBV Infants Viriersal vaccination Infants Adolescents Both Other Other Risk groups vaccination Neonates born to HBsAg+ mothers Risk groups vaccination Neonates born to HBsAg+ mothers Individuals at risk for HBV due to occupation Individuals at risk for HBV due to occupation Haemodialysis patients Chronic liver disease patients Chronic liver disease patients STI clinic patients STI clinic patients Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other: Other Other: Contacts of infected persons Other Other: Other : Infants 1 Aduits Aduits Infants Other : Aduits Infants Other : Infants 0 to 2 years Infants Aduits Infants Infants <td></td> <td>Multiple sex partners</td> <td></td> <td></td> | | Multiple sex partners | | | | |
| Long-term healthcare facilities Image: Control of the second of the se | | Prisoners | | | | |
| Healthcare workers | | Haemodialysis patients | | | | |
| Workers who are occupationally exposed to the virus Image: Second Se | | Long-term healthcare facilities | | | | |
| Blood and organ donors | | Healthcare workers | | | | |
| Other groups** Image: state stat | | Workers who are occupationally exposed to the virus | | | | |
| Faccination programme HBV Infants (ionly HBV) Universal vaccination Infants Adolescents Both Other Risk groups vaccination Neonates born to HBsAg+ mothers Risk groups vaccination Individuals at risk for HBV due to occupation Haemodialysis patients Chronic liver disease patients Chronic liver disease patients STI clinic patients Multiple sex partners Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other: Other risk groups** Infants 0 to 2 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | | | | | |
| programme (only HBV) Indexed and a contraction Infants Adolescents Both Adolescents Index groups vaccination Risk groups vaccination Risk groups vaccination Risk groups vaccination Individuals at risk for HBV due to occupation Haemodialysis patients Risk for HBV due to occupation Individuals at risk for HBV due to occupation Haemodialysis patients STI clinic patients Individuals at risk for HBV due to occupation Haemodialysis patients STI clinic patients Individuals at risk for HBV due to occupation Haemodialysis patients STI clinic patients Individuals at risk for HBV due to occupation Haemodialysis patients STI clinic patients Individuals at risk for HBV due to occupation Haemodialysis patients STI clinic patients Individuals at risk for HBV due to occupation STI clinic patients STI clinic patients Indictore disease patients STI clinic patients STI clinic patients STI clinic patients Indictore disease patients Indictore disease patients Contacts of HBsAg+ patients STI clinic patients Indictore disease patients Indictore disease patients STI clinic patients STI cl | | | | | | |
| Adolescents Both Other Risk groups vaccination Risk groups Risk gr | | HBV | | | | |
| k Both Other Neonates born to HBsAg+ mothers Individuals at risk for HBV due to occupation Haemodialysis patients Chronic liver disease patients STI clinic patients Multiple sex partners Multiple sex partners Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other risk groups** Other: Other risk groups** Kaolescents 10 to 14 years Aduts Inferts 0 to 2 years Aduts Aduts Other risk groups | (only HBV) | Universal vaccination | Infants | | | |
| Image: Provide the service of the s | | | Adolescents | | | |
| Risk groups vaccination Neonates born to HBsAg+ mothers Individuals at risk for HBV due to occupation Haemodialysis patients Chronic liver disease patients STI clinic patients Multiple sex partners Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other: Other risk groups** Adolescents 10 to 14 years Adults Other groups National Multiple sex partners Other risk groups** | | | Both | | | |
| Vaccination Individuals at risk for HBV due to occupation Haemodialysis patients Chronic liver disease patients STI clinic patients STI clinic patients Multiple sex partners Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other: Other risk groups** Vaccination coverage Infants 0 to 2 years Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | | Other | | | |
| Kaccination Infants 0 to 2 years Vaccination Infants 0 to 2 years Adults Infants 0 to 14 years Adults Other groups Nuts Infants 0 to 14 years Adults Other groups Not known Not known | | Risk groups vaccination | Neonates born to HBsAg+ mothers | | | |
| Catch-up Infants 0 to 2 years Other: Other: Adolescents 10 to 14 years Material Material Material Other groups Not known | | | Individuals at risk for HBV due to oc | cupation | | |
| STI clinic patients Multiple sex partners Injecting drug users Household contacts of HBsAg+ patients Contacts of infected persons Other: Other risk groups** Adolescents 10 to 14 years Adults Other groups Not known | | | Haemodialysis patients | | | |
| Adults Infants 0 to 2 years Adults Infants 0 to 14 years Adults Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 years Infants 0 to 14 | | | Chronic liver disease patients | | | |
| Catch-up Injecting drug users Programme Other: Catch-up Other: Dther: Injecting drug users Adolescents 10 to 14 years Injecting drug users Adults Other risk groups Dther groups Infants 0 to 2 years Adults Infants 0 to 14 years Not known Infants 0 to 14 years | | | STI clinic patients | | | |
| Adults Other risk 0 to 2 years Adults Other risk 10 to 14 years Adults Other risk 10 to 14 years Not known Not known | | | Multiple sex partners | | | |
| Contacts of infected persons Contacts of infected persons Other: Other risk groups** Other: Infants 0 to 2 years Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | | Injecting drug users | | | |
| Infants 0 to 2 years Adolescents 10 to 14 years Adults Other groups Not known | | | Household contacts of HBsAg+ patie | ents | | |
| Other: Other: Catch-up programme Infants 0 to 2 years Vaccination coverage Infants 0 to 2 years Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | | Contacts of infected persons | | | |
| Catch-up programme Infants 0 to 2 years Vaccination coverage Infants 0 to 2 years Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | | Other risk groups** | | | |
| programme Infants 0 to 2 years Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known Not known | | Other: | | | | |
| Adolescents 10 to 14 years Adolescents 10 to 14 years Adults Other groups Not known | | | | | | |
| Adults Other groups Not known | | Infants 0 to 2 years | | | | |
| Other groups Not known | coverage | · · · · · · · · · · · · · · · · · · · | | | | |
| Not known | | Adults | | | | |
| | | Other groups | | | | |
| Coverage: | | Not known | | | | |
| | | Coverage: | | | | |
| | | | | | | |

Ireland

| | HBV | HCV |
|--|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|---|---|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | To facilitate resource allocation and health care planning. To guide public health action. | To facilitate resource allocation and health care planning. To guide public health action. |

| Definition | HBV | | HCV | | |
|--------------------------------|--|---|--|---------------------|--|
| Clinical | Hepatitis B (acute and chronic): In symptomatic cases, clinical p hepatitis, i.e. discrete onset of s or elevated serum aminotransfe Asymptomatic cases are commo case definition document has be Hepatitis B (acute) (EU): Laboratory criteria for diagnosis One of the following: • IgM antibody to hepatitis B co positive • Detection of hepatitis B virus of Case classification. Possible: n/a Probable: A symptomatic case t has a clinical picture compatible Confirmed: A case that is labora | victure compatible with symptoms and/or jaundice erase levels. on (description in the EU een elaborated upon); s. ore antigen (anti-HBc) (HBV) nucleic acid in serum that is HBsAg positive and e with an acute hepatitis. | Clinical description. In symptomatic cases, clinical picture compatible with hepatitis, i.e. discrete onset of symptoms and/or jaundice or elevated serum aminotransferase levels. Asymptomatic cases are common (all laboratory-confirmed cases included; the EU definition is restricted to symptomatic cases) Laboratory criteria for diagnosis. One of the following: Detection of hepatitis C virus (HCV) specific antibodies Detection of HCV nucleic acid from clinical samples Case classification. Possible: n/a Probable: n/a Confirmed: A case that is laboratory confirmed. | | |
| Chronic | Hepatitis B (chronic): Laboratory criteria for diagnosis One of the following: Hepatitis B surface antigen (antibody to hepatitis B core and IgM antibody to hepatiti Persistence for more than 6 HBV nucleic acid in serum Case classification. Posbible: n/a Probable: n/a Confirmed: A case that is labora Note: Notification distinguishes | (HBsAg) positive and antigen (anti-HBc) positive is B core antigen negative months of either HBsAg or atory confirmed. | | | |
| Other | | | | | |
| Cases included in surveillance | Possible | with classification | Possible | | |
| | Probable | | Probable | with classification | |
| | Confirmed | | Confirmed | | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | | Acute | | |
| | Chronic | with classification | Chronic | with classification | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | | |
| Including duplicates | No | | Yes | | |

| | HBV | нси |
|---------------------|--|---|
| Underreporting | Underreporting is possible; please give the rate for underreporting (number of reported cases/estimated number of real cases) below. | Underreporting is possible, but no estimates exist for magnitude of underreporting. |
| Rate underreporting | Estimated 25% | |

| | HBV | | | | HCV | | | | |
|--------------------|------------------------------------|---|---------------------|--------------------------------|--|--|----------------------|------------------------------|--|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | | |
| | | Date | e of birth or ag | ge | | Date | e of birth or ag | je | |
| | | Gender | | | | Gen | der | <u> </u> | |
| | | | ntry of birth | | | ntry of birth | | | |
| | | | e of residence | <u>,</u> | | | e of residence | • | |
| | | | e of onset of t | | | | e of onset of t | | |
| | | | e of diagnosis | | | | e of diagnosis | | |
| | | | e of reporting/ | Inotification | | _ | e of reporting/ | notification | |
| | | | e used for stat | | | | e used for stat | | |
| | | | | fection was acquired | | | | ection was acquire | |
| | | | nunisation stat | | | | nunisation stat | | |
| | | L | come | lus | | | come | .us | |
| | Classification | | ical symptoms | | Classification | | ical symptoms | | |
| | information | _ | oratory results | | information | | oratory results | | |
| | | | lemiological in | | | | lemiological in | | |
| | | | 5 | | - · · | | | | |
| | Transmission route risk factors | | nosexual conta | | Transmission route risk factors | | Homosexual contact | | |
| | | Heterosexual contact | | | | | Heterosexual contact | | |
| | | Injecting drug use | | | | | Injecting drug use | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | | |
| | | | partner HBsA | | Sex partner HCV positive Blood or blood-product transfusion | | | | |
| | | Blood or blood-product transfusion | | | | BIOC | od or blood-pro | oduct transfusion | |
| | | Invasive healthcare procedure/dental treatment | | | | Invasive healthcare procedure/dental treatment | | | |
| | | Organ transplantation | | Organ transplantation | | | | | |
| | | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing | | | | Haemodialysis | | | |
| | | | | | | Needle injury or other occupational exposure | | | |
| | | | | | | Tattooing/body piercing | | | |
| | | Other | | | | Other | | | |
| | Other | Hos | ospitalisation | | Other | Hospitalisation | | | |
| | | Length of hospitalisation | | | | Length of hospitalisation | | | |
| | | ICD code diagnosis | | | | ICD code diagnosis | | | |
| | | Genotype information | | | | Gen | otype informa | tion | |
| | | | | , Anti-HBc, anti-HBc | Lab details: HCV | | | | |
| | IgM, PCR/NA, gen | | | aak | Epi information: if linked to an outbreak. | | | | |
| | | f linked to an outbreak. r, intellectual disability setting. | | | Other: possible s | exual exposure, most likely risk. | | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | , | Hospital register | | | , | |
| | Other: | | | | Other: | | | | |
| | Electronic | | Dapor | | | | Dapor | | |
| Format | | | Paper Aggregated | Othori | Electronic | | Paper | Othor | |
| Type | Case-based | 14/ | Aggregated | Other: | Case-based | 14/- | Aggregated | Other: | |
| Frequency | Daily Monthly | Wee | | Biweekly | Daily | | ekly | Biweekly Yearly | |
| | | | nually | Yearly | Monthly | | nnually | reany | |
| Other surveillance | Other: STI clinic | Labo | rterly pratory | Supplementary | Other: STI clinic | Lat | arterly poratory | Supplementary | |
| systems | surveillance Regular sero-surve | netv | | sentinel surveillance Other | surveillance Regular sero-surv | | work | sentinel surveillan Other | |
| | population | eys in | general | ouler | population | eys in | yeneral | other | |
| | | | | | National database blood products (h | | | through blood and | |

| | | HBV | HCV | | | |
|--------------------------|---|--|--|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | |
| | | Individuals at risk for HBV due to occupation | | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ patients | | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | Short-term foster carers Immigrants from areas with a high or born to parents from high or interm countries | ns of blood or blood products ability | | | |
| Catch-up programme | | Homeless people | | | | |
| Vaccination | Infants 0 to 2 years | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Not known | | | | | |
| | Coverage: Infants: 89% in 2009 | | | | | |
| | | | | | | |

Italy

| | HBV | нси |
|--|--|--|
| Surveillance system | · · · · | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | National | National |
| Comments | The national surveillance system for acute viral hepatitis infection (SEIEVA, Sistema Epidemiologico Integrato dell'Epatite Virale Acuta), coordinated by the National Centre for Epidemiology, Surveillance and Health Promotion of the Istituto Superiore di Sanità, promotes the monitoring and control of acute viral hepatitis infection at both the local and national level. Epidemiological data are combined with laboratory data to estimate the impact of various risk factors, allowing prevention programmes to be defined and evaluated. Specific surveillance goals are: a) to determine the number of cases of acute viral hepatitis infection, by specific type of infection; b) to calculate the incidence of acute viral hepatitis infection, by type of infection, by type of infection; b) to calculate the proportion of cases exposed to specific risk factors, by type of infection; e) to study variations over time in the relative and attributable risks associated with specific types of exposure, by type of infection; f) to develop control strategies based on the identification of risk factors at the local level. <i>(Continue on the right)</i> | The general methods of SEIEVA are: a) to interview infected persons using an individual questionnaire (SEIEVA form), which includes socio- demographic and risk factor information; questionnaire is administered before results of serological tests are obtained; b) to provide information on the results of serological tests; c) to contact the transfusion centre and record information obtained on a specific form if the infected person reports that he/she had received a blood transfusion in the six months prior to disease onset; d) to conduct, when applicable (mainly when outbreaks are identified), case control and cohort studies. Participation is voluntary. The percentage of ASLs participating to the surveillance progressively increased from 5% in 1986 (about 3 million people) and in 2006 represented 59% of total population (about 33.7 million people). Hepatitis C is currently reported as 'non-A non-B hepatitis', but the Italian surveillance system for infectious diseases is evolving and requires notification of specific hepatitis C. |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | |
|--------------------------------|---|-------------------------------|--|--------------------------|--|
| Clinical | The diagnostic criteria used to i B is laboratory confirmation. | dentify acute viral hepatitis | Diagnostic criteria used to identify acute viral hepatitis C is laboratory confirmation. | | |
| Chronic | No case definition | | No case definition | | |
| Other | | | | | |
| Cases included in surveillance | Possible | | Possible | | |
| | Probable | - | Probable | | |
| | Confirmed | with classification | Confirmed | with classification | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | with classification | Acute | with classification | |
| | Chronic | | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | | |
| Including duplicates | No | | No | | |
| Underreporting | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | Underreporting is possible, bu magnitude of underreporting. | t no estimates exist for | |
| Rate underreporting | | | | | |

| | HBV | | | | HCV | _ | | |
|--------------------|----------------------------|--|------------------|-------------------------------------|----------------------------|-------------------------------------|--------------------------|------------------------------------|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | Lab | oratory | Hospital |
| | Other: | | | | Other: | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | |
| | | Date | e of birth or ag | je | | Date of birth or age | | |
| | | Gender | | | | Gen | der | |
| | | | ntry of birth | | | _ | ntry of birth | |
| | | Plac | e of residence | | | Plac | e of residence | 2 |
| | | Date | e of onset of t | he disease | | Date | e of onset of t | he disease |
| | | Date | e of diagnosis | | | Date | e of diagnosis | |
| | | Date | e of reporting/ | notification | | Date | e of reporting/ | notification |
| | | | e used for stat | | | | e used for stat | |
| | | | | ection was acquired | | Cou | ntry where inf | ection was acquired |
| | | Imn | nunisation stat | us | | Imn | nunisation stat | tus |
| | | Out | come | | | Out | come | |
| | Classification | Clin | ical symptoms | | Classification | Clin | ical symptoms | i |
| | information | Lab | oratory results | | information | Lab | oratory results | |
| | | Epic | lemiological in | formation | | Epic | lemiological in | formation |
| | Transmission | Hon | nosexual conta | act | Transmission | Hon | nosexual conta | act |
| | route risk factors | Heterosexual contact | | | route risk factors | Heterosexual contact | | |
| | | Injecting drug use | | | | Injecting drug use | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | partner HCV | oositive |
| | | Blood or blood-product transfusion | | | | Bloc | od or blood-pro | oduct transfusion |
| | | Invasive healthcare procedure/dental treatment | | | | | asive healthca Itment | re procedure/dental |
| | | Organ transplantation | | | | Organ transplantation | | |
| | | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other | | | | Haemodialysis | | |
| | | | | | | Needle injury or other occupational | | |
| | | | | | | exposure | | |
| | | | | | | Tattooing/body piercing | | |
| | | | | | | Other | | |
| | Other | Hospitalisation | | | Other | Hospitalisation | | |
| | | | gth of hospital | | | Length of hospitalisation | | |
| | | ICD code diagnosis | | | | ICD code diagnosis | | |
| | | Gen | otype informa | tion | | Genotype information | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality |
| | Hospital register | | | | Hospital register | | | |
| | Other: | | | ' | Other: | | | Į |
| Format | Electronic | | Paper | | Electronic | | Paper | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: |
| Frequency | Daily | Weekly Biweekly | | Daily | We | ekly | Biweekly | |
| | Monthly | | nually | Yearly | Monthly | | nnually | Yearly |
| | Other: | | | | Other: | | • | , · |
| Other surveillance | STI clinic surveillance | | pratory | Supplementary sentinel surveillance | STI clinic surveillance | | ooratory twork | Supplementary sentinel surveilland |
| systems | | e network o-surveys in general | | Other | Regular sero-surve | | | Other |

| | HBV | нсу | | | | | |
|--|--|---|--|--|--|--|--|
| Pregnant women | | | | | | | |
| Military recruits | | | | | | | |
| Injecting drug users | | | | | | | |
| STI clinic patients | | | | | | | |
| Multiple sex partners | | | | | | | |
| Prisoners | | | | | | | |
| Haemodialysis patients | | | | | | | |
| Long-term healthcare facilities | | | | | | | |
| Healthcare workers | | | | | | | |
| Workers who are occupationally exposed to the virus | | | | | | | |
| Blood and organ donors | | | | | | | |
| Other groups** | | | | | | | |
| HBV | | | | | | | |
| Universal vaccination | Infants | | | | | | |
| | Adolescents (12 years) | | | | | | |
| | Both | | | | | | |
| | Other | | | | | | |
| Risk groups vaccination | Neonates born to HBsAg + mothers | | | | | | |
| | Individuals at risk for HBV due to occupation | | | | | | |
| | Haemodialysis patients | | | | | | |
| | Chronic liver disease patients | | | | | | |
| | STI clinic patients | | | | | | |
| | Multiple sex partners | | | | | | |
| | Injecting drug users | | | | | | |
| | Household contacts of HBsAg+ patie | ents | | | | | |
| | Contacts of infected persons | | | | | | |
| | Other risk groups** | | | | | | |
| Other: | Not specified | | | | | | |
| | | | | | | | |
| Infants 0 to 2 years | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Not known | | | | | | | |
| Coverage: | | | | | | | |
| Infants: 96% in 2008 Comment: 12 year olds are included in universal vaccination programme since 1991 | | | | | | | |
| | Military recruits Injecting drug users STI clinic patients Multiple sex partners Prisoners Haemodialysis patients Long-term healthcare facilities Healthcare workers Workers who are occupationally exposed to the virus Blood and organ donors Other groups** HBV Universal vaccination Risk groups vaccination Other: Other: Infants 0 to 2 years Adolescents 10 to 14 years Adults Other groups | Pregnant women Injecting drug users Military recruits Injecting drug users STI clinic patients Indext and the second | | | | | |

Latvia

| | HBV | HCV |
|---|--|---|
| Surveillance system | n | · · |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | HBV reporting is included in syndromic surveillance of viral hepatitis. | HBV reporting is included in syndromic surveillance of viral hepatitis. |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | |
|---|---|---------------------|---|-------------------------------------|--|
| Clinical | EU 2008 Case definition | | EU 2008 Case definition | | |
| Chronic | No case definition | | No case definition | | |
| Other | | | | | |
| Cases included in surveillance (highlighted in green) | Possible | | Possible | | |
| | Probable | with classification | Probable | | |
| | Confirmed | | Confirmed | with classification | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | | Acute | with classification | |
| | Chronic | with classification | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | | |
| Including duplicates | No | | No | ! | |
| Underreporting | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | Underreporting is possible magnitude of underreport | e, but no estimates exist for ting. | |
| Rate underreporting | | | | | |

| | HBV | | | HCV | | | | |
|--------------------|------------------------------------|--|---|--|--|-----------------------|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | | |
| | Other: | | | Other: | Laboratories: det virus nucleic acid | ection of hepatitis C | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | | |
| | | Date of birth or a | ae | | Date of birth or a | | | |
| | | Gender | 5- | | Gender | 5- | | |
| | | Country of birth | | | Country of birth | | | |
| | | Place of residence | 0 | | Place of residence | 2 | | |
| | | Date of onset of | | | Date of onset of | | | |
| | | Date of diagnosis | | | Date of diagnosis | | | |
| | | Date of reporting | | | Date of reporting | | | |
| | | Date used for sta | | | Date used for sta | · | | |
| | | | fection was acquired | | | fection was acquired | | |
| | | | · · · · · · · · · · · · · · · · · · · | | | · · · · · | | |
| | | Immunisation sta | itus | | Immunisation sta | itus | | |
| | Classification | Outcome | | Classification | Outcome | | | |
| | Classification information | Clinical symptom | | Classification information | Clinical symptoms | | | |
| | | Laboratory result | | | Laboratory result | | | |
| | | Epidemiological in | nformation | | Epidemiological in | nformation | | |
| | Transmission route risk factors | Homosexual cont | | Transmission route risk factors | Transmission Homosexual contact | | | |
| | | Heterosexual con | tact | | Heterosexual contact | | | |
| | | Injecting drug us | e | | Injecting drug use | | | |
| | | Mother HBsAg+ | | | Mother HCV positive | | | |
| | | Close family men | | | Close family member HCV- positive | | | |
| | | Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation | | | Sex partner HCV positive Blood or blood-product transfusion | | | |
| | | | | | · · · · · | | | |
| | | | | | treatment | re procedure/denta | | |
| | | | | | | Organ transplantation | | |
| | | Haemodialysis | the survey is a strength of the strength of the survey is a strength of the survey is | | Haemodialysis Needle injury or other occupational | | | |
| | | exposure | other occupational | | exposure | | | |
| | | Tattooing/body p | iercing | | Tattooing/body piercing | | | |
| | | Other | | | Other | | | |
| | Other | Hospitalisation | | Other | Hospitalisation | | | |
| | | Length of hospita | | | Length of hospitalisation | | | |
| | | ICD code diagnos | | | ICD code diagnosis | | | |
| | | Genotype information | | | Genotype information | | | |
| | | : yellow skin or eye | | Clinical symptom | | | | |
| | | : HBV core IgM an | ,, 5 | Laboratory results: hepatitis C virus nucleic acid in serul HCV IgM antibody. | | | | |
| | soldier, blood don | factors: cosmetolo or, prisoner, laund rson with mental il | ress, person with | Transmission risk | , factors: cosmetologist, police officer, or, prisoner, laundress, person with | | | |
| | ICD-10 code: B16 | , B18.0, B18.1, Z2 | 2.5 | chronic illness, p ICD-10 code: B1 | erson with mental illness. | | | |
| Data linked to | Liver transplant | Liver cancer | Mortality | Liver transplant | Liver cancer | Mortality | | |
| | Hospital register | | | Hospital register | | | | |
| | Other: | | ! | Other: | | ! | | |
| ormat | Electronic | Paper | | Electronic | Paper | | | |
| уре | Case-based | Aggregated | Other: | Case-based | Aggregated | Other: | | |
| requency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly | | |
| | Monthly | Biannual | Yearly | Monthly | Biannually | Yearly | | |
| | Other: | Often if needed | . curry | Other: | Often if needed | , curry | | |
| Other surveillance | STI clinic | Laboratory | Supplementary | STI clinic | Laboratory | Supplementary | | |
| systems | surveillance | network | sentinel surveillance | surveillance | network | sentinel surveilland | | |
| | Regular sero-surve | eys in general | Other | Regular sero-sur | veys in general | Other | | |
| | Population | | | population | | | | |

| | | HBV | HCV |
|--------------------------|---|--|---|
| Screening | Pregnant women | | |
| programme | Military recruits | | |
| | Injecting drug users | | |
| | STI clinic patients | | |
| | Multiple sex partners | | |
| | Prisoners | | |
| | Haemodialysis patients | | |
| | Long-term healthcare facilities | | |
| | Healthcare workers | | |
| | Workers who are occupationally exposed to the virus | | |
| | Blood and organ donors | | |
| | Other groups** | | |
| | | 'Expanding Network for Comprehen Prevention Among IDUs and Bridgir Anti-HBc prevalence among IDUs in | |
| Vaccination programme | HBV | | |
| (only HBV) | Universal vaccination | Infants | |
| | | Adolescents | |
| | | Both | |
| | | Other | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | |
| | | Individuals at risk for HBV due to or | ccupation |
| | | Haemodialysis patients | |
| | | Chronic liver disease patients | |
| | | STI clinic patients | |
| | | Multiple sex partners | |
| | | Injecting drug users | |
| | | Household contacts of HBsAg+ pati | ents |
| | | Contacts of infected persons | |
| | | Other risk groups** | |
| | Other: | 2007). | nce 1998); adolescents (14-year-olds) (since orkers who get in contact with blood (since |
| Catch-up programme | Adolescents (14 years) in Riga in 2005-06 | | |
| Vaccination | Infants 0 to 2 years | | |
| coverage | Adolescents 10 to 14 years | | |
| | Adults | | |
| | Other groups | | |
| | Not known | | |
| | Coverage (2007): Infants (1-2 years of age): 97% Adolescents (15 years of age): 73.5% | | |
| | | | |
| | | | |

Liechtenstein

| | HBV | HCV | | | | | |
|---|--|-----|--|--|--|--|--|
| Surveillance system | | | | | | | |
| Included in the national surveillance system | | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | | | | | | |
| Type of surveillance | The laboratories report every positive HBV-test to the Office for Public Health, and the Office makes further inquiries. | | | | | | |
| Surveillance system | Own system for HBV | | | | | | |
| Comments | | | | | | | |

Objectives

| | HBV | |
|--|-----|--|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | no | |
| Improve knowledge of epidemiology | no | |
| Other | no | |

| case deminition | | | |
|--|------------------------------|---|--|
| Definition | HBV | | |
| Clinical | No case definition | | |
| Chronic | No case definition | | |
| Other | | | |
| Cases included in surveillance (highlighted in green) | Possible | with classification | |
| | Probable | - | |
| | Confirmed | | |
| | Unknown classification | | |
| Type of cases | Acute | with classification | |
| | Chronic | | |
| | Asymptomatic | - | |
| | Suspected | | |
| | Other: | Classification not needed, only acute cases included | |
| Including duplicates | No | | |
| Underreporting | Underreporting not possible. | | |
| Rate underreporting | | | |

| | HBV | | | | |
|--------------------|------------------------------------|-------------------|--|-------------------------------------|--|
| Source of data | Physicians | Labor | ratory | Hospital | |
| | Other: | | | | |
| Collected data | Basic data | Patie | nt ID | | |
| | | Date | of birth or a | je | |
| | | Gend | | <u> </u> | |
| | | | try of birth | | |
| | | | of residence | • | |
| | | Date of diagnosis | | | |
| | | | | | |
| | | | of reporting/ | notification | |
| | | | used for stat | | |
| | | | | ection was acquired | |
| | | | unisation stat | · · · · · | |
| | | Outco | | | |
| | Classification | - | al symptoms | | |
| | information | | ratory results | | |
| | | | miological in | | |
| | | | | | |
| | Transmission route risk factors | Home | osexual conta | act | |
| | | Heter | rosexual cont | act | |
| | | Inject | ting drug use | 2 | |
| | | Moth | er HBsAg+ | | |
| | | Close | e family mem | ber HBsAg+ | |
| | | Sex p | oartner HBsA | q+ | |
| | | | | oduct transfusion | |
| | | | | | |
| | | Invas | | re procedure/dental | |
| | | | n transplanta | tion | |
| | | - | nodialysis | | |
| | | | | ther occupational | |
| | | | leedle injury or other occupational xposure | | |
| | | Tatto | oing/body pi | ercing | |
| | | Other | | | |
| | Other | - | italisation | | |
| | | - | th of hospita | | |
| | | | code diagnos | | |
| | | Geno | type informa | tion | |
| | Jaundice only | | | | |
| | Lab: qualitative re and total)) | sults (I | HbsAg, anti-I | HBc antibodies (IgM | |
| | Quantitative result | ts: Al A | л | | |
| Data linked to | Liver transplant | | | Mortality | |
| Data linked to | Hospital register | | Liver cancer | Mortality | |
| | HOSPILAI TEGISLEI | | | | |
| | Other: | | | | |
| Format | Electronic | | Paper | | |
| Гуре | Case-based | | Aggre- | Other: | |
| | | | gated | | |
| Fraguency | Daily | Mook | de la | Piwookhy | |
| Frequency | Monthly | Week | | Biweekly | |
| | | Biann | lually | Yearly | |
| Other surveillance | Other: STI clinic | l abor | aton. | Supplementary | |
| systems | surveillance | Labor netwo | ork | Supplementary sentinel surveillance | |
| | Regular sero-surv | eys in o | general | Other | |
| | population | | - | | |
| | | | | <u> </u> | |

| | | HBV | HCV | | | |
|-----------------------|---|---------------------------------------|-----------|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | |
| | | Individuals at risk for HBV due to o | ccupation | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ patients | | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | | | | | |
| Catch-up programme | | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Not known | | | | | |
| | Coverage: | | | | | |
| | | | | | | |
| | | | | | | |

Lithuania

| | HBV | HCV |
|--|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|--|---|--|---|
| Clinical | EU 2008 case definition | | EU 2008 case definition | |
| Chronic | No case definition | | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | with classification |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | Comment: acute clinical, asymptomatic acute, and chronic cases are classified. Surveillance of chronic cases is not implemented. | Other: | Comment: acute clinical, asymptomatic acute, and chronic cases are classified. Surveillance of chronic cases is not implemented. |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, magnitude of underreportin | |
| Rate underreporting | | | | |

| Physicians | Laho | | | | 1 | | | |
|--|--|--|---|---|---|---|---|--|
| | Lub | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| Other: | | | | Other: | | | | |
| Basic data | Patie | ent ID | | Basic data | Pati | ent ID | | |
| | | | ae | | | | ae | |
| | | | | | | | | |
| | | | | | | | | |
| | _ | , | 1 | | | | 1 | |
| | | | | | | | | |
| | | | | | | | | |
| | | | Inotification | | | | notification | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | .us | | | | 105 | |
| Classification | | | | Classification | | | | |
| information | _ | | | information | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Transmission route risk factors | Hom | nosexual conta | act | | | nosexual conta | act | |
| | | | | | | | | |
| | | | 2 | | | | | |
| | | | | | | | | |
| | Close family member HBsAg+ | | | | Close family member HCV- positive | | | |
| | Sex partner HBsAg+ | | | Sex partner HCV positive | | | | |
| | Blood or blood-product transfusion | | | Blood or blood-product transfusion | | | | |
| | Invasive healthcare procedure/dental | | | Invasive healthcare procedure/dental | | | | |
| | Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other | | | | | | | |
| | | | | · · | | | | |
| | | | | Needle injury or other occupational | | | | |
| | | | | exposure | | | | |
| | | | | Tattooing/body piercing | | | | |
| | | | | Other | | | | |
| Other | Hos | pitalisation | | Other | Hospitalisation | | | |
| | | | | | | Length of hospitalisation | | |
| | | | | | ICD code diagnosis | | | |
| | Genotype information | | | | Genotype information | | | |
| | | 2 | | | | | | |
| immigrant, asocial | immigrant, asocial person, haemoph | | | Transmission risk factors: commercial sex worker, pu immigrant, asocial person, haemophilia patient, bise contact | | | | |
| Other: ISD-10 | | | | Other: ISD-10 | | | | |
| Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| Hospital register | | | | Hospital register | | | | |
| Other: | | | , | Other: | | | | |
| Electronic | | Paper | | Electronic | | Paper | | |
| Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| | 14/ | leh e | Piwookh | Daily | 14/- | | Piwoolsky | |
| | | | - | | | | Biweekly | |
| | ыап | nually | rearly | · · · | ыа | initially | Yearly | |
| | 1.04 | rator | Supplementer | | 1 -1 | orator (| Supplementer | |
| | | vork | sentinel surveillance | surveillance | net | work | Supplementary sentinel surveillance | |
| Regular sero-surveys in general population | | Other | Regular sero-sur | veys in | general | Other | | |
| | Transmission route risk factors Other Questification: HBs Transmission risk immigrant, asocial contact Other: ISD-10 Liver transplant Hospital register Other: Electronic Case-based Daily Monthly Other: STI clinic surveillance Regular sero-surve | Image: Classification information Classification information Classification information Classification information Transmission route risk factors information Here information Transmission route risk factors information Sex information Transmission route risk factors information Here information Classification information Here information Transmission route risk factors information Sex information Classification information Here information Classification information Here information Classification information Sex information Classification information Here information Classification information Sex information Classification information Leng information Classification information Leng information Classification information Leng information Clother: Sex information | Image: Second | Additional and the second | Date of birth or age Gender Country of birth Place of residence Date of onset of the disease Date of onset of the disease Date of onset of the disease Date of restification Date of restification Date of restification Date of restification Date of restification Information Date of restification Information Classification Information Classification Information Epidemiological information Transmission Homosexual contact Injecting drug use Mother HBsAg+ Close Family member HBsAg+ Close family member HBsAg+ Biood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Classification: an Transmission risk factors: commercial sex worker, prisoner immigrant, asocial person, haemophilia sation Classification: an Transmission risk factors: contact Other Liver transplant Liver cancer Mortality Liver transplant Liver cancer Mortality Hospital register Other: Daily Weekly Biowekly Morthly | Date of birth or age Date of birth or age Date Gender Country of birth Place Country of birth Place of residence Date Date of onset of the disease Date Date Date of reporting/notification Date Date Date used for statistics Date Date Classification Clinical symptoms Classification Information Clinical symptoms Classification Information Clinical symptoms Classification Information Clinical symptoms Classification Information Laboratory results Finance Epidemiological information Herosexual contact Finance Transmission Homosexual contact Transmission route risk factors Herosexual contact Finance Invasive healthcare procedure/dental Transmission Herosexual Transmission route risk factors Transmission Finance Other Hospitalisation Classification Herosexual Invasive healthcare procedure/dental Length of hospitalisation Length of hospitalisation ICD code diagnosis Genotype information Classification: anti-HCV Classification insk factors Herosexual contact <td< td=""><td>Date of birth or age Gender County of birth County of birth Place of residence Date of diagnosis Date of or onset of f Date of resporting/notification Date of diagnosis Date of resporting/notification Date of resporting/notification Date of diagnosis Date of diagnosis Date of resporting/notification Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Classification Classification Information Laboratory results Classification Injecting drug use Injecting drug use Mother HBsAg+ Sex partner HBsAg+ Sex partner HBsAg+ Sex partner HCV positi Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Other Hospital register Genotype information Leagrth of hospital ingister</td></td<> | Date of birth or age Gender County of birth County of birth Place of residence Date of diagnosis Date of or onset of f Date of resporting/notification Date of diagnosis Date of resporting/notification Date of resporting/notification Date of diagnosis Date of diagnosis Date of resporting/notification Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Date of diagnosis Classification Classification Information Laboratory results Classification Injecting drug use Injecting drug use Mother HBsAg+ Sex partner HBsAg+ Sex partner HBsAg+ Sex partner HCV positi Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Invasive healthcare procedure/dental treatment Other Hospital register Genotype information Leagrth of hospital ingister | |

| | | HBV | HCV | | |
|--------------------------|--|---------------------------------------|-----------|--|--|
| Screening | Pregnant women | | | | |
| programme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination programme | HBV | | | | |
| (only HBV) | Universal vaccination | Infants | | | |
| | _ | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | |
| | | Individuals at risk for HBV due to or | ccupation | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ patients | | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | | | | |
| Catch-up programme | | | | | |
| Vaccination | Infants 0 to 2 years | | | | |
| coverage | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage: | en elder 07.20/ | | | |
| | 0-11-month-olds: 99.1%; 1-year-olds: 96.4%; 13-year- | ar-olas: 97.2% | | | |

Luxembourg

| | HBV | | HCV |
|---|--|--|--|
| Surveillance system | | | |
| Included in the national surveillance system | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | | Mandatory |
| Type of surveillance | Passive | | Passive |
| Surveillance system | HBV notified via mandatory notification system | | HCV notified via mandatory notification system |
| Comments | | | |

Objectives

| | HBV | HCV |
|--|---|---|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | Monthly publication of statistics is required by law. | Monthly publication of statistics is required by law. |

| Definition | НВV | | HCV | |
|--------------------------------|---|---------------------|---|---------------------|
| Clinical | No case definition | | No case definition | |
| Chronic | No case definition | | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | with classification | Possible | with classification |
| | Probable | | Probable | |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | Yes | | Yes | |
| Underreporting | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | Underreporting is possible, but no estimates exist for magnitude of underreporting. | |
| Rate underreporting | | | | |

| | HBV | | | | HCV | _ | | |
|-----------------------------|--|---|-----------------|-----------------------|------------------------------------|-----------------------------------|---------------------------|----------------------|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | Lab | oratory | Hospital |
| | Other: | | | | Other: | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | |
| | _ | Date | e of birth or a | ge | | Dat | e of birth or ag | je |
| | | Gen | der | | | Gen | der | |
| | | Cou | ntry of birth | | | Cou | ntry of birth | |
| | | Plac | e of residence | 2 | | Plac | e of residence | |
| | | Date | e of onset of t | he disease | | Dat | e of onset of t | ne disease |
| | | Date | e of diagnosis | | | Dat | e of diagnosis | |
| | | Date | e of reporting, | /notification | | Dat | e of reporting/ | notification |
| | | Date | e used for sta | tistics | | Dat | e used for stat | istics |
| | | Cou | ntry where in | fection was acquired | | Cou | ntry where inf | ection was acquired |
| | | Imn | nunisation sta | tus | | Imn | nunisation stat | us |
| | | Out | come | | | Out | come | |
| | Classification | Clin | ical symptoms | 5 | Classification | Clin | ical symptoms | |
| | information | Lab | oratory results | 5 | information | Lab | oratory results | |
| | | Epic | lemiological ir | formation | | Epic | lemiological in | formation |
| | Transmission route risk factors | Hon | nosexual cont | act | Transmission route risk factors | Hon | nosexual conta | oct |
| | TOULE TISK TACLOIS | Hete | erosexual con | tact | TOULE TISK TACLOTS | Heterosexual contact | | |
| | | Inje | cting drug use | 9 | | Injecting drug use | | |
| | | Mot | her HBsAg+ | | | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | partner HCV p | ositive |
| | | Blood or blood-product transfusion | | | | Bloc | od or blood-pro | oduct transfusion |
| | | Invasive healthcare procedure/dental treatment | | | | | asive healthcar Itment | e procedure/dental |
| | | Organ transplantation | | | | Organ transplantation | | |
| | | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing | | | | Haemodialysis | | |
| | | | | | | | dle injury or o osure | ther occupational |
| | | | | | | | cooing/body pi | ercina |
| | | Other | | | | Other | | |
| | Other | Hospitalisation Length of hospitalisation | | | Other | Hospitalisation | | |
| | | | | | | Length of hospitalisation | | |
| | | | code diagnos | | | ICD code diagnosis | | |
| | | Gen | otype informa | ation | | Genotype information | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality |
| | Hospital register | | | | Hospital register | | | |
| | Other: | | | | Other: | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | |
| Туре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: |
| Frequency | Daily | Wee | | Biweekly | Daily | 10/2 | ekly | Biweekly |
| | Monthly | | nually | Yearly | Monthly | | innually | Yearly |
| | Other: | Didfi | nually | ICOLLY | Other: | DIG | iniualiy | ICOLLY |
| Other surveillance systems | STI clinic | Labr | oratory | Supplementary | STI clinic | اد ا | ooratory | Supplementary |
| earler our venience systems | surveillance | netv | vork | sentinel surveillance | surveillance | net | work | sentinel surveillanc |
| | Regular sero-surveys in general population | | | Other | Regular sero-surv | eys in | general | Other |

| | | НВV | НСУ | | | | | |
|--------------------------|---|---------------------------------------|-----------|--|--|--|--|--|
| Screening | Pregnant women | | | | | | | |
| programme | Military recruits | | | | | | | |
| | Injecting drug users | | | | | | | |
| | STI clinic patients | | | | | | | |
| | Multiple sex partners | | | | | | | |
| | Prisoners | | | | | | | |
| | Haemodialysis patients | | | | | | | |
| | Long-term healthcare facilities | | | | | | | |
| | Healthcare workers | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | |
| | Blood and organ donors | | | | | | | |
| | Other groups** | | | | | | | |
| Vaccination programme | HBV | | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | | |
| | | Adolescents | | | | | | |
| | | Both | | | | | | |
| | | Other | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | | | |
| | | Individuals at risk for HBV due to or | ccupation | | | | | |
| | | Haemodialysis patients | | | | | | |
| | | Chronic liver disease patients | | | | | | |
| | | STI clinic patients | | | | | | |
| | | Multiple sex partners | | | | | | |
| | | Injecting drug users | | | | | | |
| | | Household contacts of HBsAg+ patients | | | | | | |
| | | Contacts of infected persons | | | | | | |
| | | Other risk groups** | | | | | | |
| | Other: | | | | | | | |
| Catch-up programme | | | | | | | | |
| Vaccination coverage | Infants 0 to 2 years | · | | | | | | |
| | Adolescents 10 to 14 years | | | | | | | |
| | Adults | | | | | | | |
| | Other groups | | | | | | | |
| | Not known | | | | | | | |
| | Coverage: | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Malta

| | HBV | HCV | | | | | | |
|--|---------------------|--------------------|--|--|--|--|--|--|
| Surveillance system | Surveillance system | | | | | | | |
| Included in the national surveillance system | | | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | | | |
| Type of surveillance | Passive | Passive | | | | | | |
| Surveillance system | Own system for HBV | Own system for HCV | | | | | | |
| Comments | | | | | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | |
|--------------------------------|--|---|---|---------------------|--|
| Clinical | Hepatitis B (acute); clinical desc In symptomatic cases, clinical p hepatitis, e.g. discrete onset of elevated serum aminotransfera Laboratory criteria for diagnosis IgM antibody to hepatitis B core positive; detection of HBV nucle Case classification: Possible: n/a Probable: HBsAg positive case v compatible with acute hepatitis Confirmed: Case, laboratory co | icture compatible with symptoms and jaundice or se. antigen (anti-HBc) cic acid in serum with clinical picture | Clinical description: In symptomatic cases, clinical picture compatible with hepatitis, e.g. discrete onset of symptoms and jaundice or elevated aminotransferase. Laboratory criteria for diagnosis: One of the following: Detection of hepatitis C virus (HCV)-specific antibodies; detection of HCV nucleic acid from clinical samples. Case Classification: Possible: n/a Probable: n/a Confirmed: symptomatic case, laboratory confirmed. | | |
| Chronic | No case definition | | No case definition | | |
| Other | | | | | |
| Cases included in surveillance | Possible | | Possible | | |
| | Probable | with classification | Probable | with classification | |
| | Confirmed | WILLI CIASSIFICATION | Confirmed | WITI CIASSINCATION | |
| | Unknown classification | | Unknown classification | | |
| Type of cases | Acute | with classification | Acute | with classification | |
| | Chronic | | Chronic | | |
| | Asymptomatic | | Asymptomatic | | |
| | Suspected | | Suspected | | |
| | Other: | | Other: | | |
| Including duplicates | No | 1 | No | 1 | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, I magnitude of underreporting | | |
| Rate underreporting | | | | | |

| | HBV | | | | HCV | | | | |
|----------------------------|--|--|---------------------|------------------------------------|--------------------|---------------------------|--|----------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Patie | ent ID | | Basic data | Pati | ent ID | | |
| | | | e of birth or a | ae | busic data | | e of birth or a | ae | |
| | | Gen | | <u> </u> | | Gen | | <u> </u> | |
| | | | ntry of birth | | | | intry of birth | | |
| | | | e of residence | | | | e of residence | ۵ | |
| | | | e of onset of t | | | | e of onset of t | | |
| | | | e of diagnosis | | | | e of diagnosis | | |
| | | | e of reporting | | | L | e of reporting | | |
| | | | e used for stat | | | _ | e used for sta | • | |
| | | | | fection was acquired | | | | fection was acquired | |
| | | | nunisation sta | | | | nunisation sta | | |
| | | | come | | | | come | 1005 | |
| | Classification | | cal symptoms | : | Classification | | ical symptoms | | |
| | information | _ | pratory results | | information | _ | oratory result | | |
| | | | emiological in | | | | demiological ir | | |
| | Transmission | | nosexual cont | | Transmission | _ | | | |
| | route risk factors | | | | route risk factors | k factors | | | |
| | | | erosexual cont | | | | Heterosexual contact | | |
| | | Injecting drug use | | | | Injecting drug use | | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | | |
| | | Close family member HBsAg+ | | | | Clos | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | partner HCV | positive | |
| | | Blood or blood-product transfusion | | | | Bloc | od or blood-pr | roduct transfusion | |
| | | Invasive healthcare procedure/dental | | | | | Invasive healthcare procedure/dental treatment | | |
| | | treatment Organ transplantation | | | | | Organ transplantation | | |
| | | Organ transplantation Haemodialysis | | | | Haemodialysis | | | |
| | | Nee | | other occupational | | Nee | | other occupational | |
| | | | | iercina | | | tooing/body p | iercina | |
| | | Tattooing/body piercing Other | | | | Oth | | loronig | |
| | Other | | pitalisation | | Other | | pitalisation | | |
| | | | gth of hospita | lisation | | Length of hospitalisation | | | |
| | | _ | code diagnos | | | | ICD code diagnosis | | |
| | | Genotype information | | | | Genotype information | | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | Tiorcalicy | Hospital register | | Liver cancel | Tiorcally | |
| | Other: | | | | Other: | | | | |
| Cormat | | | Dapar | | Electronic | | Dapor | | |
| Format | Electronic Case-based | | Paper Aggregated | Other: | Case-based | | Paper Aggregated | Other: | |
| уре | Case-Daseu | | Ayyreyated | | Case-Daseu | | Ayyreydled | JUICI. | |
| requency | Daily | Wee | klv | Biweekly | Daily | We | ekly | Biweekly | |
| requercy | Monthly | - | nually | Yearly | Monthly | _ | innually | Yearly | |
| | Other: | | | Tearly | Other: | | minuany | Tearry | |
| Other surveillance systems | | Labo | ratory | Supplementary | STI clinic | 124 | ooratory | Supplementary | |
| | surveillance | | | sentinel surveillance surveillance | | net | twork | sentinel surveilland | |
| | Regular sero-surveys in general Other population | | | Regular sero-sun population | veys in | i general | Other | | |

| | | HBV | НСУ | | | |
|--------------------------|--|--|---|--|--|--|
| Screening | Pregnant women | | | | | |
| programme | Military recruits | | | | | |
| - | Injecting drug users | | | | | |
| | STI clinic patients | | | | | |
| | Multiple sex partners | | | | | |
| | Prisoners | | | | | |
| | Haemodialysis patients | | | | | |
| | Long-term healthcare facilities | | | | | |
| | Healthcare workers | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | |
| | Blood and organ donors | | | | | |
| | Other groups** | | | | | |
| Vaccination programme | HBV | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | |
| | | Adolescents | | | | |
| | | Both | | | | |
| | | Other | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | |
| | | Individuals at risk for HBV due to or | ccupation | | | |
| | | Haemodialysis patients | | | | |
| | | Chronic liver disease patients | | | | |
| | | STI clinic patients | | | | |
| | | Multiple sex partners | | | | |
| | | Injecting drug users | | | | |
| | | Household contacts of HBsAg+ patients | | | | |
| | | Contacts of infected persons | | | | |
| | | Other risk groups** | | | | |
| | Other: | | | | | |
| Catch-up programme | Catch-up campaign started in 2003, concurrently with will be completed in 2008-09 | introduction of universal hepatitis B | vaccination for children aged 15 months. This | | | |
| Vaccination | Infants 0 to 2 years | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | |
| | Adults | | | | | |
| | Other groups | | | | | |
| | Not known | | | | | |
| | Coverage: Infants aged 15 months in 2007: First dose: 74.68%; report vaccinations, so we do not know how many we In 2007, we continued with catch up for 7-8 year-olds We do not vaccinate 10-14-year-olds as they are already | ere vaccinated privately. s in schools : First dose: 90.2%; Sec | | | | |

Netherlands

| | HBV | нси |
|---|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|--|--|---|
| Clinical | Any person with a discrete ons fatigue, abdominal pain, loss o nausea and vomiting) AND at least one of the following tw jaundice; elevated serum amin AND hepatitis B virus core IgM or H | f appetite, intermittent /o: otransferase levels | when suspecting a recent a recent infections can ori appearance of antibodi laboratory reactivity; symptoms (e.g. icterus disorder); | es against HCV, or increase in or increased liver function sks if present in recent period, |
| Chronic | HBsAg positive | | No case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | _ | Probable | |
| | Confirmed | with classification | Confirmed | with classification |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible magnitude of underreport | , but no estimates exist for ing. |
| Rate underreporting | | | | |

| | HBV | | | | HCV | | | | |
|--------------------|--|---|-------------------|-----------------------|------------------------------------|--------------------|---------------------------|----------------------|--|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | | oratory | Hospital | |
| | Other: | Mur | nicipal health se | ervices | Other: | Mur | nicipal health | services | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | | |
| | | Date | e of birth or ag | e | | Dat | e of birth or a | ge | |
| | | Gen | der | | | Ger | nder | | |
| | | Cou | ntry of birth | | | Cou | intry of birth | | |
| | | Plac | e of residence | | | Plac | e of residence | e | |
| | | Date | e of onset of th | ne disease | | Dat | e of onset of | the disease | |
| | | Date | e of diagnosis | | | Dat | e of diagnosis | | |
| | | Date | e of reporting/ | notification | | Dat | e of reporting | /notification | |
| | | | e used for stati | | | | e used for sta | | |
| | | | | ection was acquired | | | | fection was acquired | |
| | | | nunisation stat | | | | nunisation sta | | |
| | | | come | | | | come | | |
| | Classification | | ical symptoms | | Classification | | ical symptoms | 5 | |
| | information | <u> </u> | oratory results | | information | | oratory result | | |
| | | | lemiological inf | | | | demiological ir | | |
| | Turnelaria | · · | • | | T | | | | |
| | Transmission route risk factors | Hon | nosexual conta | ict | Transmission route risk factors | Homosexual contact | | | |
| | | Hete | erosexual cont | act | | | erosexual con | tact | |
| | | Inje | cting drug use | | | Inje | Injecting drug use | | |
| | | Mot | her HBsAg+ | | | Mot | Mother HCV positive | | |
| | | Clos | e family memb | per HBsAg+ | | Clos | se family men | nber HCV- positive | |
| | | Sex partner HBsAg+ | | | | Sex | partner HCV | positive | |
| | | Blood or blood-product transfusion | | | | | | oduct transfusion | |
| | | | • | | | | • | | |
| | | Invasive healthcare procedure/dental treatment | | | | | itment | re procedure/dental | |
| | | Organ transplantation | | | | Org | an transplant | ation | |
| | | Haemodialysis | | | | Hae | Haemodialysis | | |
| | | Needle injury or other occupational exposure | | | | | dle injury or o osure | other occupational | |
| | | Tattooing/body piercing | | | | Tat | tooing/body p | iercing | |
| | | Other | | | | Oth | er | | |
| | Other | Hos | pitalisation | | Other | Hospitalisation | | | |
| | | Length of hospitalisation ICD code diagnosis | | | | Len | Length of hospitalisation | | |
| | | | | | | ICD | ICD code diagnosis | | |
| | | Gen | otype informat | tion | | Ger | Genotype information | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| ••• | Hospital register | | | | Hospital register | | | | |
| | Other: | | | 1 | Other: | | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Туре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| Frequency | Daily | Wee | klv | Biweekly | Daily | 11/0 | ekly | Biweekly | |
| | Monthly | | inually | Yearly | Monthly | | innually | Yearly | |
| | Other: | Dian | | i carry | Other: | | a a ruun y | rearry | |
| Other surveillance | STI clinic | lahr | oratory | Supplementary | STI clinic | 1.51 | ooratory | Supplementary | |
| Other surveillance | surveillance | netv | vork | sentinel surveillance | surveillance | | twork | sentinel surveilland | |
| systems | Regular sero-surveys in general population | | | | | veys ir | | | |

| | | HBV | HCV | | | | | | |
|--------------------------|---|--|--|--|--|--|--|--|--|
| Screening | Pregnant women | | | | | | | | |
| programme | Military recruits | | | | | | | | |
| | Injecting drug users | | | | | | | | |
| | STI clinic patients | | | | | | | | |
| | Multiple sex partners | | | | | | | | |
| | Prisoners | | | | | | | | |
| | Haemodialysis patients | | | | | | | | |
| | Long-term healthcare facilities | | | | | | | | |
| | Healthcare workers | | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | | |
| | Blood and organ donors | | | | | | | | |
| | Other groups** | | | | | | | | |
| Vaccination programme | HBV | | | | | | | | |
| only HBV) | Universal vaccination | Infants | | | | | | | |
| | | Adolescents | | | | | | | |
| | | Both | | | | | | | |
| | | Other | | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | | | | |
| | | Individuals at risk for HBV due to or | ccupation | | | | | | |
| | | Haemodialysis patients | | | | | | | |
| | | Chronic liver disease patients | | | | | | | |
| | | STI clinic patients | | | | | | | |
| | | Multiple sex partners | | | | | | | |
| | | Injecting drug users | | | | | | | |
| | | Household contacts of HBsAg+ patients | | | | | | | |
| | | Contacts of infected persons | | | | | | | |
| | | Other risk groups** | | | | | | | |
| | Other: | Persons with Down's syndrome All newborns with at least one pare Drug users, commercial sex worker | nt originating from an HBV-endemic country s, men who have sex with men | | | | | | |
| Catch-up programme | | | | | | | | | |
| /accination | Infants 0 to 2 years | | | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | | | |
| | Adults | | | | | | | | |
| | Other groups | | | | | | | | |
| | Not known | | | | | | | | |
| | Coverage Infants born to one or two parents from an endemic country: 96% in 2008 (three HBV vaccinations or more) | | | | | | | | |

Norway

| | HBV | HCV |
|---|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|---|---|--|
| Clinical | No case definition | | No case definition | |
| Chronic | Detection of HBsAg and anti-HE and with no clinical picture of a | Bc for more than 6 months cute hepatitis. | No case definition | |
| Other | Any person with clinical acute h HbsAg and one of the following HBV-RNA, anti-Hbc (IgG or IgM confirmed anti-Hbc seroconvers and one of the following labora RNA, anti-HbsAb (with no histor | laboratory criteria: HbeAg, I); or any person with sion in the last 12 months tory criteria: HbsAg, HBV- | | or both acute and chronic HCV: one of the following laboratory NA. |
| Cases included in surveillance | Possible | | Possible | with classification |
| | Probable | | Probable | |
| | Confirmed | with classification | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | No | | Yes | 1 |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible magnitude of underreport | e, but no estimates exist for ting. |
| Rate underreporting | | | | |

| | HBV | | | | HCV | | | |
|---|----------------------------|---|-----------------|--|--------------------------------------|---------------------------|----------------------|-------------------------------------|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital |
| | Other: | | | | Other: | | | |
| Collected data | Basic data | Patie | ent ID | | Basic data | Pati | ent ID | |
| | | Date of birth or age | | | | | Date of birth or age | |
| | | Gender | | | | Gen | | |
| | | | ntry of birth | | | | ntry of birth | |
| | | | e of residence | | | | e of residence | |
| | | | e of onset of t | | | | e of onset of th | |
| | | | e of diagnosis | | | | e of diagnosis | |
| | | | e of reporting/ | notification | | | e of reporting/ | notification |
| | | | e used for stat | | | | e used for stat | |
| | | | | ection was acquired | | | | ection was acquired |
| | | | nunisation stat | | | | nunisation stat | |
| | | | come | | | | come | 45 |
| | Classification | | cal symptoms | | Classification | | ical symptoms | |
| | information | | pratory results | | information | | oratory results | |
| | | | lemiological in | | | | lemiological in | formation |
| | Transmission | | nosexual conta | | Transmission | | nosexual conta | |
| | route risk factors | Hete | erosexual cont | act | route risk factors | Heterosexual contact | | |
| | | Inje | cting drug use | 2 | | Injecting drug use | | |
| | | | her HBsAg+ | | | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | Close family member HCV- positive | | | |
| | | Sex partner HBsAg+ | | | Sex partner HCV positive | | | |
| | | Blood or blood-product transfusion | | | Blood or blood-product transfusion | | | |
| | | Invasive healthcare procedure/dental | | | Invasive healthcare procedure/dental | | | |
| | | treatment | | | treatment | | | |
| | | Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other | | | Organ transplantation | | | |
| | | | | | Haemodialysis | | | |
| | | | | | | dle injury or o osure | ther occupational | |
| | | | | | Tattooing/body piercing | | | |
| | | | | | Oth | | | |
| | Other | Hospitalisation Length of hospitalisation | | Other | Hos | pitalisation | | |
| | | | | isation | | Length of hospitalisation | | |
| | | ICD | code diagnosi | is | | ICD code diagnosis | | |
| | | Gen | otype informa | tion | | Genotype information | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality |
| • | Hospital register | | | | Hospital register | | | |
| | Other: | | | | Other: | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | |
| Туре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: |
| | Daile | 14/- | I.b. | Diversity | Deile | 147 | alder | Diversity |
| Frequency | Daily | Wee | - | Biweekly | Daily | | ekly | Biweekly |
| | Monthly | ыan | nually | Yearly | Monthly | Bia | nnually | Yearly |
| 044 | Other: | ا ما | | Cumplements of | Other: | | | Cumplementary |
| Other surveillance systems | STI clinic surveillance | Labo | oratory vork | Supplementary sentinel surveillance | STI clinic surveillance | | ooratory work | Supplementary sentinel surveillance |
| - | | Regular sero-surveys in general Other population | | Regular sero-surv population | eys in | general | Other | |

| | | HBV | нсv | | |
|--------------------------|---|---|---|--|--|
| Screening | Pregnant women | | | | |
| programme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination programme | НВV | | | | |
| (only HBV) | Universal vaccination | Infants | | | |
| | | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | 5 | | |
| | | Individuals at risk for HBV due to occupation | | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ patients | | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | | orn to immigrants from countries with immigrants from countries with medium or | | |
| Catch-up programme | | | | | |
| Vaccination coverage | Infants 0 to 2 years | | | | |
| - | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage: | | | | |
| | | | | | |

Poland

| | HBV | HCV | | | | |
|--|--------------------|--------------------|--|--|--|--|
| Surveillance system | | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | |
| Type of surveillance | Passive | Passive | | | | |
| Surveillance system | Own system for HBV | Own system for HCV | | | | |
| Comments | | | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|------------------------|---|---|
| Clinical | EU 2008 case definition | | EU 2008 case definition | I |
| Chronic | No case definition | | not excluded by immun Confirmed antibodies of | ected by screening type assay and |
| Other | | | Comment: Temporarily classified according to E in order to better monit | collected data are simultaneously EU 2002 and 2008 case definitions, or trends. |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | with classification | Probable | with classification |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic | | Chronic | |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | Classification comments: symptomatic cases (including elevated liver function tests) can be differentiated from asymptomatic cases |
| Including duplicates | Unlikely, but possible duplicate removal at the regional level. | | Unlikely, but possible de level. | uplicate removal at the regional |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possi magnitude of underrepo | ble, but no estimates exist for orting. |
| Rate underreporting | | | | |

| | HBV | | | HCV | | | |
|-------------------------------|--|--|-------------------------------------|------------------------------------|---|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | |
| | Other: | | | Other: | | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | |
| | | Date of birth o | r age | | Date of birth o | r age | |
| | | Gender | | | Gender | | |
| | | Country of birt | h | | Country of birt | h | |
| | | Place of reside | | | Place of reside | | |
| | | Date of onset | | | Date of onset of | | |
| | | Date of diagno | | | Date of diagno | | |
| | | | ing/notification | | Date of reporti | | |
| | | Date used for | | | Date used for s | | |
| | | | e infection was acquired | | | infection was acquired | |
| | | | | | | | |
| | | Immunisation | status | | Immunisation s | status | |
| | | Outcome | | | Outcome | | |
| | Classification | Clinical sympto | | Classification | Clinical sympto | | |
| | | Laboratory res | | | Laboratory res | | |
| | | Epidemiologica | al information | | Epidemiologica | l information | |
| | Transmission route risk factors | Homosexual co | ontact | Transmission route risk factors | Homosexual co | ontact | |
| | | Heterosexual of | contact | | Heterosexual c | ontact | |
| | | Injecting drug | use | | Injecting drug | use | |
| | | Mother HBsAg | + | | Mother HCV po | ositive | |
| | | Close family m | ember HBsAg+ | | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | Blood or blood-product transfusion | | |
| | | Invasive healthcare procedure/dental treatment Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other | | | Invasive health treatment | Invasive healthcare procedure/denta treatment | |
| | | | | | Organ transpla | Organ transplantation | |
| | | | | | Haemodialysis | | |
| | | | | | | Needle injury or other occupational exposure | |
| | | | | | Tattooing/body piercing | | |
| | | | | Other | | | |
| | Other | Hospitalisation | I. | Other | Hospitalisation | | |
| | | Length of hos | | | Length of hosp | italisation | |
| | | ICD code diagnosis Genotype information | | | ICD code diagnosis | | |
| | | | | | Genotype information | | |
| | | | | | | | |
| Data linked to | Liver transplant | Liver can | cer Mortality | Liver transplant | Liver cano | cer Mortality | |
| | Hospital register | | | Hospital register | | | |
| | Other: | | | Other: | | | |
| ormat | Electronic | Paper | | Electronic | Paper | | |
| Гуре | Case-based | | ed Other: | Case-based | Aggregate | ed Other: | |
| <i>n</i> | | 33 3 | | | 000 | | |
| requency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly | |
| | Monthly | Biannually | Yearly | Monthly | Biannually | Yearly | |
| | Other: | Other: Aggregated data are provided bi-weekly for hepatitis B (number of cases, acute and chronic) and yearly, with some demographic break-up. Individual level data, paper based, for acute hepatitis B are forwarded quarterly. | | | weekly for he according to 2 definitions) ar demographic data, paper ba | ata are provided bi- patitis C (numbers 2002 and 2008 EU case d yearly, with some break-up. Individual le ased, for hepatitis C 2002 EU case definitio I quarterly. | |
| Other surveillance systems | STI clinic surveillance | Laboratory network | Supplementary sentinel surveillance | STI clinic surveillance | Laboratory | Supplementary sentinel surveilland | |
| - | Regular sero-surveys in general population | | Regular sero-sur | veys in general | Other | | |

| | | HBV | | | |
|--------------------------|---|--|--|--|--|
| Screening | Pregnant women | | | | |
| orogramme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | Only if tattooed or injecting drug user | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination programme | НВV | | | | |
| (only HBV) | Universal vaccination | Infants | | | |
| | | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | 3 | | |
| | | Individuals at risk for HBV due to occupation | | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ patients | | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | HIV-infected persons; residents of centres; persons scheduled for surg | ong-term stationary facilities, childcare lery for cardiopulmonary bypass | | |
| Catch-up | | | | | |
| programme Vaccination | Infants 0 to 2 years | | | | |
| coverage | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage (two or three doses): | 1999: 100 | | | |
| | Year of birth: coverage in percent 2008: 90.2 | 1998: 100 1997: 100 | | | |
| | 2007: 99.8 | 1996: 99.1 | | | |
| | 2006: 99.9 | 1995: 92.4 | | | |
| | 2005: 99.9 2004: 100 | 1994: 98.7 1993: 99.1 | | | |
| | 2003: 100 | 1992: 99.3 | | | |
| | | | | | |
| | 2002: 100 2001: 100 | 1991: 99.5 1990: 99.5 | | | |

Portugal

| | HBV | нси |
|--|--|---|
| Surveillance system | | |
| Included in the national surveillance system | yes | yes |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Included in the national mandatory surveillance system for communicable diseases. | Included in the national mandatory surveillance system for communicable diseases. |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | | |
|--------------------------------|---|--|--|--|--|--|
| Clinical | Acute disease, with insidious or malaise, anorexia, nausea, vom serum transaminase levels, with | iting) and elevation of | Acute disease with insidious clinical symptoms (fever, malaise, anorexia, nausea, astenia) and elevation of serum transaminase levels, with or without icterus. | | | |
| Chronic | No case definition | | No case definition | | | |
| Other | Probable case: person with dise case definition for clinical HBV, a laboratory-confirmed case (co to 180 days before onset of syn Confirmed case: case compatib clinical HBV and confirmed by la | epidemiologically related to bhabitant/sexual partner) 30 nptoms. le with case definition for | Probable case: case compatible with the clinical description and epidemiologically linked to another case with laboratory confirmation (during the incubation period). Confirmed case: case compatible with the clinical description and laboratory confirmed. | | | |
| Cases included in surveillance | Possible | with classification | Possible | | | |
| | Probable | | Probable | with classification | | |
| | Confirmed | | Confirmed | | | |
| | Unknown classification | | Unknown classification | | | |
| Type of cases | Acute | with classification | Acute | with classification | | |
| | Chronic | WILLICISSIICAUUL | Chronic | WILLICIASSIICAUUT | | |
| | Asymptomatic | - | Asymptomatic | | | |
| | Suspected | | Suspected | | | |
| | Other: | Classification not necessary; only acute cases included. | Other: | Classification not necessary; only acute cases included. | | |
| Including duplicates | No | | No | | | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | | |
| Rate underreporting | | | | | | |

| | HBV | HBV | | | | | HCV | | | | |
|-------------------------------|--------------------------------------|--|-------------------|--------------------------------|---|------|--|------------------------------|--|--|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | | | |
| | Other: | | - | | Other: | | - | 1 | | | |
| Collected data | Basic data | Patie | ent ID | | Basic data | Pati | ient ID | | | | |
| | | | of birth or ac | 0 | Dasic uata | | e of birth or a | 10 | | | |
| | | | - | | | | | je | | | |
| | | Geno | | | | Gen | | | | | |
| | | Cour | ntry of birth | | | Cou | intry of birth | | | | |
| | | Place | e of residence | | | Plac | ce of residence | | | | |
| | | Date | e of onset of th | ne disease | | Dat | e of onset of t | he disease | | | |
| | | Date | of diagnosis | | | Dat | e of diagnosis | | | | |
| | | Date | of reporting/ | notification | | Dat | e of reporting/ | notification | | | |
| | | Date | used for stat | stics | | Dat | e used for stat | istics | | | |
| | | Cour | ntry where info | ection was acquired | | Cou | intry where inf | ection was acquire | | | |
| | | Imm | unisation stat | us | | Imn | nunisation stat | us . | | | |
| | | | come | | | _ | come | | | | |
| | Classification | | cal symptoms | | Classification | | ical symptoms | | | | |
| | information | _ | pratory results | | information | - | oratory results | | | | |
| | | - | | formation | | | | | | | |
| | | | emiological int | | | | demiological in | | | | |
| | Transmission route risk factors | | iosexual conta | | Transmission route risk factors | 5 | nosexual conta | | | | |
| | | | rosexual cont | | | | erosexual cont | | | | |
| | | | cting drug use | | | | Injecting drug use | | | | |
| | | Moth | ner HBsAg+ | | | Mot | Mother HCV positive | | | | |
| | | Close | e family meml | per HBsAg+ | | Clos | Close family member HCV- positive | | | | |
| | | Sex partner HBsAg+ | | | | Sex | Sex partner HCV positive | | | | |
| | | Blood or blood-product transfusion | | | | Bloc | Blood or blood-product transfusion | | | | |
| | | Invasive healthcare procedure/dental treatment | | | | | asive healthcai atment | e procedure/denta | | | |
| | | Organ transplantation Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other | | | | Org | Organ transplantation | | | | |
| | | | | | | Hae | Haemodialysis | | | | |
| | | | | | | | Needle injury or other occupational exposure | | | | |
| | | | | | | - | Tattooing/body piercing | | | | |
| | | | | | | | Other | | | | |
| | Other | | | | Other | | Hospitalisation | | | | |
| | Other | Hospitalisation Length of hospitalisation | | | Outer | | Length of hospitalisation | | | | |
| | | - | | | | | | | | | |
| | | ICD code diagnosis | | | | | ICD code diagnosis | | | | |
| | | | otype information | | Genotype information | | | | | | |
| | system, so data a results, and epide | The form is used for all communicable dis system, so data about clinical symptoms, results, and epidemiological information n free-text responses, or in a Yes/No forma | | | Laboratory results not specified, only Yes/ variables with epidemiological information | | | | | | |
| ata linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | | | |
| | Hospital register | | | -, | Hospital register | | | | | | |
| | Other: | | | | Other: | | | | | | |
| ormat | Electronic | | Paper | | Electronic | | Paper | | | | |
| уре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | | | |
| <i>//⁻</i> | | | 33 3 | | | | 33 3 | | | | |
| requency | Daily | Weel | kly | Biweekly | Daily | We | eekly | Biweekly | | | |
| - ,, | Monthly | | nually | Yearly | Monthly | | annually | Yearly | | | |
| | Other: | Dian | Jauny | · conty | Other: | | arterly | Conj | | | |
| | STI clinic | ا مام ا | roton (| Cumplomorters | | - | | Cupplomenters | | | |
| hor our cilleres | | Laboratory network | | Supplementary | STI clinic | | boratory | Supplementary | | | |
| Other surveillance systems | surveillance Regular sero-surve | | | sentinel surveillance Other | surveillance Regular sero-sur | | twork | sentinel surveillan Other | | | |

| | | HBV | нси | | | | | |
|--------------------------|---|---------------------------------------|-----------|--|--|--|--|--|
| Screening | Pregnant women | | | | | | | |
| programme | Military recruits | | | | | | | |
| | Injecting drug users | | | | | | | |
| | STI clinic patients | | | | | | | |
| | Multiple sex partners | | | | | | | |
| | Prisoners | | | | | | | |
| | Haemodialysis patients | | | | | | | |
| | Long-term healthcare facilities | | | | | | | |
| | Healthcare workers | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | |
| | Blood and organ donors | | | | | | | |
| | Other groups** | | | | | | | |
| Vaccination programme | HBV | | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | | |
| | - | Adolescents | | | | | | |
| | | Both | | | | | | |
| | | Other | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | | | |
| | | Individuals at risk for HBV due to oc | ccupation | | | | | |
| | | Haemodialysis patients | | | | | | |
| | | Chronic liver disease patients | | | | | | |
| | | STI clinic patients | | | | | | |
| | | Multiple sex partners | | | | | | |
| | | Injecting drug users | | | | | | |
| | | Household contacts of HBsAg+ patie | ents | | | | | |
| | | Contacts of infected persons | | | | | | |
| | | Other risk groups** | | | | | | |
| | Other: | | | | | | | |
| Catch-up programme | | | | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | | |
| | Adults | | | | | | | |
| | Other groups | | | | | | | |
| | Not known | | | | | | | |
| | Coverage: 97% fully vaccinated children at 12 months of age; 92% vaccination coverage at 14 years of age. | | | | | | | |
| | S270 vaccination coverage at 17 years of age. | | | | | | | |

Romania

| | HBV | HCV | | | | | | | |
|---|---|---|--|--|--|--|--|--|--|
| Surveillance system | Surveillance system | | | | | | | | |
| Included in the national surveillance system | | | | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | | | | |
| Type of surveillance | Passive | Passive | | | | | | | |
| Surveillance system | HBV reporting is included in syndromic surveillance of viral hepatitis. | HCV reporting is included in syndromic surveillance of viral hepatitis. | | | | | | | |
| Comments | | | | | | | | | |

Objectives

| | HBV | HCV |
|--|---|-----|
| Monitoring trends | | |
| Detect outbreaks | no | no |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | To monitor the impact of the universal vaccination programme. | no |

| Definition | HBV | | НСУ | | | |
|--------------------------------|---|--|---|--|--|--|
| Clinical | Clinical criteria: acute disease v jaundice or increased aminotra Lab criteria for confirmed cases antigens to the core antigen (A the nucleic acid in serum. | nsferase levels. S: presence of specific | Acute disease with discrete onset AND hepatitis C virus-specific antibody response OR detection of hepatitis C virus nucleic acid in serum. | | | |
| Chronic | No case definition | | No case definition | | | |
| Other | | | _ | | | |
| Cases included in surveillance | Possible | with classification | Possible | with classification | | |
| | Probable | - | Probable | | | |
| | Confirmed | | Confirmed | | | |
| | Unknown classification | | Unknown classification | | | |
| Type of cases | Acute | with classification | Acute | with classification | | |
| | Chronic | | Chronic | | | |
| | Asymptomatic | - | Asymptomatic | | | |
| | Suspected | | Suspected | | | |
| | Other: | Classification not necessary; only acute cases included. | Other: | Based on anti-HCV antibodies; we cannot differentiate. | | |
| Including duplicates | No | | Yes | | | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | | |
| Rate underreporting | | | | | | |

| | HBV | | | | нси | | | |
|-------------------------------|------------------------------------|---|-------------------------|-------------------------------------|---------------------------------------|--|--------------------------|------------------------------------|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | Lab | oratory | Hospital |
| | Other: | | | | Other: | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Pati | ent ID | |
| | | | e of birth or ac | ie | | | e of birth or ag | e |
| | | Gen | | ,- | | Gen | - | |
| | | | ntry of birth | | | | ntry of birth | |
| | | | e of residence | | | _ | e of residence | |
| | | | e of onset of t | | | | e of onset of th | e diceace |
| | | | e of diagnosis | | | | e of diagnosis | ie uisease |
| | | _ | e of reporting/ | notification | | | e of reporting/i | notification |
| | | | e used for stat | | | | e used for stati | |
| | | | | | | | | |
| | | | - | ection was acquired | | | - | ection was acquired |
| | | | nunisation stat come | us | | | nunisation stati come | us |
| | Classification | | ical symptoms | | Classification | | cal symptoms | |
| | information | _ | | | information | _ | , , | |
| | | | oratory results | | | | pratory results | formation |
| | | · · | lemiological in | | | | lemiological inf | |
| | Transmission route risk factors | Hon | nosexual conta | act | Transmission route risk factors | Hon | nosexual conta | ct |
| | | Hete | erosexual cont | act | | Heterosexual contact | | |
| | | Inje | cting drug use | 2 | | Injecting drug use | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | | Blood or blood-product transfusion | | |
| | | Invasive healthcare procedure/dental treatment | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplantation | | | | | an transplantat | tion |
| | | Haemodialysis | | | | Haemodialysis | | |
| | | Needle injury or other occupational exposure | | | | Nee | | her occupational |
| | | Tattooing/body piercing | | | | · · | ooing/body pie | ercina |
| | | Other | | | | Other | | |
| | Other | Hospitalisation | | Other | Hospitalisation | | | |
| | | Length of hospitalisation | | | | Length of hospitalisation | | |
| | | ICD code diagnosis | | | | ICD code diagnosis | | |
| | | Genotype information | | | | Gen | otype informat | ion |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality |
| | Hospital register | | | | Hospital register | | | |
| | Other: | | | | Other: | | | |
| ormat | Electronic | | Paper | | Electronic | | Paper | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: |
| Frequency | Daily | Wee | kly | Biweekly | Daily | We | ekly | Biweekly |
| - | Monthly | Bian | nually | Yearly | Monthly | | nnually | Yearly |
| | Other: | | · . | | Other: | | | - |
| Other surveillance systems | STI clinic surveillance | | oratory vork | Supplementary sentinel surveillance | STI clinic surveillance | | ooratory work | Supplementary sentinel surveilland |
| | | surveillance network Regular sero-surveys in general population | | | Regular sero-surveys in general Other | | | |

| | | HBV | НСУ | | | | | |
|--------------------------|---|---|-------|--|--|--|--|--|
| Screening | Pregnant women | | | | | | | |
| programme | Military recruits | | | | | | | |
| | Injecting drug users | | | | | | | |
| | STI clinic patients | | | | | | | |
| | Multiple sex partners | | | | | | | |
| | Prisoners | | | | | | | |
| | Haemodialysis patients | | | | | | | |
| | Long-term healthcare facilities | | | | | | | |
| | Healthcare workers | | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | | |
| | Blood and organ donors | | | | | | | |
| | Other groups** | | | | | | | |
| Vaccination programme | HBV | | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | | |
| | | Adolescents | | | | | | |
| | | Both | | | | | | |
| | | Other | | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | | | |
| | | Individuals at risk for HBV due to occupation | | | | | | |
| | | Haemodialysis patients | | | | | | |
| | | Chronic liver disease patients | | | | | | |
| | | STI clinic patients | | | | | | |
| | | Multiple sex partners | | | | | | |
| | | Injecting drug users | | | | | | |
| | | Household contacts of HBsAg+ pat | ients | | | | | |
| | | Contacts of infected persons | | | | | | |
| | | Other risk groups** | | | | | | |
| | Other: | | | | | | | |
| Catch-up programme | | | | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | | |
| | Adults | | | | | | | |
| | Other groups | | | | | | | |
| | Not known | | | | | | | |
| | Not known | | | | | | | |

Slovakia

| | НВУ | HCV |
|---|--|---|
| Surveillance system |) | · · |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Epidemiologists investigate each reported suspect case or each laboratory-positive result directly with patients and their contacts. | Any suspect case of viral hepatitis is investigated by epidemiologists. |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|---|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | To evaluate existing preventive measures. | no |

| Definition | HBV | | НСУ | | | |
|--------------------------------|---|---|----------------------------|-----------------------|--|--|
| Clinical | Any person with a discrete onso fatigue, abdominal pain, loss of nausea and vomiting) AND at least one of the following: fe serum aminotransferase levels, | appetite, intermittent ver; jaundice; elevated | Symptomatic case which is | laboratory confirmed. | | |
| Chronic | | | | | | |
| Other | | | | | | |
| Cases included in surveillance | Possible | | Possible | with classification | | |
| | Probable | with classification | Probable | | | |
| | Confirmed | WIUT CIASSINCAUOT | Confirmed | | | |
| | Unknown classification | | Unknown classification | | | |
| Type of cases | Acute | with eleverification | Acute | with classification | | |
| | Chronic | with classification | Chronic | | | |
| | Asymptomatic | | Asymptomatic | | | |
| | Suspected | | Suspected | | | |
| | Other: | | Other: | | | |
| Including duplicates | No | 1 | No | Į | | |
| Underreporting | Underreporting not possible. | | Underreporting not possibl | e | | |
| Rate underreporting | | | | | | |

| | HBV | | | | HCV | | | | |
|------------------------------|-------------------------------------|--|-------------------|--|--|----------------------|---|---------------------------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | , | | |
| Collected data | Basic data | Datie | ent ID | | Basic data | Dati | ent ID | | |
| conected data | | | e of birth or age | د | | | Date of birth or age | | |
| | | | | - | | _ | | | |
| | | Gen | | | | Ger | | | |
| | | _ | ntry of birth | | | | intry of birth | | |
| | | | e of residence | | | | e of residence | | |
| | | | e of onset of the | e disease | | | e of onset of t | ne disease | |
| | | | e of diagnosis | | | _ | e of diagnosis | | |
| | | | e of reporting/n | | | _ | e of reporting/ | | |
| | | | e used for statis | | | | e used for stat | | |
| | | Cou | ntry where infe | ction was acquired | | Cou | intry where inf | ection was acquired | |
| | | Imm | nunisation statu | IS | | Imr | nunisation stat | us | |
| | | Outo | come | | | Out | come | | |
| | Classification | Clini | cal symptoms | | Classification | Clin | ical symptoms | | |
| | information | Labo | pratory results | | information | Lab | oratory results | | |
| | | | emiological info | ormation | | | demiological in | | |
| | Transmission | _ | osexual contac | | Transmission | Hor | nosexual conta | | |
| | route risk factors | Hete | erosexual conta | ct | route risk factors | | erosexual cont | act | |
| | | Inje | cting drug use | | | Inje | ecting drug use | : | |
| | | Moth | ner HBsAg+ | | | Mot | her HCV positi | ve | |
| | | Clos | e family memb | er HBsAg+ | | Clos | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ Blood or blood-product transfusion Invasive healthcare procedure/dental treatment Organ transplantation | | | | Sex | Sex partner HCV positive | | |
| | | | | | | Bloc | Blood or blood-product transfusion | | |
| | | | | | | | Invasive healthcare procedure/dental treatment | | |
| | | | | | | Org | Organ transplantation | | |
| | | Haemodialysis | | Hae | | Haemodialysis | | | |
| | | Needle injury or other occupational exposure Tattooing/body piercing Other | | | | | Needle injury or other occupational exposure Tattooing/body piercing Other | | |
| | | | | | | | | | |
| | | | | | | Oth | | | |
| | Other | Hos | oitalisation | Other | Hos | Hospitalisation | | | |
| | | Length of hospitalisation ICD code diagnosis | | | | Len | Length of hospitalisation | | |
| | | | | | | ICD | ICD code diagnosis | | |
| | | Gen | otype informati | | Ger | Genotype information | | | |
| | B16: acute HBV B18.1: chronic HB | ICD- 10 codes for acute, chronic, and asymptomatic cases. B16: acute HBV B18.1: chronic HBV Z22.5: carrier of HBsAg | | | ICD-10 B17.1: acute HVC B18.2: chronic HVC | | | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | | Hospital register | | | | |
| | Other: | | | | Other: | | | | |
| ormat | Electronic | | Paper | | Electronic | | Paper | | |
| ype | Case-based | | | Other: | Case-based | | Aggregated | Other: | |
| / 7 | Cube Subeu | | | | | | . igg. cgutcu | | |
| requency | Daily | Wee | kly | Biweekly | Daily | We | ekly | Biweekly | |
| | Monthly | | , | Yearly | Monthly | | innually | Yearly | |
| | Other: | | rmined by need | | Other: | | termined by ne | | |
| other surveillance ystems | STI clinic surveillance | Labo netw | vork s | Supplementary sentinel surveillance | STI clinic surveillance | La ne | ooratory twork | Supplementary sentinel surveillanc | |
| | population | gular sero-surveys in general Other pulation | | | Regular sero-surveys in general Other population | | | Guler | |

| | | HBV | НСУ | | |
|--------------------------|--|--|---|--|--|
| Screening | Pregnant women | | | | |
| programme | Military recruits | | | | |
| | Injecting drug users | | | | |
| | STI clinic patients | | | | |
| | Multiple sex partners | | | | |
| | Prisoners | | | | |
| | Haemodialysis patients | | | | |
| | Long-term healthcare facilities | | | | |
| | Healthcare workers | | | | |
| | Workers who are occupationally exposed to the virus | | | | |
| | Blood and organ donors | | | | |
| | Other groups** | | | | |
| Vaccination programme | НВV | | | | |
| (only HBV) | Universal vaccination | Infants | | | |
| | | Adolescents | | | |
| | | Both | | | |
| | | Other | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | |
| | | Individuals at risk for HBV due to occupation | | | |
| | | Haemodialysis patients | | | |
| | | Chronic liver disease patients | | | |
| | | STI clinic patients | | | |
| | | Multiple sex partners | | | |
| | | Injecting drug users | | | |
| | | Household contacts of HBsAg+ patie | ents | | |
| | | Contacts of infected persons | | | |
| | | Other risk groups** | | | |
| | Other: | Risk group vaccination: patients with hepatitis C) | h other type of viral hepatitis (hepatitis A, | | |
| Catch-up programme | | | | | |
| Vaccination | Infants 0 to 2 years | | | | |
| coverage | Adolescents 10 to 14 years | | | | |
| | Adults | | | | |
| | Other groups | | | | |
| | Not known | | | | |
| | Coverage: 0-2 years: 98.5% 10-14 years: 98% Health professionals: 88% | | | | |
| | | | | | |

Slovenia

| | HBV | нси |
|---|--------------------|--------------------|
| Surveillance system | | |
| Included in the national surveillance system | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory |
| Type of surveillance | Passive | Passive |
| Surveillance system | Own system for HBV | Own system for HCV |
| Comments | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|---|---|---|
| Clinical | EU 2008 case definition Current definition: A case that i picture compatible with acute h any person with a discrete onse abdominal pain, loss of appetite vomiting) | epatitis; et of symptoms (fatique, | EU 2008 case definition Clinical picture compatible v | vith hepatitis;. |
| Chronic | No case definition | | EU 2008 case definition | |
| Other | | | | |
| Cases included in surveillance | Possible | With classification | Possible | With classification |
| | Probable | | Probable | |
| | Confirmed | | Confirmed | |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | | Acute | |
| | Chronic | With classification | Chronic | With classification |
| | Asymptomatic | | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | Almost all reported cases are laboratory confirmed. Cases on notification forms are classified as acute and chronic ones; asymptomatic cases can be classified according to data from questionnaires. Notification system will change in the future. | Other: | Acute and chronic forms can be differentiated from notification forms, other data are gathered from questionnaires. |
| Including duplicates | No | | No | |
| Underreporting | Underreporting is possible, but no estimates exist for magnitude of underreporting. | | Underreporting is possible, magnitude of underreportin | |
| Rate underreporting | | | | |

| | HBV | | | | HCV | | | | |
|-------------------------------|---|---|-------------------|--|--------------------------------|---------------------------------------|--|------------------------------------|--|
| Source of data | Physicians | Labo | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | | ent ID | | Basic data | | ent ID | | |
| | | Date | e of birth or age | e | | Dat | e of birth or ag | ge | |
| | | Gen | der | | | Gen | der | | |
| | | Cou | ntry of birth | | | Cou | ntry of birth | | |
| | | Plac | e of residence | | | Plac | e of residence | 2 | |
| | | Date | e of onset of th | e disease | | Dat | e of onset of t | he disease | |
| | | | e of diagnosis | | | Dat | e of diagnosis | | |
| | | Date | e of reporting/r | notification | | Dat | e of reporting/ | notification | |
| | | Date | e used for statis | stics | | Dat | e used for stat | tistics | |
| | | _ | | ection was acquired | | | | ection was acquired | |
| | | | nunisation statu | JS | | | nunisation stat | tus | |
| | | | come | | | | come | | |
| | Classification information | Clini | cal symptoms | | Classification information | Clin | ical symptoms | ; | |
| | mornadori | | pratory results | | linomiddon | | oratory results | | |
| | | Epid | emiological info | ormation | | Epic | lemiological in | formation | |
| | Transmission route risk factors | Horr | nosexual contac | ct | Transmission route risk factor | | nosexual conta | act | |
| | | Hete | erosexual conta | act | | | Heterosexual contact | | |
| | | Inje | cting drug use | | | Inje | Injecting drug use | | |
| | | Mother HBsAg+ | | | | Mot | Mother HCV positive | | |
| | | Close family member HBsAg+ | | | | Clos | Close family member HCV- positive | | |
| | | Sex partner HBsAg+ | | | | Sex | Sex partner HCV positive | | |
| | | Blood or blood-product transfusion | | | | Bloc | od or blood-pro | oduct transfusion | |
| | | Invasive healthcare procedure/dental treatment | | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplantation | | | | Org | Organ transplantation | | |
| | | Haemodialysis | | | | Hae | Haemodialysis | | |
| | | Needle injury or other occupational exposure Tattooing/body piercing Other | | | | | Needle injury or other occupational exposure | | |
| | | | | | | | Tattooing/body piercing Other | | |
| | Other | | | | Other | | Hospitalisation | | |
| | Oulei | Hospitalisation | | | Outer | _ | Length of hospitalisation | | |
| | | Length of hospitalisation ICD code diagnosis Genotype information is available from notification form: other | | | | | ICD code diagnosis | | |
| | | | | | | | Genotype information | | |
| | Above information | | | | | | is available from notification form; oth | | |
| | information (includ questionnaires are | ding la | aboratory result | | | luding l | aboratory resu | Ilts) are available if | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | | Hospital registe | r | | | |
| | Other: | Ir of | | Automatic linking is not possible. Individual cases can be found in other registers through personal | | | | | |
| Format | Electronic | | data. Paper | | Electronic Paper | | Paper | | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| roquonov | Daily | Wee | kh z | Piwookhy | Daily | 14/- | okhy | Riwookh | |
| Frequency | Daily | | ekly Biweekly | | Daily | | ekly nnually | Biweekly | |
| | Monthly Other: | _ | | Yearly or outbreaks we | Monthly Other: | | , | Yearly aks, data are | |
| | outer. | | se data more | | ouncr. | | alysed more fr | | |
| Other surveillance systems | STI clinic surveillance | Labo netw | | Supplementary sentinel surveillance | STI clinic surveillance | Laboratory Suppleme | | Supplementary sentinel surveilland | |
| | Regular sero-surve | eys in | general | Other | Regular sero-su | Regular sero-surveys in general Other | | Other | |
| | population | | | | population | | | | |

| | | HBV | НСУ | |
|--------------------------|---|---------------------------------------|---|--|
| Screening | Pregnant women | | | |
| programme | Military recruits | | | |
| | Injecting drug users | | | |
| | STI clinic patients | | | |
| | Multiple sex partners | | | |
| | Prisoners | | | |
| | Haemodialysis patients | | | |
| | Long-term healthcare facilities | | | |
| | Healthcare workers | | | |
| | Workers who are occupationally exposed to the virus | | | |
| | Blood and organ donors | | | |
| | Other groups** | | | |
| | | | ngs are conducted for risk groups. The ed ofr HBV according to risk assessments andards of peacekeeping missions. | |
| /accination programme | HBV | | | |
| only HBV) | Universal vaccination | Infants | | |
| | | Adolescents | | |
| | | Both | | |
| | | Other | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | |
| | | Individuals at risk for HBV due to oc | cupation | |
| | | Haemodialysis patients | | |
| | | Chronic liver disease patients | | |
| | | STI clinic patients | | |
| | | Multiple sex partners | | |
| | | Injecting drug users | | |
| | | Household contacts of HBsAg+ patie | ents | |
| | | Contacts of infected persons | | |
| | | Other risk groups | | |
| | Other: | Universal vaccination programme for | r children before they enter primary school. | |
| Catch-up programme | Vaccination catch-up was offered for young people | | | |
| /accination | Infants 0 to 2 years | | | |
| coverage | Adolescents 10 to 14 years | | | |
| | Adults | | | |
| | Other groups | | | |
| | Not known | | | |
| | Coverage: Among compulsory vaccinated children age | ed 7 years: 97.3% in 2007 | | |
| | | | | |

Spain

| | НВV | HCV | | | | |
|---|---|--|--|--|--|--|
| Surveillance system | | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | |
| Type of surveillance | Passive | Passive | | | | |
| Surveillance system | Several surveillance systems for HBV, one of which is the major and most comprehensive one. | Several surveillance systems for HCV, one of which is the major and most comprehensive one. | | | | |
| Comments | | HCV is included in the syndromic surveillance of viral hepatitis. In addition, data on HCV are collected through a voluntary reporting system based on reports sent by the microbiology laboratories in hospitals | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | no |
| Evaluation and planning of control measures | | no |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | |
|--------------------------------|---|--|--|--|
| Clinical | Any person with a discrete onse fatigue, abdominal pain, loss of nausea and vomiting) AND at least one of the following thr elevated serum aminotransfera: | appetite, intermittent ee: fever; jaundice; | An acute illness with a dis symptom consistent with a anorexia, abdominal disco jaundice) and increase in | acute viral hepatitis (e.g. mfort, nausea, vomiting and |
| Chronic | No case definitions | | No case definitions | |
| Other | | | | |
| Cases included in surveillance | Possible | | Possible | |
| | Probable | | Probable | |
| | Confirmed | with classification | Confirmed | with classification |
| | Unknown classification | | Unknown classification | |
| Type of cases | Acute | with classification | Acute | with classification |
| | Chronic |] | Chronic | |
| | Asymptomatic | - | Asymptomatic | |
| | Suspected | | Suspected | |
| | Other: | | Other: | |
| Including duplicates | Yes | | Yes | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible magnitude of underreport | , but no estimates exist for ing. |
| Rate underreporting | | | | |

| | HBV | | | | HCV | | | | |
|--------------------|--------------------------------|---|----------------------|--|---------------------------|------------------------------------|-------------------|----------------------|--|
| Source of data | Physicians | Lab | oratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | Pati | ent ID | | Basic data | Patient ID | | | |
| | | Date of birth or age | | | | Date | e of birth or ag | le | |
| | | Gender | | | | Gen | | · | |
| | | | ntry of birth | | | | ntry of birth | | |
| | | _ | e of residence | a | | | e of residence | | |
| | | | e of onset of t | | | | e of onset of t | | |
| | | | e of diagnosis | | | | e of diagnosis | | |
| | | L | e of reporting/ | notification | | | e of reporting/ | notification | |
| | | | e used for stat | | | | e used for stat | | |
| | | | | fection was acquired | | | | ection was acquired | |
| | | - | nunisation stat | • | | | nunisation stat | | |
| | | | come | | | | come | | |
| | Classification | | ical symptoms | | Classification | | ical symptoms | | |
| | information | <u> </u> | pratory results | | information | <u> </u> | oratory results | | |
| | | | lemiological in | | | | lemiological in | | |
| | Transmission | ļ · | nosexual conta | | Transmission | | nosexual conta | | |
| | route risk factors | Hete | erosexual cont | tact | route risk factors | Heterosexual contact | | | |
| | | Inje | cting drug use | 2 | | Injecting drug use | | | |
| | | Mother HBsAg+ | | | | Mother HCV positive | | | |
| | | Close family member HBsAg+ | | | | Close family member HCV- positive | | | |
| | | Sex partner HBsAg+ | | | Other | Sex partner HCV positive | | | |
| | | Blood or blood-product transfusion | | | | Blood or blood-product transfusion | | | |
| | | · | | | | | • | | |
| | | Invasive healthcare procedure/dental treatment | | Invasive healthcare procedure/dental treatment | | | | | |
| | | Organ transplantation | | Organ transplantation | | | | | |
| | | Haemodialysis Needle injury or other occupational exposure Tattooing/body piercing Other Hospitalisation | | Haemodialysis | | | | | |
| | | | | | | dle injury or o osure | ther occupational | | |
| | | | | Tattooing/body piercing | | ercing | | | |
| | | | | Other | | | | | |
| | Other | | | Hospitalisation | | | | | |
| | | Length of hospitalisation | | | Length of hospitalisation | | | | |
| | | ICD code diagnosis | | | ICD code diagnosis | | | | |
| | | Gen | Genotype information | | | Genotype information | | | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | | | Hospital register | | | | |
| | Other: | | | <u> </u> | Other: | | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| Frequency | Daily | Wee | klv | Biweekly | Daily | We | ekly | Biweekly | |
| | Monthly | | nually | Yearly | Monthly | | nnually | Yearly | |
| | Other: | | | | Other: | | | | |
| Other surveillance | STI clinic | Labo | oratory | Supplementary | STI clinic | Lat | oratory | Supplementary | |
| systems | surveillance | netv | | sentinel surveillance | surveillance | | work | sentinel surveillanc | |
| | Regular sero-surver population | eys ir | general | Other | Regular sero-surveys in g | | general | Other | |
| | population | | | | Population | | | | |

| | | HBV | НСУ | |
|--------------------------|---|---|------|--|
| Screening | Pregnant women | | | |
| programme | Military recruits | | | |
| | Injecting drug users | | | |
| | STI clinic patients | | | |
| | Multiple sex partners | | | |
| | Prisoners | | | |
| | Haemodialysis patients | | | |
| | Long-term healthcare facilities | | | |
| | Healthcare workers | | | |
| | Workers who are occupationally exposed to the virus | | | |
| | Blood and organ donors | | | |
| | Other groups** | | | |
| Vaccination programme | HBV | | | |
| (only HBV) | Universal vaccination | Infants | | |
| | - | Adolescents | | |
| | | Both | | |
| | | Other | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | |
| | | Individuals at risk for HBV due to occupation | | |
| | | Haemodialysis patients | | |
| | | Chronic liver disease patients | | |
| | | STI clinic patients | | |
| | | Multiple sex partners | | |
| | | Injecting drug users | | |
| | | Household contacts of HBsAg+ pati | ents | |
| | | Contacts of infected persons | | |
| | | Other risk groups** | | |
| | Other: | | | |
| Catch-up programme | | | | |
| Vaccination | Infants 0 to 2 years | | | |
| coverage | Adolescents 10 to 14 years | | | |
| | Adults | | | |
| | Other groups | | | |
| | Not known | | | |
| | Coverage: Infants: 98% (2004) Adolescents: 78% (20 | 004) | | |

Sweden

| | HBV | HCV | | | | |
|--|--------------------|--------------------|--|--|--|--|
| Surveillance system | | | | | | |
| Included in the national surveillance system | | | | | | |
| Legal basis (mandatory/ voluntary) | Mandatory | Mandatory | | | | |
| Type of surveillance | Passive | Passive | | | | |
| Surveillance system | Own system for HBV | Own system for HCV | | | | |
| Comments | SmiNet | SmiNet | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | HCV | | | |
|--------------------------------|---|------------------------|---|-------------------------------------|--|--|
| Clinical | No case definition | | No case definition | | | |
| Chronic | HBV chronic infection: HBsAg p AND anti-HBc IgG positive AND not detectable or low levels of a | | HCV RNA positive and HCV antibody positive | | | |
| Other | HBV acute infection: HBsAg + OR HBV-DNA + AND anti-HBcIgM + OR HBV-DNA + HBsAg AND not detectable anti- | | HCV acute infection: seroconversion to anti-HCV within 6 months between the samples. | | | |
| Cases included in surveillance | Possible | | Possible | with classification | | |
| | Probable | | Probable | | | |
| | Confirmed | with classification | Confirmed | | | |
| | Unknown classification | | Unknown classification | | | |
| Type of cases | Acute | with classification | Acute | with classification | | |
| | Chronic | | Chronic | | | |
| | Asymptomatic | | Asymptomatic | | | |
| | Suspected | | Suspected | | | |
| | Other: | | Other: | | | |
| Including duplicates | No | | No | | | |
| Underreporting | Underreporting is possible, but magnitude of underreporting. | no estimates exist for | Underreporting is possible, magnitude of underreporti | , but no estimates exist for ng. | | |
| Rate underreporting | | | | | | |

| | HBV | | | HCV | | | |
|-------------------------------|---------------------------------|--|--|------------------------------------|---|--|--|
| Source of data | Physicians | Laboratory | Hospital | Physicians | Laboratory | Hospital | |
| | Other: | | | Other: | | | |
| Collected data | Basic data | Patient ID | | Basic data | Patient ID | | |
| | | Date of birth or age | | | Date of birth or | r age | |
| | | Gender | | | Gender | | |
| | | Country of birth | ı | | Country of birth | h | |
| | | Place of resider | nce | | Place of resider | nce | |
| | | Date of onset o | f the disease | | Date of onset of | of the disease | |
| | | Date of diagnos | sis | | Date of diagno | sis | |
| | | Date of reportir | ng/notification | | Date of reporti | ng/notification | |
| | | Date used for s | tatistics | | Date used for s | statistics | |
| | | Country where | infection was acquired | | Country where | infection was acquired | |
| | | Immunisation s | tatus | - | Immunisation s | status | |
| | | Outcome | | | Outcome | | |
| | Classification | Clinical sympton | ms | Classification information | Clinical sympto | ms | |
| | IIIOIIIauoii | Laboratory resu | ılts | IIIIOIIIIauoii | Laboratory resu | ults | |
| | | Epidemiological | information | | Epidemiologica | l information | |
| | Transmission route risk factors | Homosexual co | ntact | Transmission route risk factors | Homosexual co | ontact | |
| | TOULE TISK TACLOTS | Heterosexual co | ontact | TOULE TISK TACLOIS | Heterosexual c | ontact | |
| | | Injecting drug | lse | | Injecting drug | use | |
| | | Mother HBsAg+ | - | | Mother HCV po | ositive | |
| | | Close family me | ember HBsAg+ | | Close family member HCV- positive | | |
| | | Sex partner HB | sAg+ | - | Sex partner HCV positive | | |
| | | Blood or blood- | product transfusion | | Blood or blood-product transfusion | | |
| | | Invasive healthcare procedure/dental | | | Invasive healthcare procedure/dental | | |
| | | treatment | | | treatment | | |
| | | Organ transplantation | | | Organ transplantation | | |
| | | Haemodialysis | | | Haemodialysis | | |
| | | Needle injury or other occupational exposure Tattooing/body piercing | | | Needle injury or other occupational exposure | | |
| | | | | | Tattooing/body piercing | | |
| | | Other | | Other | | | |
| | Other | Hospitalisation | | Other | Hospitalisation | | |
| | | Length of hospitalisation | | _ | Length of hospitalisation | | |
| | | ICD code diagn | | | ICD code diagnosis | | |
| | | Genotype inform | nation | | Genotype infor | mation | |
| Data linked to | Liver transplant | Liver canc | er Mortality | Liver transplant | Liver cano | er Mortality | |
| | Hospital register | | ci inortanty | Hospital register | | rioritality | |
| | | | | | | | |
| | Other: | It is not po | ossible to link HBV cases | Other: | Except for cannot be | r mortality, HCV cases linked to other register | |
| | | mortality i | n the ordinary | | from the o | ordinary surveillance | |
| | | | e system. Linking can be ecial studies. | | system. Linking can be done in special studies | | |
| Format | Electronic | Paper | | Electronic | Paper | | |
| Туре | Case-based | Aggre- | Other: | Case-based | Aggre- | Other: | |
| | | gated | | | gated | | |
| Frequency | Daily | Weekly | Biweekly | Daily | Weekly | Biweekly | |
| | Monthly | Biannually | Yearly | Monthly | Biannually | Yearly | |
| | Other: | Dannudily | rearry | Other: | Diamitudity | rearry | |
| Other surveillance | STI clinic | Laboratory | Supplementary | STI clinic | Laboratory | Supplementary | |
| Other surveillance systems | surveillance | Laboratory Supplementary network sentinel surveillance | | surveillance | Laboratory Supplemental network sentinel surve | | |
| - | Regular sero-surv | | Other | Regular sero-sur | | | |
| | population | | | population | | | |

| | | HBV | НСУ | | | | |
|--------------------------|---|--|---------------------------|--|--|--|--|
| Screening | Pregnant women | | | | | | |
| programme | Military recruits | | | | | | |
| | Injecting drug users | | | | | | |
| | STI clinic patients | | | | | | |
| | Multiple sex partners | | | | | | |
| | Prisoners | | | | | | |
| | Haemodialysis patients | | | | | | |
| | Long-term healthcare facilities | | | | | | |
| | Healthcare workers | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | |
| | Blood and organ donors | | | | | | |
| | Other groups** | | | | | | |
| Vaccination programme | HBV | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | |
| | | Adolescents | | | | | |
| | | Both | | | | | |
| | | Other | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg + mothers | | | | | |
| | | Individuals at risk for HBV due to or | cupation | | | | |
| | | Haemodialysis patients | | | | | |
| | | Chronic liver disease patients | | | | | |
| | | STI clinic patients | | | | | |
| | | Multiple sex partners | | | | | |
| | | Injecting drug users | | | | | |
| | | Household contacts of HBsAg+ patient | ents | | | | |
| | | Contacts of infected persons | | | | | |
| | | Other risk groups: individuals at risk | for HBV due to occupation | | | | |
| | Other: | | | | | | |
| Catch-up programme | | | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | |
| | Adults | | | | | | |
| | Other groups | | | | | | |
| | Not known | | | | | | |
| | Coverage: | | | | | | |
| | | | | | | | |

United Kingdom

| | HBV | HCV | | | | | |
|--|---|--|--|--|--|--|--|
| Surveillance system | | | | | | | |
| Included in the national surveillance system | | | | | | | |
| Legal basis (mandatory/ voluntary) | Voluntary | Voluntary | | | | | |
| Type of surveillance | It includes information from multiple sources, primarily the laboratory carrying out the testing to detect changing patterns in hepatitis B. Blood specimens are tested to determine acute hepatitis B infection. | It includes information from multiple sources, including the microbiology laboratory to detect changing patterns of hepatitis C infection. Blood specimens are tested to determine hepatitis C exposure. | | | | | |
| Surveillance system | Several surveillance systems for HBV, one of which is the major and most comprehensive one. | Several surveillance systems for HCV, one of which is the major and most comprehensive one. | | | | | |
| Comments | | | | | | | |

Objectives

| | HBV | HCV |
|--|-----|-----|
| Monitoring trends | | |
| Detect outbreaks | | |
| Monitoring changes in disease distribution | | |
| Evaluation and planning of control measures | | |
| Improve knowledge of epidemiology | | |
| Other | no | no |

| Definition | HBV | | нсу | | | |
|--------------------------------|---|---|---|-----------------------|--|--|
| Clinical | HBsAg + and anti-HBc IgM + a tests with a pattern consistent w | | Case definition for surveillance: Recent seroconversion OR hepatitis C RNA or antigen + and anti-HCV - or equivocal in otherwise immunocompetent individual OR anti-HCV +, anti-HAV IgM -, and anti-HBc IgM - and abnormal liver function tests with a pattern consistent with acute viral hepatitis in someone with recent exposure to HCV e.g. needlestick injury, dialysis, recent injecting drug use. | | | |
| Chronic | Chronic HBV case definition: HBsAg + twice at least 6 month OR HBsAg + and anti-HBc IgM2,- a | · | Case definition for surveillance: Anti-HCV positive OR HCV RNA+ and not meeting ca | | | |
| Other | | | | | | |
| Cases included in surveillance | Possible | | Possible | | | |
| | Probable | with classification | Probable | with classification | | |
| | Confirmed | | Confirmed | | | |
| | Unknown classification | | Unknown classification | | | |
| Type of cases | Acute | | Acute | | | |
| | Chronic | with classification | Chronic | with classification | | |
| | Asymptomatic | with classification | Asymptomatic | | | |
| | Suspected | | Suspected | | | |
| | Other: | | Other: | | | |
| Including duplicates | Yes | 1 | Yes | 1 | | |
| Underreporting | Underreporting is possible; plea underreporting (number of repo number of real cases) below. | se give the rate for orted cases/estimated | Underreporting is possible; plea underreporting (number of rep number of real cases) below. | | | |
| Rate underreporting | The proportion of underreportir Ramsay M, et al. Control of hep 1998;16(Suppl):S52–5. | | Data suggest that routine labor underestimate the numbers of infections by up to 60% (HPA / | diagnosed hepatitis C | | |

| Data | | HBV | | | HCV | | | | |
|-------------------------------|-------------------------------------|--|----------------|-------------------------------------|--|------------------------------------|--|---|--|
| Course of data | | | | | | | | | |
| Source of data | Physicians | Labo | ratory | Hospital | Physicians | Lab | oratory | Hospital | |
| | Other: | | | | Other: | | | | |
| Collected data | Basic data | | nt ID | | Basic data | | ent ID | | |
| | | Date | of birth or ag | ge | | Dat | Date of birth or age | | |
| | | Gender | | | | Ger | Gender | | |
| | | Coun | try of birth | | | Cou | ntry of birth | | |
| | | Place | e of residence | 2 | | Plac | e of residence | 2 | |
| | | Date | of onset of t | he disease | | Dat | e of onset of t | he disease | |
| | | Date | of diagnosis | | | Dat | e of diagnosis | | |
| | | Date | of reporting/ | notification | | Dat | e of reporting, | /notification | |
| | | Date | used for stat | istics | | Dat | e used for stat | tistics | |
| | | Coun | try where inf | ection was acquired | | Cou | ntry where inf | fection was acquired | |
| | | Imm | unisation stat | tus | | Imr | nunisation sta | tus | |
| | | Outo | ome | | | Out | come | | |
| | Classification | Clinic | al symptoms | ; | Classification | Clin | ical symptoms | 5 | |
| | information | Labo | ratory results | ; | information | Lab | oratory results | 5 | |
| | | Epide | emiological in | formation | | Epic | lemiological ir | nformation | |
| | Transmission route risk factors | Hom | osexual conta | act | Transmission route risk factors | | nosexual cont | act | |
| | TOULE TISK TACLOTS | Hete | rosexual cont | tact | | | Heterosexual contact | | |
| | | Injec | ting drug use | 5 | | Inje | cting drug use | e | |
| | | Moth | er HBsAg+ | | | Mot | Mother HCV positive | | |
| | | Close | e family mem | ber HBsAg+ | | Close family member HCV- positive | | | |
| | | Sex partner HBsAg+ | | | | Sex partner HCV positive | | | |
| | | Blood or blood-product transfusion | | | | Blood or blood-product transfusion | | | |
| | | Invasive healthcare procedure/dental treatment | | | | | Invasive healthcare procedure/dental treatment | | |
| | | Organ transplantation | | | | Org | Organ transplantation | | |
| | | Haemodialysis | | | | Haemodialysis | | | |
| | | Needle injury or other occupational exposure | | | | | Needle injury or other occupational exposure | | |
| | | Tattooing/body piercing | | | | Tattooing/body piercing | | | |
| | | Other | | | | Other | | | |
| | Other | Hospitalisation | | | Other | Hospitalisation | | | |
| | | Leng | th of hospital | lisation | | Len | Length of hospitalisation | | |
| | | ICD o | code diagnos | is | | ICD code diagnosis | | | |
| | | Geno | otype informa | tion | | Ger | otype informa | ation | |
| Data linked to | Liver transplant | | Liver cancer | Mortality | Liver transplant | | Liver cancer | Mortality | |
| | Hospital register | | Liver curreel | riorcancy | Hospital register | | | i lorculity | |
| | | | | | | | | | |
| | Other: | | | | Other: | | | | |
| Format | Electronic | | Paper | | Electronic | | Paper | | |
| Гуре | Case-based | | Aggregated | Other: | Case-based | | Aggregated | Other: | |
| requency | Daily | Weekly | | Biweekly | Daily | We | ekly | Biweekly | |
| | Monthly | Biann | nually | Yearly | Monthly | Bia | nnually | Yearly | |
| | Other: | Quarterly | | | Other: | Qu | arterly | | |
| Other surveillance systems | STI clinic surveillance | Labor | ratory ork | Supplementary sentinel surveillance | STI clinic surveillance | | ooratory twork | Supplementary sentinel surveilland | |
| | Regular sero-surv population | Regular sero-surveys in general | | Other | Regular sero-surveys in general Other population | | Other | | |
| | Annual surveys of specimens from in | | | anti-HBc in oral fluid | testing. The annu | ial sur | vey of anti-HC | tem monitors HCV CV testing in injecting tested for anti-HCV) | |

| | | HBV | HCV | | | | |
|--------------------------|--|--|---|--|--|--|--|
| Screening | Pregnant women | | | | | | |
| programme | Military recruits | | | | | | |
| | Injecting drug users | | | | | | |
| | STI clinic patients | | | | | | |
| | Multiple sex partners | | | | | | |
| | Prisoners | | | | | | |
| | Haemodialysis patients | | | | | | |
| | Long-term healthcare facilities | | | | | | |
| | Healthcare workers | | | | | | |
| | Workers who are occupationally exposed to the virus | | | | | | |
| | Blood and organ donors | | | | | | |
| | Other groups** | | | | | | |
| Vaccination programme | HBV | | | | | | |
| (only HBV) | Universal vaccination | Infants | | | | | |
| | | Adolescents | | | | | |
| | | Both | | | | | |
| | | Other | | | | | |
| | Risk groups vaccination | Neonates born to HBsAg mothers | | | | | |
| | | Individuals at risk for HBV due to o | ccupation | | | | |
| | | Haemodialysis patients | | | | | |
| | | Chronic liver disease patients | | | | | |
| | | STI clinic patients | | | | | |
| | | Multiple sex partners | | | | | |
| | | Injecting drug users | | | | | |
| | | Household contacts of HBsAg+ pat | ients | | | | |
| | | Contacts of infected persons | | | | | |
| | | Other risk groups** | | | | | |
| | Other: | Staff of residential and other accompeople travelling to and going to re | modation for those with learning difficulties; side in high prevalence areas | | | | |
| Catch-up programme | | | | | | | |
| Vaccination | Infants 0 to 2 years | | | | | | |
| coverage | Adolescents 10 to 14 years | | | | | | |
| | Adults | | | | | | |
| | Other groups | | | | | | |
| | Not known | | | | | | |
| | Coverage: Homosexual men who attend genitourinary medicine For prisons: 37.5% in 2007; 47.5% in 2008 | clinics (HepB3 study; 44% in 2005 a | und 38% in 2006). | | | | |

REFERENCES

ⁱ Shepard CW, Simard EP, Finelli L, Fiore AE, Bell BP. Hepatitis B virus infection: epidemiology and vaccination. Epidemiol Rev, 2006. 28: 112-25.

ⁱⁱ Lavanchy D. Hepatitis B virus epidemiology, disease burden, treatment, and current and emerging prevention and control measures. J Viral Hepat, 2004. 11(2): 97-107.

^{III} WHO. Hepatitis B: fact sheet No. 204, 2008 Aug [cited 8 August 2010]. Available from: http://www.who.int/mediacentre/factsheets/fs204/en/print.html.

^{iv} Van Damme P, Van Herck K, Michielsen P, Franken S, Shouval D. Chronic hepatitis and other liver disease. In: Detels R, Beaglehole R, Lansang A, Gulliford M, editors. Oxford Textbook of Public Health, 5th edition. Oxford University Press; 2009. p. 1249-63.

^v Zuckerman J, van Hattum J, Cafferkey M, Gjørup I, Hoel T, Rummukainen ML, et al. Should hepatitis B vaccination be introduced into childhood immunisation programmes in northern Europe? Lancet Infect Dis, 2007. 7(6): 410-19.

^{vi} Cenci, M., et al., Prevalence of hepatitis C virus (HCV) genotypes and increase of type 4 in central Italy: an update and report of a new method of HCV genotyping. Anticancer Res, 2007. 27(2): 1219-22.

^{vii} Wiese M, Berr F, Lafrenz M, et al. Low frequency of cirrhosis in a hepatitis C (genotype 1b) single-source outbreak in Germany: A 20-year multicenter study. Hepatol 2000; 32: 91-6.

viii Baldo, V., et al., Hepatitis C virus, hepatitis B virus and human immunodeficiency virus infection in pregnant women in North-East Italy: a seroepidemiological study. Eur J Epidemiol, 2000. 16(1): 87-91.

^{ix} Desenclos, J.C., The challenge of hepatitis C surveillance in Europe. Euro Surveill, 2003. 8(5): p. 99-100.

^x Alvarez do Barrio, M., et al., Residual risk of transfusion-transmitted viral infections in Spain, 1997-2002, and impact of nucleic acid testing. Euro Surveill, 2005. 10(2): p. 20-2.

^{xi} Russmann, S., et al., Prevalence and associated factors of viral hepatitis and transferrin elevations in 5036 patients admitted to the emergency room of a Swiss university hospital: cross-sectional study. BMC Gastroenterol, 2007. 7: p. 5.

^{xii} Laperche S, Maniez M, Barlet V, El Ghouzzi MH, Le Vacon F, Levayer T, Lunel F, Morel P, Mouillot L, Piquet Y, Pillonel J; Transfusion-Transmissible Agents Working Group, French National Society of Blood Transfusion. A revised method for estimating hepatitis B virus transfusion residual risk based on antibody to hepatitis B core antigen incident cases. Transfusion 2008 Nov;48(11):2308-14.

xⁱⁱⁱ Niederhauser, C., et al., Incidence of viral markers and evaluation of the estimated risk in the Swiss blood donor population from 1996 to 2003. Euro Surveill, 2005. 10(2): p. 14-6.

^{xiv} Offergeld, R., et al., Human immunodeficiency virus, hepatitis C and hepatitis B infections among blood donors in Germany 2000-2002: risk of virus transmission and the impact of nucleic acid amplification testing. Euro Surveill, 2005. 10(2): p. 8-11.

^{xv} Pillonel, J. and S. Laperche, Trends in risk of transfusion-transmitted viral infections (HIV, HCV, HBV) in France between 1992 and 2003 and impact of nucleic acid testing (NAT). Euro Surveill, 2005. 10(2): p. 5-8.

^{xvi} Soldan, K., K. Davison, and B. Dow, Estimates of the frequency of HBV, HCV, and HIV infectious donations entering the blood supply in the United Kingdom, 1996 to 2003. Euro Surveill, 2005. 10(2): p. 17-9.

^{xvii} Gogos, C.A., et al., Prevalence of hepatitis B and C virus infection in the general population and selected groups in South-Western Greece. Eur J Epidemiol, 2003. 18(6): p. 551-7.

^{xviii} Chaves, S., M.A. Widdowson, A. Bosman, Surveillance of HCV infection in the Netherlands. Euro Surveill, 2003. 8(5): p. 108-13

^{xix} Esteban, J.I., S. Sauleda, and J. Quer, The changing epidemiology of hepatitis C virus infection in Europe. J Hepatol, 2008. 48(1): p. 148-62.

^{xx} Danta, M., et al., Recent epidemic of acute hepatitis C virus in HIV-positive men who have sex with men linked to high-risk sexual behaviours. Aids, 2007. 21(8): p. 983-91.

^{xxi} Gambotti, L., et al., Acute hepatitis C infection in HIV positive men who have sex with men in Paris, France, 2001-2004. Euro Surveill, 2005. 10(5): p. 115-7.

^{xxii} van de Laar, T.J., et al., Increase in HCV incidence among men who have sex with men in Amsterdam most likely caused by sexual transmission. J Infect Dis, 2007. 196(2): p. 230-8

^{xxiii} Vonberg, R.P. and P. Gastmeier, Hospital-acquired infections related to contaminated substances. J Hosp Infect, 2007. 65(1): p. 15-23.

^{xxiv} ECDC, Annual Epidemiological Report on Communicable Diseases in Europe, 2009. Stockholm 2009, European Centre for Disease Prevention and Control.

xxv Rantala M, Van de Laar MJW. Surveillance and epidemiology of hepatitis B and C in Europe – a review Eurosurveillance, May 2008.

xxvi Epidemiology of hepatitis C virus (HCV) infection. Sy T, Jamal MM. Int J Med Sci. 2006;3(2):41-6.

^{xxvii} Uwe Siebert et al. HCV-related burden of disease in Europe: a systematic assessment of incidence, prevalence, morbidity and mortality. BMC Public Health. 2009 Jan 22;9:34.

xxviii http://ecdc.europa.eu/en/aboutus/Key%20Documents/08-13_KD_Surveillance_of_CD.pdf

^{xxix} "Reporting chronic hepatitis B and C in Denmark". Hansen N, Cowan S et. Al . Ugeskr Laeger,28;170(18):1567-70. [in Danish]

xxx EMCDDA Annual Report 2009, p. 81-82