

## **Recommendations for the**

# **Promotion of case-finding for Viral Hepatitis B and C, including targeted screening measures for risk groups**

*February 2009*

### **EXECUTIVE SUMMARY**

The available scientific evidence shows that viral hepatitis is an urgent public health threat in Europe and worldwide. Globally, hundreds of millions of people are chronically infected with Hepatitis B and C, the majority without being aware of their infection.

Viral hepatitis is a major cause of preventable liver cancer, which has a nearly 100% death rate and ranks as the third cause of cancer deaths worldwide.

There are modern, reliable and cost-effective diagnostic methods for viral hepatitis. These diagnostic methods have been proven to be effective in reducing the disease and death burden when combined with comprehensive measures to tackle the disease. Best practices from EU Member States increasingly reflect that targeted viral hepatitis screening among risk groups is key to reducing the hepatitis burden.

Infectious diseases know no geographical boundaries and, in this sense, Europe faces the double challenge of immigration from high endemic areas and of high hepatitis prevalence rates in Eastern European Member States. In this context, countries working together can achieve a more significant, long-term impact on the prevalence and incidence of new cases of viral hepatitis. At the same time, scientific evidence shows that comprehensive measures, including prevention and detection, are more cost-effective than medical care alone, and can improve the clinical outcomes of treatment.

A Council Recommendation for case-finding for Viral Hepatitis B and C, including targeted screening measures for risk groups would be a valuable step forward in European cooperation towards tackling this major health scourge. Such a Council Recommendation should take into account examples of best practices and internationally recognised principles and guidelines for screening and detection.

## A. SUPPORTING SCIENTIFIC EVIDENCE FOR TARGETED SCREENING OF VIRAL HEPATITIS

### 1. *The increasing burden of viral hepatitis makes it a growing public health threat.*

- Infections with Hepatitis B virus (HBV) and Hepatitis C virus (HCV) are a major public health concern. Approximately one third of the world's population has been infected with HBV and more than 350 million people live with a chronic infection.<sup>1</sup> An estimated 130 million people have a chronic HCV infection, with 3-4 million new infections occurring every year.<sup>2</sup>
- Although recent data is scarce, in the World Health Organisation (WHO) European Region 14 million people are estimated to live with chronic Hepatitis B<sup>3</sup> while approximately 9 million people are thought to be infected with the Hepatitis C virus.<sup>4</sup>
- The European Centre for Disease Prevention and Control (ECDC) estimates that there are up to 8,000 newly diagnosed HBV cases per year and up to 29,000 newly diagnosed HCV cases per year in the EU.<sup>5</sup> These data are likely to greatly underestimate true incidence, due to problems of underdiagnosis, as most acute cases are asymptomatic, and due to underreporting.<sup>6</sup> Furthermore, newly diagnosed cases are often not reported separately by acute and chronic status.<sup>7</sup>
- In this respect, the WHO has compared Hepatitis C to a “viral time bomb”, as many of the 130 million patients chronically infected with the virus have not yet reached the advanced stages of the disease.<sup>8</sup> In the absence of strong measures to prevent the spread of HCV, the number of deaths related to Hepatitis C, resulting from long-term complications such as liver cirrhosis and liver cancer, are predicted to rise considerably over the next 25 years.<sup>9</sup>

---

<sup>1</sup> Shepard CW, Simard EP, Finelli L, Fiore AE, Bell BP. Hepatitis B virus infection: epidemiology and vaccination. *Epidemiol Rev.* 2006; 28:112-125.

<sup>2</sup> World Health Organisation, *Weekly Epidemiological Record*, Vol 74, No. 49, 10 December 1999, available at <http://www.who.int/docstore/wer/pdf/1999/wer7449.pdf>

<sup>3</sup> Hepatitis B in Europe – Expert Group Recommendations, available at [http://www.easl.ch/PDF/Hepatitis\\_B\\_recommendations.pdf](http://www.easl.ch/PDF/Hepatitis_B_recommendations.pdf)

<sup>4</sup> World Health Organisation, *Weekly Epidemiological Record*, Vol 74, No. 49, 10 December 1999, available at <http://www.who.int/docstore/wer/pdf/1999/wer7449.pdf>

<sup>5</sup> Rantala M, van de Laar MJ. Surveillance and epidemiology of hepatitis B and C in Europe – a review. *Euro Surveill.* 2008;13(21):pii=18880. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18880>

<sup>6</sup> Wiessing L, Guarita B, Giraudon I, Brummer-Korvenkontio H, Salminen M, Cowan SA. European monitoring of notifications of hepatitis C virus infection in the general population and among injecting drug users (IDUs) – the need to improve quality and comparability. *Euro Surveill.* 2008;13(21):pii=18884. <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=18884>

<sup>7</sup> European Centre for Disease Prevention and Control, *Annual Epidemiological Report on Communicable Diseases in Europe 2008*. Stockholm, European Centre for Disease Prevention and Control, 2008.

<sup>8</sup> World Health Organisation, *Viral Cancers Fact Sheet*, available at [http://www.who.int/vaccine\\_research/diseases/viral\\_cancers/en/index2.html](http://www.who.int/vaccine_research/diseases/viral_cancers/en/index2.html)

<sup>9</sup> World Health Organisation, *Hepatitis C Fact Sheet*, <http://www.who.int/mediacentre/factsheets/fs164/en/index.html>

- As far as mortality is concerned, up to 36,000 deaths are attributable to HBV every year in Europe<sup>10</sup>, while more than 86,000 people die each year in the WHO European Region due to HCV related causes.<sup>11,12</sup>
- In addition, of concern is also the likely impact of immigration from countries with high prevalence of viral hepatitis, which poses a significant challenge to Europe. In particular, the Mediterranean basin constitutes one of the largest sources of immigration and the prevalence of HCV is largest in Africa and the Eastern Mediterranean, with average prevalence rates between 4.6 % and 5.3%.<sup>13</sup> In addition, Eastern European countries also have high rates of viral hepatitis prevalence.
- Liver cancer – known as hepatocellular carcinoma (HCC) – gives room for great concern. 75% to 85% of cases of primary liver cancer are attributable to persistent viral infections with either HBV (50%-55%) or HCV (25%-30%).<sup>14</sup> Several studies find that the incidence of liver cancer in the developed world is increasing and predict this trend to continue for decades.<sup>15</sup>
- Liver cancer is the third largest cause of cancer mortality worldwide, affecting almost 700,000 victims each year.<sup>16</sup> In addition, the 5-year survival rates for this type of cancer are very low, of only 5-9%.<sup>17</sup>

## *2. Viral hepatitis poses a significant socio-economic burden to patients, their families and society.*

- The facts and figures revealing the disease and mortality burden of hepatitis are even more alarming if complemented by the human and social dimension of the suffering caused to patients with Hepatitis B and C and their families, who encounter significant levels of stigma, discrimination and fear.<sup>18</sup>
- The financial and economic dimension of the health resources required for the diagnosis, treatment and care of these diseases is significant. A simulation exercise for Europe suggests that in Germany alone, over a time period of 20 years, 44.000 cases of liver cirrhosis, 16.000 deaths and 1.200 liver

<sup>10</sup> Hepatitis B in Europe – Expert Group Recommendations, available at [http://www.easl.ch/PDF/Hepatitis\\_B\\_recommendations.pdf](http://www.easl.ch/PDF/Hepatitis_B_recommendations.pdf)

<sup>11</sup> Mühlberger, N et al. HCV-related burden of disease in Europe: a systematic assessment of incidence, prevalence, morbidity, and mortality, BMC Public Health 2009, 9:34, 22 January 2009

<sup>12</sup> Sroczynski G, Esteban E, Conrads-Frank A, Schwarzer R, Mühlberger N, Wright D, Zeuzem S, Siebert U. Pan European Perspectives on Hepatitis C, UMIT and the Johann Wolfgang Goethe- University Hospital.

<sup>13</sup> World Health Organisation, Hepatitis C Fact Sheet, <http://www.who.int/mediacentre/factsheets/fs164/en/index.html>

<sup>14</sup> Bosch, FX, Ribes J, Diaz M, Cleries R. Primary Liver Cancer: Worldwide Incidence and Trends. Gastroenterology 2004; 127: 5–16

<sup>15</sup> Bosch, FX, Ribes J, Diaz M, Cleries R. Primary Liver Cancer: Worldwide Incidence and Trends. Gastroenterology 2004; 127: 5–16; Heathcote EJ, Prevention of Hepatitis C Virus-Related Hepatocellular Carcinoma. Gastroenterology 2004; 127: 294–302

<sup>16</sup> WHO, World Cancer Report 2008 p. 42, available online at <http://www.iarc.fr/en/Media-Centre/IARC-News/World-Cancer-Report-2008>

<sup>17</sup> Ibid., p350

<sup>18</sup> Zickmund S, Ho EY, Masuda M, Ippolito L, LaBrecque DR. “They treated me like a leper”. Stigmatization and the quality of life of patients with chronic hepatitis C. J Gen Intern Med 2003;18:835-44

transplantations could be prevented, and 21.77 billion Euros in costs (direct and indirect) could be saved, if optimal detection and treatment was ensured.<sup>19</sup>

### *3. There are effective methods to prevent, diagnose and treat viral hepatitis.*

- Effective methods to prevent, diagnose and treat viral hepatitis are now available which, together, can contribute to a reduction in the overall prevalence and consequences of hepatitis infection.
- The most effective way of preventing Hepatitis B virus-related liver cancer is to prevent infection via global vaccination of infants. Treatment, effective in eliminating HBV infection or in achieving sustained suppression of replication of the HBV virus may reduce the risk of clinical endpoints such as cirrhosis and liver cancer among chronic carriers of the Hepatitis B virus.<sup>20</sup>
- As far as Hepatitis C is concerned, multiple studies suggest that successful therapies for chronic Hepatitis C will reduce the incidence rates of liver cancer, and that these therapies are most effective in persons with chronic Hepatitis C, before the development of cirrhosis. The majority of viral hepatitis carriers – in some countries, up to 90% are unaware of their infection. Thus, at present, the majority of persons with chronic viral hepatitis remain at risk of progressive liver disease and infection.<sup>21</sup>
- In 1999, the WHO published a report that recommended every country to develop a plan for the primary prevention of new Hepatitis C infections and the prevention of chronic Hepatitis C-related liver disease.<sup>22</sup> Ten years on, the great majority of European countries have yet to heed this call.

### *4. Screening programmes for viral hepatitis are effective in reducing the disease burden and are cost-effective.*

- Screening aims to detect Hepatitis B and Hepatitis C at an early stage before further complications such as cirrhosis and liver cancer arise. For instance, after 20 years of living with Hepatitis C, almost one in five people will develop cirrhosis of the liver.<sup>23</sup> If left untreated, chronic Hepatitis B evolves into cirrhosis in 30% of patients and nearly half of these will die from liver failure or liver cancer.<sup>24 25</sup>

---

<sup>19</sup> Rychlik R, Prof. Dr. Dr. med. Kosten der Unterversorgung mit Arzneimitteln in Deutschland – Gutachten für den Verband Forschender Arzneimittelhersteller e.V.; Institut für Empirische Gesundheitsökonomie, Burscheid, 2008

For example, as shown by Lidgren M et al, (in “Productivity improvements in hepatitis C treatment: impact on efficacy, cost, cost-effectiveness and quality of life”, *Scand J Gastroenterol.* 2007 Jul;42(7):867-77.), the improvements in treatment options for chronic hepatitis C over the past decade have provided the healthcare systems with cost-effective options for the care of patients. For other references, see:

Joshua A. Salomon; Milton C. Weinstein; James K. Hammitt; et al, Infection in an Evolving Patient Population, Cost-effectiveness of Treatment for Chronic Hepatitis C, *JAMA.* 2003;290(2):228-237 (doi:10.1001/jama.290.2.228)

<sup>20</sup> Lok ASF. Prevention of Hepatitis B Virus–Related Hepatocellular Carcinoma. *Gastroenterology* 2004; 127: 303–309

<sup>21</sup> Heathcote EJ, Prevention of Hepatitis C Virus-Related Hepatocellular Carcinoma. *Gastroenterology* 2004; 127: 294–302

<sup>22</sup> Global surveillance and control of hepatitis C (1999) - Report of a WHO Consultation organised in collaboration with the Vital Hepatitis Prevention Board, Antwerp, Belgium. *Journal of Viral Hepatitis (England)*, 6(1): 35-47.

<sup>23</sup> Torresi J & Locarnini S. *Gastroenterology* 2000;118(Suppl 1):S83-103; Fattovich G, et al. *Hepatology* 1995;21:77-82

- Public health aims to prevent disease at population level and thus reduce the burden of disease for individuals and for society as a whole. While primary prevention (e.g. needlestick injury prevention<sup>26</sup>, awareness campaigns) aims to reduce the incidence of Hepatitis B and C by avoiding exposure to the viruses, secondary prevention aims to reduce mortality through the early detection of Hepatitis B and C through case-finding, including targeted screening of people at risk of contracting these viruses.
- Notwithstanding the importance of primary prevention, studies have shown that screening for Hepatitis B and C can significantly reduce mortality and improve quality of life. The greater the HCV prevalence in the sub-population screened, the higher are the gains in life years and quality of life.<sup>27</sup> Studies using mathematical models to predict future mortality related to HCV, indicate a clear decline in the number of deaths with increased treatment.<sup>28</sup> Further improvements in the effectiveness of treatments to slow or halt disease progression are likely to improve the cost-effectiveness of screening.
- For HCV, for example, it has been estimated that the application of current best practices of screening and treatment could reduce HCV mortality by 20% in the next 20 years compared to a scenario without screening and treatment.<sup>29</sup> In the case of Japan, a cost-effectiveness assessment of the national screening programme for Hepatitis C was estimated to be cost-effective for screening of both the general population and high-risk groups, at prevalence rates of no more than 0.36% and 0.81% respectively (please note that in Europe in some risk groups, e.g. injecting drug users, prevalence levels of up to 100 times higher are frequently found).<sup>30</sup> In 2006 the UK's National Institute for Health Research released the findings of a Health Technology Assessment indicating that case-finding strategies are likely to result in an additional Quality Adjusted Life Year (QUALY) gained for every GBP 16,514 invested. If the UK National Institute for

---

For further data on the natural history of hepatitis C, see:

Julien Massard, et al, Natural history and predictors of disease severity in chronic hepatitis C, *Journal of Hepatology* 44 (2006) S19–S24.

Leonard B. Seeff, Natural History of Chronic Hepatitis C, *Hepatology*, Vol. 36, No. 5, Suppl. 1, 2002

<sup>24</sup> EASL Clinical Practice Guidelines for the Management of Hepatitis B, [http://www.easl.ch/easl\\_cpg.asp](http://www.easl.ch/easl_cpg.asp)

<sup>25</sup> Global burden of disease (GBD) for hepatitis C. *J Clin Pharmacol* 2004; **44** (1): 20-9

<sup>26</sup> European Parliament resolution with recommendations to the Commission on protecting European healthcare workers from blood-borne infections due to needlestick injuries, Texts adopted P6\_TA(2006)0305 <http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P6-TA-2006-0305&language=EN>

<sup>27</sup> Deuffic-Burban S et al., Impact of viral eradication on mortality related to hepatitis C: A modeling approach in France, *Journal of Hepatology* 48 (2008), 175-183; Cullen BK et al., An evaluation of a general-practice based screening intervention to identify former injecting drug users infected with Hepatitis C. Glasgow: Health Protection Scotland; 2008 (pending publication)

<sup>28</sup> Ibid.; Deuffic-Burban S et al., Comparing the public health burden of chronic hepatitis C and HIV infection in France, *Journal of Hepatology* 40 (2004), 319-26.

<sup>29</sup> Deuffic-Burban S, et al., Impact of viral eradication on mortality related to hepatitis C: A modeling approach in France, *Journal of Hepatology* 48 (2008), 175-183.

<sup>30</sup> Nakamura J, Terajima K, Aoyagi Y and Akazawa K. Cost-effectiveness of the National Screening Program for Hepatitis C Virus in the General Population and the High Risk Groups *Tohoku J. Exp. Med.*, 2008; 215 (1), 33-42

Health and Clinical Excellence (NICE) place the cost-effectiveness threshold per QALY at GBP 30,000 then case-findings for HCV are obviously cost-effective.<sup>31</sup>

- In addition to the above, there is ample evidence that screening for Hepatitis B and C among risk groups with elevated prevalence is likely to be cost-effective.<sup>32</sup>  
<sup>33 34 35 36 37 38</sup> Studies point to cost-effectiveness for targeted outreach to risk-groups such as drug users, healthcare workers undertaking exposure-prone procedures and prisoners<sup>39</sup>. Well-managed healthcare provider-initiated screening among these risk groups<sup>40</sup> should be more effective than individual screening on demand, and is therefore a key instrument of prevention which also needs to have a science-based, cost-effective approach, built on best practice.
- A key indicator for the effectiveness of screening is a decrease in disease-specific mortality or a decrease in the occurrence of advanced disease such as cirrhosis of the liver or liver cancer.<sup>41</sup>
- In recent years, innovative programmes have been initiated in EU Member States to tackle the rising public health threat posed by HBV and HCV infections. France was the first Member State to take decisive action, having introduced in 1999 a national plan which included targeted screening of risk groups for Hepatitis C. The plan has had a direct effect on numbers tested: in 2002-03 more than 2.9 million tests for HCV took place – a rise of more than 28% from 2000-01. Increased testing went hand-in-hand with government-led campaigns. As a result, the proportion of HCV positive people aware of their condition increased from 24% in 1994<sup>42</sup> to 57.4% in 2004.<sup>43</sup> In comparison, in northern Spain, of 1,170

---

<sup>31</sup> Castelnuovo E, Thompson-Coon J, Pitt M, Cramp M, Siebert U, Price A and Stein K. The cost-effectiveness of testing for hepatitis C in former injecting drug users. *Health Technology Assessment* 2006; Vol. 10: No. 32

<sup>32</sup> Castelnuovo E, Thompson-Coon J, Pitt M, Cramp M, Siebert S, Price A, and Stein K. The cost-effectiveness of testing for hepatitis C in former injecting drug users, *Health Technology Assessment* 2006; Vol 10: number 32; ;;;;

<sup>33</sup> Stein K et al., Screening for Hepatitis C in injecting drug users: a cost utility analysis, *Journal of Public Health* 26:1 (2004), 61-71.

<sup>34</sup> Sroczyński G, Esteban E, Conrads-Frank A, Schwarzer R, Mühlberger N, Wright D, Zeuzem S, Siebert U. Pan European Perspectives on Hepatitis C, UMIT and the Johann Wolfgang Goethe- University Hospital

<sup>35</sup> Nakamura J, Terajima K, Aoyagi Y and Akazawa K. Cost-effectiveness of the National Screening Program for Hepatitis C Virus in the General Population and the High Risk Groups *Tohoku J. Exp. Med.*, 2008; 215 (1), 33-42

<sup>36</sup> Sutton AJ, Edmunds WJ, Sweeting MJ, Gill ON. The cost-effectiveness of screening and treatment for hepatitis C in prisons in England and Wales: a cost-utility analysis. *Journal of Viral Hepatitis*, 2008, 15, 797–808

<sup>37</sup> Tramarin A, Gennaro N, Compostella FA, Gallo C, Wendelaar Bonga LJ, Postma MJ. HCV screening to enable early treatment of hepatitis C: a mathematical model to analyse costs and outcomes in two populations

<sup>38</sup> Deuffic-Burban S, Abiteboul D, Lot F, Branger M, Bouvet E, Yazdanpanh Y. Costs and cost-effectiveness of different follow-up schedules for detection of occupational Hepatitis C Virus infection.

<sup>39</sup> Sutton AJ, Edmunds WJ, Sweeting MJ, Gill ON. The cost-effectiveness of screening and treatment for hepatitis C in prisons in England and Wales: a cost-utility analysis. *Journal of Viral Hepatitis*, 2008, 15, 797–808; Tramarin A, Gennaro N, Compostella FA, Gallo C, Wendelaar Bonga LJ, Postma MJ. HCV screening to enable early treatment of hepatitis C: a mathematical model to analyse costs and outcomes in two populations; Deuffic-Burban S, Abiteboul D, Lot F, Branger M, Bouvet E, Yazdanpanh Y. Costs and cost-effectiveness of different follow-up schedules for detection of occupational Hepatitis C Virus infection.

<sup>40</sup> Blystad H, Wiessing L. Guidance on Provider-initiated Routine Medical Examination, Testing and Counselling for Infectious Diseases in Injecting Drug Users. Draft version for comments. Lisbon, EMCDDA, 2008.  
<http://www.emcdda.europa.eu/themes/key-indicators/inf>

<sup>41</sup> Liver Cancer on the Rise, *Annals of Internal Medicine*, Volume 142 Number 12 (Part 1), 21 June 2005.

<sup>42</sup> Dubois F., Desenclos JC., Mariotte N., Goudeau A. and the collaborative study group. Hepatitis C in French population bases survey, 1994: seroprevalence, frequency of viraemia, genotype distribution and risk factors. *Hepatology*. 1997;25(6):1490-6

people who tested positive for HCV antibodies, only 16% were aware of their status.<sup>44</sup> Better access to screening could lead to better access to treatment. In France, it has been estimated that the expected cumulated HCV-mortality rate in the next 20 years (2006-2025) would be reduced by 20% compared to a scenario without screening and antiviral therapy.<sup>45</sup>

- Scotland provides another successful example where comprehensive awareness-raising and case-finding mechanisms for Hepatitis C have been implemented through a national action plan. The action plan was developed in two phases: Phase I, undertaken from September 2006 to March 2008, focused on increasing awareness about Hepatitis C; and on gathering evidence through numerous surveys and other investigations to inform proposals for the development of Hepatitis C services during Phase II. Phase II, which covers the years 2008 - 2010, amounts to intervention on an industrial scale to improve case-finding of Hepatitis C and ensure better coordination, planning and accountability of existing services.<sup>46</sup>

#### *5. There is political will to implement a comprehensive approach to combating viral hepatitis at European level*

- The European Union has started to address viral hepatitis through several policy decisions and instruments.
- In the Recommendation on the prevention and reduction of health-related harm associated with drug dependence of 18 June 2003<sup>47</sup>, the Council expressed its political will to promote adequate Hepatitis B vaccination coverage and prophylactic measures as well as screening for Hepatitis B and C. Furthermore, in the EU Drugs Strategy 2005–2012<sup>48</sup>, the Council renewed its commitment to improve access to services for the prevention and treatment of Hepatitis B and C. Unfortunately, these recommendations only target one Hepatitis risk groups, i.e. drug users.

---

<sup>43</sup> Meffre C, Le Strat Y, Delarocque-Astagneau E, Antona D, Desenclos JC. Prévalence des hépatites B et C en France en 2004. InVS, Saint-Maurice, 2006.

[http://www.invs.sante.fr/publications/2006/prevalence\\_b\\_c/vhb\\_france\\_2004.pdf](http://www.invs.sante.fr/publications/2006/prevalence_b_c/vhb_france_2004.pdf)

<sup>44</sup> Eurasian Harm Reduction Network (EHRN), HCV Infection in Europe, available at: [http://www.correlation-net.org/sofia\\_conference/pdf/hcv\\_europe\\_ceehrn.pdf](http://www.correlation-net.org/sofia_conference/pdf/hcv_europe_ceehrn.pdf)

<sup>45</sup> Jullien-Depradeux AMLQ-N, M.; Postel-Vinay, N.; Coquin, Y.; Dab, W. Lutter Contre les Hépatites Virales B et C. Quelle Politique de Prévention? La Revue de Praticien 2005;55:505-6. ([http://www.ceehrn.org/EasyCEE/sys/files/HCV%20in%20selected%20countries%20of%20Europe\\_Report\\_FINAL\\_SEPTEMBER.pdf](http://www.ceehrn.org/EasyCEE/sys/files/HCV%20in%20selected%20countries%20of%20Europe_Report_FINAL_SEPTEMBER.pdf)) 2007.

<sup>46</sup> Hepatitis C Action Plan for Scotland Phase I: September 2006 – August 2008: <http://www.scotland.gov.uk/Resource/Doc/148746/0039553.pdf>; Hepatitis C Action Plan for Scotland Phase II: May 2008 – March 2011: <http://www.scotland.gov.uk/Resource/Doc/222750/0059978.pdf>

<sup>47</sup> Council Recommendation on the prevention and reduction of health-related harm associated with drug dependence, OJ L 165, 3.7.2003, p. 32.

<sup>48</sup> [http://www.emcdda.europa.eu/attachements.cfm/att\\_10375\\_EN\\_EU%20Drugs%20Strategy\\_EN.pdf](http://www.emcdda.europa.eu/attachements.cfm/att_10375_EN_EU%20Drugs%20Strategy_EN.pdf)

- The European Commission, in its Communication of 15 December 2005, underlined the importance of voluntary counselling and testing (VCT) for people living with HIV/AIDS and Hepatitis B/C co-infection.<sup>49</sup>
- The European Parliament, in its Declaration of 29 March 2007 on Hepatitis C noted that infections with HCV are often not detected, many patients thus remaining undiagnosed.<sup>50</sup>
- Collaboration has started among EU member states on surveillance of viral hepatitis, based on joint programmes which will in turn improve and harmonise EU-wide surveillance of Hepatitis B and C. A request to set up an EU surveillance network was already made in Commission Decisions 2000/96/EC<sup>51</sup> The ECDC, in its first annual report on infectious diseases in Europe<sup>52</sup>, noted that harmonised EU-wide surveillance would lead to gaining a better understanding of changing transmission patterns and to identifying the most effective ways to contain these diseases, and is currently working on a proposal for enhanced surveillance of Hepatitis B and C, in cooperation with the Member States.

**The most effective political instrument to further hepatitis prevention, surveillance, screening and care in Europe is a Council Recommendation which would promote cooperation among Member States and would encourage the adoption and implementation of best practices.**

---

<sup>49</sup> Communication from the Commission to the Council and the European Parliament on combating HIV/AIDS within the European Union and in the neighbouring countries, 2006-2009.

[http://ec.europa.eu/health/ph\\_threats/com/aids/docs/com\\_2005\\_654\\_en.pdf](http://ec.europa.eu/health/ph_threats/com/aids/docs/com_2005_654_en.pdf)

<sup>50</sup> Texts adopted, P6\_TA(2007)0102

<http://www.europarl.europa.eu/sides/getDoc.do?type=TA&reference=P6-TA-2007-0102&language=EN>

<sup>51</sup> Until 2005, a European-wide surveillance network for hepatitis B existed in form of EUROHEP.NET.

<sup>52</sup> European Centre for Disease Prevention and Control (ECDC, Annual Epidemiological Report on Communicable Diseases in Europe, 2007, available online: [http://ecdc.europa.eu/pdf/ECDC\\_epi\\_report\\_2007.pdf](http://ecdc.europa.eu/pdf/ECDC_epi_report_2007.pdf)

## **B. PROPOSED OBJECTIVES, GUIDING PRINCIPLES AND KEY CONTENT OF A COUNCIL RECOMMENDATION ON HEPATITIS SCREENING**

An evidence-based proposal for a Council Recommendation on screening for Hepatitis B and C would provide Member States with guidance in identifying hitherto undiagnosed Hepatitis carriers.

### *1. Proposed Objectives of a Council Recommendation on hepatitis screening*

Based on sound scientific evidence, a Council Recommendation to promote case-finding for Hepatitis B and C, including targeted screening measures for risk groups, should aim to achieve the following objectives:

1. Provide guidance to Member States on the implementation of case-finding measures, including screening programmes for Hepatitis B and C among high risk groups, including guidance on appropriate selection of risk groups and diagnostic tools;
2. Encourage the implementation of best practice in targeted screening strategies for Hepatitis B and C in all Member States;
3. Support the development of specific national and regional long term plans for Hepatitis B and C disease management;
4. Support awareness raising campaigns on viral hepatitis and increase uptake of screening;
5. Highlight the importance of complementary primary prevention measures, such as vaccination in the case of Hepatitis B;
6. Help reduce health inequalities, especially addressing those most vulnerable and least likely to actively manage their health;
7. Promote research on prevention and cure of Hepatitis B and C;
8. Achieve a level of early detection of Hepatitis B and C similar to those achieved in best-practice regions such as France or Scotland for all European citizens at elevated risk for contracting these viruses;
9. Achieve a significant reduction of HBV- and HCV-related mortality in all Member States, as it has been estimated for France.

## 2. Principles of a Council Recommendation on hepatitis screening

- Principles for screening as a tool for the prevention of diseases were published by the World Health Organisation in 1968<sup>53</sup> and by the Council of Europe in 1994.<sup>54</sup> These two documents, together with the current best practice in HBV and HCV screening from countries such as France or the UK, would form the basis for the Council recommendation.
- Case-finding, including targeted outreach to risk groups, is an effective method to control Hepatitis B and C and reduce the disease burden. When screening for Hepatitis B and C is undertaken, it would be advisable to offer such screening through organised programmes with quality assurance at all levels, and good information about benefits and risks and with proper access to treatment and care.
- Case-finding for Hepatitis B and C should be improved, by, inter alia, offering organised screening for HBV and HCV to people with elevated risk if the screening is proved to decrease disease-specific mortality and/or decrease the occurrence of advanced disease, if the benefits and risks are well known, and if the cost-effectiveness of the screening is acceptable.
- Proper evaluation of the health outcomes and costs of all screening programmes are important.
- Organised screening programmes should be based on centralised data systems, including data on all screening tests, assessment and final diagnoses, including assurance of the protection of the anonymity of patients. Organised screening also involves scientific analysis of the outcome of the screening and rapid reporting of these results to the programme providers and the health authorities. This analysis is facilitated if the screening database is linked to registry data. All procedures collecting, storing, transmitting and analysing data in the medical registers involved must be in full compliance with the level of protection referred to in Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.
- High-quality screening is possible only if the personnel at all levels are adequately trained for their tasks. Performance indicators should be monitored regularly.
- Screening programmes should contribute to in-depth research on viral hepatitis treatment and prevention, as well as a better understanding of its transmission and epidemiology.
- In addition to ethical, legal, social, medical, organisational and economic aspects, scientific analysis and reporting for quality assurance should be considered before decisions are made on the implementation of screening programmes for Hepatitis B and C. Resources, human as well as financial, should be made available in order to assure the appropriate organization and quality control. Actions should be taken to ensure that the different risk groups are given

---

<sup>53</sup> Wilson JMG, Jungner G. Principles and practice of screening for disease. Public Health Papers 34. Geneva: World Health Organisation, 1968.

<sup>54</sup> Council of Europe: Committee of Ministers. On screening as a tool of preventive medicine. Recommendation no. R (94) 11. Strasbourg: Council of Europe, 1994.

adequate access to screening. It is suggested that the implementation of a screening programme for HBV and HCV should therefore be a decision to be made nationally or regionally, depending on the disease burden and the health care resources.

### 3. Key content of a Council Recommendation on hepatitis screening

- The definition of high risk groups is an essential tool in designing targeted screening programmes for viral hepatitis.

#### High risk groups for Hepatitis B include:

- Persons with elevated liver enzymes and/or clinical sign of hepatitis
- Patients with liver cirrhosis or fibrosis
- Patients with hepatocellular carcinoma
- People who inject or have ever injected drugs (injecting drug users)
- People with long-term imprisonment history
- People who are undergoing or have undertaken hemodialysis
- Men who have sex with men or heterosexual persons with multiple sex partners
- People with HIV or HCV infection
- Families and household members or sexual partners of persons infected with HBV
- Patients and staff in psychiatric institutions or residents of welfare institutions for mentally disabled persons
- Pregnant women and newborns of HBV-infected mothers
- Recipients of organ transplants and blood products
- Blood and organ donors
- Patients before or during immunosuppressive treatment or chemotherapy
- Migrants from countries with high prevalence of Hepatitis B
- Unvaccinated healthcare workers and public safety workers who undertake exposure-prone procedures.

#### High risk groups for Hepatitis C include:

- Persons with elevated liver enzymes and/or symptoms of hepatitis
- Patients with liver cirrhosis or fibrosis
- People who inject or have ever injected drugs (injecting drug users)
- People with long-term imprisonment history
- People who are undergoing or have undertaken hemodialysis
- People who have received repeated percutaneous injections
- People who have had invasive medical and paramedical or dental work in countries with high prevalence or poor sterilisation procedures, such as use of multidose vials
- People who received blood transfusions or other blood derived products outside the EU or before 1992 in the EU
- People who received organs and tissues transplants outside the EU or before 1992 in the EU
- Haemophiliacs who received concentrated coagulation factors before 1987
- People with HIV infection
- People who have used intra-nasal cocaine
- People with body piercings if being performed in non hygienic environments
- Children of HCV-infected mothers
- Healthcare workers and public safety workers who undertake exposure-prone procedures

A differentiation among the different risk groups between those where testing is imperative and those where testing is desirable can be considered and should be further discussed.<sup>55</sup>

#### 4. General considerations and complementary measures

- To work towards the establishment of such a Council Recommendation, the following measures should be initiated:
  1. Encourage the Council to support the establishment of an expert group which will generate a considered list of individuals who should be tested for Hepatitis B and C or should at least be offered such tests. On the basis of this list, the Council and the European Commission should develop European guidance to support Member States in preparing specific national and regional long term strategy documents for Hepatitis B and C case-finding, including targeted screening, with the long-term goal of creating a European Strategy on enhanced detection of Hepatitis B and C.
  2. If appropriate, this expert group shall, in collaboration with other relevant partners (e.g. WHO, EMCDDA, ELPA and EASL), assist the European Centre for Disease Prevention and Control (ECDC) in its data-finding exercise and support and facilitate cross-border collaboration between stakeholders on Hepatitis B and C.
  3. Case finding should only be carried out in conjunction with policies for prevention and treatment in place, which should be developed with all stakeholders, including professional and patient associations.
  4. Initiate European campaigns to disseminate information on and increase national awareness of Hepatitis B and C amongst healthcare professionals and the general public.
  5. Promote the inclusion of Glutamate Pyruvate Transaminase (GPT) tests in the list of reimbursable health examinations for health prevention 'check-ups', and sensitize general practitioners to this issue. If liver enzymes prove to be elevated, a Hepatitis test should be carried out. Apart from a Hepatitis infection, elevated GPT levels can also be caused by other liver diseases, such as fatty liver disease (FLD), haemochromatosis, cirrhosis, hepatocellular carcinoma (HCC) etc.
  6. Encourage further innovative research on prevention and cure of Hepatitis B and C.

---

<sup>55</sup> Compare with approach taken by the Scottish Intercollegiate Guidelines Network for its guidelines on the management of Hepatitis C: <http://www.sign.ac.uk/pdf/sign92.pdf>

## Annex 1 Hepatitis B and C

### Hepatitis B

Hepatitis B<sup>56</sup> is caused by Hepatitis B virus (HBV), a DNA virus, member of the *Hepadnaviridae* family. Hepatitis B occurs worldwide with a very high burden of disease (an estimated 350 million carriers).

HBV is transmitted by percutaneous or mucosal contact with blood or other body fluids (serum, semen, saliva) from infected patients. Chronic carriers usually remain infectious throughout their life. After infection, the incubation period ranges from one to seven months. HBV vaccination is currently the most effective way to prevent HBV infection.

HBV infection can be either asymptomatic or symptomatic, acute or chronic. Acute illness ranges from a mild to a fulminant disease. HBV infection in children is usually asymptomatic, with a higher tendency to become chronic. Conversely, the case fatality rate of acute infection can reach 2% in the elderly. Those who become chronically infected by HBV (from >30% among children to <5% among adults) are at a higher risk of serious consequences: liver cirrhosis (25%) and cancer (5%). Moreover, they act as a reservoir for continuing HBV transmission.

### Hepatitis C

Hepatitis C<sup>57</sup> is caused by the Hepatitis C virus (HCV), an RNA virus member of the *Flaviviridae* family. Currently, six distinct HCV genotypes and more than 100 subtypes are known, with virus variants emerging continually. No HCV vaccination is yet available. Worldwide there are up to 170 million people estimated to have had contact with the virus and 130 million people chronically infected worldwide. The most effective preventive measures are screening, testing of blood and organ donors, virus inactivating processing of plasma-derived products, good infection control and safe injection practices in healthcare settings.

The infection is mainly acquired through percutaneous contact with infectious blood (often through sharing contaminated equipment among injecting drug users). The risk of perinatal transmission is around 3–5%, but in cases of HIV co-infection it may reach 40%. Sexual transmission seems to be infrequent. After exposure, the incubation period averages 6–9 weeks (with a range between two and 24 weeks).

A significant proportion become chronically infected, and are known to be at a higher risk of developing, over time, liver cirrhosis (20%) and cancer (1–5%). HCV is considered to be the leading cause of liver cancer and liver transplants in Europe and the USA. In recent years, growing numbers of drugs are becoming available to deal with chronic HCV infection.

In Europe, it is highly challenging to draw a consistent picture of the epidemiology of Hepatitis B and C due to an existing heterogeneity in reporting systems caused by

---

<sup>56</sup> Annual Epidemiological Report on Communicable Diseases in Europe. Report on the status of communicable diseases in the EU and EEA/EFTA countries, European Centre for Disease Prevention and Control (ECDC), June 2007

<sup>57</sup> Annual Epidemiological Report on Communicable Diseases in Europe. Report on the status of communicable diseases in the EU and EEA/EFTA countries, European Centre for Disease Prevention and Control (ECDC), June 2007

mix of reported acute and chronic cases, the use of different case definitions, and different data source across Member States.

In particular, there are clear limitations with the HCV surveillance data, also linked to difficulties in the interpretation of HCV test results. Currently, the data are inadequate to describe the true HCV infection trend and disease burden.

*This document has been created by the following organisations and individuals:*

*European Liver Patients Association (ELPA)*

*European Association for the Study of the Liver (EASL)*

*Dr. Denise Antona, Dr. Christine Larsen, Institut de Veille Sanitaire (InVS), St Maurice, France*

*Dr. Frédérique Delatour, Dr Bernard Faliu, HIV, STD and hepatitis department, Senior medical officers, French Ministry for Health and Sports, Paris, France*

*Prof. David Goldberg (Health Protection Scotland)*

*Prof. Angelos Hatzakis (Department of Hygiene and Epidemiology, Athens University Medical School)*

*Mr. Lucas Wiessing (European Monitoring Centre for Drugs and Drug Addiction – EMCDDA)*

*Prof. Stefan Zeuzem (J.W. Goethe University Hospital Frankfurt, Germany)*