

# TECHNICAL REPORT

# Surveillance and prevention of hepatitis B and C in Europe

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**ECDC** TECHNICAL REPORT

Surveillance and prevention of hepatitis B and C in Europe



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# **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 systems<sup>1</sup>, 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.

<sup>&</sup>lt;sup>1</sup> 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 <sup>[1]</sup>. 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 <sup>[ii]</sup>. 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 <sup>[iii]</sup>. 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% <sup>[iv]</sup>. 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 <sup>[v]</sup>.

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 <sup>[vi]</sup>. 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 <sup>[vii]</sup>, 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 <sup>[viii]</sup>. 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 <sup>[ix, x]</sup>. 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 <sup>[vi, xi]</sup>.

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 <sup>[IV]</sup>. 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 <sup>[xxii, xii, xiv, xv, xvi]</sup>.

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 <sup>[xi, xviii, xviii]</sup>. 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 <sup>[xix]</sup>. 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) <sup>[xx, xxi, xxii]</sup>. 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 <sub>[xiv]</sub>. The estimated residual risk for acquiring HCV via blood products ranges from 1 to 40 per 10 million transfusions <sup>[x, xiii, xiv, xvi]</sup>. 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 <sup>[xxiii]</sup>.

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 <sup>[xxiv]</sup>. 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) <sup>[xxiv]</sup>. Over the last few years, HBV incidence has been decreasing while HCV incidence rates have been rising <sup>[xxv]</sup>. 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 <sup>[xxvi]</sup>. According to national estimates, 8.8 million (1.3%) people are infected in 22 European countries <sup>[xxvii]</sup>. 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% <sup>[xix]</sup>.

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 system<sup>2</sup> 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 place<sup>3</sup>. 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.

<sup>&</sup>lt;sup>2</sup> A surveillance system based on a public health officials initiative to contact physicians, laboratory or hospital staff or other relevant sources to report data

<sup>&</sup>lt;sup>3</sup> '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 <sup>[xxviii]</sup>:

- 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 definitions<sup>4</sup> 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.

<sup>&</sup>lt;sup>4</sup> 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 <sup>5</sup>						
Bulgaria						
Cyprus						
Czech Republic						
Denmark						
Estonia <sup>6</sup>						
Finland						
France <sup>7</sup>						
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

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

<sup>&</sup>lt;sup>6</sup> EU 2008 case definition was implemented on 1 January 2009.

<sup>&</sup>lt;sup>7</sup> 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 <sup>8</sup>						
Bulgaria		_				
Cyprus						
Czech Republic						
Denmark						
Estonia <sup>9</sup>						
Finland						
France <sup>10</sup>						
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.

<sup>&</sup>lt;sup>8</sup> Cases are collected based on PCR+.

<sup>&</sup>lt;sup>9</sup> Implemented EU 2008 case definition since 1 January 2009.

<sup>&</sup>lt;sup>10</sup> 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 Romania<sup>11</sup>) 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) <sup>[xxix]</sup>. 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.

<sup>&</sup>lt;sup>11</sup> 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 Belgium<sup>12</sup> 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)<sup>13</sup>.

	HBV	HCV
Austria		
Belgium <sup>12</sup>		
Bulgaria		
Cyprus		
Czech Republic		
Denmark		
Estonia		
Finland		
France		
Germany		
Greece		
Hungary		
Iceland		
Ireland		

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

<sup>&</sup>lt;sup>13</sup> 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 Norway<sup>14</sup> Poland Portugal Romania Slovakia Slovenia Spain Sweden United Kingdom

<sup>&</sup>lt;sup>14</sup> 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 <sup>[iv]</sup>.

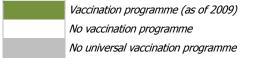
#### **Universal HBV vaccination**

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 <sup>15</sup>		$\checkmark$	$\checkmark$	$\checkmark$	$\checkmark$				$\checkmark$	$\checkmark$	$\checkmark$
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.

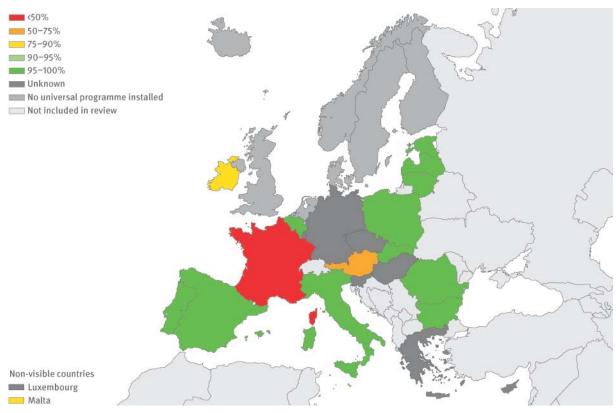
Specific risk group vaccination programmes focus on thalassaemia (Belgium), blood and organ transplantation (Belgium), mentally disabled people or Down's syndrome (Belgium, France, Netherlands), HIV infection (Bulgaria, Poland), MSM (Denmark, Norway, Netherlands, United Kingdom), prisoners (France, Ireland, 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

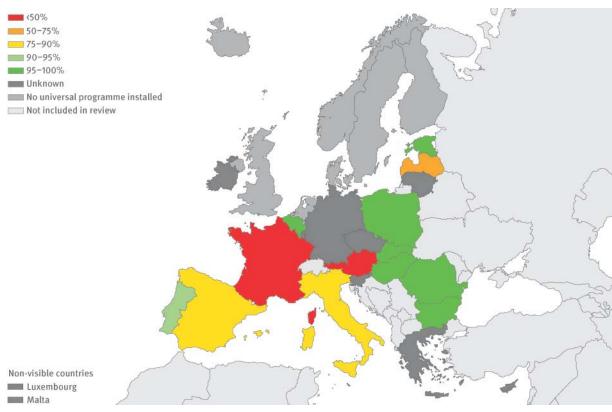
More than half of the countries with a universal vaccination programme calculated and reported vaccine coverage. In general, the coverage for infant vaccination programmes is rather high (on average above 90%). Belgium, Bulgaria, Estonia, Italy, Latvia, Lithuania, Poland, Romania, Slovakia, and Spain 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.

<sup>&</sup>lt;sup>15</sup> 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:

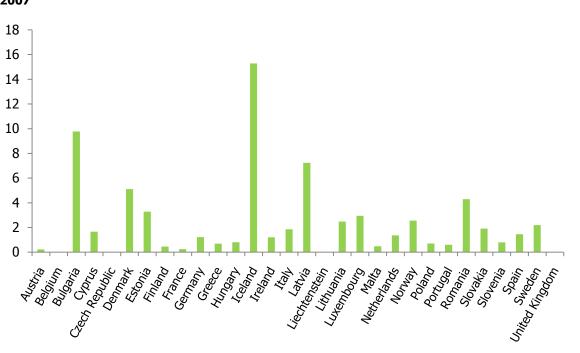
- Most countries have at least one screening programme in place for HBV or HCV.
- Blood and organ donor screening programmes are implemented in most Member States, as this is required by EU legislation.
- Almost all countries recommend the screening of pregnant women, except for some countries which 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.

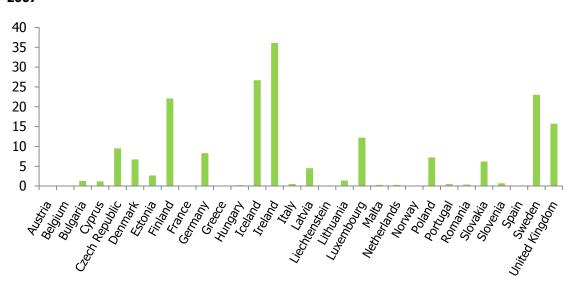
HBV	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
General pop	oulation									
Belgium					0.66%					
Bulgaria			3.80%							
Denmark									0.01%	0.01%
Finland							0.23%			
France						0.65%				
Hungary		0.30%								
Italy									1.00%	
Slovakia				1.60%						
Sweden	0.03%	0.04%	0.04%	0.05%	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% (<sup>xxx</sup>).

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	<ul> <li>Detection of HCV- specific antibodies</li> <li>Detection of HCV nucleic acid from clinical samples</li> </ul>	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	<ul> <li>Clinical description:</li> <li>A case with a clinical preser chronic hepatitis and labora</li> <li>Hepatitis B, chronic</li> <li>Laboratory criteria for diagnosis</li> <li>Presence of hepatitis B virus over a period longer than si</li> <li>Demonstration of HBV nucle period longer than six mont</li> <li>Case classification:</li> <li>Prosable: N/A</li> <li>Probable: A case clinically chepatitis</li> <li>Confirmed: A case clinically hepatitis that is laboratory of</li> </ul>	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	<b>.</b>	
		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:	<ol> <li>Blood clotting disorder patients re</li> <li>Household contacts of injecting di</li> <li>Healthcare trainees practicing in a</li> <li>Sex workers</li> <li>Sex partners of acute and chronic</li> </ol>	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.	<ul> <li>Clinical description.</li> <li>In symptomatic cases, clinical picture compatible with hepatitis, i.e. discrete onset of symptoms and/or jaundice or elevated serum aminotransferase levels.</li> <li>Asymptomatic cases are common (all laboratory-confirmed cases included; the EU definition is restricted to symptomatic cases)</li> <li>Laboratory criteria for diagnosis.</li> <li>One of the following: <ul> <li>Detection of hepatitis C virus (HCV) specific antibodies</li> <li>Detection of HCV nucleic acid from clinical samples Case classification.</li> </ul> </li> <li>Possible: n/a</li> <li>Probable: n/a</li> <li>Confirmed: A case that is laboratory confirmed.</li> </ul>		
Chronic	<ul> <li>Hepatitis B (chronic): Laboratory criteria for diagnosis One of the following:</li> <li>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.</li> <li>Posbible: n/a Probable: n/a Confirmed: A case that is labora Note: Notification distinguishes</li> </ul>	(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		<b>-</b> · ·				
	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	<ul> <li>when suspecting a recent a recent infections can ori</li> <li>appearance of antibodi laboratory reactivity;</li> <li>symptoms (e.g. icterus disorder);</li> </ul>	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	· ·	•		<b>T</b>				
	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>//<sup>-</sup></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	<b>a</b>			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).				

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