

# Viral hepatitis elimination barometer among people who inject drugs in Europe

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### About the elimination barometer

The elimination barometer for hepatitis B and C among people who inject drugs is designed to support countries affiliated to the EU Drugs Agency (EUDA, formerly EMCDDA) in monitoring their progress towards the Sustainable Development Goal 3.3 and the elimination of viral hepatitis as a major public health threat by 2030. Under five building blocks, it brings together 11 epidemiological indicators (2022 or latest) and corresponding 2025 targets related to people who inject drugs for the EU, Norway and Türkiye, following the WHO monitoring frameworks ( <u>WHO, 2016b</u> , <u>2017</u>



, <u>2021</u>). For each indicator, the EUDA elimination barometer provides:

- Contextual information, references and definitions
- An infographic showing national data
- The related 2020 WHO target
- An achievement status: how many countries have reached the target
- The corresponding data tables

Monitoring and evaluation framework: indicators to monitor and evaluate the health sector response to viral hepatitis B and C among people who inject drugs



Adapted from Monitoring and evaluation for viral hepatitis B and C: recommended indicators and framework, World Health Organization (2016).

The methods and data sources of the elimination barometer are described in more detail in a technical report (EMCDDA, 2019b). The EUDA is conducting this monitoring with the drug-related infectious diseases (DRID) network in close collaboration with ECDC, the EU agency that monitors the overall responses to the hepatitis B and C epidemics in EU/EEA Member States (ECDC, 2020c, 2021b).

### Why it matters

In 2016, there were an estimated 10 million people in the European Union (EU) and European Economic Area (EEA) living with chronic hepatitis B or hepatitis C, including many with an undiagnosed infection (ECDC, 2016). Chronic viral hepatitis can result in serious liver diseases such as cirrhosis and cancer. In that year, the World Health Assembly endorsed the first global health sector strategy on viral hepatitis (WHO, 2016a). The aim of the strategy is to eliminate viral hepatitis as a major public health threat by 2030.

In Europe, people who inject drugs (PWID) constitute a key population for the elimination of these infectious diseases, both in terms of transmission (requiring higher levels of combined prevention) and burden (requiring better access to treatment). The years 2020-21 were

marked by the COVID-19 pandemic, which has posed many challenges for health systems across Europe, including many harm reduction services already in the front line of hepatitis prevention and control. This period was also significant for the hepatitis action plan, which set important milestones and corresponding targets for 2020. In 2022, the WHO published the *Global health sector strategies on, respectively, HIV, viral hepatitis, and sexually transmitted infections for the period 2022-2030*, with updated targets for 2025 and 2030 (WHO, 2022).

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### Overview

# What can we say from the 2022 monitoring data on people who inject drugs?

- **Overall result:** The region has not reached the 2025 WHO viral hepatitis elimination targets for people who inject drugs.
- **Context and need:** The prevalence of HCV and HBV remains very high among the estimated half a million people who inject drugs in the EU, exposing them to a high yet preventable morbidity and mortality burden through serious liver diseases such as cirrhosis and cancer.
- **Policy:** A majority of EU Member States have or are in the process of adopting inclusive national hepatitis plans or policies, showing encouraging political commitment.
- **Prevention:** Only 4 countries had data to document they reached harm reduction coverage targets in 2022, and in 4 countries HBV vaccination was still not accessible in prison to people who inject drugs, stressing sub-optimal provision of cost-saving interventions.
- **Testing and treatment:** Twelve countries reported that less than half of the people who inject drugs entering drug treatment had been tested for HCV in the last 12 months, and 5 countries still imposed restrictions on access to direct-acting antiviral agents for people who inject drugs in 2022, underlining inequities in the continuum of care.
- **Impact:** HCV transmission among people who inject drugs remained high between 2015 and 2022, stressing the urgent need to scale-up access to integrated and stigma-free prevention and care among this population. Only one country was able to document a 80% decrease in the prevalence of viraemic HCV among PWID from 2015-22.

# Level of achievement for each indicator among people who inject drugs

Select an indicator

# What are crucial data gaps for viral hepatitis monitoring among people who inject drugs?

While there has been progress since the last monitoring round, indicators from all five building blocks still require higher quality and completeness to efficiently guide and assess public health interventions. Four areas require particular attention for people who inject drugs:

- Population size estimates, for burden estimates and prevention coverage
- Prevalence of viraemic/chronic HCV infection from observational studies
- Continuum of care data
- Data on mortality attributable to HCV and HBV infections

The EUDA is working closely with the DRID network and its partners to update the elimination barometer on a yearly basis and monitor progress towards the Sustainable Development Goals related to people who inject drugs. Monitoring data, reports, guidance and activities of the DRID network can be found on the <u>drug-related infectious diseases hub page</u>.

Context and need

# Number of people who inject drugs and prevalence of injecting drug use per country

Knowing the size of the population of people who inject drugs living in each country is necessary in order to quantify the burden of disease associated with injecting drug use and to plan harm reduction and health services accordingly. The main risk factor for blood-borne infections – including HBV and HCV – among this group is the sharing of needles, syringes and other drug equipment. The injection of stimulant drugs has been associated with higherrisk practices and blood-borne virus outbreaks (Arendt et al., 2019; Giese et al., 2015; Hanke <u>et al., 2020; McAuley et al., 2019; Tarján et al., 2017</u>). And while evidence from drug treatment centres suggests that injecting drug use is declining among heroin clients in the European Union (<u>EMCDDA, 2020b</u>), a study looking at the residual content of used syringes in sentinel cities suggests that stimulant injecting is common among people who inject drugs in Europe ( <u>EMCDDA, 2019a</u>).

People who inject drugs are defined here as those aged between 15 and 64 years who have injected any psychoactive substance not according to medical prescription in the last 12 months. The prevalence of injecting drug use in a given country is calculated as the number of people who inject drugs estimated for a given year divided by the population aged 15 to 64 years and multiplied by 1 000, so that it is expressed per 1 000 population. Population data

were provided by (<u>Eurostat, 2020</u>). The number of people who inject drugs is estimated through indirect statistical methods such as capture-recapture studies (<u>Raag et al., 2019</u>) and treatment multiplier studies (<u>Larney et al., 2017</u>), and comes with a high degree of uncertainty.



The total number of people who inject drugs for the 27 EU Member States and Norway in 2021 was estimated by imputing the prevalence of injecting drug use for countries with missing data using estimates of opioid and stimulant users and information on injecting practices from treatment services. Based on available national estimates from 2013-21, the prevalence of injecting drug use was 1.9 per 1000 population aged 15-64 years [UI: 1.4 - 2.4], corresponding to an estimated 538,000 people who inject drugs living in the EU and Norway in 2021.

# Prevalence of HCV antibodies and current HCV infections among people who inject drugs

The prevalence of antibodies to HCV (anti-HCV) among people who inject drugs – indicating present or past infection, either cleared or treated – is estimated from seroprevalence studies (well-designed observational studies) or routine diagnostic tests offered in drug treatment centres or low-threshold services (programme data), reported to the EUDA by EU Member States, Norway and Türkiye.

As the number of patients successfully treated with antivirals will increase, antibody prevalence will have more limited utility to measure the burden of HCV. A better indicator is the prevalence of chronic and/or current infections among people who inject drugs, using HCV RNA (or antigen) tests to confirm the presence of the virus (WHO, 2018).



The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Figure 3. Routine diagnostic tests. Prevalence of HCV antibodies among people who inject drugs, by country, 2022 or latest available data



The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

**Related 2025 target:** Prevalence of anti-HCV : proportion of PWID who have serological evidence of past or present infection (anti-HCV positive)

**Achievement status:** 23 countries have recent data on anti-HCV prevalence among people who inject drugs



# Prevalence of current HBV infections among people who inject drugs

HBV infection is less common than HCV infection among people who inject drugs, but is still much higher than in the general population. This is so, despite the availability of an effective vaccine, which is included in the recommended vaccination schedules in most EU Member States (ECDC, 2020d). For HBV, the presence of the HBV surface antigen (HBsAg) indicates a current infection, which may be recent or chronic.



The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Figure 6. Routine diagnostic testing studies: Prevalence (%) of active HBV infection (HBsAg+) among PWID, by country, 2022 or latest available data



The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

**Related 2025 target:** data available on the prevalence of viraemic HBV infection among people who inject drugs to inform disease burden estimates

**Achievement status:** 19 countries have recent data on HBsAg prevalence among people who inject drugs

# National hepatitis policy inclusive of people who inject drugs

The 'inputs' building block of the elimination barometer provides information on the existence of an official national inclusive viral hepatitis policy or action plan, which constitutes an important step towards the implementation of a sustainable elimination strategy ( <u>EMCDDA, 2020b</u>). A national policy or plan in which people who inject drugs are explicitly mentioned, with access to harm-reduction, screening and HCV treatment not conditional on abstinence, is defined as being inclusive.



**Achievement status:** 21 countries have adopted an inclusive national hepatitis policy or plan

### Prevention

# Needle and syringe programme and opioid agonist treatment (OAT) coverage

Prevention is the next key building block of the barometer. Combined high levels of needle exchange coverage and opioid agonist treatment (OAT) are cost-effective interventions to reduce the risk of blood-borne infections, including viral hepatitis, among people who inject drugs (Ijioma et al., 2021; Platt et al., 2017). Needle and syringe programme (NSP) coverage is defined as the number of sterile needles/syringes distributed in a year per person who injects drugs. OAT coverage is defined as the proportion of people in need of opioid-related treatment who are receiving opioid agonist treatment in a given year. Prevention and harm-reduction measures prevent new infections but also provide an opportunity to reach out to high-risk populations for testing and linkage to care. The 2020 targets are 200 syringes per person who injects drugs per year and 40 % of the population of high-risk opioid users receiving opioid agonist treatment (OAT).



Figure 8. Number of sterile syringes distributed per person who injects drugs and

European countries, 2022 or latest available data



# Figure 10. Number of syringes distributed per year per PWID, European countries, 2022 or latest available data



The coverage is based on the latest national estimates of injecting drug use and high-risk opioid use matched by harm reduction activity data (within a maximum of 2 years). The estimate of coverage of opioid agonist treatment for Belgium is derived from a subnational study conducted in 2019.

#### Related 2025 targets: number of syringes distributed by person who injects drugs =

200, proportion of high-risk opioid users in opioid agonist treatment = 40 %

Achievement status: 4 countries have reached the combined prevention targets

#### Hepatitis B vaccination availability in prison

There is an effective vaccine against HBV, and HBV vaccination campaigns targeting people who inject drugs through appropriate settings are cost-saving (<u>Hu et al., 2008</u>). Due to the high prevalence of HBV infection and drug use among people in prisons, and based on available evidence regarding the implementation of HBV vaccination in prison settings, it is advisable to offer HBV vaccination to people in prison (<u>ECDC and EMCDDA, 2018</u>). It is recommended to offer HBV vaccination at entrance to all individuals with no/unknown vaccination history and/or negative serology, in order to prevent further transmission within the prison setting. The source of the data on the availability of HBV vaccination programmes targeting people who use drugs and are in prison is the EUDA's Insights on prisons (<u>EMCDDA, 2021</u>).



**Related 2025 target:** HBV vaccination is available to people who inject drugs in prison as part of a comprehensive package of harm reduction services

**Achievement status:** 23 countries have HBV vaccination programmes targeting people who inject drugs in prisons

# Testing and access to treatment for people who inject drugs

To eliminate viral hepatitis as a public health threat, the WHO 'continuum of care' targets are for 50 % of people who are chronically infected with viral hepatitis to be diagnosed by 2020, 75 % of eligible patients to be receiving treatment and at least 90 % of them to be cured (HCV) or to obtain viral suppression (HBV). Yet, many infections still go undiagnosed and untreated among people who inject drugs. Few countries have a consolidated set of indicators that cover the entire sequence of the continuum of care among people who inject drugs (<u>Aas et</u> <u>al., 2020; ECDC, 2020c; EMCDDA, 2019b, 2020a; Rojas Rojas et al., 2019</u>). The elimination barometer provides a European overview of two pillars of the continuum of HCV care among people who inject drugs: testing and access to direct-acting antiviral (DAA) treatment.

#### HCV testing coverage among people who inject drugs

The availability of HCV and HBV testing in drug services and in prisons is crucial, but it may not always translate into actual testing. Data on people entering drug treatment, systematically collected by the EUDA through the treatment demand indicator (EMCDDA, 2012), includes information on the coverage of HCV testing, defined as the proportion (percentage) of people who inject drugs entering drug treatment who reported having taken an HCV test in the last 12 months. Increasing testing in drug treatment services is one focus of the EUDA harm reduction initiative (EMCDDA and Robert Koch Institut, 2018).



# Figure 12. Percentage of people entering drug treatment reporting injecting drugs

Achievement status: 4 countries reported that >60 % of people injecting drugs entering drug treatment had been tested for HCV in the last 12 months

### Absence of clinical and reimbursement restrictions for DAA treatment for people who inject drugs

Direct-acting antiviral agents (DAAs) are an effective treatment option for people who are chronically infected with HCV, including current injecting drug users (Grebely et al., 2018). The goals of DAA therapy are to cure HCV infection in order to prevent complications and mortality, improve quality of life, remove stigma and prevent onward transmission of HCV. The WHO and EASL recommend offering treatment to all individuals diagnosed with HCV infection who are 12 years of age or older (with the exception of pregnant women), irrespective of disease stage (WHO, 2018).

The guidelines also stress that treating people who inject drugs along with provision of harm reduction interventions (to reduce the risk of reinfection) is cost-effective, despite the fact that DAAs remain expensive in many high and upper middle income countries. Testing and linkage to treatment for infected people who inject drugs are therefore core components of the elimination strategy: in addition to the direct beneficial impact for the treated individual, treatment has the potential to reduce transmission in the community (treatment as prevention). The indirect benefits of treatment are increased when the risk of reinfection is reduced, for example in low prevalence settings or in settings with high coverage of harm-reduction measures such as NSP and OAT (Martin et al., 2016). However, people with drug or alcohol use dependencies still have to fulfil further criteria (such as being enrolled in OAT and/or being abstinent from drugs) before being eligible for DAA access and reimbursement in some EU countries (Marshall et al., 2018).



**Achievement status:** 23 countries have no clinical or financial restriction linked to drug use for DAA access

#### Integrated treatment

A strategy to improve the continuum of HCV care among people who inject drugs is integrated treatment, whereby testing, counselling, treatment and post-treatment follow-up are delivered by multidisciplinary teams in drug services or community care centres for drug users. There is growing evidence of the efficacy of this approach to link people who inject drugs to HCV treatment and to increase adherence (<u>Messina et al., 2020</u>). Correlation – European Harm Reduction Network is providing valuable information reported by harm reduction civil society organisations on several aspects of the continuum of care, including the type of settings where HCV testing and treatment are offered across Europe (<u>Maticic et</u> al., 2020).

Integration is a core principle of the HCV models of care for drug services in Europe documented by the <u>EMCDDA (2019b)</u> and Correlation – European Harm Reduction Network ( <u>Schatz et al., 2019</u>). These case studies provide concrete examples to Member States on how to increase access to testing and care for people who inject drugs through drug and harm reduction services.

### Impact

The elimination of viral hepatitis as a public health threat has been defined as a 90 % reduction in the number of new chronic hepatitis B and C infections and a 65 % reduction in the number of deaths by 2030, with milestones for 2020 set as 30 % and 10 % reductions respectively. The baseline is 2015. The indicators proposed by the WHO to monitor the impact of the elimination strategy include the incidence of HCV and HBV infections, and deaths from hepatocellular carcinoma (HCC), cirrhosis and chronic liver diseases attributable to HCV and HBV infections (WHO, 2017).

# New notifications of HBV and HCV cases linked to injecting drug use

EU Member States report newly diagnosed cases of hepatitis B or C infection to ECDC using the EU case definitions. The EU case definitions are based on laboratory criteria and differentiate acute from chronic cases (ECDC, 2020a, 2020b, 2020c). When the information is available, the most likely route of transmission is also reported. A case attributed to injecting drug use might be diagnosed in a person who does not inject anymore, so the information refers to ever-injectors (people who have injected drugs at some point in their life). Notification data provide useful information on the distribution and trends in transmission route. In 2021, the percentages of all acute and chronic newly diagnosed HCV cases with known transmission route attributable to injecting drug use in the EU were 61 % (250/411) and 70 % (1058/1502), respectively. For HBV, the percentages were 8 % (22/283) and 8 % (77/990) (ECDC, 2023a).

A large proportion of acute/chronic hepatitis B and C are asymptomatic so the notification data are strongly influenced by testing trends. The completeness of surveillance data and the availability of information on transmission route also varies by country. Because of the limitations in using notification data to estimate incidence, two related indicators are used to monitor the impact of prevention and treatment of HCV over time: trends in prevalence of anti-HCV in people who have started injecting recently and trends in HCV RNA among people who inject drugs.

# Proxies for HCV incidence: trends in anti-HCV prevalence among young/new people who inject drugs

The trend in prevalence of anti-HCV among people who inject drugs aged less than 25 years ('young injectors') and among those who have been injecting for less than two years ('new injectors') can be used as a crude proxy for incidence. Prevalence among this group reflects relatively new transmission (incidence) and it is expected to decrease over time as prevention and treatment coverage increases. If HCV transmission is reduced by prevention measures (NSP, OAT but also treatment as prevention), this would affect incidence (the flow of new cases) and would lower the prevalence of anti-HCV among new and young people who inject drugs over time. Trends in anti-HCV prevalence are derived from seroprevalence studies or routine diagnostic tests conducted yearly, using the same protocol over time.



Figure 14. Trends in HCV antibody prevalence (%) among people who inject drugs aged less than 25 years: results from diagnostic tests and seroprevalence studies with national or multi-city coverage, 2014-2022

Figure 15. Trends in HCV antibody prevalence (%) among people who inject drugs, injecting for less than 2 years: results from diagnostic tests and seroprevalence studies with national or multi-city coverage, 2014-2022



# Trends in prevalence of viraemic HCV infections among people who inject drugs

Another way to monitor the impact of prevention and treatment is to look at the prevalence of current HCV infections among people who inject drugs over time. A scale-up of DAA treatment is expected to reduce the burden of HCV as measured by HCV RNA prevalence over time (<u>Gottfredsson et al.</u>, <u>2019</u>, <u>PHE</u>, <u>2020</u>). Trends in HCV RNA prevalence are derived from seroprevalence studies or routine diagnostic tests conducted yearly, using the same protocol over time.



### Figure 16. Trends in HCV RNA prevalence (%) among people who inject drugs: results from diagnostic tests and seroprevalence studies with national or multicity coverage, 2014-2022

### Endnotes

#### Author contributions

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Source data

The source data for graphics on this page may be found below (or see the <u>source data bundle</u> in the Data catalogue which may include additional metadata).

#### All tables in CSV format with methodological notes.

• Table HEB-24-1. Estimated number of people who inject drugs and prevalence of injecting drug use by country, 2022 or latest available data

**Method of estimationTM:** treatment multiplier; **CR:** capture-recapture; **TP:** truncated Poisson; **CM:** combined methods; **HM:** HIV multiplier; **MM:** mortality multiplier; **MIM:** multivariate indicator method; **OT:** other

## • <u>Table HEB-24-2</u>. Sero-prelance studies. Prevalence of HCV antibodies among people who inject drugs, by country, 2021 or latest available data

The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Average of available studies (63.30 per 1000 people)

### • <u>Table HEB-24-3</u>. Routine diagnostic tests. Prevalence of HCV antibodies among people who inject drugs, by country, 2022 or latest available data

The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Average of available studies (60.64 per 1000 people)

## • <u>Table HEB-24-4</u>. Prevalence (%) of active HCV infection (HCV RNA+) among people who inject drugs, by country, 2022 or latest available data

The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Average of available studies (37.87 %)

#### • <u>Table HEB-24-5. Sero-prevalence studies: Prevalence (%) of active HBV infection</u> (HBsAg+) among PWID, by country, 2022 or latest available data

The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Average of available studies (5.20 %)

## • <u>Table HEB-24-6</u>. Routine diagnostic testing studies: Prevalence (%) of active HBV infection (HBsAg+) among PWID, by country, 2021 or latest available data

The level of evidence is assessed separately for seroprevalence studies (SP) and routine diagnostic tests (DT), based on the case definition for people who inject drugs, sample size, type of settings, number of sites, type of biological sample. SP are also assessed for sampling method; and DT for timeliness, periodicity and geographical coverage.

Average of available studies (2.76 %)

# • Table HEB-24-7. Countries with viral hepatitis policy inclusive of people who inject drugs, 2022

## • Table HEB-24-8. Needle and syringe distribution and opioid agonist treatment coverage in relation to WHO 2020 targets, 2022 or latest available estimate

The coverage is based on the latest national estimates of injecting drug use and high-risk opioid use matched by harm reduction activity data (within a maximum of 2 years). The estimate of coverage of opioid agonist treatment for Belgium is derived from a subnational study conducted in 2019.

WHO 2020 target for needles and syringe distribution per person who injects drugs = 200

WHO 2020 the proportion of high-risk opioid users receiving opioid agonist treatment = 0.4

• <u>Table HEB-24-9</u>. Proportion of high-risk opioid users in opioid agonist treatment (OAT), European countries, 2022 or latest available data

WHO 2020 target for the proportion of high-risk opioid users receiving opioid agonist treatment = 0.4

• <u>Table HEB-24-10. Number of syringes distributed per year per PWID, European</u> countries, 2022 or latest available data

WHO 2020 target for needles and syringe distribution per person who injects drugs = 200

- <u>Table HEB-24-11. Existence of a vaccination programme that provides access to HBV</u> vaccination to people in prisons in 2022
- Table HEB-24-12. Percentage of people entering drug treatment reporting injecting drugs who had an HCV test in the previous 12 months, 2022 or latest data available
- <u>Table HEB-24-13. Countries with restrictive clinical or reimbursement guidelines for</u> Direct-acting antiviral agents (DAA) access for people who use drugs, 2024

- Table HEB-24-14. Trends in HCV antibody prevalence (%) among people who inject drugs aged less than 25 years: results from diagnostic tests and seroprevalence studies with national or multi-city coverage, 2014-2022
- Table HEB-24-15. Trends in HCV antibody prevalence (%) among people who inject drugs, injecting for less than 2 years: results from diagnostic tests and seroprevalence studies with national or multi-city coverage, 2014-2022
- Table HEB-24-16. Trends in HCV RNA prevalence (%) among people who inject drugs: results from diagnostic tests and seroprevalence studies with national or multi-city coverage, 2014-2022
- Table HEB-24-17. Overview of hepatitis elimination situation by country

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