



# **EUROHEP.NET SURVEY RESULTS**

**EUROHEP.NET MEETING  
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## **Surveillance systems, measurement and reporting of Hepatitis A and B epidemiology**

**M. Kojouharova, A. Kurchatova, A. Minkova**

# DESCRIPTION OF THE WORK PACKAGE 3.1

- Survey and analysis of the national surveillance systems/guidelines for hepatitis A (HAV) and hepatitis B (HBV) in participating countries
- Analysis of country-specific HAV and HBV basic epidemiological information obtained as a result of the implementation of different surveillance systems
- Analysis of data routinely collected by the systems regarding their relevance to comparable measurement and reporting of HAV and HBV epidemiology
- Comparison of the basic components of the structure, processes and outputs of the studied surveillance systems and evaluation of the feasibility of establishment of a network for regular rapid and simple international exchange of important public health information on HAV and HBV
- Elaboration of recommendations for optimizing and harmonizing the existing HAV and HBV surveillance systems and development of guidelines for standardized measurement and reporting of epidemiology
- A total of 22 countries participated in the EUROHEP.NET survey on the national surveillance systems, measurement and reporting of HAV and HBV epidemiology: **Austria, Belgium, Bulgaria, Czech Republic, England and Wales, Estonia, Germany, Greece, Hungary, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Romania, Slovakia, Slovenia, Turkey**

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

HAV AND HBV SURVEILLANCE SYSTEMS IN THE 22 PARTICIPATING COUNTRIES	NUMBER OF COUNTRIES	
	HAV	HBV
<b>Hepatitis A and B included in the national CD surveillance systems as separately notifiable diseases</b>	22/22	22/22
<b>Objectives of the surveillance:</b>		
• to detect outbreaks	22/22	21/22
• to monitor trends	22/22	22/22
• to facilitate planning and control measures evaluation	21/22	21/22
• to monitor changes in disease distribution and spread	20/22	21/22
• to improve knowledge on the epidemiology of the disease	21/22	22/22
• to standardize reporting of outbreaks	1/22	1/22
• to trigger public health action	1/22	0/22
• to detect risk factors and groups	1/22	2/22
• statistics	1/22	0/22

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

TYPE OF THE SURVEILLANCE AND REPORTING OF DATA	NUMBER OF COUNTRIES	
	HAV	HBV
<b>Type of the surveillance :</b> <ul style="list-style-type: none"> <li>active</li> <li>passive</li> <li>passive + active</li> </ul>	<b>3/22</b> <b>15/22</b> <b>2/22</b>	<b>3/22</b> <b>14/22</b> <b>4/22</b>
<ul style="list-style-type: none"> <li>• mandatory</li> <li>• universal voluntary</li> <li>• sentinel</li> <li>• laboratory</li> </ul>	<b>22/22</b> <b>2/22</b> <b>3/22</b> <b>11/22</b>	<b>22/22</b> <b>2/22</b> <b>2/22</b> <b>11/22</b>
<b>For surveillance purposes hepatitis cases are reported by:</b> <ul style="list-style-type: none"> <li>• clinicians</li> <li>• laboratories</li> </ul>	<b>22/22</b> <b>11/22</b>	<b>21/22</b> <b>8/22</b>

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

TYPE OF THE DATA COLLECTED	NUMBER OF COUNTRIES	
	HAV	HBV
<p><b>Surveillance data are based on:</b></p> <ul style="list-style-type: none"> <li>• reports of acute clinical cases</li> <li>• hospitalization data</li> <li>• laboratory reports</li> <li>• registration of chronic HBV cases</li> </ul>	<p><b>21/22</b></p> <p><b>11/22</b></p> <p><b>10/22</b></p> <p><b>NA</b></p>	<p><b>20/22</b></p> <p><b>10/22</b></p> <p><b>13/22</b></p> <p><b>7/22</b></p>
<p>✓ <i>Additional data for HBV:</i> seroprevalence, epidemiological investigation reports, laboratory confirmation for acute clinical cases, follow up of contacts of the case, information about blood donors</p> <p>✓ <i>Additional data for HAV:</i> laboratory confirmed epidemiological records, epidemiological investigation reports, follow up of contacts of the case, mortality data</p>		

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

<b>CASE DEFINITIONS IN THE 22 PARTICIPATING COUNTRIES</b>	<b>NUMBER OF COUNTRIES</b>	
	<b>HAV</b>	<b>HBV</b>
EC case definition	<b>16/22</b>	<b>16/22</b>
Other definitions	<b>5</b>	<b>5</b>
✓ of them close to EC definition for confirmed case	<b>3</b>	<b>2</b>
No case definition	<b>1</b>	<b>1</b>

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

TYPE OF DEMOGRAPHIS DATA REPORTED FOR SURVEILLANCE PURPOSES	NUMBER OF COUNTRIES			
	HAV		HBV	
	CLINICIAL REPORTS	LAB. REPORTS	CLINICIAL REPORTS	LAB. REPORTS
•Age	21/22	10/22	21/22	9/22
•Sex	21/22	9/22	21/22	7/22
•Residence	22/22	9/22	21/22	6/22
•Country of birth	10/22	2/22	9/22	1/22

✓ *Additional data:* name and ID, family size, educational level, occupation, ethnic origin (minority group), food and health workers etc.

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

TYPE OF CLINICAL DATA REPORTED FOR SURVEILLANCE PURPOSES	NUMBER OF COUNTRIES			
	HAV		HBV	
	CLINICAL REPORTS	LAB. REPORTS	CLINICAL REPORTS	LAB. REPORTS
Symptoms	11/22	5/22	11/22	4/22
Date of onset	19/22	7/22	20/22	6/22
Hospitalization	17/22	5/22	17/22	4/22
Outcome	17/22	5/22	15/22	4/22

✓ *Additional data for HAV:* only one outcome registered (death), length of hospitalisation, laboratory investigation results (ALT, AST, bilirubin values), laboratory confirmation, full case history

✓ *Additional data for HBV:* only one outcome registered (death), laboratory investigation results (ALT, AST, bilirubin values), diagnosis, laboratory confirmation, vaccination status, chronic versus acute infection

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

FREQUENCY OF THE INFORMATION EXCHANGE AND ANALYSES	NUMBER OF COUNTRIES			
	HAV		HBV	
	CLINICAL REPORTS	LAB. REPORTS	CLINICAL REPORTS	LAB. REPORTS
<b>Data reporting to the surveillance center:</b>				
•Continuously	11/22	6/22	11/22	8/22
•Weekly	6/22	2/22	5/22	0/22
•Monthly	5/22	1/22	5/22	1/22
<b>Data analysis at the surveillance center:</b>				
•Continuously	6/22	6/22	9/22	6/22
•Weekly	4/22	4/22	4/22	2/22
•Monthly	6/22	0/22	4/22	0/22
•Quarterly	3/22	0/22	2/22	1/22
•Yearly	3/22	1/22	1/22	1/22

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

AVAILABILITY OF SURVEILLANCE DATA AT THE CENTRAL LEVEL	NUMBER OF COUNTRIES			
	HAV		HBV	
	CLINICAL REPORTS	LAB. REPORTS	CLINICAL REPORTS	LAB. REPORTS
<b>National surveillance center</b>				
<b>individual data</b>	12/22	7/22	12/22	6/22
<b>aggregated data</b>	6/22	1/22	4/22	1/22
<b>Ministry of Health</b>				
<b>individual data</b>	7/22	3/22	7/22	1/22
<b>aggregated data</b>	11/22	3/22	12/22	3/22
<b>✓ Individual data available at the central level</b>	15/22	8/22	15/22	7/22
<b>✓ Aggregated data available at the central level</b>	5/22	1/22	5/22	1/22
<b>✓ No data available at the central level</b>	2/22	13/22	2/22	14/22

# POSSIBILITY FOR UNDERREPORTING OF ACUTE CASES OF HEPATITIS A AND B

<b>EVALUATION OF THE 22 PARTICIPATING COUNTRIES</b>			
<b>HAV</b>		<b>HBV</b>	
<b>YES</b>	<b>NO</b>	<b>YES</b>	<b>NO</b>
<b>16/22</b>	<b>5/22</b>	<b>17/22</b>	<b>4/22</b>

# **BASIC INFORMATION ON THE EPIDEMIOLOGY OF HEPATITIS A AND B**

## **INFORMATION ON THE DISEASE ENDEMICITY ACCORDING TO THE 22 PARTICIPATING COUNTRIES**

<b>HAV CONSIDERED</b>		<b>HBV CONSIDERED</b>	
<b>ENDEMIC</b>	<b>NOT ENDEMIC</b>	<b>ENDEMIC</b>	<b>NOT ENDEMIC</b>
<b>10/22</b>	<b>12/22</b>	<b>10/22</b>	<b>12/22</b>

# DETECTION AND REPORTING OF HAV OUTBREAKS IN THE 22 PARTICIPATING COUNTRIES

<b>EARLY DETECTION OF HAV OUTBREAKS IN THE 22 PARTICIPATING COUNTRIES</b>	<b>Number of countries</b>
Availability of a definition of HAV outbreak for surveillance purposes	<b>21/22</b>
Mechanisms for early detection and reporting of outbreaks ✓ mechanism for “flagging” in case of outbreaks	<b>12/22</b>

# HEPATITIS A OUTBREAK DEFINITIONS

<b>Definitions</b>	<b>Number of countries</b>
<b>Two and more epidemiologically linked cases</b>	<b>11/22</b>
<b>Three and more epidemiologically linked cases</b>	<b>4/22</b>
<b>More than five cases</b>	<b>1/22</b>
<b>1/3 of the members of the community or collectivity</b>	<b>1/22</b>
<ul style="list-style-type: none"><li>•Any extreme incidence according to place, time.</li><li>•Accumulation of cases in a specific time and location</li><li>•Incidence higher than the average in a specified population and time</li><li>•Occurrence of cases with common source of infection and way of spreading in a community or region</li></ul>	<b>4/22</b>
<b>No definition</b>	<b>1/22</b>

# BASIC INFORMATION ON SURVEILLANCE SYSTEMS FOR HEPATITIS A AND B

<b>AGE-SPECIFIC DISTRIBUTION OF HAV AND HBV CASES IN THE 22 PARTICIPATING COUNTRIES</b>	<b>NUMBER OF COUNTRIES</b>	
	<b>HAV</b>	<b>HBV</b>
Age-specific number of cases available	<b>18/22</b>	<b>16/22</b>
Age-specific incidence rate available	<b>18/22</b>	<b>16/22</b>
Country-specific age categories	<b>18</b>	<b>16</b>
Additional information for age categories	<b>Denmark, Portugal</b>	<b>Denmark, Portugal, France</b>

# AGE-SPECIFIC CATEGORIES FOR HEPATITIS A SURVEILLANCE IN 20 COUNTRIES

6 countries	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	
2 countries	0	1-4	5-9	10-14	15-19	20-24	25-34		35-44		45-54		55-64		65+	
1 country	0	1-4	5-9	10-14	15-24			25-44			45-64			65+		
1 country	0	1-4	5-14		15-24			25-44			45-64			65+		
1 country	0	1-4	5-9	10-14	15-44						45-64			65+		
1 country	0	1-4	5-9	10-14	15+											
4 countries	0	1-11			12-18			19-34			35-64				65+	
1 country	0	1-3	4-7	8-14		15-19	20-29		30-39		40-49		50-59		60+	
1 country	0	1-6			7-14		15-17	18-29		30-39		40-49		50-59		60+
1 country	0	1-2	3-6	7-9	10-14	15-19	20-29		30-39		40-49		50-59		60+	
1 country	0-14				15-24			24+								
	0-14				15-24			25-64				65+				

# AGE-SPECIFIC CATEGORIES FOR HEPATITIS B SURVEILLANCE IN 19 COUNTRIES

4 countries	0	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65+	
2 countries	0	1-4	5-9	10-14	15-19	20-24	25-34		35-44		45-54		55-64		65+	
1 country	0	1-4	5-9	10-14	15-24		25-34		35-44		45-54		55-64		65+	
1 country	0	1-4	5-9	10-14	15-24		25-44				45-64				65+	
1 country	0	1-4	5-14		15-24		25-44				45-64				65+	
1 country	0	1-4	5-9	10-14	15-44						45-64				65+	
1 country	0	1-4	5-9	10-14	15+											
4 countries	0	1-11			12-18		19-34				35-64					65+
1 country	0	1-3	4-7	8-14		15-19	20-29		30-39		40-49		50-59		60+	
1 country	0	1-6		7-14			15-17	18-29		30-39		40-49		50-59		60+
1 country	0	1-2	3-6	7-9	10-14	15-19	20-29		30-39		40-49		50-59		60+	
1 country	0-14				15-24		24+									
	0-14				15-24		25-64						65+			

# Discussion

- The VHA and VHB surveillance systems are included in the national surveillance of the participating countries and most of the countries evaluate the existing mandatory systems as very reliable.
- In the predominant number of the countries the surveillance has the same objectives, the surveillance data are similar and based mainly on reports of acute clinical cases. The implementation of the minimal dataset for case reports, recommended by EC is feasible for all countries; in addition some important information concerning the mode of transmission, outbreak occurrence and vaccination status of patients could be included.

# Discussion

- Potential obstacles are related to the existing differences concerning HAV and HBV case definitions and case classification, HAV outbreak definition, variety in age categories used for surveillance purposes and the frequency of data reporting and analysis at the central level:
  - ⇒ The adoption of EC case definitions (implemented by the majority of countries) would facilitate the standardization of the epidemiological information. The current EC HBV case definition could be amended in order to distinguish acute from chronic disease.
  - ⇒ The adoption of a standard definition for HAV outbreak is necessary to harmonize the surveillance and control of the disease in Europe and to establish a rapid and simple international exchange of comparable information.
  - ⇒ If not available as individual data, a standard age distribution should be used, which would standardize the measurement and reporting of the disease epidemiology as well as the evaluation of the effectiveness of control and preventive measures.

# Discussion

- A very important prerequisite for creating an European network for surveillance, epidemiology and control of vaccine-preventable hepatitis is the existence of national surveillance systems and the availability of surveillance data at the central level (MOH, National surveillance centre).
- Uniform measurement and reporting of VHA and VHB, necessary conditions for a future surveillance network, are achievable if certain modifications are introduced according to guidelines generally agreed and accepted by the countries.