ECDC INTERNAL DOCUMENT

PUBLIC HEALTH CAPACITY AND COMMUNICATION UNIT

ECDC lines-to-take: World Hepatitis Day 2016

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Background

ECDC started to coordinate the enhanced surveillance for hepatitis B and C in 2011 with the aim to improve the understanding of acute and chronic hepatitis B and C viral infections across the European Union and European Economic Area (EU/EEA). Enhanced surveillance of hepatitis B and C in Europe aims to provide information to monitor the distribution of the diseases and to evaluate the public health response to control further transmission of infection.

In 2013, 2014 ECDC published enhanced surveillance reports on hepatitis B and C. On World Hepatitis Day 2016 [*add link to landing page once live*], ECDC publishes a brief analysis of hepatitis B and C surveillance data for 2014 and a technical report on hepatitis B and C among migrants in the EU/EEA.

In May 2016 WHO approved a new Global Health Sector Strategy on viral hepatitis for 2016–2021. The strategy introduces the first-ever global targets for viral hepatitis; elimination of viral hepatitis as a public health threat by 2030.

Key messages WHD 2016

- To eliminate viral hepatitis by 2030;
    - Europe has to identify those who might be unknowingly infected with viral hepatitis earlier through more testing
    - Treatment programmes across Europe and coverage of local prevention and control practices need to be scaled up to interrupt existing transmission chains;
    - Countries need to improve their surveillance systems to adequately assess the actual local burden of viral hepatitis.
- The current data sources in most countries of the European Union and European Economic Area are insufficient to adequately assess the actual local burden of viral hepatitis. ECDC is working closely with the Member States to improve local surveillance systems and develop alternative epidemiological methods to complement routine surveillance for example with seroprevalence and sentinel surveys.
- New data for hepatitis B and hepatitis C infection show a greater disease burden for hepatitis C compared with hepatitis B across Europe: numbers and notification rates for HCV are nearly twice as high as those of hepatitis B.

Key findings hepatitis B and C surveillance (2014 data)

- In 2014, over 57 000 new cases of hepatitis B and C were reported. 22 442 cases of hepatitis B virus infection were reported in 30 EU/EEA Member States (a crude rate of 4.2 per 100 000 population)

and 35 321 cases of hepatitis C were reported from 28 EU/EEA Member States (a crude rate of 8.8 cases per 100 000 population).

- The data show high numbers of newly diagnosed hepatitis B and C cases notified across Europe with a reported hepatitis C rate that is more than twice the reported hepatitis B rate. Chronic cases dominate across both diseases with a marked variation between countries.
- Hepatitis B has seen a decrease in acute cases but a rise in newly reported chronic infections. This increase is probably due to changes in reporting methods as well as increases in local testing practices.
- Hepatitis C trends show a strong geographical difference influenced by different testing practices across Europe.
- Transmission routes for hepatitis B differ from hepatitis C, and for hepatitis B these routes vary by disease status. Imported cases are significant, especially for hepatitis B.
- Between 2006 and 2014, the overall number of hepatitis C cases diagnosed and reported across all EU/EEA Member States increased by 28.7%, with most of this increase observed since 2010.
- Improved understanding of national testing and surveillance policies will help to interpret the surveillance data and to monitor the distribution of the diseases. It can also support the evaluation of the public health response to control the transmission of HBV and HCV.
- The ongoing transmission of cases and diversity in the reported routes of transmission across Europe, highlights the need for countries to continue to improve the quality of surveillance data and to maintain prevention and control practices. ECDC will continue to work with the reporting countries to improve completeness of reporting and to facilitate a fuller analysis of the data.

Epidemiological assessment of hepatitis B and C among migrants in the EU/EEA

Key findings

- In EU/EEA, about 50 million inhabitants are born in another country than the one they are living in (including another EU/EEA country).This represents 11 % of the adult population. Foreign-born persons are disproportionately affected by chronic hepatitis B and C. These migrants are estimated to account for 25% of cases for hepatitis B and 14% for hepatitis C.
- For hepatitis B, 53% of all foreign born migrants were born in countries with intermediate or high endemicity (prevalence of 2% or higher).
- For hepatitis C, 79% of foreign born migrants were born in high endemicity countries (prevalence of 1% or higher).
- There are variations across European countries with regard to the relative burden of both chronic hepatitis B and chronic hepatitis C in the migrant population. The relative burden of the migrant population estimated to have hepatitis B and hepatitis C was lowest in Romania, Bulgaria, Slovakia and Poland. This can be explained by fewer migrants and a higher prevalence of hepatitis B and C in the native population. The relative burden of hepatitis B and C in migrants was highest in northern European countries (i.e. Ireland, the Netherlands and Sweden.
- 'Foreign-born migrants' – which means those born outside their current country of residence – are one of the populations at higher risk of hepatitis B and C in many EU/EEA countries and thus important targets for hepatitis-specific prevention and care programmes.

Lines to take (to be used reactively)

- Since viral hepatitis often shows no symptoms for many years, one of the main obstacle for treatment and eradication is detection of cases. This ECDC report offers information on the size of different migrant populations and the ranking of the populations with expected high numbers of chronic viral

hepatitis infections. These insights can be used by countries to target prevention and screening efforts towards those migrant groups who would benefit most.

- Although migrants have a high burden of chronic viral hepatitis infections, and are therefore an important group to consider for testing and care, the risk of onward transmission to the native population is likely to be low.

- In this ECDC study, the calculations of hepatitis B and C prevalence among migrants are based on estimates of prevalence in the migrants' countries of origin. Comparing data from studies on those who migrated with estimates for their countries of origin showed that the migrant populations often have lower prevalence of chronic hepatitis, especially for chronic hepatitis B. This indicates that the estimates of the total number of migrants infected with chronic hepatitis B and C could be an overestimation.

Links

Hep B and C Slides

Hepatitis B chapter in AER

Hepatitis C chapter in AER

Technical report: Epi assessment of hepatitis B and C among migrants in EU/EEA [add link]

World hepatitis Day 2016 [add link]

Q&A

Q. Eliminating viral hepatitis by 2030 seems like a very ambitious goal, is it possible?

A. The goal set out by WHO in a new strategy is to eliminate viral hepatitis as a major public health threat by 2030. This includes: a 90% drop in the number of chronically infected people and reduction of the mortality rate by 65% as untreated chronic viral hepatitis can cause irreversible liver damage leading to cirrhosis or cancer. Currently, Europe records around 57 000 newly diagnosed acute and chronic cases of hepatitis B and C each year. An estimated 10 million Europeans suffer from chronic hepatitis B and C infection without knowing about it as the infection often shows no symptoms.

In order to eliminate hepatitis as a public health issue, as set out in this new global strategy, Europe needs to scale up coverage of testing, prevention interventions and treatment services. As there is a large diversity in the situation across Europe more complete and comparable data is needed to inform decisions on how to increase prevention interventions in the most effective way. Surveillance systems need to be improved because the current data sources in most of the EU/EEA countries are insufficient to adequately assess the actual local burden of viral hepatitis. ECDC is working closely with the Member States to improve local surveillance systems and develop alternative epidemiological methods to complement routine surveillance for example with seroprevalence and sentinel surveys.

Q. Why did you look into the hepatitis prevalence among migrants?

A. Hepatitis B and C are viruses that infect the liver and can silently progress to cirrhosis and liver cancer. Effective antiviral treatment is available and timely treatment of eligible patients can prevent hepatitis-related burden of disease and death. However, the main bottleneck in providing treatment to those who could benefit from it, is finding those who are infected (case detection).

'Foreign-born migrants' – which means those born outside their current country of residence – are one of the key populations at higher risk of hepatitis B and C in many EU/EEA countries and thus important targets for hepatitis-specific prevention and care programmes.

The aim of this study was to estimate the chronic viral hepatitis burden in terms of infected cases among first-generation migrants in EU/EEA countries based on best available data sources and to identify those migrant

groups with the largest number of cases who would benefit most from targeted screening programmes and early linkage to care.

Screening increases the diagnosis rate and, when followed by effective linkage to care and antiviral treatment, could result in a decrease in the morbidity and mortality of associated liver disease.

To optimise the cost-effectiveness of screening, the groups most at risk of chronic viral hepatitis infection (i.e. those with the highest prevalence) should be targeted. Migrants from intermediate and high-endemicity countries (=>2% for HBsAg and =>1% for anti-HCV), whether from within or outside the EU/EEA, are recognised as one of the key populations for hepatitis B and C prevention and care in many countries within the regions.

Q. Why conduct a literature review rather than using your surveillance data?

A. Routine surveillance data do not give enough information to provide a robust epidemiological understanding of chronic hepatitis infection among migrants. Furthermore, hepatitis B and C cases among vulnerable groups, particularly migrants, are sometimes under-detected by routine surveillance due to the difficulties that some migrants face in accessing health services. Amongst these difficulties are legal barriers, stigma and cultural/language differences.

To estimate the burden of chronic hepatitis B and C, we therefore used existing data from prevalence studies rather than notification data.

Two systematic literature searches were conducted: one to find estimates of the hepatitis B surface antigen (HBsAg) and anti-hepatitis C virus (HCV) prevalence of migrants by country of origin (from published reviews); and a second to identify studies on the prevalence in migrant populations within the EU/EEA.

Q. What results did your study show? What can we learn?

A. The total foreign-born population living in the 31 countries of the EU/EEA exceeds 50 million. The proportion of the foreign-born population ranges from 0.9% in Romania and 1.3% in Bulgaria to over 40% in Luxembourg and Liechtenstein. Overall, 10.3% of the total population and 11.4% of the adult population in the EU/EEA countries are foreign-born.

Based on the above demographic data sources and the systematic reviews of hepatitis B virus (HBV) and HCV prevalence (at country level), it is estimated that 53% of the total foreign-born population in the EU/EEA is born in HBV-intermediate/high-endemic countries (those with a prevalence of 2% or higher). Around 79% of the foreign-born adult population is born in HCV high-endemic countries (those with a prevalence above 1%).

In the EU/EEA as a whole, the ECDC study estimates that migrants account for 25% of chronic hepatitis B and 14% of chronic hepatitis C cases. But there is variation across European countries with the overall burden of both chronic hepatitis B and chronic hepatitis C lowest in Romania, Bulgaria, Slovakia and Poland (<4%) and highest in north European countries (i.e. Ireland, the Netherlands and Sweden). In these countries, the relative contribution of migrants from intermediate and high-endemicity countries to the overall chronic viral hepatitis B burden in the host country was estimated to be exceptionally high.

Despite some uncertainty, the information on the size of the different migrant populations with expected high numbers of chronic viral hepatitis infections does provide valuable insight: countries will be able to use this to target prevention and screening efforts towards those migrant groups that can be expected to benefit most.

Data comparing first- and second-generation migrants suggest that screening should focus on first-generation migrants using country of birth rather than ethnicity-related characteristics to define the population at risk. More about the different models of screening and how to implement these successfully can be found on the HEP screen toolkit website (www.hepscreen.eu).

Q. How affected are migrants and why?

A. Overall, the burden of chronic liver infections in the general population of the EU/EEA is substantial – with an estimated 4 to 7.5 million chronic hepatitis B infected people, and 2 to 6.6 million chronic hepatitis C cases. The ECDC study estimates that migrants account for around 25% of chronic hepatitis B, and 14% of chronic hepatitis C cases. This is much higher than the proportion of migrants in the total population, which is 5% for migrants from HBV endemic countries and 8% for migrants from HCV endemic countries.

The burden of chronic hepatitis B and chronic hepatitis C among migrants as a proportion of the overall burden of chronic infection is lowest in Romania, Bulgaria, Slovakia and Poland (<4%). These are all countries where the proportion of migrants from endemic countries in the total population is relatively low (<1.5%).

In some countries (i.e. Ireland, the Netherlands and Sweden) the proportion of chronic viral hepatitis B among migrants from intermediate and high-endemicity countries to the overall burden in the host country was estimated to be exceptionally high (>100%).

It is interesting that three migrant populations with relatively high numbers of both HBV and HCV cases are from EU/EEA countries – namely Italy, Poland and Romania (all of which countries with high hepatitis endemicity and high numbers of migrants).

Q. If migrants are more affected by viral hepatitis: what is the infection risk for the population in their new host countries?

A. Although migrants have a high burden of chronic viral hepatitis infections and are therefore an important group to consider for testing and care, the risk of onward transmission of infection is likely to be low. Transmission of both HBV and HCV has declined in recent years in most EU/EEA countries due to the implementation of comprehensive prevention and control measures.

According to the EU surveillance data, there has been a steady decline in the number of acute hepatitis B cases to low numbers and this decline is a reflection of the successful implementation of HBV vaccination programmes across Europe. Most HCV transmission in Europe is through injecting drug use, and the adoption of safe injection practices has led to declining incidence in many countries.

Given the steady to slightly increasing population of foreign-born migrants in the EU/EEA, a high risk of migrant-associated transmission would likely have resulted in an increasing number of acute cases being reported than has been the case.

Q. What is the general situation regarding hepatitis B and C in Europe?

A. In 2014, 22 442 cases of hepatitis B virus infection were reported from 30 EU/EEA Member States and 28 EU/ EEA Member States recorded 35 321 new cases of hepatitis C. Between 2006 and 2014, around 161 000 newly diagnosed cases of hepatitis B and more than 276 000 hepatitis C infections were recorded. But this is known to be an underestimate of the true burden as hepatitis is largely asymptomatic and the 'silent disease' is often not diagnosed. Around 4.5 million people are estimated to suffer from infection with hepatitis B and some 5.5 million from hepatitis C infection – and the majority of these individuals are unaware of their infection.

Q. Can we see any trends?

A. Overall, the data show high numbers of newly diagnosed hepatitis B and C cases across the EU/EEA. The findings highlight a significant burden of disease related to chronic infections for both HBV and HCV. The overall burden is considerably greater for hepatitis C: numbers of reported cases of hepatitis C are more than twice as high as those of hepatitis B.

For hepatitis B, there has been a steady downward trend in the reported rate of acute cases, which is most likely related to the impact of vaccination campaigns in Europe. However, geographical and time trends are difficult to interpret because of differences in the application of local case definitions and reporting practice

between countries and over time. The interpretation of hepatitis C data across countries is hampered by differences in surveillance systems and difficulties in defining the cases as acute or chronic.

Q. Why are hepatitis infections a problem? Isn't there a vaccine?

A. Hepatitis is an inflammation of the liver and is most commonly caused by a viral infection. The World Health Organization estimates that 1.45 million deaths are caused by viral hepatitis each year.

But many persons with hepatitis B and C infections show no obvious symptoms so the disease is often undiagnosed. Untreated chronic infection with hepatitis B and C may progress to liver cirrhosis or cancer. In fact, 78% of liver cancer cases are linked to viral hepatitis.

While there are vaccines to prevent hepatitis A and B, there is no vaccine against hepatitis C. But hepatitis C is curable.

Early detection of infections through wider hepatitis screening and treatment of identified chronically infected patients could considerably decrease the health burden of infected persons and at the same time provide opportunities for significant future savings of associated healthcare costs.

Q. Who is most affected and how?

A. HBV: The most affected age group reported for both acute and chronic infections was 25–34-year-olds, accounting for 30% of cases. Both hepatitis B and C were more commonly reported among men than women.

In 2014, data on transmission were complete for only 10.4% of cases. Among acute cases with complete information, heterosexual transmission was most commonly reported (29.9%), followed by nosocomial transmission (17.9%), non-occupational transmission (12.0%), transmission among men who have sex with men (11.8%) and transmission through injecting drug use (9.3%). Mother-to-child transmission was the most commonly reported route (59.5%) for those categorised as chronic cases, the data suggests a large proportion of these cases where imported.

HCV: The most affected age group among reported cases were those between 25 and 44 years of age (51%)

The most common route of transmission reported was injecting drug use. Hospital acquired infections are an uncommon route of transmission in most countries, but remains a commonly reported transmission route in a small number of countries.

Q. Why do you differentiate between acute and chronic hepatitis? Is that important?

A. Hepatitis B and C are contagious liver diseases that range in severity from a mild illness that lasts only a few weeks to a serious, lifelong illness. Both hepatitis B and C can be either "acute" or "chronic".

Acute hepatitis infection is a short-term illness: it occurs within the first 6 months after exposure to the virus. It can (but does not have to) lead to chronic infection. Symptoms like fever, fatigue, joint pain or yellow colour of the skin, so-called jaundice, usually last a few weeks. But some people can be ill for as long as 6 months and even if there are no symptoms, infected persons can spread the virus.

Chronic HBV or HCV infection is a long-term illness that occurs when the virus remains in a person's body. Chronic hepatitis is a serious disease that can result in lasting health problems, including liver damage, liver failure, liver cancer or even death.

The distinction between acute and chronic cases enables a clearer understanding of the epidemiological trends and is important from a public health perspective to help evaluate the impact of control measures on transmission patterns and to guide future prevention strategies.

Q. How meaningful/reliable are your data? Do they reflect the actual situation in Europe/each country?

A. ECDC's collection of enhanced surveillance data for both hepatitis B and C across the countries of the EU/EEA describes basic trends and epidemiological features of HBC and HCV for the years 2006 to 2014. The completeness of reporting is important for the quality and interpretation of the data and ECDC is working closely with Member States to improve the completeness of the data.

However, due to the asymptomatic character of infection, current surveillance results are highly affected by national screening and testing policies and practices. Interpretation of surveillance results need to be done carefully as the current surveillance results do not reflect the actual incidence and prevalence of HBV and HCV in individual Member States. The data should be considered alongside information on local screening practices, population denominator testing data and available data from seroprevalence surveys. There are also challenges relating to the case definitions, including that different definitions are used by different countries, some countries only report acute hepatitis cases and a high proportion of cases are coded as unknown.

Despite the steady downward trend in the reported rate of acute hepatitis B cases, which is most likely related to the impact of local vaccination campaigns, there is no room for contentment: with evidence of ongoing transmission and the continuing importation of cases, vaccination programmes are essential, as are improved surveillance data which should include information on local screening practices and vaccination policies.

Despite limitations of the data for hepatitis C, the data clearly indicate a significant burden of infection, with many cases attributed to injecting drug use. This emphasises the importance of strong public health programmes and targeted harm reduction measures.

- Ends -