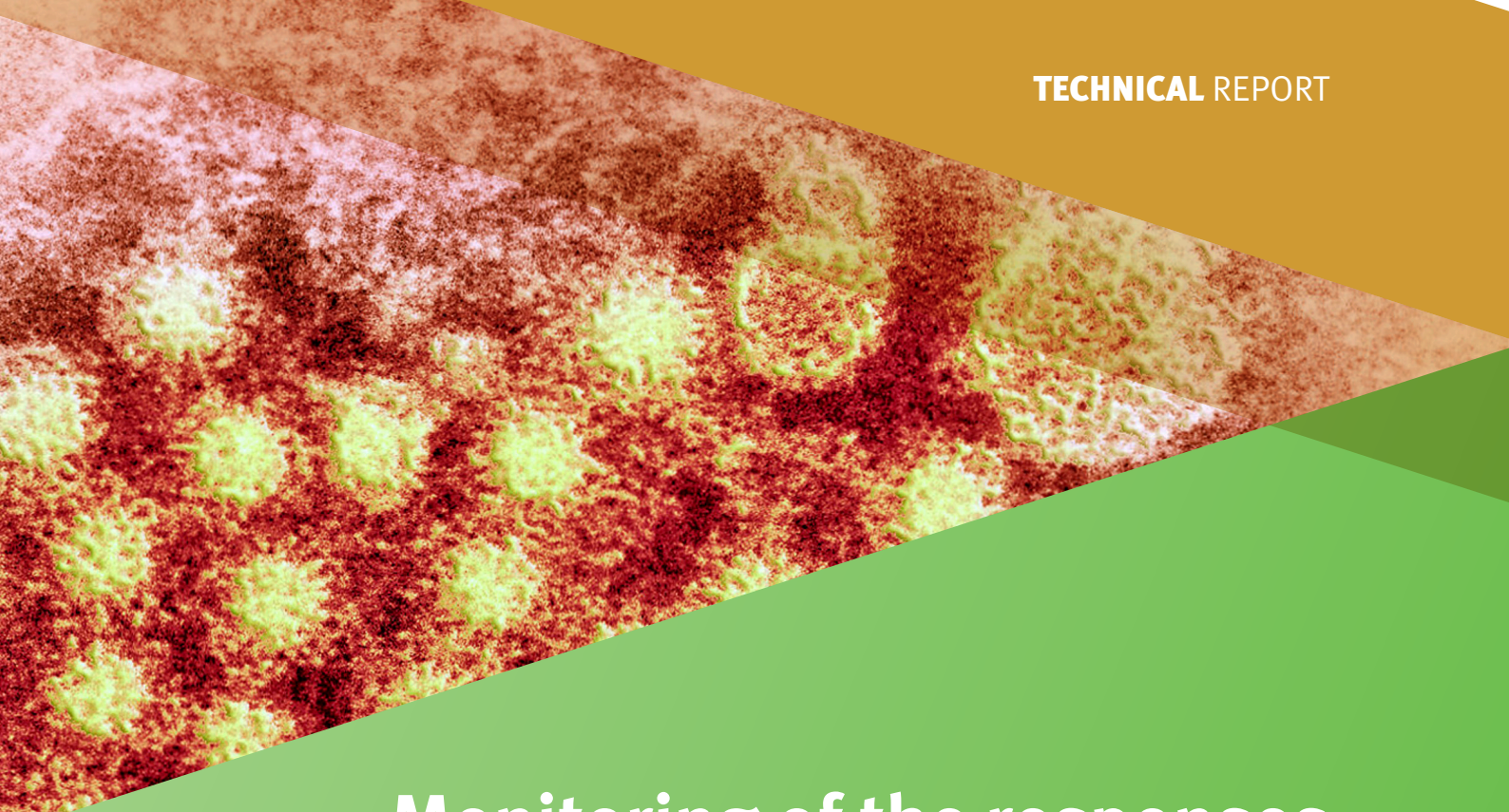


**TECHNICAL** REPORT



# Monitoring of the responses to the hepatitis B and C epidemics in EU/EEA countries, 2023

**ECDC TECHNICAL REPORT**

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## Attributions

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## Abbreviations

CLD	Chronic liver disease
CVH	Chronic viral hepatitis
EAP	European Action Plan
EASL	European Association for the Study of the Liver
EEA	European Economic Area
EU	European Union
GHSS	Global Health Sector Strategy
HBV	Hepatitis B virus
HBsAg	Hepatitis B surface antigen
HCC	Hepatocellular carcinoma
HCV	Hepatitis C virus
HCW	Healthcare worker
HDV	Hepatitis D virus
HIV	Human immunodeficiency virus
MSM	Men who have sex with men
PWID	People who inject drugs
SDGs	Sustainable Development Goals
SVR	Sustained virologic response
UN	United Nations
VS	Viral suppression
WHO	World Health Organization



## Executive summary

The European Centre for Disease Prevention and Control (ECDC) has developed a monitoring system for hepatitis B and C to support countries in the European Union (EU) and European Economic Area (EEA) in monitoring responses to their epidemics of hepatitis B and C. The monitoring system is closely aligned with the indicators and hepatitis elimination targets of the Global Health Sector Strategy (GHSS) and the World Health Organization (WHO) European Region Action Plan. In this report, we provide an overview of the data reported by countries in the EU and EEA in 2023 to describe progress towards the 2025 interim targets for hepatitis elimination as outlined in the WHO European Region Action Plan 2022–2030.

In 2023, all 30 EU/EEA countries responded to the monitoring questionnaire and provided data for one or more of the questions. Overall, 25 countries were able to provide national data for at least one stage of the continuum for hepatitis B care, although no country was able to provide data across all stages. For hepatitis C, 29 countries provided national-level data for at least one stage of the continuum of care, with four countries providing data across all four key stages of the continuum.

Eight of the 30 EU/EEA countries responding to the 2023 monitoring survey reported no national action plan or strategy for viral hepatitis prevention and control, and only two thirds of the countries with a plan reported available national funding for implementation. Information collected on testing policies or programmes highlighted gaps in relation to testing policies or programmes for hepatitis B virus (HBV) for migrant populations, men who have sex with men (MSM), healthcare workers and people in prison. Similar gaps existed in specific policies or programmes for hepatitis C virus (HCV) testing, with fewer than half of countries reporting policies or programmes for any migrant population or MSM. Self-testing is now reported to be available for HCV in three countries. Only one third of countries reported that tests were available in community and harm reduction settings from peer testers and 80% of countries reported that there were policies that required HBV and HCV tests be performed by healthcare workers. Barriers were also reported in relation to treatment, with 11 countries reporting restrictions, which were mostly in relation to undocumented migrants.

Two countries reported that not all test costs were reimbursed. Information on the costs of tests collected for the first time in 2023 showed considerable variation across countries in the reported costs at the point of access for user (reimbursed or not reimbursed). While costs for treatment were reported to be covered in all countries by the health service or health insurance, there is considerable variation in relation to the reported cost of a month supply of HBV and HCV medication, with a 12-fold difference in costs reported for HBV treatment and a 53-fold difference for HCV treatment.

The estimated proportion of people living with chronic HBV infection by country varied 18-fold, from 277 to 5 055 per 100 000 population. These estimates were derived from a range of methods of varying quality and were often based on studies from before 2016, indicating a need for more robust and up-to-date estimates of burden. The estimated proportion of people living with chronic HCV infection by country varied 46-fold, from 35 to 1 555 per 100 000 population, with most estimates based on the results from a recent multi-parameter evidence synthesis modelling conducted for countries across the EU/EEA.

In terms of progress towards the 2025 interim targets for hepatitis B, none of the four countries with sufficient data are currently meeting the 2025 interim diagnosis target of having 60% of all people living with chronic HBV diagnosed. Five countries provided estimates on the proportion of individuals with chronic HBV infection who had either decompensated cirrhosis and/or hepatocellular carcinoma at the time of diagnosis, with estimates ranging from 1.6% to 17%. Although data from a few countries on numbers tested over time show increasing trends, the overall data indicate that many cases of hepatitis B remain undiagnosed and that high numbers of people with chronic hepatitis B are diagnosed late in the course of their infection, indicating that further efforts are needed to scale up testing and link cases to care.

For the other stages along the HBV continuum of care, including linkage to care, viral suppression, and retention in care among individuals who are ineligible for treatment, the data were also limited, and while this restricts a clear assessment of progress towards the targets it highlights a clear need to improve data reporting. None of the four reporting countries are meeting the interim target of 50% of all people living with chronic HBV receiving antiviral treatment, and while only three countries were able to provide data on the proportion of patients receiving antiviral treatment who are achieving viral suppression, in all three countries viral suppression was high, ranging from 79% to 100%.

For hepatitis C, data availability along the continuum of care was generally greater compared to hepatitis B, but assessing progress towards the targets remains challenging due to gaps in the data and issues with data quality. Only four countries reported complete data to assess progress towards the diagnosis target, of which three countries achieved the 60% diagnosed target. As with hepatitis B, early diagnosis of infection is important to link individuals with chronic HCV to care in order to minimise long-term complications. Data were provided from eight countries on decompensated cirrhosis or hepatocellular carcinoma at the time of diagnosis, and while some



estimates were old there was variation across the region, with estimates up to 17% in one country, indicating an urgent need for scaling up testing. None of the five reporting countries are currently meeting the 2025 interim target of 50% of all people living with chronic HCV infection cured. The main reason countries do not meet this target is that a high proportion of the cases of chronic HCV are remaining undiagnosed. Further efforts are also needed to scale up treatment, as data indicated that many diagnosed cases had not been linked to care.

# 1 Background

## 1.1 Context

The latest estimates indicate that 3.6 million people were living with chronic hepatitis B virus (HBV) infection and 1.8 million people were living with chronic hepatitis C virus (HCV) infection in the 30 European Union (EU) and European Economic Area (EEA) countries [1, 2]. While the incidence of new HBV and HCV infections has declined across Europe due to effective HBV vaccination programmes and a range of other prevention and control strategies, the latest evidence indicates that long-term morbidity and mortality continues to increase [3,4]. HBV and HCV are epidemiologically complex diseases, as they affect a wide variety of key populations, have multiple modes of transmission, are often asymptomatic, and both have different phases of infection [5]. Tackling the hepatitis burden therefore requires a strong multi-disciplinary approach, informed by robust data collected from comprehensive and sustainable systems for monitoring.

In 2015, the United Nations' Member States adopted the Sustainable Development Goals (SDGs), including goal 3, to promote health and wellbeing, and target 3.3: 'End the epidemics of AIDS, tuberculosis, malaria, and neglected tropical diseases and combat hepatitis, waterborne and other communicable diseases' [6]. The adoption of the SDGs pushed control of viral hepatitis onto the global public health agenda. The EU is committed to implementing the 2030 Agenda for Sustainable Development and monitoring progress towards SDGs.

The World Health Assembly endorsed the first Global Health Sector Strategy (GHSS) for viral hepatitis in 2016, which outlined the goal of eliminating viral hepatitis as a major public health threat by 2030 aligned with the SDGs [7]. The concept of elimination for these infections is based on the global targets set by WHO of reducing the incidence of chronic infections by 90% and associated mortality by 65% by 2030. The first WHO European Region action plan for the health sector response to viral hepatitis published in 2017, adapted the GHSS to the epidemiological, political, and social context of Europe [8]. The subsequent integrated regional action plans for ending AIDS and the epidemics of viral hepatitis and sexually transmitted infections 2022–2030 built upon the progress made and the lessons learned from efforts to implement the previous action plans and provides a framework to strategically combine disease-specific approaches [9].

ECDC subsequently developed a monitoring system for hepatitis B and C in the EU/EEA that is aligned with the indicators and targets of the GHSS and the WHO European Region action plans. The monitoring system also takes into consideration specific needs of countries within the EU/EEA and includes additional indicators that help provide a fuller understanding of the epidemics and of the local responses.

The system aims to support EU/EEA countries in monitoring their responses to the epidemics of hepatitis B and C in a standardised way, collecting and analysing data and disseminating reports to guide the European Commission, WHO, and other partner organisations to better support countries in achieving their goal of hepatitis elimination. The first two data collections for this monitoring system occurred in 2017–2018 and 2021 and led to the production of various technical reports [9,10,11,12].

The third round of data collection through the EU/EEA hepatitis B and C monitoring system took place in 2023, with the aim of collecting standardised, high-quality data from countries on responses to the hepatitis B and C epidemics in 2022 to assess progress towards the targets of the WHO European Region action plans. This report presents data relating on the hepatitis B and C continua of care (numbers with chronic infection, numbers diagnosed, numbers on treatment, and treatment outcomes) and policies related to hepatitis testing and treatment. Data relating to prevention were also collected during the data collection but will be presented in a separate report.

## 1.2 Aims and objectives

The objectives of this report are to:

- describe and interpret the data collected in 2023 on the hepatitis B and C continua of care (numbers with chronic infection, numbers diagnosed, numbers on treatment, and treatment outcomes) and policies related to hepatitis testing and treatment;
- describe progress in the EU/EEA towards the WHO European Region 2025 interim targets for hepatitis elimination; and
- discuss the reporting capacity of EU/EEA countries, methodological issues with the data, and identify priority areas for future action for monitoring and services for the elimination of hepatitis B and C in the EU/EEA.

## 2 Methods

In 2017, ECDC developed a questionnaire to monitor responses to the epidemics of hepatitis B and hepatitis C in EU/EEA countries, in consultation with an expert advisory group. Indicators and potential existing sources of data were mapped and gaps in available data were identified. The first iteration of the online questionnaire, built with standardised indicators to collect data for the identified gaps, was distributed to ECDC's National Focal Points (NFPs) for hepatitis B and C surveillance<sup>i</sup> in all 30 EU/EEA countries in 2017–2018. A second round of data collection occurred in 2021, with revisions based on experiences from the initial data collection round and feedback from the expert advisory group.

### 2.1 Data collection from EU/EEA Countries in 2023

In consultation with the Advisory Group, and to reflect the new hepatitis elimination targets in the 2022–2030 WHO strategies, the questionnaire was revised before dissemination in 2023. Questions in the continuum of care sections were aligned with the WHO hepatitis monitoring indicators and the WHO Europe Regional Action Plan 2022–2030 [13,14]. Key changes included the removal of the previous section on the impact of COVID-19, and the addition of a new section on hepatitis in migrants.

Co-infection with hepatitis D virus (HDV) in people with chronic hepatitis B can lead to fulminant disease and there is now increasing focus on this infection globally, with recognition that greater understanding around the epidemiology and testing are needed. A limited number of indicators related to hepatitis D were therefore proposed by the Advisory Group for inclusion in the 2023 monitoring.

The online survey tool was built using Snap Survey Software and distributed to ECDC's National Focal Points in each of the EU/EEA countries. National Focal Points were asked to provide updated national-level data for 2022 when possible, but data from before 2022 or from sub-national geographic regions were accepted when national data for 2022 were not available. Data collection took place between April 2023 and August 2023, with data validation taking place from August to September 2023.

The main analyses conducted on the monitoring data included a basic descriptive summary of the data at national and EU/EEA levels, an assessment of the progress towards the European Regional Action Plan 2022–2030 targets, and a summary of the updated indicators developed to supplement the WHO monitoring framework. The analyses in this report are focused on national policy related to hepatitis testing and treatment and national data on the continua of care.

Monitoring data on other topics, including hepatitis B and C prevention, were also collected in the 2023 monitoring questionnaire and collated alongside data from other sources for 2023. These data are not presented in this report but have been published in separate reports [15].

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<sup>i</sup> <https://www.ecdc.europa.eu/en/about-us/who-we-work/disease-and-laboratory-networks/european-network-hepatitis-b-and-c>

## 3 Results

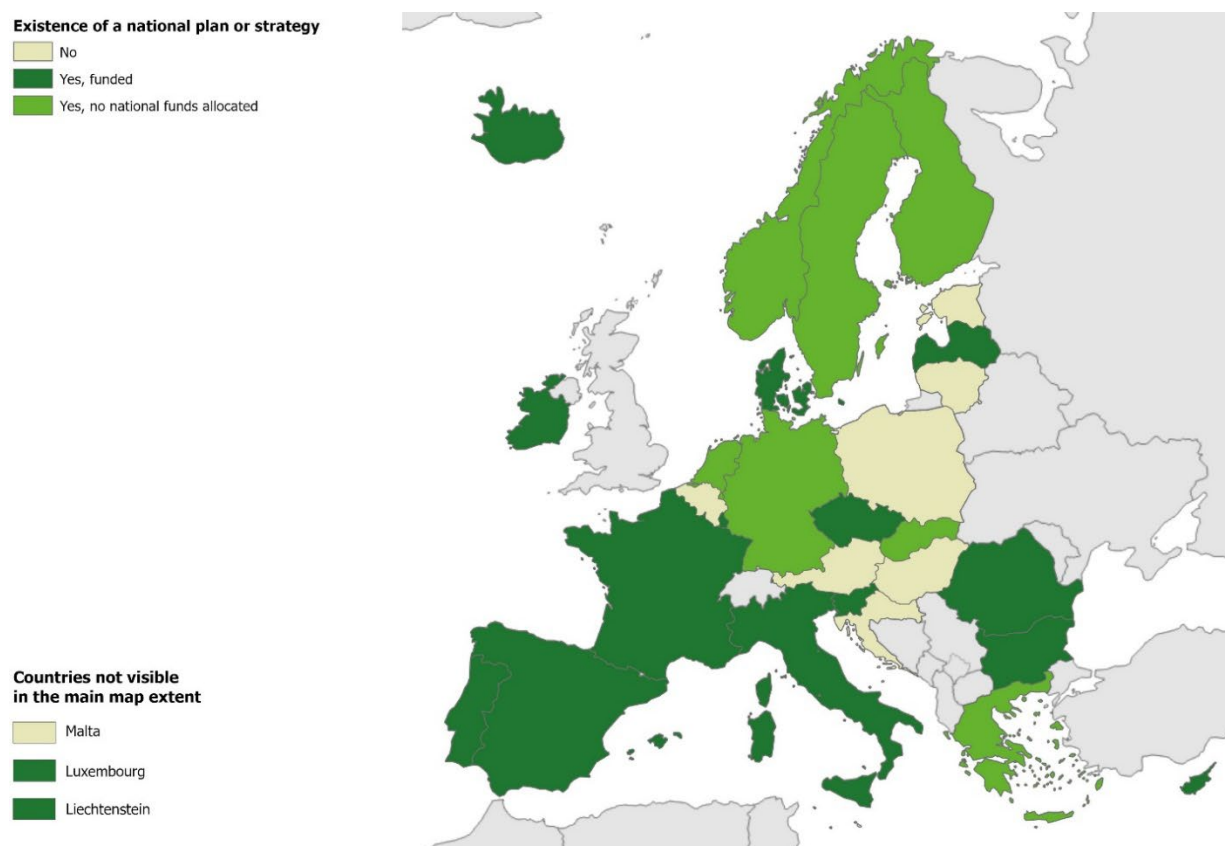
All 30 EU/EEA countries responded to the monitoring questionnaire and provided data related to one or more of the questions.

### 3.1 Policy on testing and treatment for hepatitis B and C

#### 3.1.1 Hepatitis response plan or strategy

In the EU/EEA, 22 of the 30 reporting countries (73.3%) indicated that there was a national plan or strategy which covered the response to viral hepatitis. Fifteen of the 22 countries (68.1%) with a national plan/strategy reported that there were funds allocated from the national budget to implement the plan or strategy (Figure 1).

**Figure 1. Existence of a national plan or strategy that covers the response to viral hepatitis and funding to implement the plan/strategy, in the EU/EEA, 2023**



#### 3.1.2 Policy related to HBV and HCV testing

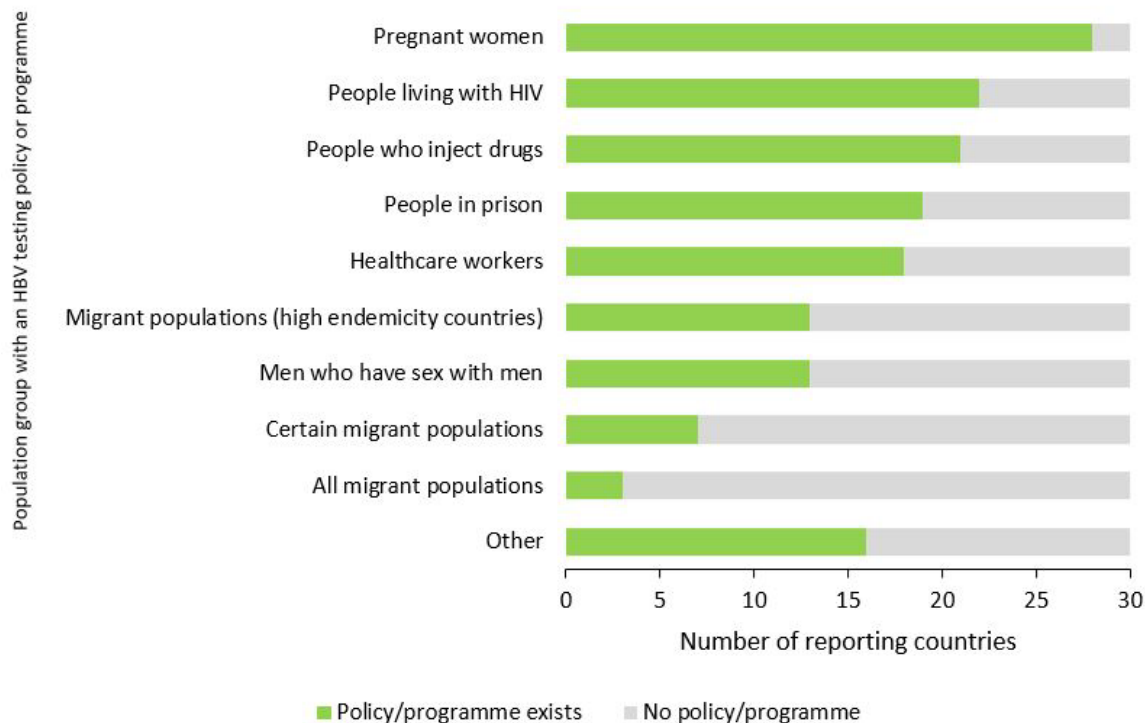
##### *Programmes and policies for testing within key populations*

Countries were asked whether they had a specific testing policy or programme for a list of key populations (Annex A). Of the 30 responding countries, 28 (93%) countries reported that they had a policy or programme for HBV testing for pregnant women, making this group the most frequently reported group (Figure 2). Three countries reported a testing policy or programme for 'all migrants' and 16 countries reported testing policies or programmes for 'migrants from high endemicity countries' or migrants meeting other specific criteria. Sixteen countries reported policies and programmes for 'other' key populations, including patients prior to surgery, people over a specific age, patients on dialysis, people accessing HIV pre-exposure prophylaxis (PrEP), sex workers, people who have/have had HCV, and healthcare workers.

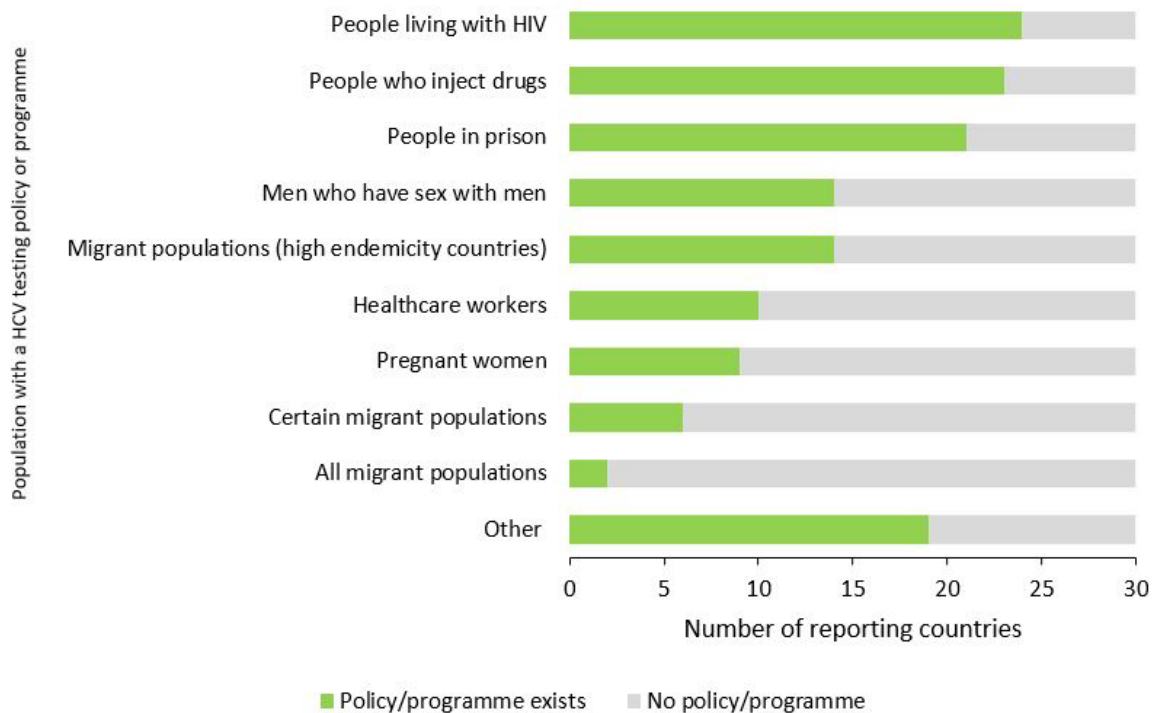
In relation to HCV, 24 of 30 reporting countries (80%) indicated that they had an HCV testing policy for people living with HIV (PLHIV), making it the most frequently reported key population with a testing policy or programme (Figure 3). People who inject drugs (PWID) were the second most frequently reported key population, with 23 of 30 countries (77%) reporting a specific policy or programme for HCV testing within this population. The least frequently reported population was 'all migrants', with only two countries reporting a policy/programme. One

country, Czechia, reported there were no HCV testing policies/programmes directed towards the listed key populations. Nineteen countries reported policies and programmes for 'other' key populations, including patients prior to surgery, people over certain ages, dialysis patients, people accessing PrEP, people living with HBV, newborns of mothers living with HCV, sex partners of people living with HCV, and sex workers.

**Figure 2. Existence of an HBV testing policy or programme for key populations in countries in the EU/EEA, 2023**



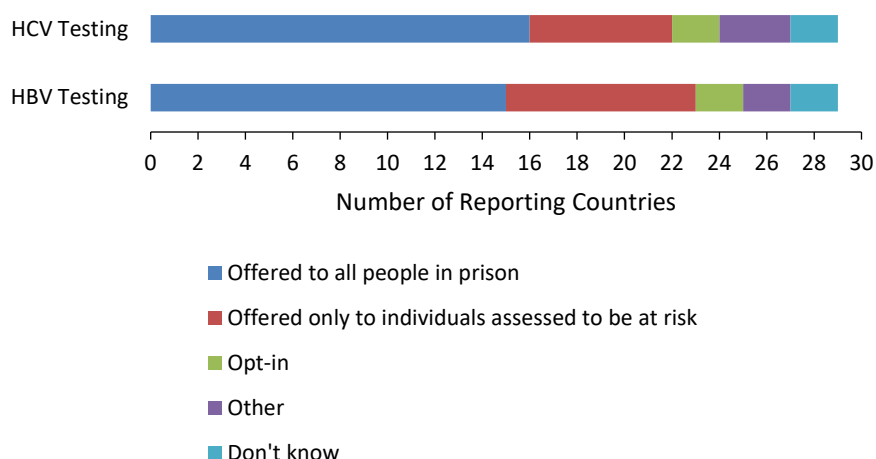
**Figure 3. Existence of an HCV testing policy or programme for key populations in countries in the EU/EEA, 2023**



Twenty-nine countries reported how HBV and HCV testing is available for people in prisons (Figure 4). Of the 29 countries, 15 reported that HBV testing was offered to all prisoners and eight reported that HBV testing was only offered to individuals assessed to be at risk. Two countries reported that HBV testing was only available on an opt-in basis. Two countries reported that they 'didn't know' and two countries reported 'other': Croatia reported that it was available as an opt-in service for those assessed to be at risk for HBV through voluntary consulting and testing offered by NGOs; Latvia reported it was available on an opt-in basis, but offered to individuals with symptoms of HBV and those who had contact with someone living with HBV.

Sixteen countries reported that HCV testing was offered to all people in prisons, and six offered HCV testing to those assessed to be at risk for HCV. Two countries indicated that HCV testing was only available on an opt-in basis, two countries reported they 'didn't know' and three countries indicated 'other': Croatia reported HCV testing was available as an opt-in service for those assessed to be at risk through voluntary consulting and testing projects offered by NGOs; Latvia reported that it was available on an opt-in basis but offered to individuals with symptoms of HCV and those who had contact with someone living with HCV.

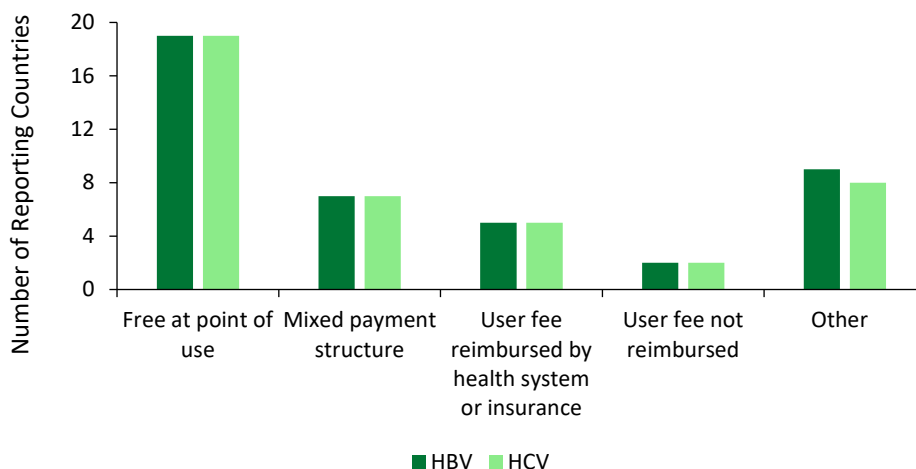
**Figure 4. HBV and HCV testing availability in prisons in the EU/EEA, 2023**



**Costs associated with HBV and HCV testing**

All 30 countries provided data around the costs associated with HBV and HCV testing, with some countries reporting a mixture of payment structures. Nineteen of 30 countries (63%) reported that HBV and HCV tests are free at the point of access (Figure 5). Fourteen countries reported some associated fee at point of HBV and HCV test access: seven reported a mixed payment structure; five reported a user fee which was reimbursed by the health system or insurance; and two reported a non-reimbursed user fee. In terms of 'other' types of payment structure reported, these included that testing is free for individuals considered at risk of infection, that an individual has to pay if attending primary care as a private patient and not in a risk group or pregnant and that testing is free for those not insured during screening campaigns.

**Figure 5. Coverage of HBV and HCV test costs, in the EU/EEA\*, 2023**

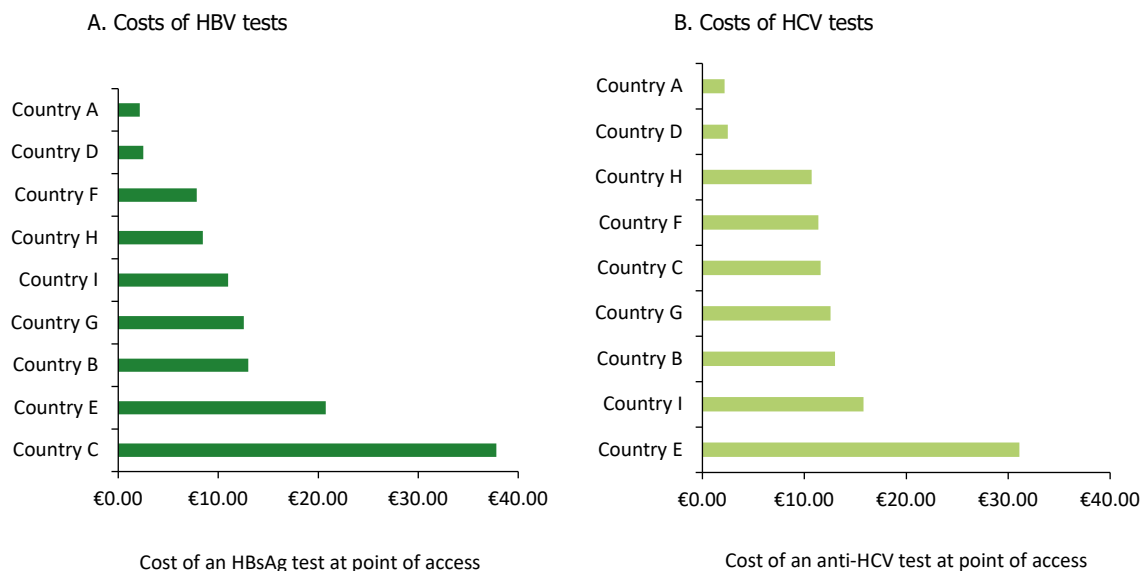


\* Countries were able to choose more than one option.

Countries which reported fees (reimbursed or non-reimbursed) were asked about the cost of a HBV and HCV test at the point of access, with nine countries providing data (Figure 6). The cost of an HBsAg laboratory test for the individual ranged from €2.16 to €37.80 (median: €11.00), however, all countries reported some level of reimbursement for certain people. Two countries also reported the cost of a PCR test for HBV DNA at the point of access: €8.68 (Country A) and €47.09 (Country G).

The reported cost of an anti-HCV test at the point of access for the individual ranged from €2.16 to €31.11 (median: €11.61). As with HBV tests, all countries reported some level of reimbursement for certain people. One country was able to report data on the cost of a PCR test for HCV, reporting a fee of €56.60.

**Figure 6. Cost of HBV and HCV tests at point of access in nine European countries, 2023**



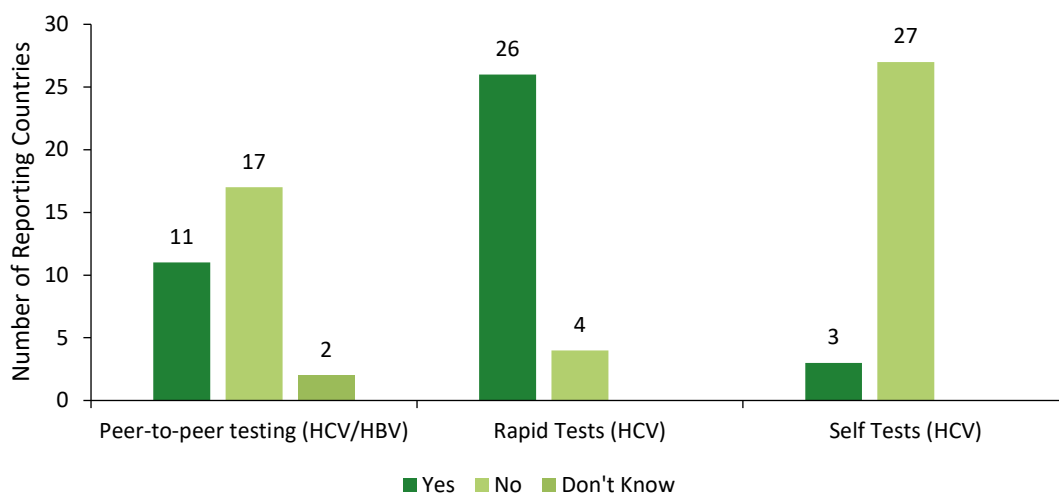
**Other policy questions related to HBV and HCV testing services**

Additional testing-related policy questions were asked, including:

- Are peer-to-peer testing services for HBV/HCV implemented in harm reduction and/or community settings?
- Are rapid tests for HCV available in your country?
- Are self-tests for HCV available in your country?

While rapid tests for HCV were reported to be available in 26 countries in the EU/EEA, the reported availability of HCV self-testing and peer-to-peer testing (for HCV and HBV) is lower (Figure 7). Peer-to-peer testing services were reported to be available in 11 countries in the EU/EEA and self-testing in three countries. Positively, implementation of peer-to-peer testing, rapid tests and self-tests has increased since 2021 when no country reported that self-tests were available, 23 countries reported the availability of rapid tests and nine countries reported peer-to-peer testing service [10].

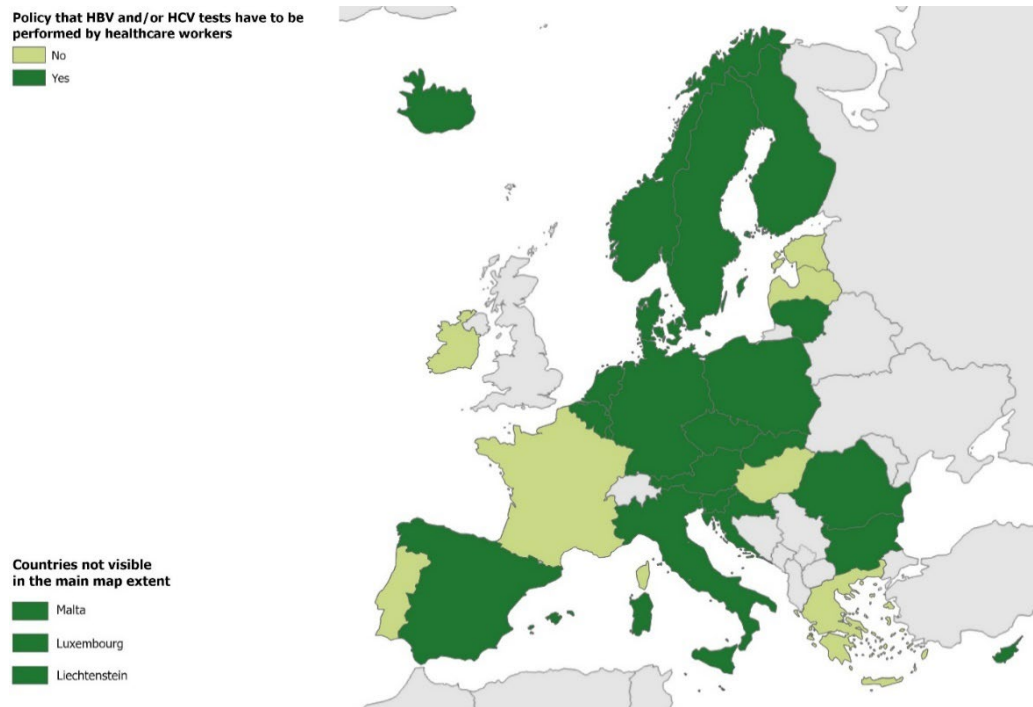
**Figure 7. Additional HBV and HCV testing-related policy questions, 2023**





Only seven of the 30 reporting countries reported that HBV and HCV tests did not need to be administered by a healthcare worker (Figure 8).

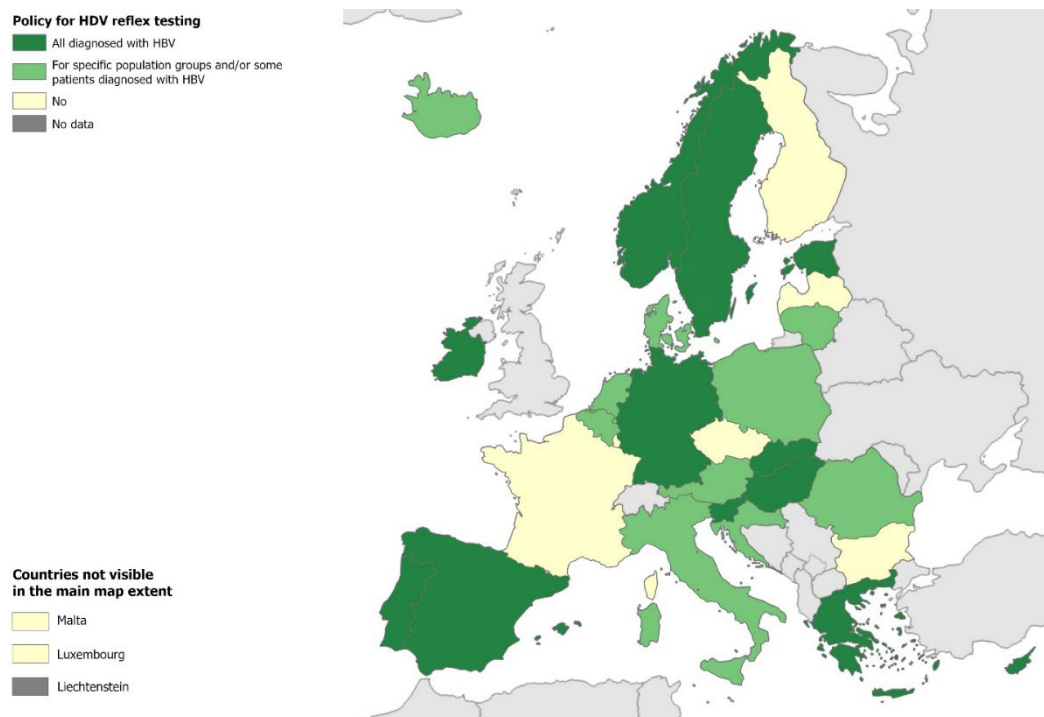
**Figure 8. Number of countries reporting that HBV/HCV tests must be administered by healthcare workers**



**Hepatitis D reflex testing**

Anti-HDV screening is widely recommended for all HBsAg-positive individuals [16]. However, in the EU/EEA, only six countries reported that reflex testing for HDV was implemented (Figure 9). An additional five countries reported that guidelines suggested that all people diagnosed with HBV be tested for HDV. However, this was not implemented across all regions in the country, and 11 countries reported the HDV testing was limited to certain cases, such as migrants from specific countries or at the clinician’s request.

**Figure 9. Policy for HDV reflex testing in countries in the EU/EEA, 2023**

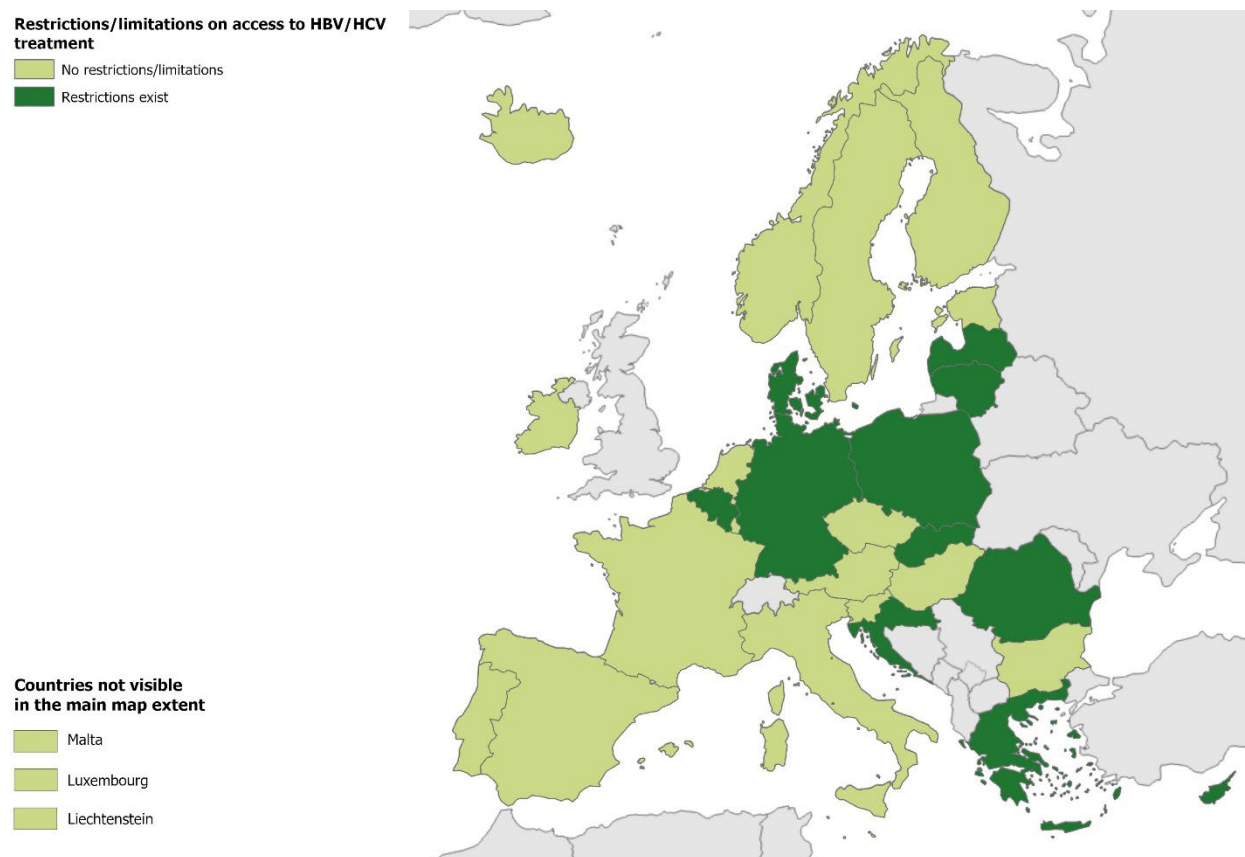


### 3.1.3 Policy related to hepatitis B and C treatment

#### Treatment restrictions

Of the 30 reporting countries, 19 countries (63%) reported no restrictions on access to HBV and HCV treatment (Figure 10). The most reported restrictions existed for undocumented migrants, with eight countries reporting the existence of such restrictions. The populations with restricted access are listed in Table 1.

**Figure 10. Existence of restrictions on access to HBV/HCV treatment, in the EU/EEA, 2023**



**Table 1. Types of HBV/HCV treatment restrictions, by country, 2023**

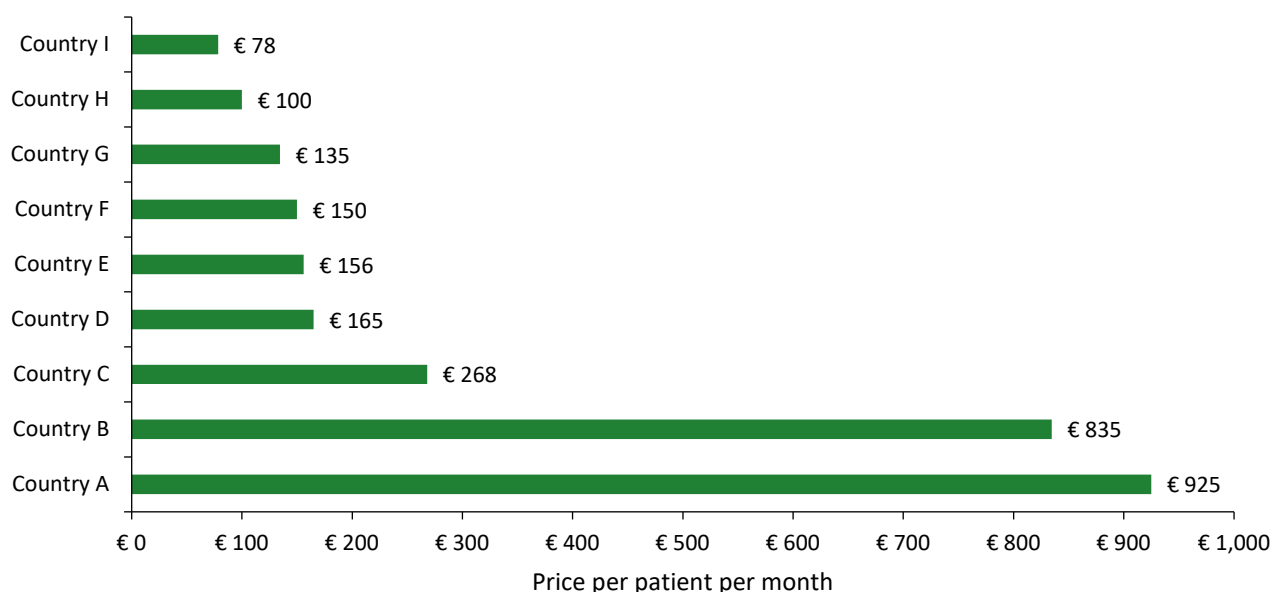
HBV/HCV Treatment Restrictions	
Belgium	HBV/HCV: Undocumented migrants; prisoners
Croatia	HBV/HCV: People who inject drugs – current injectors
Cyprus	HBV/HCV: Undocumented migrants
Denmark	HBV/HCV: Undocumented migrants (excluding those with acute HBV/HCV)
Germany	HBV: Undocumented migrants HCV: Undocumented migrants; people in prisons (prison-dependent; treatment usually not provided to people with short-term sentences)
Greece	HBV/HCV: Undocumented migrants
Latvia	HBV: Undocumented migrants, patients with liver fibrosis (F)<2 HCV: Undocumented migrants
Lithuania	HBV/HCV: Undocumented migrants, patients with liver fibrosis (F)<2
Poland	HBV/HCV: Undocumented migrants; specialistic prescription only
Romania	HBV/HCV: Uninsured persons, except foreign/stateless persons in special situations and migrants from Ukraine
Slovakia	HBV: Undocumented migrants; clinical restrictions HCV: Undocumented migrants

### Costs associated with HBV and HCV treatment

Eighteen countries in the EU/EEA reported that the costs of HBV/HCV treatment were covered by the national healthcare system and nine countries reported that the costs were covered by health insurance. Three countries reported that treatment costs could be covered by both the national healthcare system and/or health insurance. While no country indicated that the costs were primarily out of pocket for the individual accessing care, one country, Latvia, reported that HCV treatment may be patient-paid if the specific medication is not covered by the state.

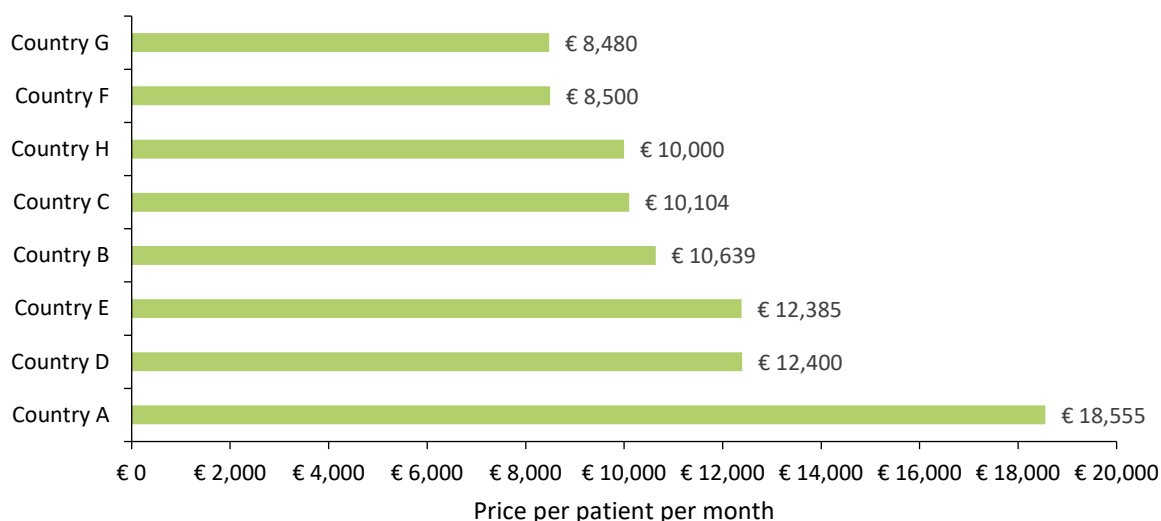
Countries were also asked to provide data on the cost of one month’s supply of government-purchased treatment for HBV and HCV. In the nine countries able to provide data, the cost of one month’s supply of government-purchased HBV treatment varied significantly, ranging from €78 to €925 per patient (Figure 11). The median price was €156 per patient per month.

**Figure 11. The cost of one month’s supply of government-purchased HBV treatment, per patient, in the EU/EEA, 2023**



The price of one month’s supply of government-purchased HCV treatment was available for eight countries. Reported prices were higher than the prices of HBV treatment per patient per month, ranging from €8 480 to €18 555 per patient (median: €10 372) in the nine reporting countries (Figure 12).

**Figure 12. The cost of one month’s supply of government-purchased HCV treatment, per patient, in the EU/EEA, 2023**



## 3.2 The continuum of care for hepatitis B

### 3.2.1 Background on the HBV continuum of care

The continuum of care for hepatitis B is a conceptual framework of the different stages along the patient pathway: from the estimated number of people living with chronic infection to diagnosis, linkage to care, treatment and treatment outcome. This framework allows for monitoring of the effectiveness of the response to the epidemics in a geographic region or population and can be used to identify where there are gaps in services that need to be addressed to ensure people with hepatitis receive the care they need. In the viral hepatitis field, the GHSS and WHO European Region Action Plan 2022–2030 have developed targets that align with the major stages of the hepatitis continuum of care. For chronic HBV infection, the WHO European Region Action Plan 2022–2030 interim targets for 2025 are listed in Box 1.

For detailed information along the continuum of care for HBV, including year of data, see Annex B.

#### Box 1. WHO European Region Action Plan 2022–2030 interim targets for 2025 along the hepatitis B continuum of care

##### Diagnosis

- 60% of all people living with chronic HBV infection are diagnosed

##### Treatment

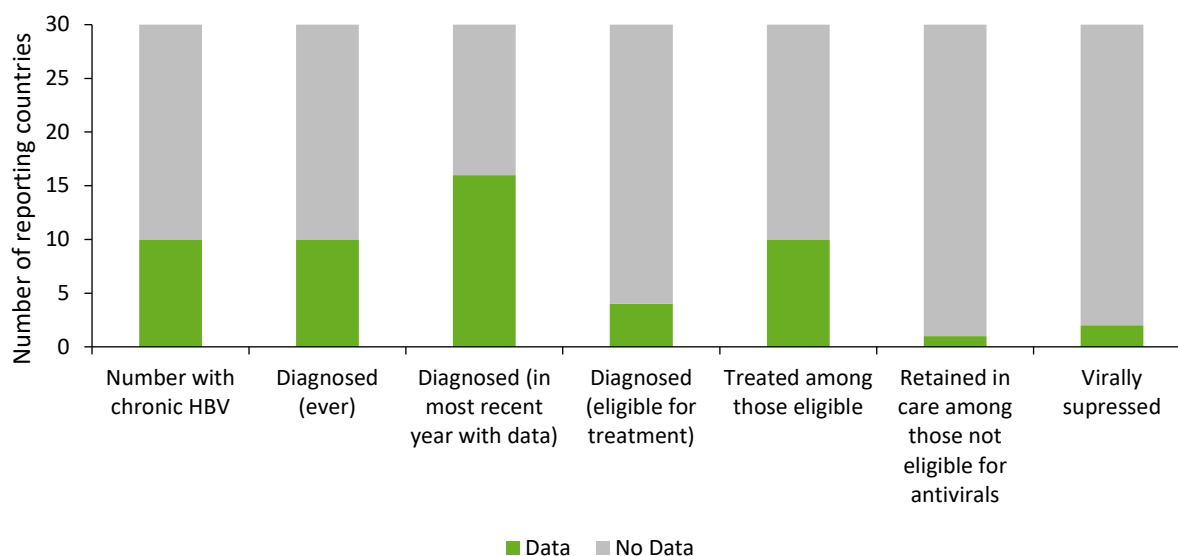
- 50% of all people living with chronic HBV infection are receiving treatment

### 3.2.2. Data availability for hepatitis B

The monitoring questionnaire asked countries to report data on the stages of the continuum of care for indicators aligned with the WHO European Region Action Plan targets, as well as for supplemental indicators that were refined and updated to capture additional relevant information along the continuum (see Methods).

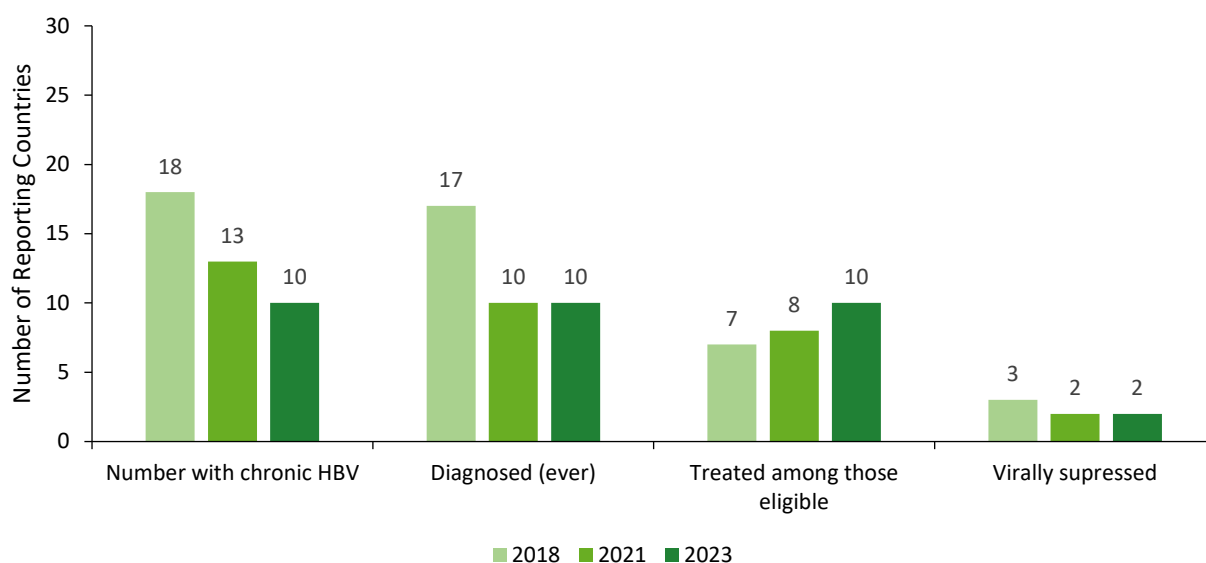
Of the 30 EU/EEA countries, all countries submitted responses to the continuum of care questions in the questionnaire. Overall, 25 countries could provide national data for at least one stage of the continuum for hepatitis B (Figure 13). However, no country could provide data for all stages across the continuum of care.

**Figure 13. Number of EU/EEA countries reporting data for the hepatitis B continuum of care indicators, 2023**



Since the 2017–2018 reporting round, data availability has decreased for most stages of the continuum (Figure 14). This is especially true for the number of people with chronic HBV infection (18 reporting countries decreased to 10). However, the number of countries reporting data on treatment has increased from seven to 10.

**Figure 14. Number of EU/EEA countries reporting national data for the hepatitis B continuum of care indicators, 2018–2023**

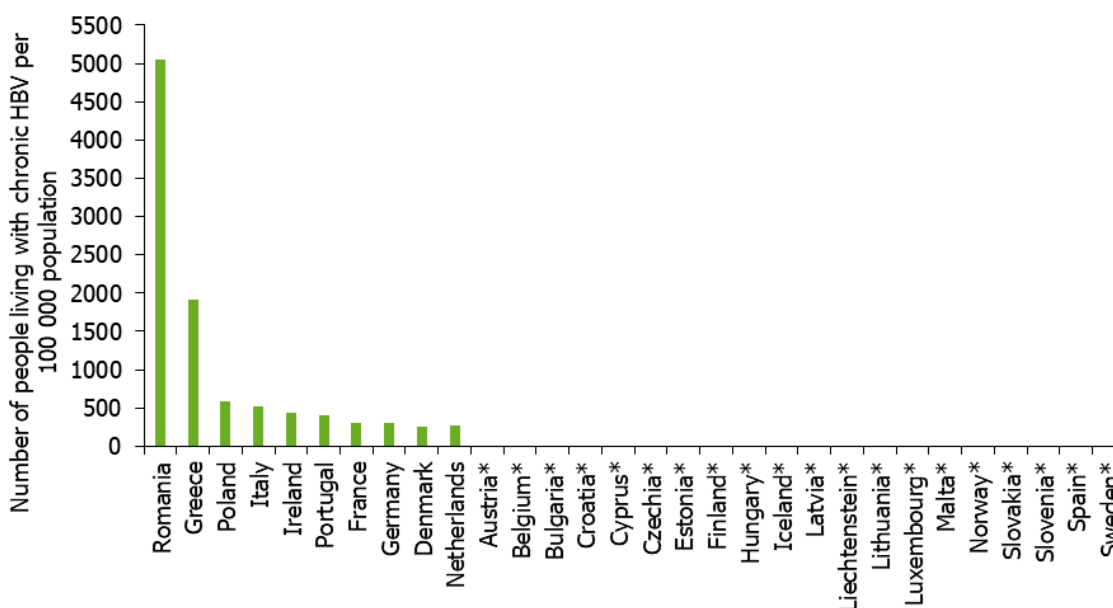


### 3.2.3 Estimated number of people living with chronic HBV infection

In total, 10 countries provided data on the estimated number of people living with chronic HBV infection (as defined by being HBsAg positive), diagnosed and undiagnosed, by the end of 2022 or the most recent year with national data available. Estimates ranged from 14 548 in Denmark (2013 data) to 962 571 in Romania (2023 data). Estimates of the number of people infected per 100 000 population varied 18-fold, from 277 per 100 000 population in the Netherlands to 5 055 in Romania (Figure 15).

Estimates were reported to be derived from a range of sources including prevalence studies, modelling studies and other types of studies, some with unpublished data, in the general population. These studies represent a range in the reported quality of data. Estimates also represented a wide variety of years, from 2013 to 2023. No country reported sub-national level data for this indicator.

**Figure 15. Estimated number of people living with chronic hepatitis B virus infection (diagnosed and undiagnosed) per 100 000 population in the EU/EEA, 2022<sup>a</sup>**



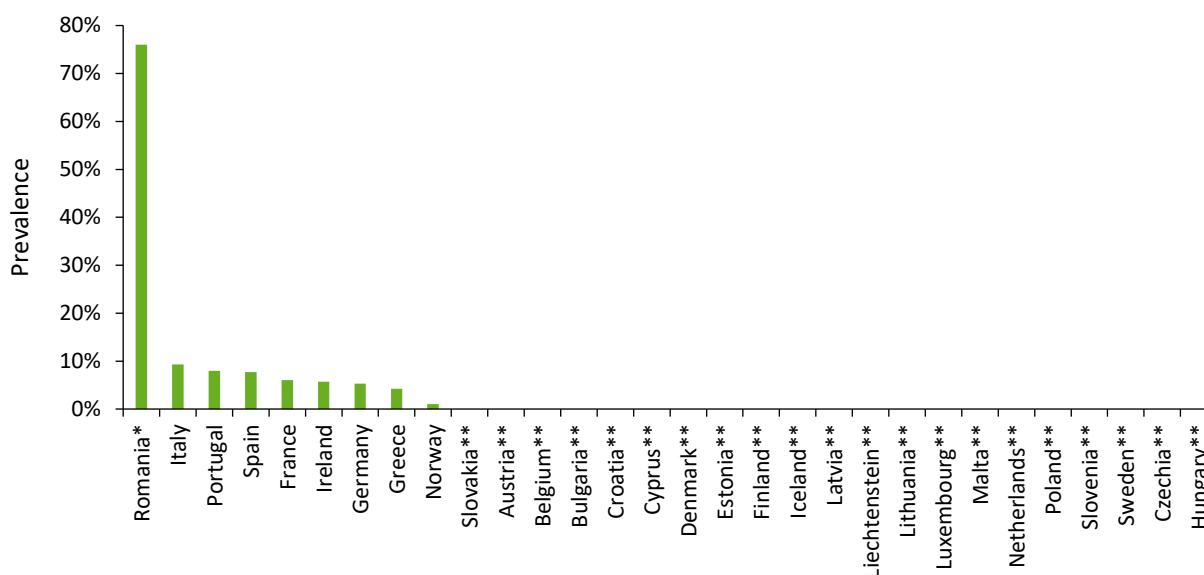
<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

### 3.2.4 Estimated prevalence of HDV among people living with chronic HBV

In the 2023 survey, countries were asked about the prevalence of HDV among all people living with chronic HBV, diagnosed and undiagnosed (Figure 16). Prevalence rates ranged from 1% in Norway to 76% in Romania in the nine countries able to provide data.

**Figure 16. Estimated HDV prevalence among HBsAg-positive people in the EU/EEA, 2022<sup>a</sup>**



<sup>a</sup> 2022 or most recent year with available data.

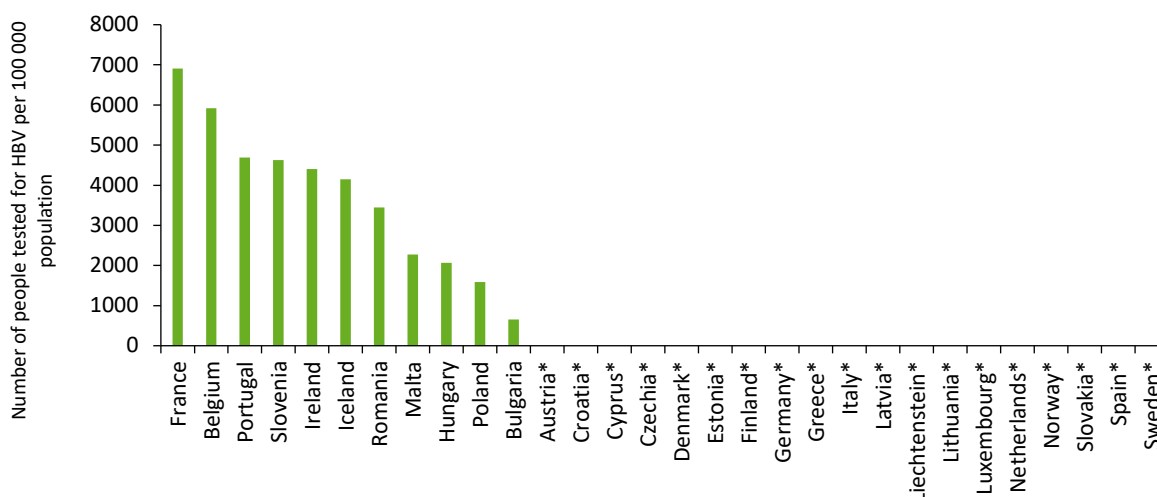
\* Regional data from a sample of 100 HBsAg-positive samples tested for HDV RNA.

\*\* Indicator could not be calculated due to lack of available data.

### 3.2.5 Number of people tested for hepatitis B

Ten countries in the EU/EEA were able to provide data on the number of people tested for HBV in 2022, ranging from 652 per 100 000 population in Bulgaria to 6 908 per 100 000 population in France (Figure 17). Data on the numbers tested came from a variety of sources, including survey data, surveillance data, and cohort data. Several countries noted that the reported data represents the number of tests, rather than the number of people tested.

**Figure 17. Number of people tested for Hepatitis B virus per 100 000 in the EU/EEA, 2022<sup>a</sup>**

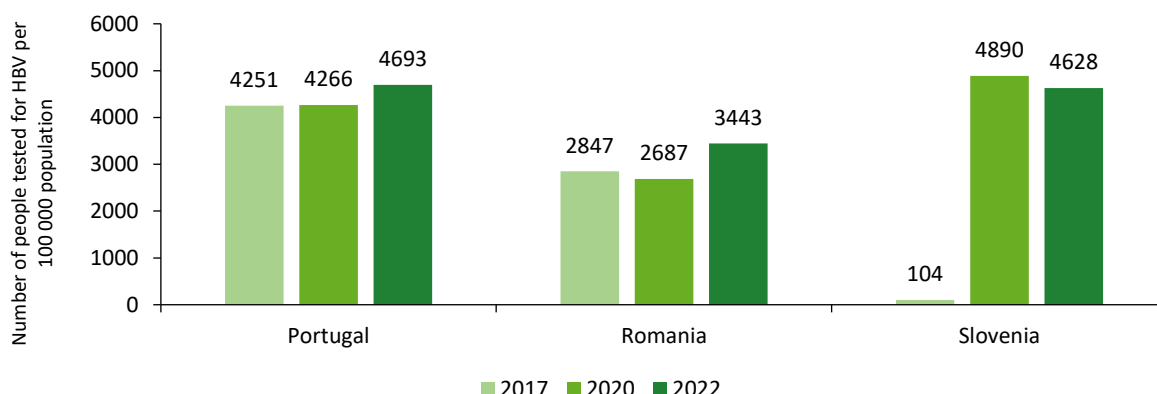


<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

Three countries – Portugal, Romania, and Slovenia – were able to provide data on the number of people tested for HBV across the three data collections (Figure 18). Testing rates in the three countries have generally improved since 2017, although Slovenia reported a small decrease (-5.4%) from 2020 to 2022.

**Figure 18. Number of people tested for hepatitis B virus per 100 000 over time in the EU/EEA, 2017–2022**



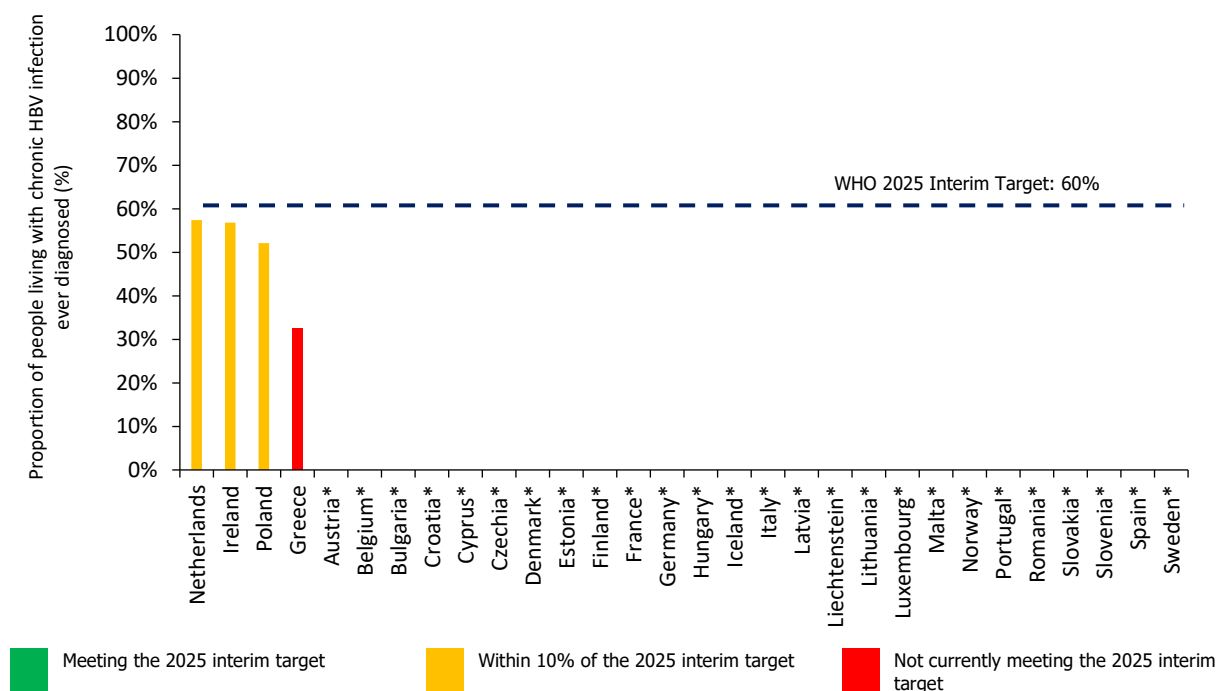
### 3.2.6 Diagnosis with chronic HBV infection

#### EU/EEA progress towards the 2025 interim targets

Of the four countries with sufficient data, none are currently meeting the 2025 interim diagnosis target of 60% of all people living with chronic HBV diagnosed; however, three are within 10% of the interim target.

Among the four countries that reported data on both the estimated number of people living with HBV infection and the number of people diagnosed, there were an estimated 491 576 people living with chronic HBV, of whom 220 500 have been diagnosed (45%). This falls below the 2025 interim target of 60%. At the national level, the proportion diagnosed ranged from 33% in Greece to 57% in the Netherlands. No country is currently meeting the 2025 interim target; however, three countries are within 10% of the target (Figure 19).

**Figure 19. WHO indicator: proportion of all people living with chronic HBV infection ever diagnosed by the end of 2022<sup>a</sup> in the EU/EEA**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.



The data on the number of people diagnosed (the numerator of the proportion) came from a wide range of sources of varying quality, including modelling, surveillance/notification data, cohort studies and survey data.

Early diagnosis of infection is important to link individuals with chronic HBV to care in order to minimise disease progression and the development of complications from chronic infection including cirrhosis and hepatocellular carcinoma. Ideally individuals should be diagnosed before they have developed such complications.

Five countries provided estimates on the proportion of individuals with chronic HBV infection who had end-stage liver disease, including decompensated cirrhosis or hepatocellular carcinoma, at the time of diagnosis. Estimates ranged from 1.6% of persons reported to have end-stage liver disease at the time of diagnosis in Poland to 17% in Romania (Table 2). Germany reported that between 6.2 and 28% of persons had cirrhosis at the time of their hepatitis B diagnosis. Importantly, geographical coverage of the estimates varies from clinic-level to national-level data and data came from a variety of different sources, making inter-country comparison difficult.

**Table 2. Proportion of people with chronic HBV infection who had decompensated cirrhosis or hepatocellular carcinoma at the time of diagnosis in the EU/EEA**

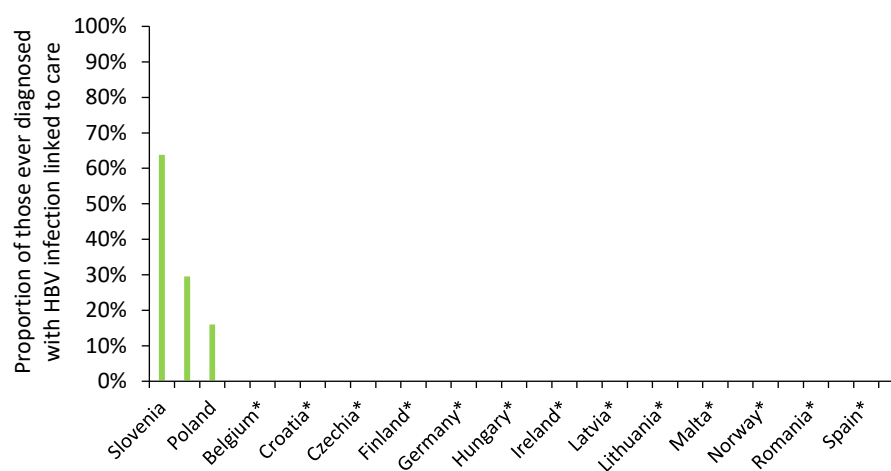
Country	Proportion of people with end-stage liver disease at time of diagnosis	Year of data	Geographic coverage and source of data
Austria	9.2% (cirrhosis)	2010–2020	City-level; Cohort data
Greece	6.1% (decompensated cirrhosis); 3.4% (hepatocellular carcinoma)	1999–2016	Clinic-level; Survey data
Germany	6.2-28% (cirrhosis); 1.6-9.9% (hepatocellular carcinoma)	2010–2016	Clinic-level; Survey data
Hungary	10%	2023	National-level; Cohort data
The Netherlands	3-4%	2013–2019	City-level; Survey data
Poland	1.6%	2022	National-level; Surveillance data
Romania	17%	2022	Regional-level; Screening data

### 3.2.7 Diagnosed patients with chronic HBV infection who were linked to care and on treatment

#### Linkage to care

Three countries provided national level data on the number of people living with chronic HBV infection ever diagnosed and the number of people ever diagnosed who were linked to care in 2022 (or the year with most recent data) (Figure 20). The proportion linked to care ranged from 16% in Poland to 64% in Slovenia.

**Figure 20. Proportion of people ever diagnosed with chronic HBV infection and linked to care (of those ever diagnosed by the end of 2022<sup>a</sup>) in the EU/EEA, 2022<sup>a</sup>**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

### 3.2.8 Proportion of those linked to care but ineligible for treatment retained in care

Countries were asked to report the number of patients who were diagnosed with chronic HBV infection and were eligible for treatment with antivirals based on clinical guidelines from the European Association of the Study of the Liver (EASL). This figure was used to calculate how many diagnosed patients were not eligible for treatment with antivirals of those linked to care in order to derive the proportion of those not eligible for treatment who were retained in care (defined as receiving specialist or follow-up care) by the end of 2022 or the most recent year with data. This is not a WHO indicator but is intended to monitor progress among those with chronic HBV infection who are not eligible for treatment with antivirals. This proportion could only be calculated for one country, Slovenia, with a calculated proportion of 100% of those linked to care, but ineligible for treatment, retained in care.

### 3.2.9 Proportion of all people living with HBV receiving treatment

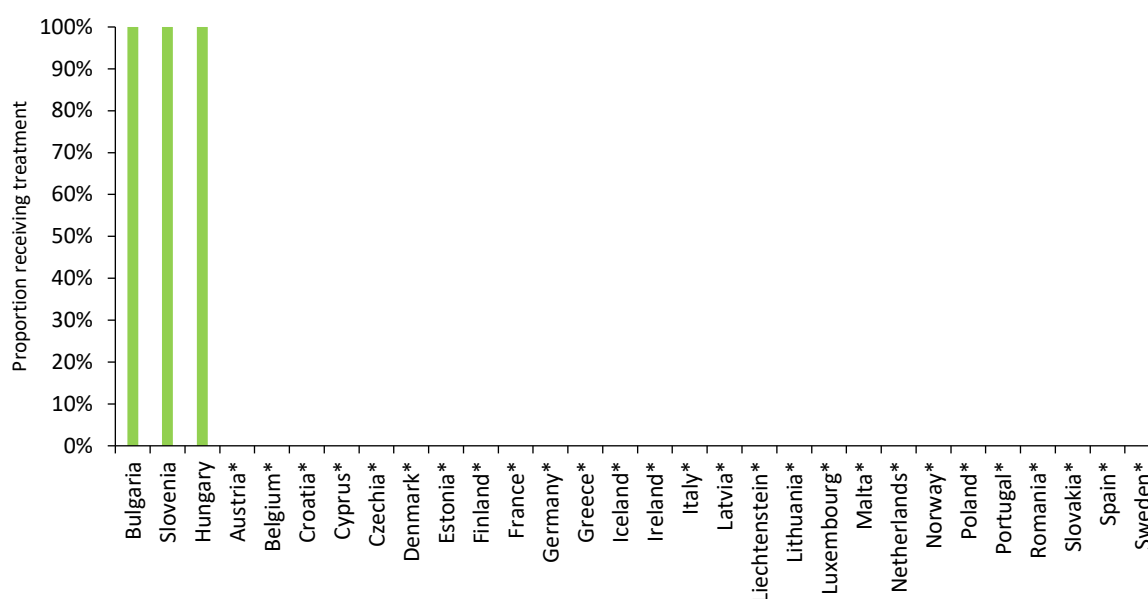
#### EU/EEA progress towards 2025 interim targets

None of the four reporting countries are meeting the interim target of 50% of all people living with chronic HBV receiving antiviral treatment.

Three countries were able to provide data on the proportion of people **diagnosed with chronic hepatitis B and eligible for treatment** who are **receiving treatment**, with all three reporting 100% of those eligible for treatment receiving treatment (Figure 22).

Four countries were able to provide data on the proportion of **all people diagnosed** with hepatitis B who are receiving treatment, ranging from 7% -to 36%.

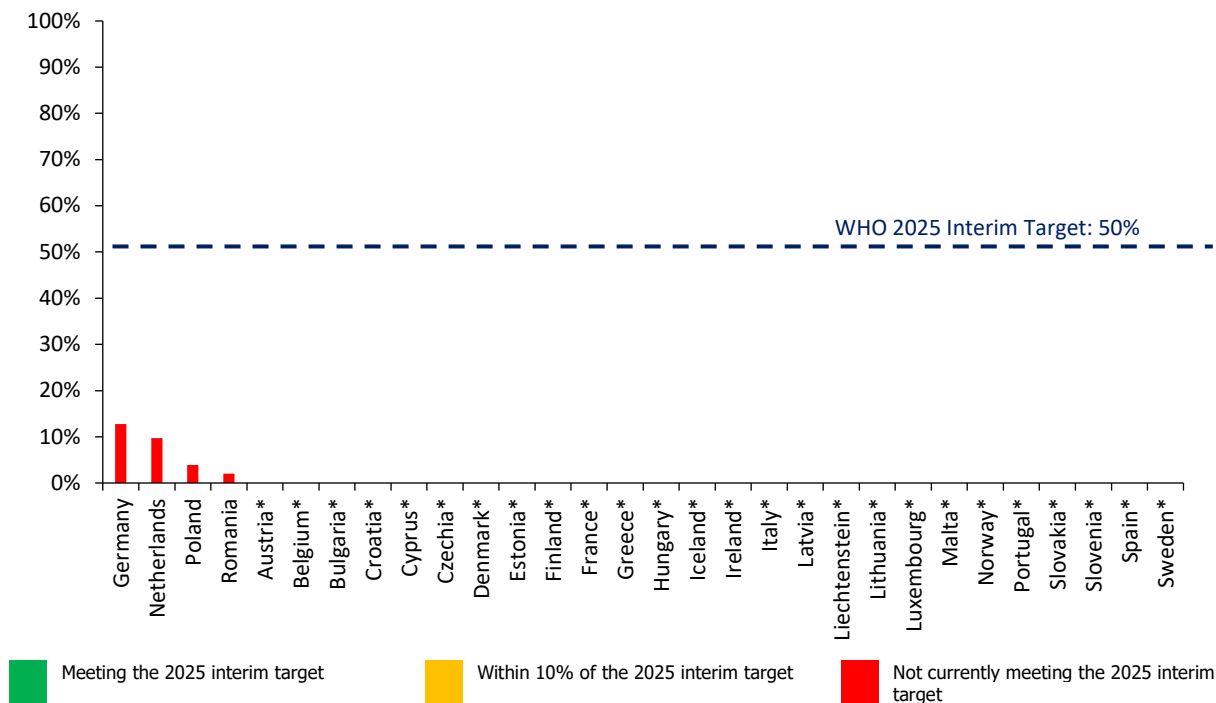
**Figure 21. Proportion of those diagnosed with chronic HBV and eligible for treatment receiving treatment in 2022 (or most recent year with data), in the EU/EEA**



\* Indicator could not be calculated due to lack of available data

Four countries could provide sufficient data to estimate the proportion of all people living with chronic HBV infection who are receiving treatment, with estimates ranging from 2% to 13% (median: 7%) (Figure 22). None of the reporting countries are currently meeting the WHO 2025 interim target of 50% of all people living with chronic HBV infection on treatment.

**Figure 22. Proportion of patients receiving antiviral treatment for chronic HBV infection, of all those living with chronic HBV, diagnosed and undiagnosed, in the EU/EEA, 2022<sup>a</sup>**

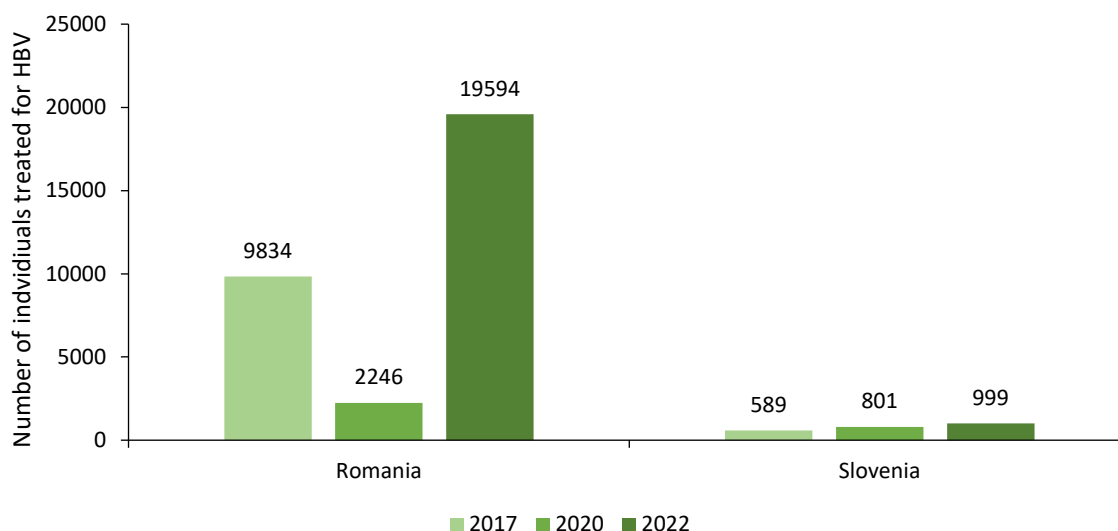


<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

Two countries, Romania and Slovenia could provide data on the number of individuals treated for HBV between 2017 and 2022 (Figure 23). Since 2017, the numbers of individuals treated in the two countries has increased, although, treatment in Romania dropped significantly in 2020.

**Figure 23. Number of people ever diagnosed with chronic HBV infection (HBsAg) receiving antiviral treatment in EU/EEA countries with continuous data, 2017–2022**

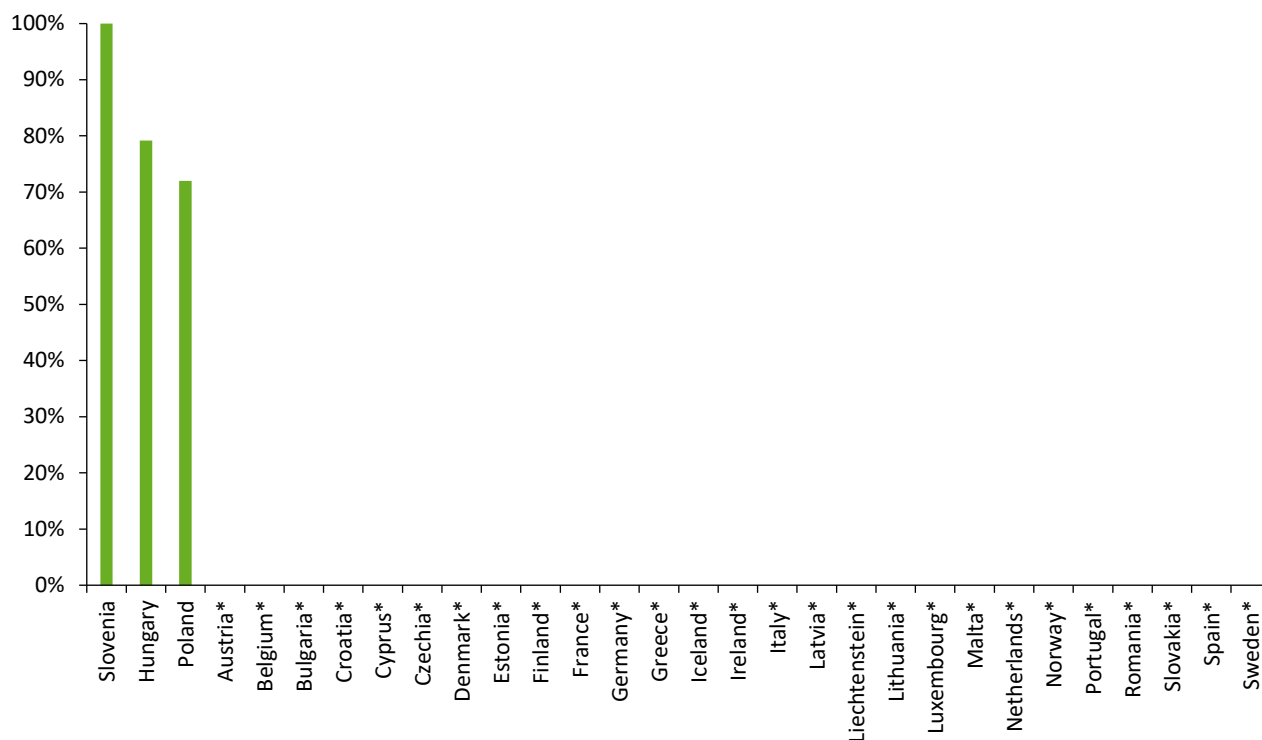


### 3.2.10 Viral suppression among patients on treatment for chronic HBV

Only three countries were able to provide data on the proportion of patients receiving antiviral treatment who are achieving viral suppression (Figure 24). Slovenia reported that 100% of patients on treatment are achieving viral suppression, while Hungary and Poland reported that 79% and 72% of patients are achieving viral suppression, respectively.

The estimated proportion of all people living with chronic HBV achieving viral suppression could not be calculated for any country due to a lack of available data.

**Figure 24. Proportion of patients on antiviral treatment for chronic HBV infection achieving viral suppression\*\* in the EU/EEA, 2022<sup>a</sup>**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

\*\* Denominator is those cases that had available data on treatment outcome.

## 3.3 The continuum of care for hepatitis C

### 3.3.1 Background on the HCV continuum of care

As with hepatitis B, the continuum of care provides a framework of important stages along the care pathway towards achieving a sustained virologic response for those living with chronic HCV infection. Achieving a high rate of sustained virologic response for chronic HCV infection is a critical aspect of reducing the impact of hepatitis C, resulting in reduced morbidity and mortality and a lower incidence of new infections.

The WHO European Region Action Plan interim targets for 2025 that align with the major stages of the hepatitis C continuum of care are listed in Box 2. For detailed information along the continuum of care for HCV, including year of data, see Annex C.

**Box 2. WHO European Region Action Plan interim targets for hepatitis C, 2025**

Diagnosis

- 60% of all people living with chronic HCV infection are diagnosed

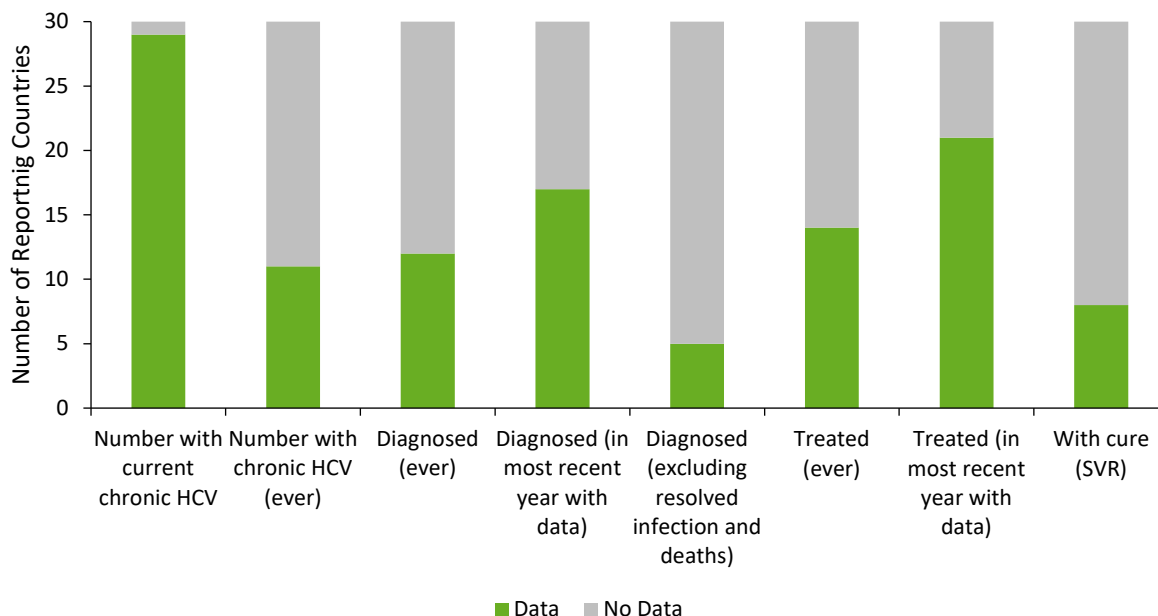
Treatment

- 50% of all people living with chronic HCV infection have achieved sustained virologic response

### 3.3.2 Data availability for hepatitis C

Overall, 29 of 30 responding countries provided national-level data for at least one stage of the continuum of care for hepatitis C (Figure 25). Four countries (Hungary, Ireland, Malta, and Slovenia) could provide data across the four key stages of the continuum of care (estimated number of people living with current chronic HCV, numbers diagnosed, numbers treated, and numbers achieving sustained virologic response (SVR)).

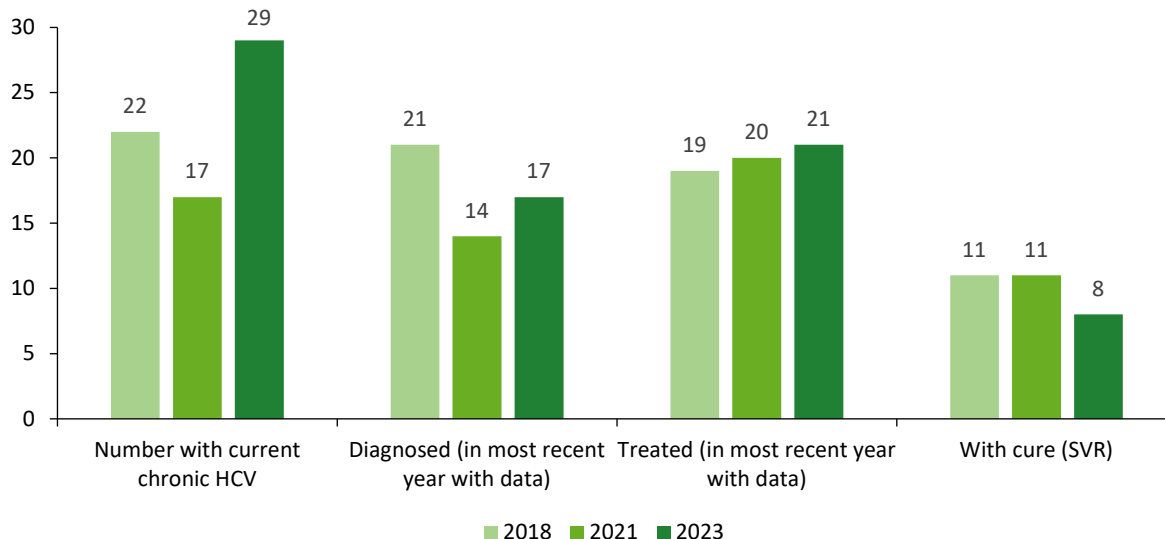
**Figure 25. Number of EU/EEA countries reporting data for the hepatitis C continuum of care indicators, 2023**



SVR: Sustained virologic response.

While data availability for the estimated number of people with current chronic HCV infections has increased, data availability for the numbers diagnosed and the numbers with cure have decreased since the 2017-2018 reporting round (Figure 26). Data availability for the numbers treated have remained stable.

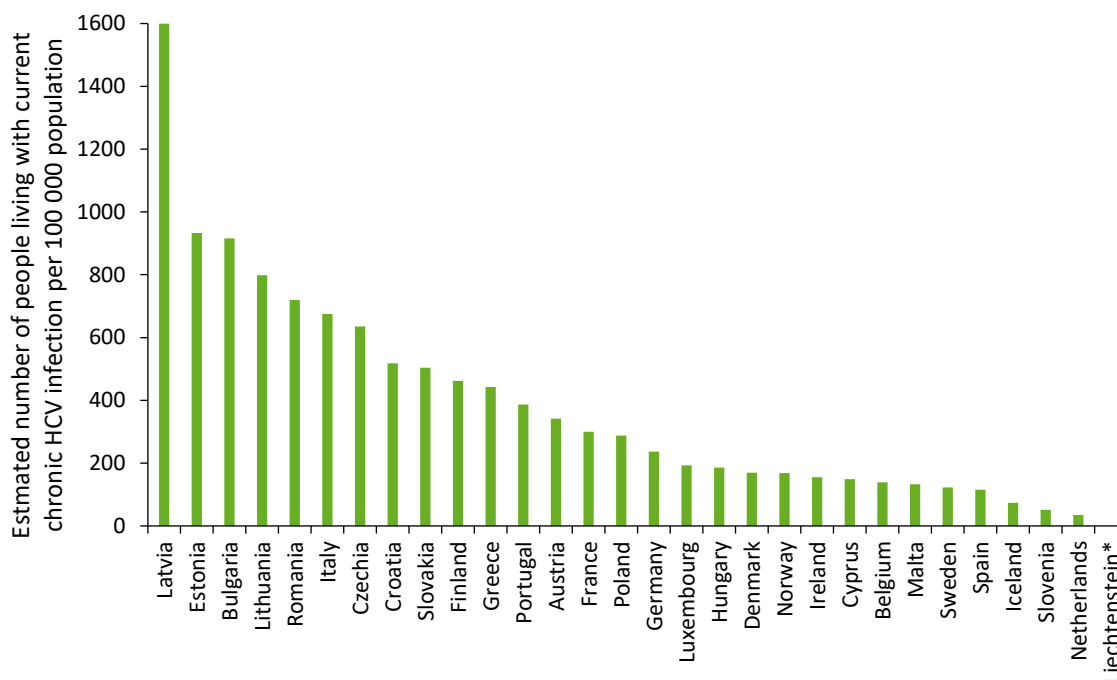
**Figure 26. Number of EU/EEA countries reporting data for the hepatitis C continuum of care indicators, 2018–2023**



### 3.3.3 Estimated number of people living with chronic HCV

29 countries could provide data for the estimated number of people living with current chronic HCV infection (RNA positive), diagnosed and undiagnosed (Annex C). Estimated numbers of people living with chronic HCV ranged from 279 people in Iceland to 398 610 people in Italy. Most estimates were based on the results of recent multiparameter evidence synthesis modelling that was undertaken for all countries in the region [2], but five countries submitted estimates from other sources, including alternative modelling data, survey data and seroprevalence studies. Figure 27 presents the estimated number of people living with chronic HCV infection per 100 000 population, with rates ranging from 35 per 100 000 population in the Netherlands to 1 599 per 100 000 population in Latvia, with a median value of 287 per 100 000.

**Figure 27. Estimated number of people living with current chronic HCV infection (RNA positive) per 100 000 population, in the EU/EEA, 2022<sup>a</sup>**



<sup>a</sup> 2022 or most recent year with available data.

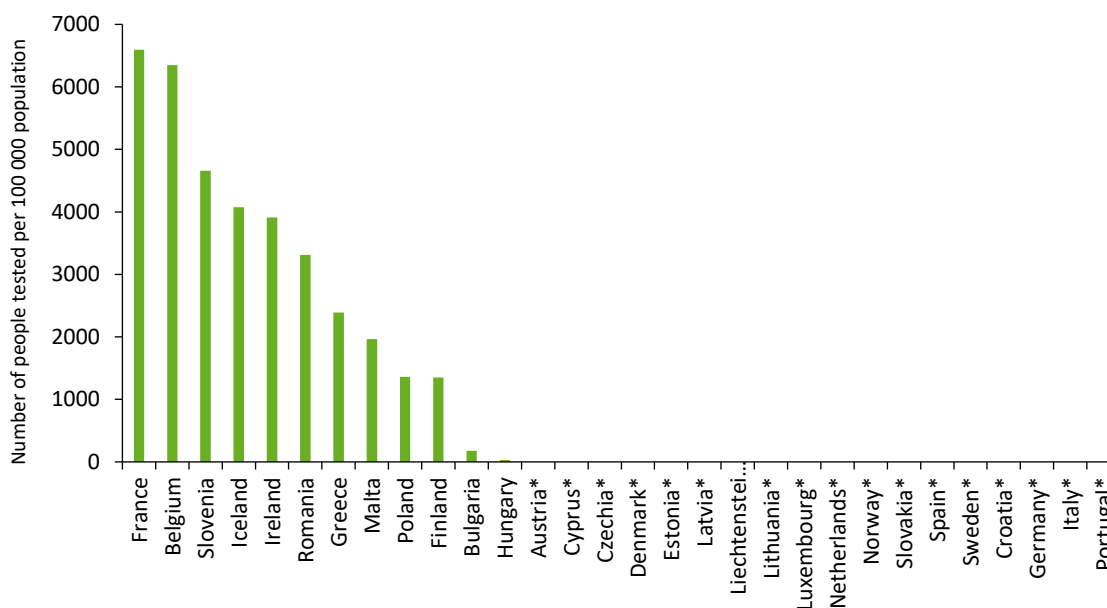
\* Indicator could not be calculated due to lack of available data.

### 3.3.4 Number of people tested for hepatitis C

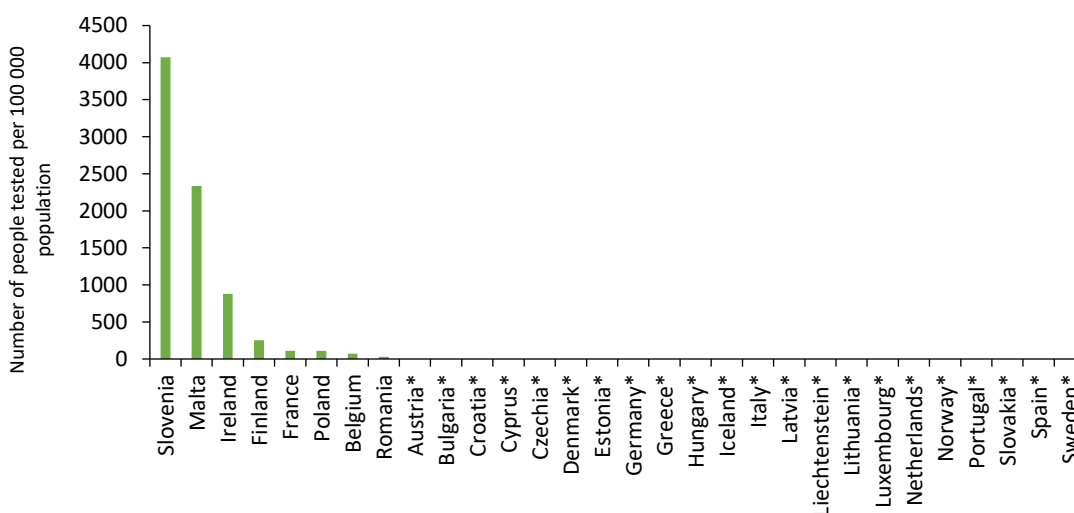
Ten countries in the EU/EEA were able to provide data on the number of people tested for hepatitis C (anti-HCV) in 2022, with rates ranging from 31 per 100 000 population in Hungary to 6 595 per 100 000 population in France (Figure 28a). The number of people tested for HCV RNA or HCV core antigen ranged from 4 071 per 100 000 population in Slovenia to 29 per 100 000 population in Romania (Figure 28b).

**Figure 28. Number of people tested for hepatitis C per 100 000 population in the EU/EEA, 2022<sup>a</sup>**

## a. Anti-HCV testing



## b. HCV RNA or HCV core antigen testing



<sup>a</sup> 2022 or most recent year with available data.

\* Lack of available data.

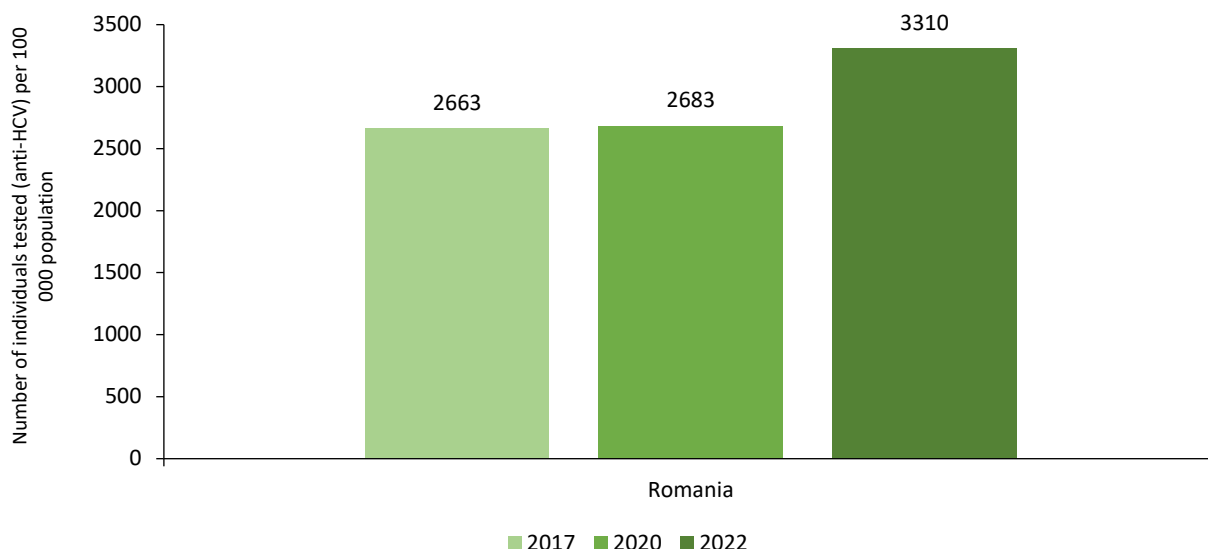
Two countries were able to provide data for the number of people tested for HCV per 100 000 population between 2017 and 2022: Romania provided data on the rate of anti-HCV testing over time and Romania and Slovenia<sup>ii</sup> provided data on the rate of HCV RNA or core antigen testing over time (Figure 29). In Romania, the rate of anti-HCV testing has increased since 2017 and this is related to the rollout of population screening programmes to identify cases. While Slovenia's rate of HCV RNA testing has increased since 2017, the rate of HCV RNA or HCV core antigen testing has declined in Romania, and this is most likely related to the less targeted screening that is taking place among the general population where the prevalence is lower compared to risk groups.

<sup>ii</sup> Slovenia does not implement HCV core antigen testing.

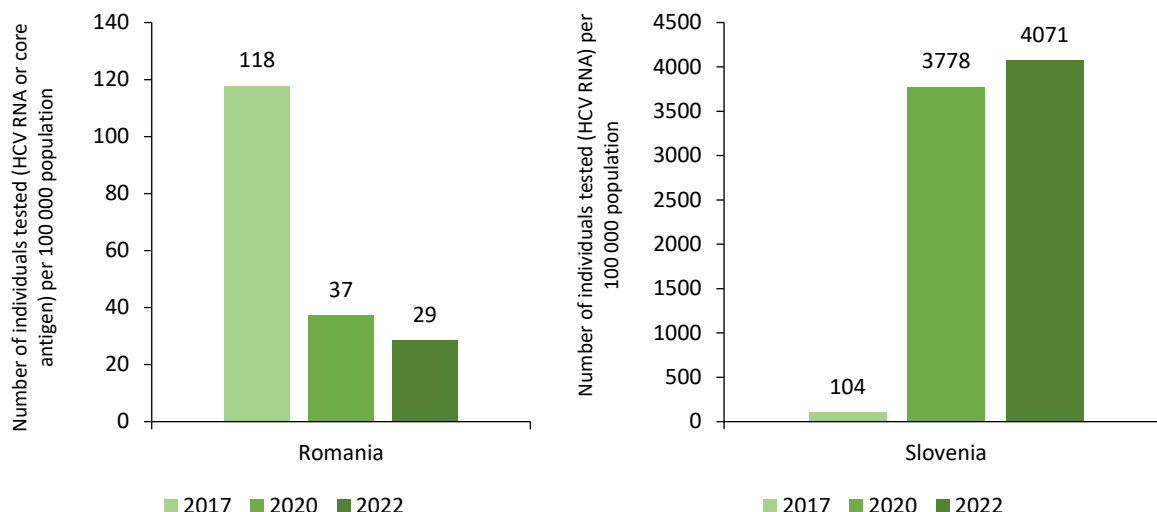


**Figure 29. Number of individuals tested for hepatitis C over time in the EU/EEA, 2017–2022**

a. Anti-HCV testing



b. HCV RNA or core antigen testing



### 3.3.5 Proportion of all people living with HCV who have been diagnosed

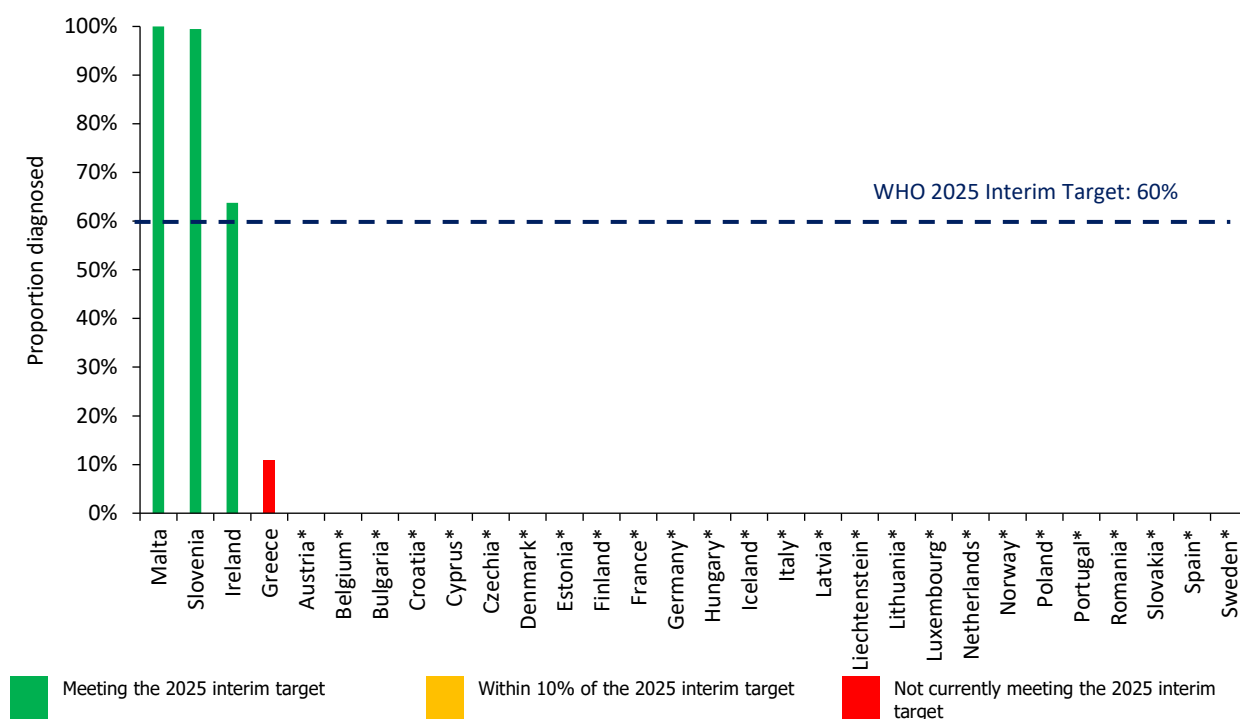
#### EU/EEA progress towards 2025 interim targets

Three of the four reporting countries are currently meeting the 2025 interim target of 60% or all people living with chronic HCV infection diagnosed.

The proportion of people living with chronic HCV infection who have ever been diagnosed, excluding those with resolved infection, is the WHO diagnosis indicator for HCV. Among the four countries able to provide data, of the estimated 55 877 people living with current chronic HCV, 11 766 people (21%) have been diagnosed with chronic HCV excluding those with resolved infection. This represents a decrease from the estimated 52% diagnosed in 2020 – however, fewer countries reported in 2023 and this calculation is based on a very limited sample, heavily impacted by one country, so the overall results are unlikely to be representative of the region’s progress.

At the country level, the proportion diagnosed ranged from 11% in Greece to 100% in Malta, with three of the four countries currently meeting the 2025 interim target of 60% of cases diagnosed (Figure 30). The data on the number of people ever diagnosed (the numerator of the proportion) came from a wide range of sources of varying quality, including surveillance data, cohort studies, and surveys.

**Figure 30. Proportion ever diagnosed with chronic HCV infection by the end of 2022<sup>a</sup> excluding those with resolved infection, of all those living with chronic HCV in the EU/EEA**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

Early diagnosis of infection is important to link individuals with chronic HCV to care in order to minimise disease progression and the development of complications from chronic infection including cirrhosis and hepatocellular carcinoma. Ideally, people should be diagnosed before they have developed such complications.

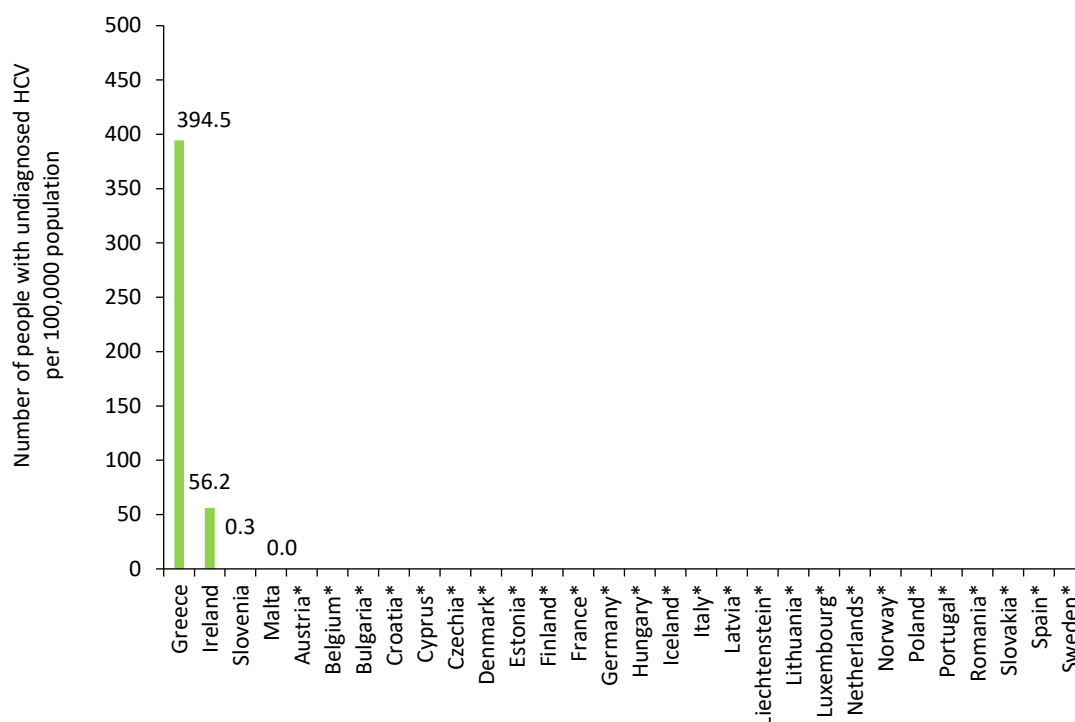
Eight countries reported estimates of the proportion of people with chronic HCV infection who had end-stage liver disease, including decompensated cirrhosis or hepatocellular carcinoma, at the time of diagnosis (Table 3). Of note, some of the estimates provided were over five years old so do not reflect the current situation. Rates of end-stage liver disease at time of diagnosis varied greatly across the region, ranging from <1% in Iceland to 17% in Romania, with Germany reporting that 2 to 34% of individuals had cirrhosis at the time of their HCV diagnosis. Importantly, geographical coverage of the estimates varies from clinic-level to national-level data and data are derived from a range of different sources, making inter-country comparison difficult.

**Table 3. Proportion of people with chronic HCV infection who had decompensated cirrhosis or hepatocellular carcinoma at the time of diagnosis in the EU/EEA**

Country	Proportion of people with end-stage liver disease at time of diagnosis	Year of data	Geographic coverage and source of data
Austria	11.5% (cirrhosis)	2014–2016	City-level; cohort data
Greece	5% (decompensated cirrhosis); 5% (hepatocellular carcinoma)	Unspecified	City-level; other data
Germany	2 to 34% (cirrhosis); 1.2% (hepatocellular carcinoma)	2010–2016	Clinic-level; survey data
Hungary	10%	2023	National-level; cohort data
Iceland	<1%	2016–2018	National-level; surveillance data
The Netherlands	8 to 9%	2013–2019	City-level; survey data
Poland	6.3%	2022	National-level; surveillance data
Romania	17%	2022	Regional-level; screening data

### Number of people living with current chronic HCV who remain undiagnosed

Four countries were able to provide sufficient data to estimate the number of people living with current chronic HCV infection who remain undiagnosed (Figure 31). The number of individuals who remain undiagnosed varies significantly between the countries, from 0 per 100 000 in Malta to 394.5 in Greece.

**Figure 31. Number of people living with current chronic HCV who remain undiagnosed per 100 000 population, 2022<sup>a</sup>**

<sup>a</sup> 2022 or most recent year with available data.

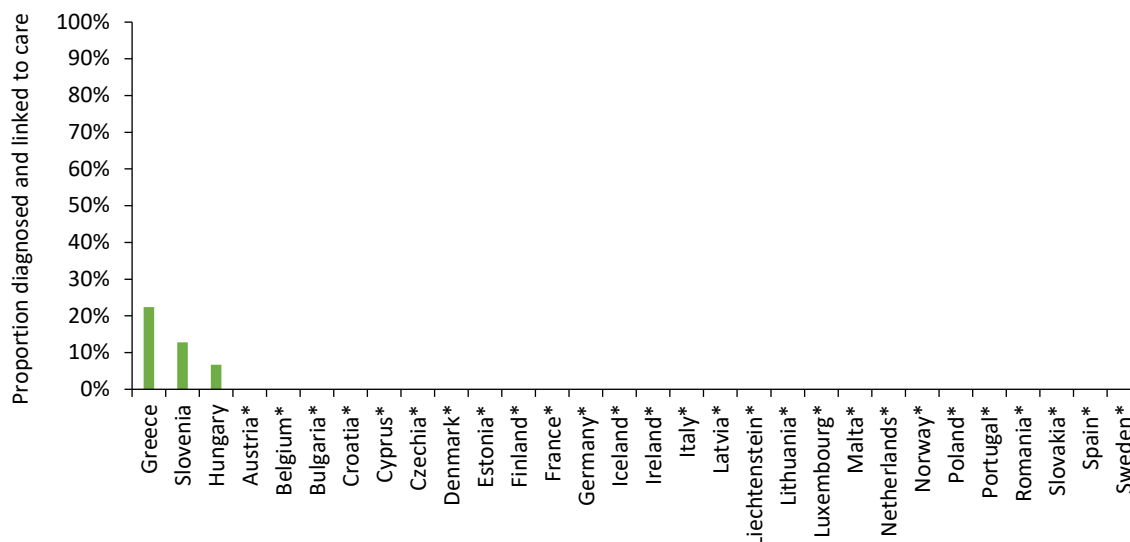
\* Indicator could not be calculated due to lack of available data.

### 3.3.6 Proportion on treatment

#### Linkage to care

The proportion of people diagnosed with HCV who have been linked to care within the last twelve months could be calculated for three countries, with rates ranging from 7% to 22% (Figure 32).

**Figure 32. The proportion of people ever diagnosed by the end of 2022<sup>a</sup>, linked to care during 2022<sup>a</sup>**



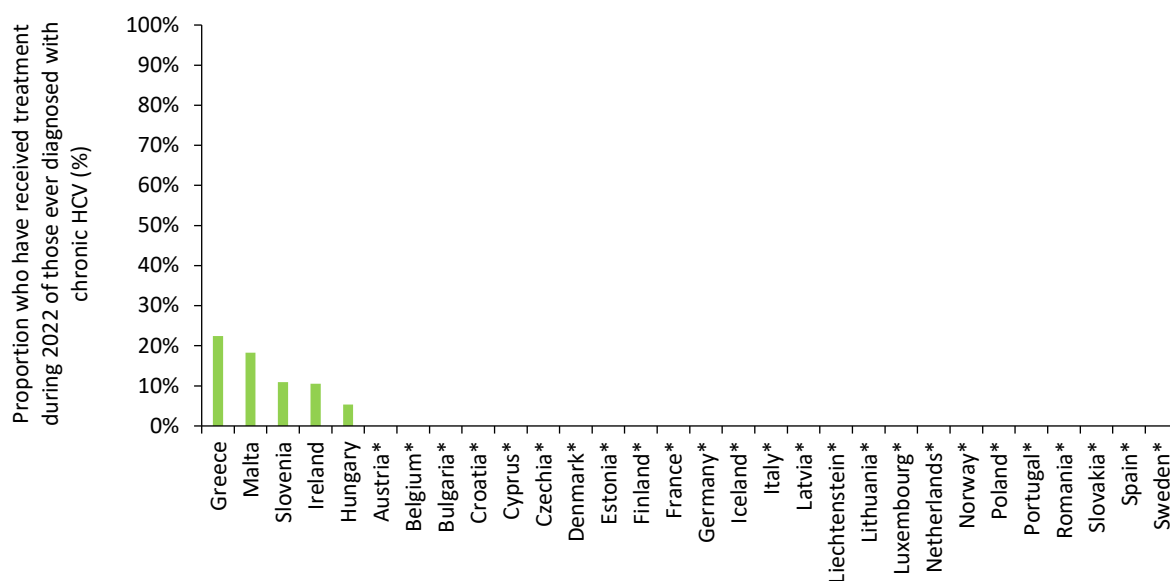
<sup>a</sup> 2022 or most recent year with available data.

\*Indicator could not be calculated due to lack of available data.

#### Proportion diagnosed receiving treatment

Five countries reported data on both the number of people ever diagnosed with chronic HCV infection (excluding those with resolved infection (cured or spontaneous)) and the number of those diagnosed who received treatment in 2022 (or the most recent year with data) (Figure 33). There were an estimated 33 766 people with current chronic HCV infection diagnosed, of whom 3 077 (9.1%) received treatment in 2022. At a country level, the proportion ranged from 5% in Hungary to 22% in Greece.

**Figure 33. Proportion of patients ever diagnosed and living with chronic HCV infection (excluding those with resolved infection (cured or spontaneous)) who received treatment during 2022<sup>a</sup>, in the EU/EEA**



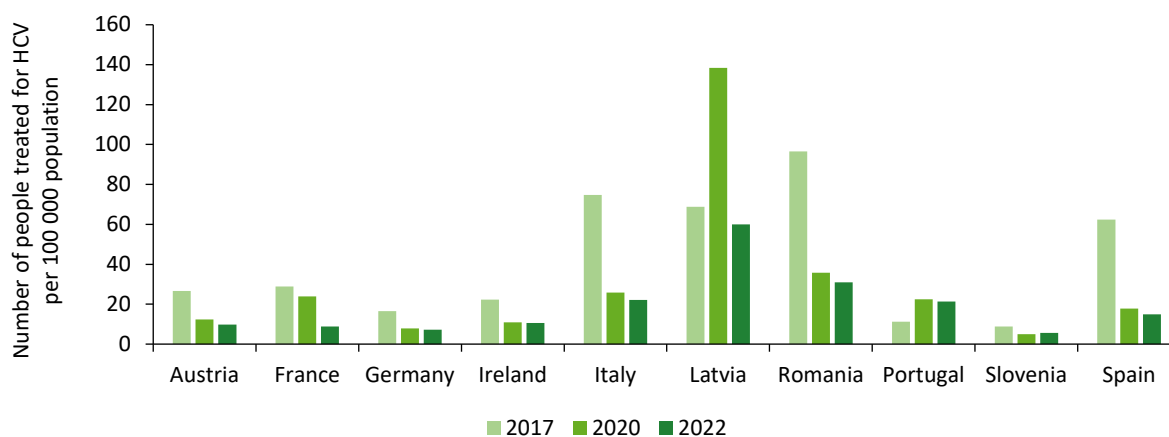
<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

Data for the number of people who received treatment during 2022 came from a wide range of sources, including surveillance data, cohort studies, and national registries.

In nine of the 10 countries able to provide data on numbers treated overtime, the number of people treated for HCV has generally decreased since 2017 (Figure 34). The number of people treated in Portugal has increased since 2017, although this fell slightly between 2020 and 2022.

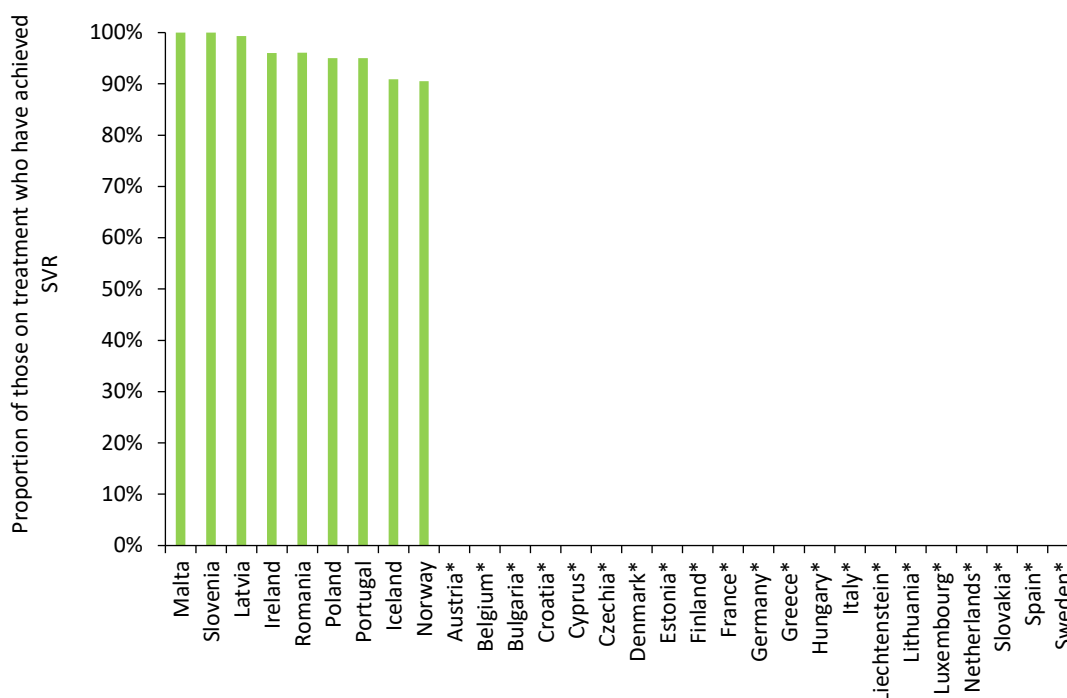
**Figure 34. Number of people with chronic HCV infection (HCV RNA) who received antiviral treatment during the most recent year per 100 000 population in 10 EU/EEA countries, 2017–2022**



### 3.3.7 Sustained virologic response among those treated

Nine countries reported data on the number of patients receiving antiviral treatment with documentation of treatment outcome during 2022 (or the most recent year with data) and the number of patients who achieved sustained virologic response during that year (Figure 35). In all nine countries with data, reported proportions were over 90%.

**Figure 35. Proportion of people receiving antiviral treatment for chronic HCV infection who achieved sustained virologic response\*\* during 2022<sup>a</sup> in the EU/EEA**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

\*\*Denominator is those cases that had available data on treatment outcome.

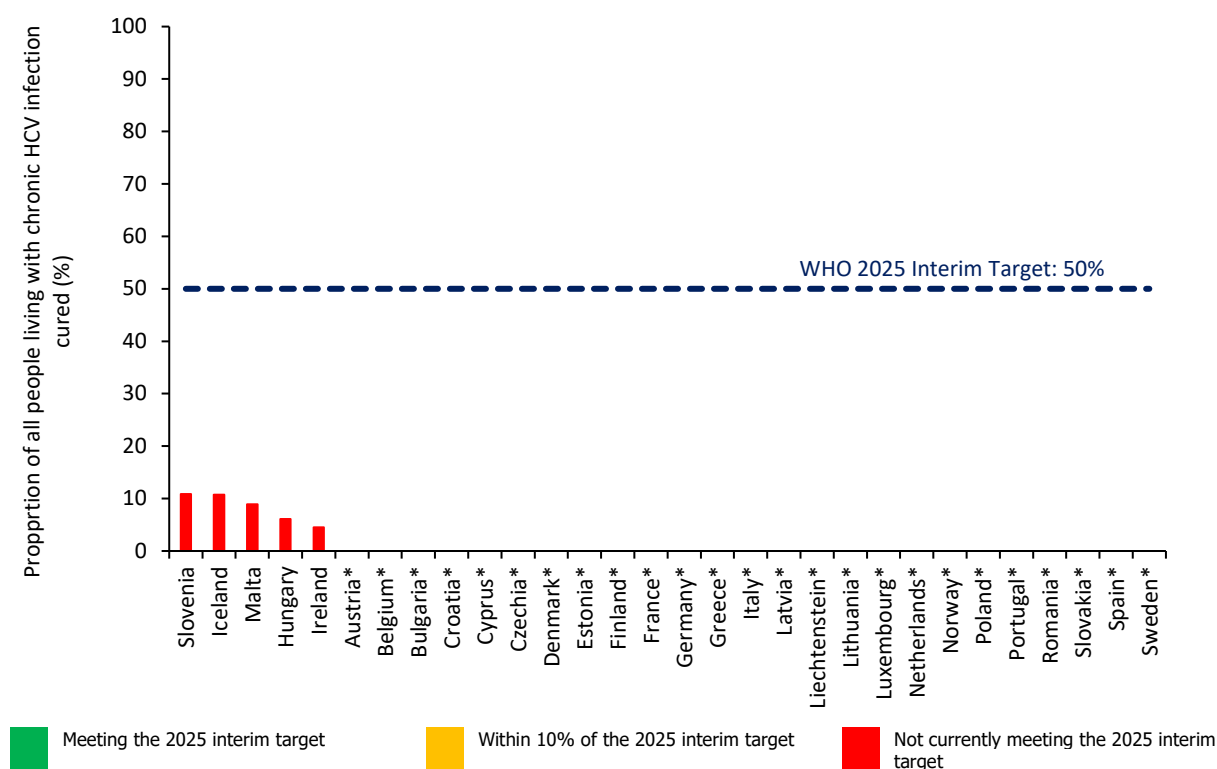
### 3.3.8 Estimated proportion of people with chronic HCV who were cured

#### EU/EEA progress towards 2025 interim targets

None of the five reporting countries are currently meeting the 2025 interim target of 50% of all people living with chronic HCV infection cured.

The estimated proportion of those ever chronically infected with HCV (excluding any resolved infections (cured or spontaneous) who have completed treatment and were cured could be calculated for five EU/EEA countries<sup>iii</sup> (Figure 36). Proportions ranged from 5% in Ireland to 11% in Slovenia.

**Figure 36. Estimated proportion of people living with chronic HCV infection who were cured in the EU/EEA, 2022<sup>a</sup>**



<sup>a</sup> 2022 or most recent year with available data.

\* Indicator could not be calculated due to lack of available data.

<sup>iii</sup> Proportion calculated using the numbers achieving SVR in 2022 as the numerator and the number of individuals living with chronic HCV infection in 2022 (diagnosed and undiagnosed) as the denominator.

## 4 Discussion and conclusions

This report presents findings related to policy on testing and treatment and the continua of care for hepatitis B and hepatitis C in the EU/EEA from the third data collection conducted in 2023.

### 4.1 Policy on testing and treatment

Having a national plan or strategy for the response to the hepatitis B and C epidemics is a crucial component of effectively prioritising the delivery of hepatitis services and making progress towards the goal of elimination. The successful implementation of such a plan requires funding and subsequent monitoring and evaluation. Twenty-two of the 30 reporting countries responded that there was a national plan or strategy for hepatitis response, but only 15 countries responded that the plan or strategy was funded from the national budget.

While most countries (93%) had specific HBV testing policies or programmes for pregnant women, gaps were identified in testing policies or programmes for migrants, MSM, healthcare workers, and people in prison. Similar gaps existed in specific policies/programmes for HCV testing, with fewer than half of countries reporting policies or programmes for migrants, healthcare workers, MSM, or pregnant women. An effective policy framework for testing can play a key role in encouraging testing in a variety of settings and among key populations, reducing barriers to diagnosis. This monitoring round shows that many cases remain undiagnosed across the region. It therefore remains critical that countries evaluate their local epidemiological situation and current testing practice in order to tailor screening efforts more effectively.

Regarding the costs of hepatitis B and C testing for the individual, most countries reported that testing was free (either 'free at the point of use' or 'user fee reimbursed by healthcare system or insurance'), with two countries reporting 'user fee not reimbursed'. The cost at point of access for countries reporting user fees (reimbursed or non-reimbursed) varied considerably from €2.16 to €37.80 for hepatitis B (HBsAg) tests and €2.16 to €31.11 for hepatitis C (anti-HCV) tests. Information on costs for PCR tests was only available from a few countries, with reported costs as high as €47.09 for HBV DNA and €56.60 for HCV RNA.

Only 11 countries reported that tests were available in community and harm reduction settings from peer testers, in spite of evidence that testing coverage and positivity rates are high in community drug service settings, including both fixed settings and outreach services, and that peer-supported and peer-led programmes can improve accessibility [17,18]. This indicates it would be beneficial to address gaps in peer testing in countries where this testing strategy is not available. Further barriers to testing reported by 24 countries included the existence of policies necessitating HBV and HCV tests to be performed by healthcare workers. To improve testing accessibility, countries are encouraged to consider revising these policies, as many people at risk for HBV/HCV might not be able to regularly access or feel comfortable accessing secondary or tertiary healthcare where these tests are often offered. While almost all countries reported that rapid HCV tests were available, only three countries reported that self-tests for HCV had become available. While the number of countries implementing self-testing has increased from 2021, when zero countries implemented HCV self-testing, implementation across the region remains low. Guidelines from WHO, published in 2021, strongly recommended HCV self-testing as an effective tool to accelerate progress towards diagnosis targets, as self-tests have been found to have high acceptability and usability [19].

Regarding policy on HBV and HCV treatment, treatment restrictions were reported in 11 countries. Countries most frequently reported treatment restrictions on undocumented migrants, with 73% of countries reporting restrictions indicating the restrictions were for this population. In relation to the costs of hepatitis B and hepatitis C treatment, no countries reported that costs were covered 'primarily out of pocket', although one country reported that hepatitis C treatment may be patient-paid if the specific medication is not covered under the state medical plan. In the 2023 survey, a new question was introduced on the cost of one month's supply of government-purchased HBV and HCV medication per patient. Prices ranged across the region, varying from €78 to €925 for hepatitis B treatment and €344 to €18 555 for hepatitis C patients.

### 4.2 The hepatitis B and C continua of care

While the monitoring system aims to provide a comprehensive overview of the response to the hepatitis B and C epidemics to guide the European Commission and other European agencies in their support of EU/EEA countries in achieving the goal of hepatitis elimination, the availability of monitoring data on the continuum of care for hepatitis B and C in the general population was very poor. Given the number of countries unable to report data on the stages of the continuum of care – including estimates of the numbers of people infected, diagnosed, and treated, as well as treatment outcomes – it is not possible to obtain a comprehensive EU/EEA-wide assessment of progress towards the elimination targets.

Data availability for the hepatitis C continuum of care was better than for the hepatitis B continuum of care overall, which is in line with data availability from the first (2017–2018) and second (2020) data collection rounds [9,10]. A



further challenge for hepatitis B included that some of the estimates of the numbers infected were old (with six of the nine estimates dating from 2016 or earlier) and might not reflect the actual situation. While the number of countries able to provide estimates for the number of people living with current chronic HCV has increased due to the multiparameter evidence synthesis modelling study [2], this is not reflected along the subsequent stages of the continuum which have poorer (diagnosis, cure) or stable (treated) levels of data availability compared to 2021. Further research is needed to understand the barriers that exist in collecting and reporting data along the hepatitis B and C continua of care, as well as how these barriers can be addressed to improve the level of data availability in future monitoring rounds. Focusing on a subset of core indicators in the next monitoring round may help in improving reporting.

Regarding the HBV 2025 interim target of 60% diagnosed, only four countries reported data – none of which are currently meeting the target, with proportions diagnosed ranging from 33% to 57%. Three countries are within 20% of the target. Three countries had trend data on number of people tested for HBV over time indicating increasing numbers tested. Five countries provided estimates on the proportion of individuals with chronic HBV infection who had end-stage liver disease, including decompensated cirrhosis and/or hepatocellular carcinoma, at the time of diagnosis, with estimates ranging from 1.6% to 17%. Early diagnosis of hepatitis B is important to link cases to care in order to prevent long term complications and this finding of high numbers of people with chronic hepatitis B diagnosed late in the course of their infection suggest greater efforts to scale up testing are needed. For other stages along the HBV continuum of care, including linkage to care, viral suppression and retention in care among individuals who are ineligible for treatment, the data were limited and this restricts a clear assessment of progress towards the targets.

For the HCV 50% diagnosis interim target for 2025, three of four reporting countries are meeting the target (range: 11% to 100%). For the HCV sustained virologic response interim target of having 50% of all people living with chronic HCV infection cured, five countries were able to provide sufficient data, but none met the target. The main reason many countries do not meet this target is that a high proportion of the cases of chronic HCV are remaining undiagnosed and further efforts are needed to scale up treatment as data also highlighted many diagnosed cases had not been linked to care. Indeed, while only four countries were able to provide sufficient data to estimate the number of people living with current chronic HCV infection who remain undiagnosed, the data from these four countries show considerable variation in the estimated number of individuals who remain undiagnosed from 0 per 100 000 in Malta to 394.5 in Greece and data on the proportion diagnosed from four countries showed similar variation from 11% to 100%. As with hepatitis B, early diagnosis of hepatitis C infection is important to link individuals with chronic HCV to care in order to minimise disease complications. Eight countries reported estimates of the proportion of individuals with chronic HCV infection who had end-stage liver disease, including decompensated cirrhosis or hepatocellular carcinoma, at the time of diagnosis, and while some estimates were old, there was variation across the region with estimates up to 17% in one country, indicating that an urgent scale up in testing is needed in some countries.

Aside from the large gaps in data availability, there were several methodological issues with the data that made it difficult to aggregate and compare for an assessment of progress at the EU/EEA level. Estimates of the number of people living with chronic HBV infection were available from nine of the 29 reporting countries. However, the quality of the estimates and methods for obtaining estimates (including surveys, modelling and surveillance) were wide-ranging. Addressing the need for robust, up-to-date, and comparable estimates for the number of people with chronic HBV infection is essential to understanding the scope of the epidemic in the region and to serve as the foundation for the rest of the stages of the continuum of care. ECDC is currently working to produce estimates for the number of people living with chronic HBV infection to help address this gap in data availability in future monitoring rounds.

Data on the numbers ever diagnosed with chronic HBV infection also came from a wide range of sources and methodologies, making comparison challenging. These data were much more up-to-date, with most of the data points relating to 2022. This contrasts with the data on the HBV estimates as noted above, as a result, the data points used as numerator and denominator of the proportion ever diagnosed of those living with chronic HBV infection were often not from the same year creating some challenges for an accurate interpretation of the resulting proportions. This same issue exists for the calculation of the indicator for the proportion of people living with chronic HBV infection currently accessing treatment.

The gaps in hepatitis B data for indicators on linkage to care, treatment and viral suppression reflect a lack of prioritisation to monitor responses to the hepatitis B epidemic compared to the renewed push efforts to monitor the hepatitis C epidemic, which have been driven in part by the availability of the highly effective direct-acting antiviral (DAA) treatments. The number of countries able to provide data for the estimated number of people living with current chronic HCV infection has greatly improved since the 2021 reporting round [10]. However, gaps in data on diagnosis, treatment, and sustained virologic response remain, and many countries struggle to adjust data for cases resolving naturally, deaths, and migration in and out of the country, as is true for the HBV data. Adjusting hepatitis C data over time for changes in the prevalence pool as cases are treated and cured remains a challenge. Similarly to HBV, the years for the numerators and denominators do not always align in the creation of the proportions along the continuum of care.

The data collection efforts described here show that reliable estimates and data across both the hepatitis B and C continua of care are simply lacking. Addressing this gap in information remains a high priority to improve hepatitis monitoring and to inform response efforts.

## 4.3 Challenges with the monitoring indicators

Between the 2021 and 2023 reporting rounds, the indicators for the HBV and HCV were updated to reflect the new WHO global health sector strategy and WHO European regional action plan and they were simplified, removing some of the supplemental indicators introduced during the 2021 reporting round to streamline reporting on the continua of HBV and HCV care .

### 4.3.1 HBV indicators

The issue of clinical eligibility for treatment with antiviral medications creates difficulty when measuring and interpreting the continuum of care indicators for hepatitis B. It is estimated that only 12-25% of chronic HBV cases worldwide are eligible for treatment in accordance with different clinical guidelines [20]. This characteristic disrupts the continuity of the continuum of care from step to step, mainly impacting the linkage to care and treatment indicators.

The main continuum of care indicator affected by the variation in treatment eligibility is the treatment indicator. In the 2021 reporting round, the treatment indicator was 'the number of people with chronic HBV infection currently receiving treatment' over 'the number of people with chronic HBV infection and eligible for treatment'. However, while six countries had data on the number of people accessing HBV treatment, this proportion could only be calculated for one country as most countries were unable to provide data on treatment eligibility [11].

To improve data availability and reflect the updated WHO targets, the treatment indicator used in the 2023 reporting round is: 'the number of people receiving treatment of those estimated to be living with chronic HBV infection, diagnosed and undiagnosed, by the end of 2022', with an interim target of 50% by 2025. This indicator is less accurate as it loses the nuance of clinical eligibility, which remains an important consideration when interpreting treatment data. In addition, the 50% target is problematic as, under EASL guidelines, not all people living with hepatitis B are eligible for treatment [20]. Further, as individuals who are not diagnosed cannot be treated, this updated indicator does not allow for a clear assessment of linkage to care and treatment programme efficacy. Indeed, when looking at the proportion eligible for treatment receiving treatment in three countries with data, all reported 100% treatment coverage. While there is a need to critically examine the information received, as it is possible these data came from clinical datasets that are not fully representative of all clinics and settings within a country, it suggests that the updated indicator could obscure progress on treatment uptake. While data availability is still an important issue with this updated indicator, the revision allows for a more complete indicator set and might contribute to a greater understanding of progress made over time.

An additional indicator was included to monitor those ineligible for care: 'the proportion of people retained in care, of those diagnosed with chronic HBV, linked to care and not eligible for antiviral treatment (according to EASL criteria)'. This indicator, updated from the 2021 survey, is intended to track retention in care among those ineligible for treatment – an important population for HBV monitoring overlooked by the standard continuum of care. It was calculated by subtracting 'treatment-eligible' diagnosed cases from all cases diagnosed and linked to care for use in the denominator.

There were no inherent issues with the indicators for diagnosis and viral suppression identified, however, a lack of high-quality and up-to-date estimates and data impedes the ability to make regional assessments of progress towards the elimination targets.

### 4.3.2 HCV indicators

As with the HBV indicators, no inherent issues were identified with regards to the measurement and interpretation of the WHO HCV indicators for the numbers with chronic infection or the proportion of cases who had initiated treatment and achieved sustained virological response. A lack of recent and high-quality data remains an issue.

The WHO indicator for proportion diagnosed is the proportion of all people living with chronic HCV infection who have been diagnosed. The number of people infected with chronic HCV infection and diagnosed with chronic HCV infection are highly dynamic and must be adjusted to remove cases who are treated and cured, or whose infections resolve naturally, as well as for deaths and migration. However, many countries struggle to provide adjusted estimates and data. The shifting nature of the denominator and the numerator create challenges in interpreting this indicator. To address the issue of shifting denominators and facilitate interpretation to compare treatment efforts across countries, the number of people treated is also presented per 100 000 population. However, countries with very low prevalence of chronic HCV would show low antiviral treatment per 100 000 population, even if they treated a high proportion of chronic HCV patients. Therefore, it is important to consider prevalence when interpreting this indicator.

In the 2023 reporting round, an additional indicator was added to help address some of the challenges presented by the above diagnosis indicator. The indicator, 'the number of people with current chronic HCV infection (HCV RNA positive) remaining undiagnosed in the most recent year per 100 000 population', was calculated by subtracting the 'number of people diagnosed with chronic HCV infection' from the 'estimated number of people living with current chronic HCV'. It aims to provide a measure of the unmet need in relation to diagnosis of people with HCV infection through an indicator which can measure progress over time by introducing a relatively stable denominator (population).

Similar concerns around shifting denominators and issues providing data adjusted for cases cured, deaths and migration exist for the treatment indicator, 'the proportion of patients diagnosed with chronic HCV infection treated in the reporting year'. Additionally, this indicator, and the indicator of 'the proportion of people living with chronic HCV infection (excluding those with resolved infection) who have been cured' only provides a snapshot of the efforts with regards to HCV treatment. The indicator on numbers treated per 100 000 population can provide useful information on trends but is obviously influenced by underlying disease burden.

## 4.4 Limitations

While there is extensive discussion of limitations on the availability and quality of data and issues with indicators in the above sections, there were additional limitations that restricted the ability to draw conclusions from the data presented to enable a comprehensive understanding of the response to the hepatitis B and C epidemics in the EU/EEA. Information on local testing strategies was limited and a greater understanding of specific testing strategies in different locations in each country would enable a fuller interpretation of some of the data around testing and diagnosis. A further limitation of this report is that data on prevention are not presented and not including prevention indicators alongside indicators related to the continuum of care limits a full understanding of progress towards elimination.

## 4.5 Conclusions

### 4.5.1 Priorities for action

To address the findings and the methodological limitations presented in this report, select priority areas for action have been identified:

- The viral hepatitis burden in the EU/EEA remains high and varies geographically and disproportionately affects several different key population groups such as people who inject drugs and migrant populations. Tackling this burden and reaching the elimination targets requires a strong multi-disciplinary approach, informed by robust data collected from comprehensive and sustainable systems for monitoring.
- Significant gaps in the data related to the prevalence, diagnosis, treatment and treatment outcomes for hepatitis B and C in EU/EEA countries present a major challenge to monitoring progress towards the 2025 interim targets and 2030 targets of elimination for hepatitis. To guide national responses to hepatitis B and C, countries should prioritise improving the quality of their monitoring systems. Data are especially lacking for hepatitis B.
- The collection of robust, up-to-date information using epidemiologically sound methods could be greatly improved by increased collaboration between different stakeholders in the field of viral hepatitis, including public health departments, clinical bodies, and civil society and community-based organisations.
- ECDC has several projects planned to improve the availability of data and estimates, and to support countries in their hepatitis monitoring efforts. These projects include the modelling of new estimates for the number of people infected, data collection on mortality caused by hepatitis and the development of a sentinel surveillance system to improve data collection on late diagnosis and treatment in different service settings.
- Scaling up testing efforts is critical to diagnose cases of hepatitis B and C as early as possible and to link cases to care in order to reduce the associated disease burden. Reducing the proportion of cases who have advanced liver disease at the time of their diagnosis should be a priority for all countries. Local assessment of the epidemiological situation alongside an analysis of local testing policies and data should be conducted in order to tailor screening efforts more effectively.
- Consideration should be given to any existing local barriers to the effective scale up of testing and screening, such as any out-of-pocket costs for tests, lack of access to self-testing or peer support, or policies that restrict hepatitis testing to healthcare workers.
- Diagnosed cases of chronic hepatitis B and C should be promptly linked to care with antiviral treatment provided in line with clinical guidance. Any ongoing restrictions in access to treatment for key population groups affected with hepatitis B or C should also be reviewed in order to ensure treatment is available to all those who need it.

## References

1. Hofstraat SH, Falla AM, Duffell EF, Hahné SJ, Amato-Gauci AJ, Veldhuijzen IK, et al. Current prevalence of chronic hepatitis B and C virus infection in the general population, blood donors and pregnant women in the EU/EEA: a systematic review. *Epidemiology and Infection*. 2017 Oct;145(14): 2873-85.
2. Thomadakis C, Gountas I, Duffell E, Gountas K, Bluemel B, Seyler T, et al. Prevalence of chronic HCV infection in EU/EEA countries in 2019 using multiparameter evidence synthesis. *Lancet Reg Health Eur*. 2023 Dec 3;36:100792. doi: 10.1016/j.lanepe.2023.100792.
3. Hsu YC, Huang DQ, Nguyen MH. Global burden of hepatitis B virus: current status, missed opportunities and a call for action. *Nat Rev Gastroenterol Hepatol* 20, 524–537 (2023). Available at: <https://doi.org/10.1038/s41575-023-00760-9>
4. Brunner N, Bruggmann P. Trends of the Global Hepatitis C Disease Burden: Strategies to Achieve Elimination. *J Prev Med Public Health*. 2021 Jul;54(4):251-258. doi: 10.3961/jpmph.21.151. Epub 2021 Jun 24. PMID: 34370938; PMCID: PMC8357539.
5. European Centre for Disease Prevention and Control (ECDC). Hepatitis B and C testing strategies in healthcare and community settings in the EU/EEA. Stockholm: ECDC; 2018.
6. United Nations (UN). Transforming our world: the 2030 agenda for sustainable development. New York: UN; 2015.
7. World Health Organization (WHO). Action plan for the health sector response to viral hepatitis in the WHO European Region. Geneva: WHO; 2017. Available at: <https://www.who.int/europe/publications/i/item/9789289052870>
8. World Health Organization Regional Office for Europe (WHO Europe). Action plan for the health sector response to viral hepatitis in the WHO European Region. Copenhagen: WHO Europe; 2016.
9. World Health Organization Regional Office for Europe (WHO Europe). Regional action plans for ending AIDS and the epidemics of viral hepatitis and sexually transmitted infections 2022–2030. Copenhagen: WHO Regional Office for Europe; 2023. Available at: <https://www.who.int/europe/publications/i/item/9789289058957>
10. European Centre for Disease Prevention and Control (ECDC). Monitoring the responses to hepatitis B and C epidemics in EU/EEA Member States, 2019. Stockholm: ECDC; 2020.
11. European Centre for Disease Prevention and Control (ECDC). Monitoring the responses to hepatitis B and C epidemics in EU/EEA Member States, 2021. Stockholm: ECDC; 2022.
12. European Centre for Disease Prevention and Control (ECDC). Prevention of hepatitis B and C in EU/EEA Member States, 2021. Stockholm: ECDC; 2022.
13. World Health Organization Regional Office for Europe (WHO Europe). Technical Report: Monitoring and evaluation for viral hepatitis B and C: recommended indicators and framework. Geneva: WHO; 2016.
14. World Health Organization (WHO). Regional action plans for ending AIDS and the epidemics of viral hepatitis and sexually transmitted infections 2022–2030. Copenhagen: WHO Regional Office for Europe; 2023.
15. European Centre for Disease Prevention and Control (ECDC). Prevention of hepatitis B and C in EU/EEA Member States, 2023. Stockholm: ECDC; 2024.
16. European Association for the Study of the Liver (EASL). EASL clinical practice guidelines on hepatitis delta virus. *Journal of Hepatology*. 2023 Aug; 79 (2): 433-460. Available at: [https://www.journal-of-hepatology.eu/article/s0168-8278\(23\)00317-3/fulltext#section-29f67c80-d481-4960-bd4b-7461833ed5c4](https://www.journal-of-hepatology.eu/article/s0168-8278(23)00317-3/fulltext#section-29f67c80-d481-4960-bd4b-7461833ed5c4)
17. European Centre for Disease Prevention and Control (ECDC). Public health guidance on HIV, hepatitis B and C testing in the EU/EEA – An integrated approach. Stockholm: ECDC; 2018.
18. European Centre for Disease Prevention and Control (ECDC) and European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Prevention and control of infectious diseases among people who inject drugs. Stockholm: ECDC; 2023.
19. World Health Organization (WHO). Recommendations and guidance on hepatitis C virus self-testing. Geneva: WHO; 2021. Licence: CC BY-NC-SA 3.0 IGO.
20. European Association for the Study of the Liver (EASL). Hepatitis B EASL Guidelines. Switzerland: EASL; 2017.
21. World Health Organization (WHO). WHO guidelines on hepatitis B and C testing. Geneva: World Health Organization; 2017.

# Annex A. Hepatitis B and C testing policies in EU/EEA countries, 2023

**Table A1. Hepatitis B key populations – testing policies and programmes**

Country	Healthcare workers	All migrant populations	Migrants (high endemicity)	Other migrant populations	MSM	People in prison*	PLHIV	Pregnant women	PWID	None of the above	Other	Details relating to 'other migrant populations' and/or 'other'
Austria	Green	Red	Red	Red	Green	Red	Green	Green	Red	Red	Green	Patients prior to surgery; no comprehensive national testing programme for PWID, but certain addiction/drug treatment services offer testing
Belgium	Red	Green	Red	Red	Green	Red	Green	Green	Green	Red	Green	
Bulgaria	Green	Red	Red	Red	Red	Grey	Red	Green	Red	Red	Green	Screening in the general population aged 40, 45, 50, 55, 60 years and dialysis patients
Croatia	Green	Red	Green	Red	Red	Red	Red	Green	Green	Red	Red	
Cyprus	Green	Green	Red	Red	Red	Green	Green	Green	Green	Red	Red	
Czechia	Red	Red	Red	Red	Red	Grey	Red	Green	Red	Red	Red	
Denmark	Red	Red	Green	Red	Red	Red	Green	Green	Green	Red	Green	People accessing HIV pre-exposure prophylaxis (PrEP)
Estonia	Red	Red	Red	Red	Red	Red	Red	Green	Red	Red	Red	
Finland	Red	Red	Green	Red	Red	Red	Red	Red	Red	Red	Red	
France	Green	Red	Green	Green	Green	Green	Green	Green	Green	Red	Red	Migrant populations from intermediate and high endemicity countries
Germany	Green	Red	Green	Red	Green	Red	Green	Green	Green	Red	Green	Screening in primary care for people over 35 years old
Greece	Green	Red	Red	Green	Red	Red	Green	Green	Green	Red	Red	Migrants who report that are HBsAg-positive
Hungary	Green	Red	Red	Red	Green	Red	Green	Green	Green	Red	Red	
Iceland	Red	Red	Green	Red	Green	Green	Green	Green	Green	Red	Red	Migrant populations from outside EU
Ireland	Green	Red	Green	Red	Green	Green	Green	Green	Green	Red	Green	Sex workers, dialysis patients

Country	Healthcare workers	All migrant populations	Migrants (high endemicity)	Other migrant populations	MSM	People in prison*	PLHIV	Pregnant women	PWID	None of the above	Other	Details relating to 'other migrant populations' and/or 'other'
Italy	Green	Red	Green	Green	Red	Red	Green	Green	Green	Red	Red	Migrants who are pregnant or who have with risk factors for infection
Latvia	Red	Red	Red	Red	Red	Red	Red	Green	Red	Red	Green	Haemodialysis patients, contacts of HBV patients
Liechtenstein	Green	Red	Green	Red	Green	Red	Green	Green	Green	Red	Red	
Lithuania	Red	Red	Red	Red	Red	Red	Green	Green	Green	Red	Green	Post-exposure, dialysis patients
Luxembourg	Green	Red	Red	Green	Red	Red	Red	Red	Red	Red	Red	Asylum-seekers
Malta	Red	Red	Red	Red	Red	Green	Green	Green	Red	Red	Green	Healthcare workers employed within the Foundation for Social Welfare Services
Netherlands	Green	Red	Green	Red	Green	Grey	Green	Green	Green	Red	Green	Sex workers; patients at increased risk of infection
Norway	Green	Red	Green	Red	Green	Red	Green	Green	Green	Red	Green	People who have/have had hepatitis C, sex workers, dialysis patients
Poland	Red	Red	Red	Red	Red	Red	Green	Green	Red	Red	Green	Dialysis patients, blood donors, HCW (post-exposure)
Portugal	Green	Red	Red	Red	Green	Red	Green	Green	Green	Red	Green	People accessing HIV PrEP
Romania	Green	Red	Red	Red	Red	Green	Green	Green	Green	Red	Green	Children born to a HBsAg positive mother, insured adults >=40 years if suspected of having hepatitis, 'disadvantaged' people
Slovakia	Red	Green	Red	Red	Red	Red	Red	Green	Green	Red	Green	
Slovenia	Green	Red	Green	Red	Green	Red	Green	Green	Green	Red	Green	Any individual can be tested
Spain	Green	Red	Green	Red	Red	Red	Green	Green	Green	Red	Red	
Sweden	Red	Red	Red	Green	Green	Red	Green	Green	Green	Red	Red	Migrant populations, depending on their legal status (asylum /refugees)

■ Testing policy or programme exists 
 ■ Testing policy or programme does not exist 
 ■ No data  
 \* Testing is offered to all persons in prison

**Table A2. Hepatitis C key populations – testing policies and programmes**

Country	Healthcare workers	All migrant populations	Migrant populations (high endemicity)	Other migrant populations	MSM	People in prison*	PLHIV	Pregnant women	PWID	None of the above	Other	Details relating to 'other migrant populations' and/or 'other'
Austria												Patients prior to surgery; no comprehensive national testing programme for PWID, but certain addiction/drug treatment services offer testing, counselling, DOT
Belgium												
Bulgaria												Screening in the general population aged 40, 45, 50, 55, 60 years, dialysis patients
Croatia												People at risk of infection
Cyprus												
Czechia												
Denmark												People receiving pre-exposure HIV medications (PrEP)
Estonia												
Finland												People infected with HBV, sexual partners of HCV positive people, newborns of HIV positive mothers
France												People infected with HBV or HIV, household/sexual partner of HCV-infected person, haemodialysis patients
Germany												General population >35 years of age (since 2021)
Greece												Migrant populations who report that they are HCV positive
Hungary												
Iceland												All migrant populations from outside the EU
Ireland												International protection applicants, beneficiaries of temporary protection, HCWs who perform exposure prone procedures
Italy												Migrant populations considered at risk of infection; people born from 1969 to 1989; PWID; prisoners

Country	Healthcare workers	All migrant populations	Migrant populations (high endemicity)	Other migrant populations	MSM	People in prison*	PLHIV	Pregnant women	PWID	None of the above	Other	Details relating to 'other migrant populations' and/or 'other'
Latvia	■	■	■	■	■	■	■	■	■	■	■	Haemodialysis patients, contacts of HCV patients
Liechtenstein	■	■	■	■	■	■	■	■	■	■	■	
Lithuania	■	■	■	■	■	■	■	■	■	■	■	Healthcare workers (post-exposure), dialysis patients, age cohort (1945–1994), people with a family member diagnosed with hepatitis C, people undergoing treatment in addiction clinics
Luxembourg	■	■	■	■	■	■	■	■	■	■	■	Asylum-seekers
Malta	■	■	■	■	■	■	■	■	■	■	■	Healthcare workers employed within specific services; pregnant women who are substance users
Netherlands	■	■	■	■	■	■	■	■	■	■	■	
Norway	■	■	■	■	■	■	■	■	■	■	■	People who have hepatitis B infection, sex workers, dialysis patients
Poland	■	■	■	■	■	■	■	■	■	■	■	Patients on chronic dialysis; healthcare workers (post-exposure), blood donors
Portugal	■	■	■	■	■	■	■	■	■	■	■	Haemophiliac patients, patients on dialysis, organ or blood recipients prior to 1992; sex workers, people accessing HIV PrEP
Romania	■	■	■	■	■	■	■	■	■	■	■	All insured adults >=40 years if suspected of hepatitis
Slovakia	■	■	■	■	■	■	■	■	■	■	■	
Slovenia	■	■	■	■	■	■	■	■	■	■	■	Any individual can get free anonymous HCV testing at one testing point. Pregnant women are not screened as the prevalence in Slovenia is <0.1% (per WHO recommendations).
Spain	■	■	■	■	■	■	■	■	■	■	■	
Sweden	■	■	■	■	■	■	■	■	■	■	■	Migrants are offered health screening depending on their legal status (asylum and quota refugees)

■ Testing policy or programme exists 
 ■ Testing policy or programme does not exist 
  No data  
 \* Testing is offered to all persons in prison



## Annex B. Data on the hepatitis B continuum of care

**Table B1. Estimated number of people with chronic HBV infection and HDV prevalence**

Country	Population (Eurostat 2022 Estimate)	Indicator	WHO C.1.a	Year of Data	WHO A.1	Year of Data
		A. Estimated number of people living with chronic HBV infection (HBsAg positive), diagnosed and undiagnosed, by the end of 2022*	A per 100 000 population [Estimated number of people living with HBV per 100 000 population]		L. Estimated HDV prevalence among HBsAg-positive individuals, diagnosed and undiagnosed, in your country, by the end of 2022*	
Austria	8 978 929	-	Unable to calculate	-	-	-
Belgium	11 617 623	-	Unable to calculate	-	-	-
Bulgaria	6 838 937	-	Unable to calculate	-	-	-
Croatia	3 862 305	-	Unable to calculate	-	-	-
Cyprus	904 705	-	Unable to calculate	-	-	-
Czechia	10 516 707	-	Unable to calculate	-	-	-
Denmark	5 873 420	14 548	248	2013		
Estonia	1 331 796	-	Unable to calculate	-	-	-
Finland	5 548 241	-	Unable to calculate	-	-	-
France	67 871 925	135 706	300	2016	6%	2008–2012
Germany	83 237 124	246 000	296	2013	5.3%, 95% CI: 4.3–6.6%	2014–2019
Greece	10 459 782	200 000	1912	2016	4,2%	2022
Hungary	9 689 010	-	Unable to calculate	-	-	-
Iceland	376 248	-	Unable to calculate	-	-	-
Ireland	5 060 004	22 000	435	2016	5.7%	2022
Italy	59 030 133	303 000	513	2022	9.3%	2022
Latvia	1 875 757	-	Unable to calculate	-	-	-
Liechtenstein	39 308	-	Unable to calculate	-	-	-
Lithuania	2 805 998	-	Unable to calculate	-	-	-
Luxembourg	645 397	-	Unable to calculate	-	-	-
Malta	520 971	-	Unable to calculate	-	-	-
Netherlands	17 590 672	48 756	277	2016		
Norway	5 425 270	-	Unable to calculate	-	1%	2016–2021
Poland	37 654 247	220 820	586	2020		
Portugal	10 352 042	41 527	401	2015	2.2–14%	2022
Romania	19 042 455	962 571	5 055	2023	76%	2022
Slovakia	5 434 712	-	Unable to calculate	-	-	-
Slovenia	2 107 180	-	Unable to calculate	-	-	-
Spain	47 432 893	-	Unable to calculate	-	7.7%	2017
Sweden	10 452 326	-	Unable to calculate	-	-	-

\*Or most recent year with data.

**Table B2. HBV infection diagnosis**

Country	Population	Indicator	Indicator	WHO C.6	Calculated indicator	Indicator	Calculated indicator	Year of data
		B. Number ever diagnosed and living with chronic HBV infection (HBsAg positive) by the end of 2022*	A. Estimated number of people living with chronic HBV infection (HBsAg positive), diagnosed and undiagnosed, by the end of 2022*	B/A [Proportion of those living with HBV who have been diagnosed (%)]	B/pop [Number of people ever diagnosed with chronic HBV per 100 000 population]	C. Number diagnosed with chronic HBV infection (HBsAg) during 2022*	C/pop [Number of people diagnosed with chronic HBV during 2022* per 100 000 population]	
Austria	8 978 929	-	-	Unable to calculate	Unable to calculate	878	10	2022
Belgium	11 617 623	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Bulgaria	6 838 937	-	-	Unable to calculate	Unable to calculate	2 792	41	2022
Croatia	3 862 305	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Cyprus	904 705	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Czechia	10 516 707	-	-	Unable to calculate	Unable to calculate	243	2	2022
Denmark	5 873 420	-	14 548	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Estonia	1 331 796	3 273	-	Unable to calculate	246	-	Unable to calculate	-
Finland	5 548 241	7 873	-	Unable to calculate	142	281	5	2022
France	67 871 925	-	135 706	Unable to calculate	Unable to calculate	37 462	55	2021
Germany	83 237 124	-	246 000	Unable to calculate	Unable to calculate	7 287	9	2022
Greece	10 459 782	65 000	200 000	33%	621	161	2	2012–2016
Hungary	9 689 010	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Iceland	376 248	903	-	Unable to calculate	240	57	15	2022
Ireland	5 060 004	12 500	22 000	57%	247	494	10	2022
Italy	59 030 133	-	303 000	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Latvia	1 875 757	-	-	Unable to calculate	Unable to calculate	287	15	2022
Liechtenstein	39 308	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Lithuania	2 805 998	79	-	Unable to calculate	3	20	1	2022
Luxembourg	645 397	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Malta	520 971	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-

Country	Population	Indicator	Indicator	WHO C.6	Calculated indicator	Indicator	Calculated indicator	Year of data
		B. Number ever diagnosed and living with chronic HBV infection (HBsAg positive) by the end of 2022*	A. Estimated number of people living with chronic HBV infection (HBsAg positive), diagnosed and undiagnosed, by the end of 2022*	B/A [Proportion of those living with HBV who have been diagnosed (%)]	B/pop [Number of people ever diagnosed with chronic HBV per 100 000 population]	C. Number diagnosed with chronic HBV infection (HBsAg) during 2022*	C/pop [Number of people diagnosed with chronic HBV during 2022* per 100 000 population]	
Netherlands	17 590 672	28 000	48 756	57%	159	815	5	2022
Norway	5 425 270	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Poland	37 654 247	115 000	220 820	52%	305	2 471	7	2020; 2022
Portugal	10 352 042	-	41 527	Unable to calculate	Unable to calculate	-	Unable to calculate	2015
Romania	19 042 455	942	962 571	Unable to calculate	Unable to calculate	820	Unable to calculate	2022
Slovakia	5 434 712	1 600	-	Unable to calculate	29	77	1	1993–2022
Slovenia	2 107 180	2 782	-	Unable to calculate	132	85	4	2022
Spain	47 432 893	-	-	Unable to calculate	Unable to calculate	-	Unable to calculate	-
Sweden	10 452 326	-	-	Unable to calculate	Unable to calculate	746	7	2022

*\*Or most recent year with data.  
Data in blue are sub-national.*

**Table B3. Number of people tested for HBV, 2017–2022**

Country	2022*	2020*	2017*
Austria	-	-	-
Belgium	687 224	-	-
Bulgaria	44 581	-	165 000
Croatia	-	-	-
Cyprus	-	-	-
Czechia	-	-	-
Denmark	-	-	-
Estonia	-	-	-
Finland	-	-	-
France	4 690 000	-	3 810 000
Germany	-	-	-
Greece	-	-	-
Hungary	200 000	-	-
Iceland	15 592	-	-
Ireland	222 980	-	145 798
Italy	-	-	-
Latvia	-	53 848	53 848
Liechtenstein	-	-	-
Lithuania	-	-	-
Luxembourg	-	-	-
Malta	11 844	-	-
Netherlands	-	-	-
Norway	-	-	-
Poland	598 216	430 267	-
Portugal	569 258	439 234	438 300
Romania	655 599	519 301	559 229
Slovakia	-	-	373 000
Slovenia	97 522	102 484	2 147
Spain	-	-	-
Sweden	-	-	-

\* Or most recent year with data

**Table B4. HBV infection linkage to care and treatment**

Country	Indicator	Calculated indicator	indicator	indicator	calculated indicator	indicator	WHO C.7.a	Year of Data			
	F. Number of people ever diagnosed with chronic HBV infection (HBsAg) linked to care in 2022*	F/B [Proportion ever diagnosed linked to care in 2022 of those ever diagnosed by the end of 2022* (%)]	G. Number people diagnosed with chronic HBV infection (HBsAg) not eligible for treatment <sup>a</sup> who are retained in care <sup>b</sup> by the end of 2022*	H. Number of people diagnosed with chronic HBV infection by the end of 2022* who are eligible for treatment <sup>a</sup>	G/(F-H) [Proportion of those diagnosed and not eligible for treatment who were retained in care of those linked to care who are not eligible for treatment <sup>a</sup> (%)]	I. Number of people ever diagnosed with chronic HBV infection (HBsAg) and eligible for treatment <sup>a</sup> receiving antiviral treatment during 2022*	I/A [Proportion receiving treatment of those living with chronic HBV infection]	H	F	G	I
Austria	1 097	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	2010–2020	-	-
Belgium	-	Unable to calculate	-	-	Unable to calculate	2 000	Unable to calculate	-	-	-	2021
Bulgaria	2 792	Unable to calculate	-	2 792	Unable to calculate	2 792	Unable to calculate	2022	2022	-	2022
Croatia	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Cyprus	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Czechia	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Denmark	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Estonia	976	30%	-	-	Unable to calculate	-	Unable to calculate	-	2022	-	-
Finland	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
France	37 987	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	2021	-	-

Country	Indicator	Calculated indicator	indicator	indicator	calculated indicator	indicator	WHO C.7.a	Year of Data			
	F. Number of people ever diagnosed with chronic HBV infection (HBsAg) linked to care in 2022*	F/B [Proportion ever diagnosed linked to care in 2022 of those ever diagnosed by the end of 2022* (%)]	G. Number people diagnosed with chronic HBV infection (HBsAg) not eligible for treatment <sup>a</sup> who are retained in care <sup>b</sup> by the end of 2022*	H. Number of people diagnosed with chronic HBV infection by the end of 2022* who are eligible for treatment <sup>a</sup>	G/(F-H) [Proportion of those diagnosed and not eligible for treatment who were retained in care of those linked to care who are not eligible for treatment <sup>a</sup> (%)]	I. Number of people ever diagnosed with chronic HBV infection (HBsAg) and eligible for treatment <sup>a</sup> receiving antiviral treatment during 2022*	I/A [Proportion receiving treatment of those living with chronic HBV infection]	H	F	G	I
Germany	-	Unable to calculate	-	-	Unable to calculate	31 400	13%	-	-	-	2008–2022
Greece	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Hungary	-	Unable to calculate	-	1 440	Unable to calculate	1 440	Unable to calculate	-	-	-	-
Iceland	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Ireland	-	Unable to calculate	-	-	Unable to calculate	1 698	Unable to calculate	-	-	-	2022
Italy	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Latvia	-	Unable to calculate	-	500	Unable to calculate	-	Unable to calculate	-	-	-	-
Lichtenstein	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Lithuania	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Luxembourg	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Malta	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-

Country	Indicator	Calculated indicator	indicator	indicator	calculated indicator	indicator	WHO C.7.a	Year of Data			
	F. Number of people ever diagnosed with chronic HBV infection (HBsAg) linked to care in 2022*	F/B [Proportion ever diagnosed linked to care in 2022 of those ever diagnosed by the end of 2022* (%)]	G. Number people diagnosed with chronic HBV infection (HBsAg) not eligible for treatment <sup>a</sup> who are retained in care <sup>b</sup> by the end of 2022*	H. Number of people diagnosed with chronic HBV infection by the end of 2022* who are eligible for treatment <sup>a</sup>	G/(F-H) [Proportion of those diagnosed and not eligible for treatment who were retained in care of those linked to care who are not eligible for treatment <sup>a</sup> (%)]	I. Number of people ever diagnosed with chronic HBV infection (HBsAg) and eligible for treatment <sup>a</sup> receiving antiviral treatment during 2022*	I/A [Proportion receiving treatment of those living with chronic HBV infection]	H	F	G	I
Netherlands	-	Unable to calculate	-	-	Unable to calculate	4 750	10%	-	-	-	2020
Norway	11 556	Unable to calculate	-	-	Unable to calculate	1 354	Unable to calculate	-	2021	-	2022
Poland	18 731	16%	-	-	Unable to calculate	8 541	4%	-	2022	-	2022
Portugal	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Romania	820	Unable to calculate	-	-	Unable to calculate	19 594	2%	-	2022	-	2022
Slovakia	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Slovenia	1 784	64%	785	999	100%	999	Unable to calculate	2022	2022	2022	2022
Spain	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-
Sweden	-	Unable to calculate	-	-	Unable to calculate	-	Unable to calculate	-	-	-	-

\*Or most recent year with data.

<sup>a</sup> According to EASLs clinical eligibility criteria.

<sup>b</sup> Defined as receiving specialist or follow-up care.

Data in blue are sub-national level data.

**Table B5. HBV infection viral suppression**

Country	Indicator	Indicator	WHO C.8.a	Calculated indicator	Year of Data
	J. Number of people receiving antiviral treatment for chronic HBV infection (HBsAg) who have achieved viral suppression during 2022*	K. Number of people ever diagnosed with chronic HBV infection (HBsAg) and eligible for treatment receiving antiviral treatment during 2022* with documentation of treatment outcome	J/K [Proportion achieving viral suppression during 2022 of those diagnosed, eligible for treatment, and receiving treatment during 2022* with documented treatment outcome (%)]	J/A [Proportion achieving viral suppression during 2022 of those living with chronic HBV infection]	
Austria	-	-	Unable to calculate	Unable to calculate	-
Belgium	-	-	Unable to calculate	Unable to calculate	-
Bulgaria	-	-	Unable to calculate	Unable to calculate	-
Croatia	-	-	Unable to calculate	Unable to calculate	-
Cyprus	-	-	Unable to calculate	Unable to calculate	-
Czechia	-	-	Unable to calculate	Unable to calculate	-
Denmark	-	-	Unable to calculate	Unable to calculate	-
Estonia	-	-	Unable to calculate	Unable to calculate	-
Finland	-	-	Unable to calculate	Unable to calculate	-
France	-	-	Unable to calculate	Unable to calculate	-
Germany	-	-	Unable to calculate	Unable to calculate	-
Greece	-	-	Unable to calculate	Unable to calculate	-
Hungary	1 140	1 440	79%	Unable to calculate	Not available
Iceland	-	-	Unable to calculate	Unable to calculate	-
Ireland	-	1 698	Unable to calculate	Unable to calculate	2022
Italy	-	-	Unable to calculate	Unable to calculate	-
Latvia	-	-	Unable to calculate	Unable to calculate	-
Liechtenstein	-	-	Unable to calculate	Unable to calculate	-
Lithuania	-	-	Unable to calculate	Unable to calculate	-
Luxembourg	-	-	Unable to calculate	Unable to calculate	-
Malta	-	-	Unable to calculate	Unable to calculate	-
Netherlands	-	-	Unable to calculate	Unable to calculate	-
Norway	-	-	Unable to calculate	Unable to calculate	-
Poland	5 916	8 252	72%	3%	2022
Portugal	-	-	Unable to calculate	Unable to calculate	-
Romania	-	-	Unable to calculate	Unable to calculate	-
Slovakia	-	-	Unable to calculate	Unable to calculate	-
Slovenia	999	999	100%	Unable to calculate	2022
Spain	-	-	Unable to calculate	Unable to calculate	-
Sweden	-	-	Unable to calculate	Unable to calculate	-

\* Or year with most recent data



## Annex C. Data on the hepatitis C continuum of care

**Table C1. Number of people living with chronic HCV infection**

Country	Population (Eurostat 2022 Estimate)	Indicator	WHO C.1.b	Indicator	Calculated indicator
		M. Estimated number of people living with current chronic HCV (RNA positive), diagnosed and undiagnosed, by the end of 2022*	M per 100 000 population	N. Estimated number of people ever infected with HCV (anti-HCV positive), diagnosed and undiagnosed, by the end of 2022*	N per 100 000 population
Austria	8 978 929	30 720	342	-	unable to calculate
Belgium	11 617 623	16 178	139	-	unable to calculate
Bulgaria	6 838 937	62 610	915	-	unable to calculate
Croatia	3 862 305	20 000	518	-	unable to calculate
Cyprus	904 705	1 353	150	-	unable to calculate
Czechia	10 516 707	66 794	635	-	unable to calculate
Denmark	5 873 420	9 975	170	-	unable to calculate
Estonia	1 331 796	12 423	933	-	unable to calculate
Finland	5 548 241	25 650	462	-	unable to calculate
France	67 871 925	142 921	300	-	unable to calculate
Germany	83 237 124	196 671	236	292 000	351
Greece	10 459 782	46 261	442	100 000	956
Hungary	9 689 010	17 984	186	-	unable to calculate
Iceland	376 248	279	74	-	unable to calculate
Ireland	5 060 004	7 844	155	21 500	425
Italy	59 030 133	398 610	675	-	unable to calculate
Latvia	1 875 757	30 000	1 599	52 603	2 804
Liechtenstein	39 308	-	unable to calculate	-	unable to calculate
Lithuania	2 805 998	22 410	799	-	unable to calculate
Luxembourg	645 397	1 243	193	-	unable to calculate
Malta	520 971	694	133	1 845	354
Netherlands	17 590 672	6 183	35	-	unable to calculate
Norway	5 425 270	9 164	169	-	unable to calculate
Poland	37 654 247	108 210	287	349650	929
Portugal	10 352 042	40 000	386	31 146	301
Romania	19 042 455	136 999	719	222 244	1 167
Slovakia	5 434 712	27 407	504	4 884	90
Slovenia	2 107 180	1 078	51	-	unable to calculate
Spain	47 432 893	54 676	115	337 107	711
Sweden	10 452 326	12 759	122	73 813	706

\*Or most recent year with data.

**Table C2. HCV infection diagnosis**

Country	Population (Eurostat 2022 Estimate)	Indicator	Indicator	Indicator	WHO C.6	Calculated Indicator	Calculated Indicator	Year of data:
		O. Number diagnosed with chronic HCV infection (HCV RNA) during 2022*	P. Number ever diagnosed with chronic HCV infection (HCV RNA) by the end of 2022*	Q. Number ever diagnosed with chronic HCV infection (HCV RNA) by the end of 2022* excluding those with resolved infection (cured or naturally cleared) and those who have died:	Q/M [Proportion ever diagnosed with chronic HCV infection by the end of 2022* excluding those with resolved infection and those who have died of those living with current chronic HCV by the end of 2022*]	P/N [Proportion ever diagnosed with chronic HCV infection (HCV RNA) by the end of 2022* of those number of people ever infected with HCV (anti-HCV positive) by the end of 2022*]	(M-Q)/population [Number of people living with undiagnosed chronic HCV per 100 000 population]	
Austria	8 978 929	911	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2022
Belgium	11 617 623	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Bulgaria	6 838 937	641	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2022
Croatia	3 862 305	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Cyprus	904 705	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Czechia	10 516 707	921	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2022
Denmark	5 873 420	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Estonia	1 331 796	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Finland	5 548 241	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
France	67 871 925	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Germany	83 237 124	3 132	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2022
Greece	10 459 782	101	20 000	5 000	10.81%	20.00%	394	2012–2016
Hungary	9 689 010	1 175	22 118	22 000	Unable to calculate	Unable to calculate	Unable to calculate	2023
Iceland	376 248	72	1 142	-	Unable to calculate	Unable to calculate	Unable to calculate	2022
Ireland	5 060 004	465	13 600	5 000	63.74%	63.26%	56	2022
Italy	59 030 133	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Latvia	1 875 757	1 042	30 000	-	Unable to calculate	57.03%	Unable to calculate	2022
Liechtenstein	39 308	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Lithuania	2 805 998	833	1 124	-	Unable to calculate	Unable to calculate	Unable to calculate	2022

Luxembourg	645 397	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Malta	520 971	21	1 336	694	100.00%	Unable to calculate	0	2022
Netherlands	17 590 672	454	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2020
Norway	5 425 270	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Poland	37 654 247	2478	56 850	-	Unable to calculate	16.26%	Unable to calculate	2016–2022
Portugal	10 352 042	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Romania	19 042 455	902	58 000	-	Unable to calculate	26.10%	Unable to calculate	2022
Slovakia	5 434 712	316	4 884	-	Unable to calculate	100.00%	Unable to calculate	
Slovenia	2 107 180	76	4 191	1 072	99.44%	Unable to calculate	0.28	2022
Spain	47 432 893	-	-	-	Unable to calculate	Unable to calculate	Unable to calculate	
Sweden	10 452 326	751	-	-	Unable to calculate	Unable to calculate	Unable to calculate	2022

*\*Or most recent year with data.*

**Table C3. HCV tests over time (2017–2022)**

Country	ANTI HCV			HCV RNA // CORE ANTIGEN		
	2022*	2020*	2017*	2022*	2020*	2017*
Austria	-	-	-	-	-	-
Belgium	737 371	-	~700 000	8 537	-	~ 6 000
Bulgaria	12 169	-	165 000 blood donors	-	-	-
Croatia	-	-	-	-	-	-
Cyprus	-	-	-	-	-	-
Czechia	-	-	-	-	-	-
Denmark	-	-	-	-	-	-
Estonia	-	-	-	-	-	-
Finland	75 023	-	-	14 064	-	-
France	4 470 000	-	3 690 000	74 471	78 435	112 620
Germany	-	-	-	-	-	-
Greece	250 000	-	-	-	-	-
Hungary	3 000	-	-	-	-	4 186
Iceland	15 323	-	-	-	-	-
Ireland	197 920	-	123 309	44 592	-	24 448
Italy	488 571	-	-	3 061	-	-
Latvia	-	53 288	53 288	-	3 445	3 445
Liechtenstein	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-
Luxembourg	-	-	53 429	-	-	1 045
Malta	10 243	-	-	12 162	-	-
Netherlands	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Poland	513 226	310 107	-	40 880	33 695	-
Portugal	485 824	351 413	337 040	-	-	-
Romania	630 377	518 675	523 043	5 450	7 200	23 154
Slovakia	-	-	-	-	-	-
Slovenia	98 167	-	2 147	85 780	79 183	2 147
Spain	-	-	-	-	-	-
Sweden	-	-	-	-	-	-

\* Or most recent year with available data.

Data in blue are sub-national level data.

**Table C4. HCV infection treatment**

Country	Q12.2	Indicator		WHO C.7.b	Year of data:	
	U. Number of people diagnosed with chronic HCV infection (HCV RNA) during 2022* who were linked to care:	V. Number of people with chronic HCV infection (HCV RNA) who received antiviral treatment during 2022*	U/Q [proportion of people ever diagnosed by the end of 2022*, linked to care during 2022*]	V/Q [Proportion of those ever diagnosed with chronic HCV (excluding those with resolved infection (cured or naturally cleared) and those who have died) who have been treated during 2022* (%)]	U	V
Austria	-	877	Unable to calculate	Unable to calculate	-	2022
Belgium	-	1 000	Unable to calculate	Unable to calculate	-	2021
Bulgaria	641	641	Unable to calculate	Unable to calculate	2022	2022
Croatia	-	-	Unable to calculate	Unable to calculate	-	-
Cyprus	-	-	Unable to calculate	Unable to calculate	-	-
Czechia	-	-	Unable to calculate	Unable to calculate	-	-
Denmark	-	-	Unable to calculate	Unable to calculate	-	-
Estonia	3 273	-	Unable to calculate	Unable to calculate	2022	-
Finland	-	1 910	Unable to calculate	Unable to calculate	-	2022
France	12 280	5 997	Unable to calculate	Unable to calculate	2021	2021
Germany	-	6 000	Unable to calculate	Unable to calculate	-	2022
Greece	1 121	1 123	22%	22%	2020	2022
Hungary	1 475	1 175	7%	5%	-	2022
Iceland	71	65	Unable to calculate	Unable to calculate	2022	2022
Ireland	-	535	Unable to calculate	11%	-	2022
Italy	14 412	13 102	Unable to calculate	Unable to calculate	2022	2022
Latvia	459	1 125	Unable to calculate	Unable to calculate	2022	2022
Liechtenstein	-	-	Unable to calculate	Unable to calculate	-	-
Lithuania	-	-	Unable to calculate	Unable to calculate	-	-
Luxembourg	-	-	Unable to calculate	Unable to calculate	-	-
Malta	-	127	Unable to calculate	18%	-	2022

Country	Q12.2	Indicator		WHO C.7.b	Year of data:	
	U. Number of people diagnosed with chronic HCV infection (HCV RNA) during 2022* who were linked to care:	V. Number of people with chronic HCV infection (HCV RNA) who received antiviral treatment during 2022*	U/Q [proportion of people ever diagnosed by the end of 2022*, linked to care during 2022*]	V/Q [Proportion of those ever diagnosed with chronic HCV (excluding those with resolved infection (cured or naturally cleared) and those who have died) who have been treated during 2022* (%)]	U	V
Netherlands	-	512	Unable to calculate	Unable to calculate	-	2020
Norway	-	744	Unable to calculate	Unable to calculate	-	2022
Poland	2 455	5 820	Unable to calculate	Unable to calculate	2022	2022
Portugal	-	-	Unable to calculate	Unable to calculate	-	-
Romania	902	5 901	Unable to calculate	Unable to calculate	2022	-
Slovakia	-	259	Unable to calculate	Unable to calculate	-	2021
Slovenia	137	117	13%	11%	2022	2022
Spain	-	7 045	Unable to calculate	Unable to calculate	-	2022
Sweden	-	-	Unable to calculate	Unable to calculate	-	-

\* Or most recent year with data.  
Data in blue are sub-national level data.

**Table C5. HCV infection sustained virologic response**

Country	Indicator	Indicator	WHO C.8.b	Indicator	Calculated Indicator	Year of data		
	Y. Number of people who received antiviral treatment for HCV who achieved sustained virological response during 2022*	X. Number of people who received antiviral treatment for HCV during 2022* with documentation of treatment outcome:	Y/X [Proportion of those on treatment with documented outcome who have achieved SVR during 2022*]	W. Number of people with chronic HCV infection (HCV RNA) who have ever been treated by the end of 2022*	Y/N [Proportion of people living with current chronic HCV (RNA positive), diagnosed and undiagnosed, by the end of 2022* who were cured during 2022* (%)]	W	X	Y
Austria	-	-	Unable to calculate	12 286	Unable to calculate	2022	-	-
Belgium	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Bulgaria	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Croatia	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Cyprus	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Czechia	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Denmark	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Estonia	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Finland	-	1 900	Unable to calculate	-	Unable to calculate	-	2020	-
France	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Germany	-	-	Unable to calculate	88 000**	Unable to calculate	2023	-	-
Greece	-	-	Unable to calculate	14 000	Unable to calculate	-	-	-
Hungary	1 100	1 000	Unable to calculate	22 118	6%	2022	2023	2023
Iceland	30	33	91%	-	11%	-	2022	2022
Ireland	353	369	96%	8 200	5%	2022	2022	2022
Italy	-	-	Unable to calculate	244 981	Unable to calculate	2022	-	-
Latvia	458	461	99%	11 550	Unable to calculate	2015-2022	2022	2022.
Liechtenstein	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Lithuania	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Luxembourg	-	-	Unable to calculate	-	Unable to calculate	-	-	-
Malta	38	38	100%	519	9%	-	-	-

Country	Indicator	Indicator	WHO C.8.b	Indicator	Calculated Indicator	Year of data		
	Y. Number of people who received antiviral treatment for HCV who achieved sustained virological response during 2022*	X. Number of people who received antiviral treatment for HCV during 2022* with documentation of treatment outcome:	Y/X [Proportion of those on treatment with documented outcome who have achieved SVR during 2022*]	W. Number of people with chronic HCV infection (HCV RNA) who have ever been treated by the end of 2022*	Y/N [Proportion of people living with current chronic HCV (RNA positive), diagnosed and undiagnosed, by the end of 2022* who were cured during 2022* (%)]	W	X	Y
Netherlands	-	-	Unable to calculate	7 964	Unable to calculate	-	-	-
Norway	-	-	91%	20 787	Unable to calculate	2022	2018	-
Poland	3 432	3 609	95%	46 900	Unable to calculate	2022	2022	2022
Portugal	505	529	95%	31 944	Unable to calculate	2023	2022	2022
Romania	42 430	44 147	96%	-	Unable to calculate	2015–2023	2022	2022
Slovakia	-	-	Unable to calculate	837	Unable to calculate	2021	-	-
Slovenia	117	117	100%	3 062	11%	2022	2022	2022
Spain	-	-	Unable to calculate	161 125	Unable to calculate	2022	-	-
Sweden	-	-	Unable to calculate	-	Unable to calculate	-	-	-

\* Or most recent year with data.

\*\* Figure represents number of people ever treated with DAAs; the number of patients treated prior to DAA approval is not known.



**European Centre for Disease Prevention and Control (ECDC)**

Gustav III:s Boulevard 40  
16973 Solna, Sweden

Tel. +46 858601000  
[ECDC.info@ecdc.europa.eu](mailto:ECDC.info@ecdc.europa.eu)  
[www.ecdc.europa.eu](http://www.ecdc.europa.eu)

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