



EUROHEP.NET meeting
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**Presentation of
the EUROHEP.NET survey results:
Measurement and reporting of
BURDEN OF DISEASE
for hepatitis A and B**

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CONTENTS AND OBJECTIVES

1. Analysis of the type of data sources related to the national surveillance systems of burden of disease.
2. Analysis of the numeric data of burden of disease during the period 1997-2001.

OBJECTIVE

Comments and suggestions for a uniform surveillance system of burden of disease inside the hepatitis surveillance system in EU countries and AS plus Israel, Norway and Turkey.



Recommendations for a uniform measurement of burden of disease for hepatitis A and B.



1. Kind of available data sources on hospital admission and mortality

HEPATITIS A*	HOSPITAL ADMISSION	MORTALITY DUE TO HAV
Official notification	8 countries	15 countries
Hospital statistics	8 countries	1 country
Clinical records	1 country	0 country
Unspecified	1 country	3 countries
Not available	4 countries	3 countries

* Total number of participating countries: 22

HEPATITIS B	HOSPITAL ADMISSION	MORTALITY DUE TO HBV
Official notification	7 countries	16 countries
Hospital statistics	9 countries	1 country
Clinical records	1 country	0 country
Unspecified	0 country	3 countries
Not available	5 countries	2 countries

* Total number of participating countries: 22



2. Analysis of the numeric data on burden of disease

HEPATITIS A

Total number of:

- hospitalized cases
- hospitalization days
- deaths
- liver transplants

HEPATITIS B

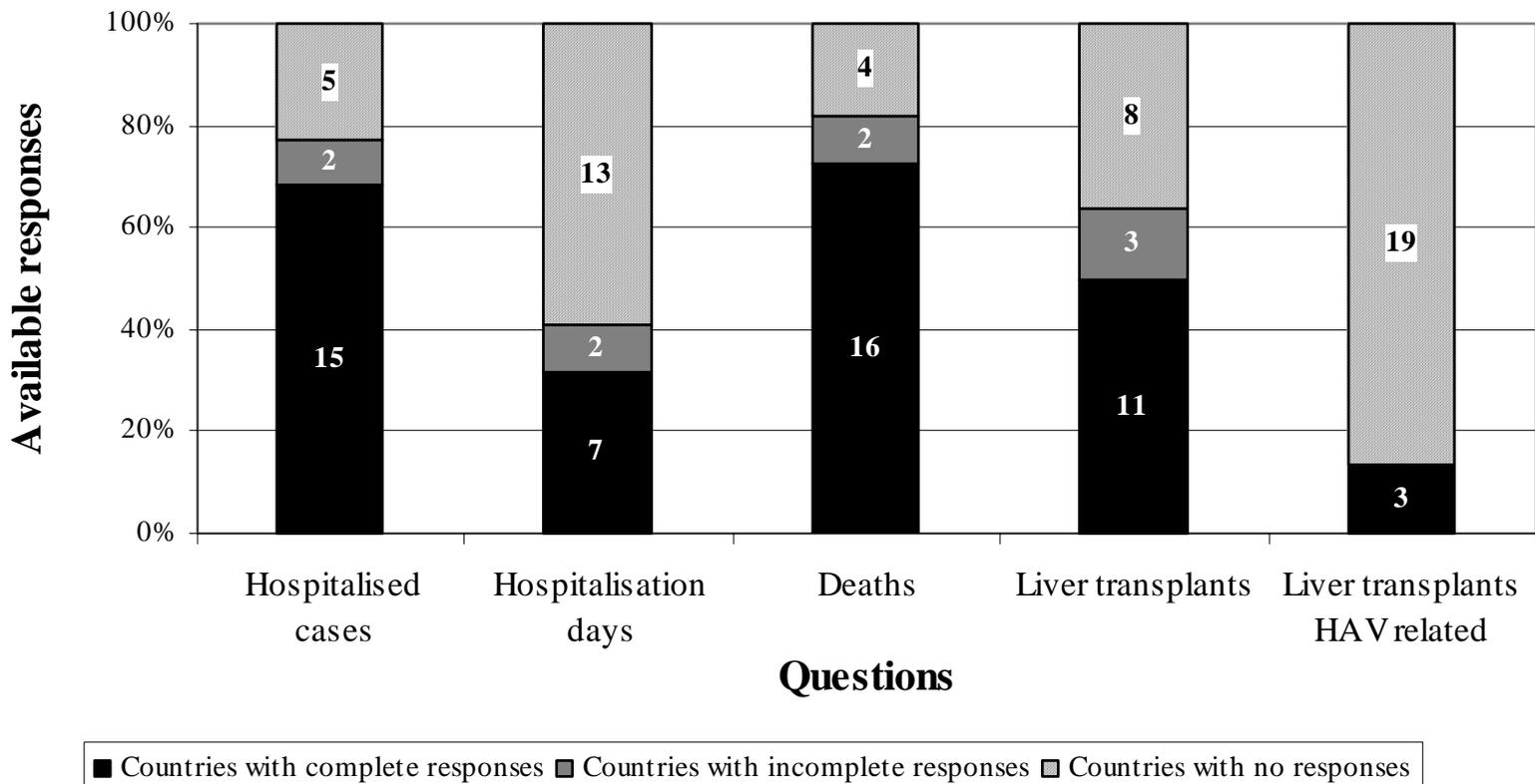
Total number of:

- hospitalized cases (acute and chronic cases)
- hospitalization days (acute and chronic cases)
- deaths
- cirrhosis cases
- hepatocellular cancer cases
- liver transplants

for the period 1997-2001



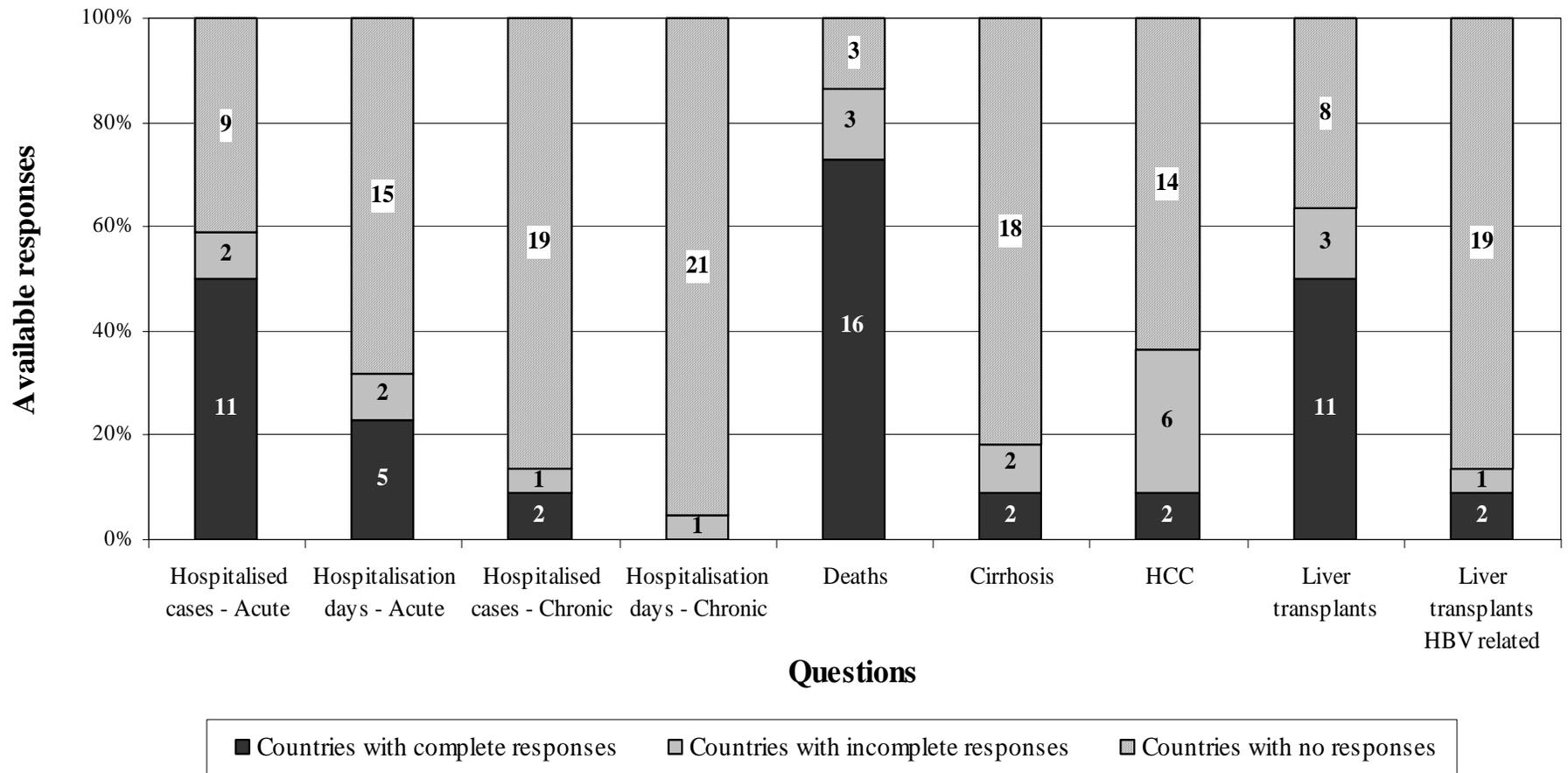
Availability of numeric data on burden of disease for hepatitis A: questions of the EUROHEP.NET survey*



* Total number of participating countries: 22



Availability of numeric data on burden of disease for hepatitis B: questions of the EUROHEP.NET survey*



* Total number of participating countries: 22

1. Hospitalised cases for hepatitis A

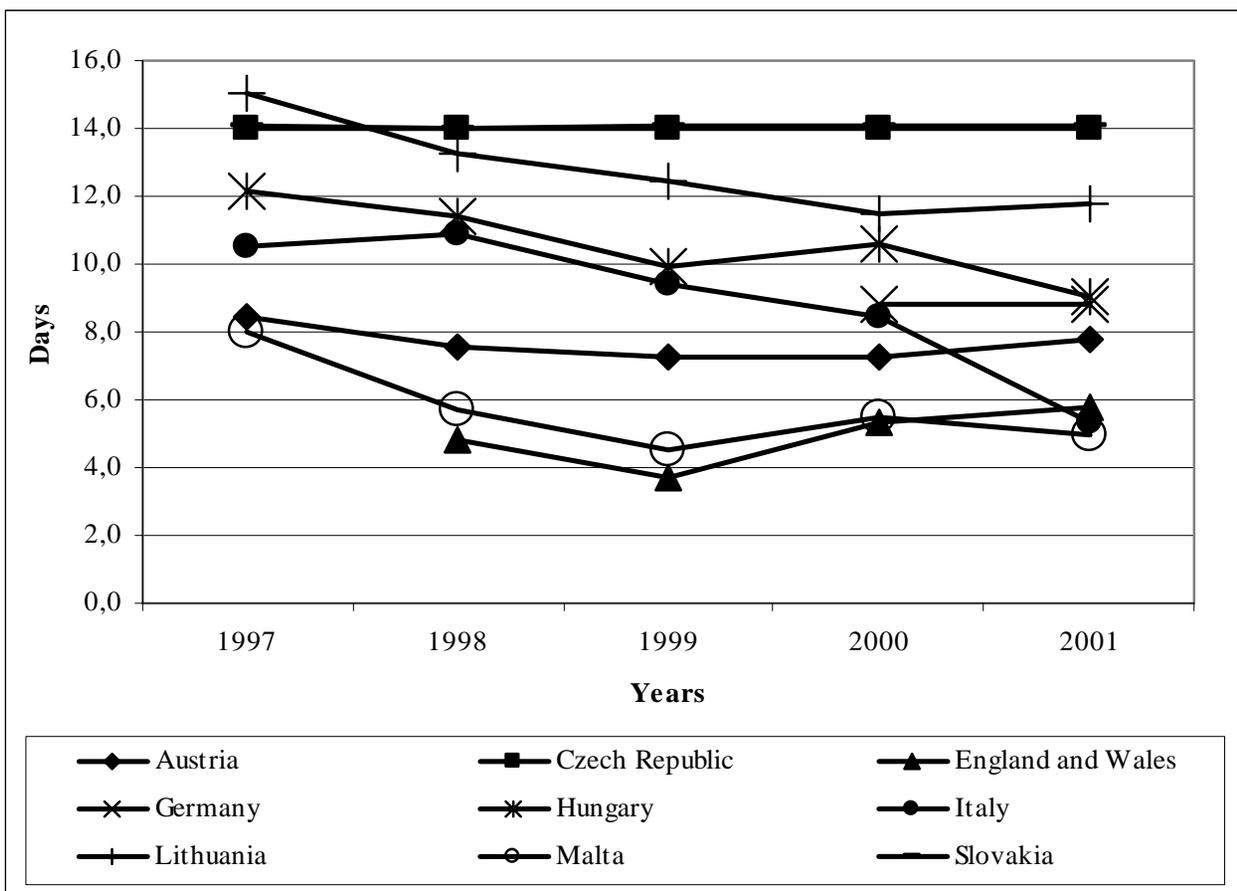
HEPATITIS A

	HOSPITALISED CASES PER 100,000					HOSPITALISATION RATE (100%)				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
AUSTRIA	4.8	2.7	3.5	2.2	1.5	84.9	83.3	82.7	81.5	92.5
BELGIUM	4.2	4.0	4.0	4.2	3.6	92.3	79.3	102.5	98.2	102.2
BULGARIA	81.1	72.0	88.8	87.4	82.2	100.0	100.0	100.0	100.0	100.0
CZECH REPUBLIC	11.6	8.8	9.1	6.0	3.2	100.0	100.0	100.0	100.0	100.0
ENGLAND/WALES		0.7	0.7	0.7	0.7		24.6	23.3	30.4	33.8
ESTONIA	8.2	43.9	14.6	3.6	3.7	66.1	64.5	55.8	62.0	62.2
GERMANY				1.6	2.0				49.6	70.5
HUNGARY	11.4	11.3	8.7	3.8	3.0	91.2	97.1	96.8	98.4	96.2
ISRAEL	6.9	5.0	4.5	2.3	2.0	9.9	15.5	13.6	12.8	
ITALY	15.6	3.7	2.0	2.4	2.8	88.5	85.1	83.1	85.9	87.7
LITHUANIA	73.7	40.4	8.1	2.1	1.9	90.2	100.1	107.9	97.4	101.6
MALTA	0.3	1.8	0.5	0.5	0.3	33.3	77.8	100.0	33.3	
POLAND	10.0	5.2	2.7	0.7	1.9	95.9	99.3	99.9	98.1	98.9
ROMANIA	68.2	52.1	78.0	97.8	94.2	99.9	100.0	100.0	100.0	100.0
SLOVAKIA	22.4	12.5	17.1	20.0	13.8	100.0	100.0	100.0	100.0	100.0
SLOVENIA	3.2	2.1	2.3	1.2	0.9	64.7	66.1	77.6	60.0	70.8
THE NETHERLANDS	0.0	0.0	0.2	0.2	0.2	0.0	0.1	4.9	4.4	4.6

No data available for: Greece, Latvia, Luxembourg, Norway and Turkey.



2. Hospitalisation days per hepatitis A cases (available data)



3. Total number of deaths due to hepatitis A

HEPATITIS A

	TOTAL NUMBER OF DEATHS					MORTALITY PER 100,000					CASE FATALITY RATE				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
AUSTRIA	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BELGIUM	2					0.02					0.43				
BULGARIA	2	1	2	2	2	0.02	0.01	0.02	0.03	0.03	0.03	0.02	0.03	0.03	0.03
CZECH REPUBLIC	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ENGLAND/WALES	2	0	4	1	6	0.00	0.00	0.01	0.00	0.01	0.11	0.00	0.24	0.08	0.53
GERMANY	15	9	13	11	17	0.02	0.01	0.02	0.01	0.02	0.33	0.23	0.41	0.41	0.75
HUNGARY	0	1	0	1	0	0.00	0.01	0.00	0.01	0.00	0.00	0.09	0.00	0.26	0.00
ISRAEL	0	1				0.00	0.02				0.00	0.05			
ITALY	0	1	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
LATVIA	0	3	0	0	0	0.00	0.12	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00
LITHUANIA	0	1	0	0	0	0.00	0.03	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00
MALTA	0	1	0	0	0	0.00	0.26	0.00	0.00	0.00	0.00	11.11	0.00	0.00	
POLAND	0	3	2	2	0	0.00	0.01	0.01	0.01	0.00	0.00	0.15	0.20	0.76	0.00
ROMANIA	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SLOVAKIA	0	1	1	0	0	0.00	0.02	0.02	0.00	0.00	0.00	0.15	0.11	0.00	0.00
SLOVENIA	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
THE NETHERLANDS	0	0	1	2	1	0.00	0.00	0.01	0.01	0.01	0.00	0.00	0.16	0.31	0.14
TURKEY	10	8	8	4	3	0.02	0.01	0.01	0.01	0.00	0.07	0.06	0.06	0.04	0.03

No data available for: Estonia, Greece, Luxembourg, Norway.

4. Total number of liver transplants (not hepatitis A specific)

HEPATITIS A

	TOTAL NUMBER OF LIVER TRANSPLANTS (proportion of liver transplants due to hepatitis A)					INCIDENCE OF LIVER TRANSPLANTS PER 100,000				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
AUSTRIA	134	134	151	151	128	1.7	1.7	1.9	1.9	1.6
BELGIUM		97	168	161	167		1.0	1.6	1.6	1.6
BULGARIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGLAND/WALES	470 (0)	465 (0.2%*)	505 (0)	510 (0)	(0)	0.9	0.9	1.0	1.0	
ESTONIA	0	0	1	1	1	0.0	0.0	0.1	0.1	0.1
GERMANY	762	722	757	780	757	0.9	0.9	0.9	1.0	0.9
HUNGARY	16	19	22	23	19	0.2	0.2	0.2	0.2	0.2
ISRAEL	28	51	38	54	53	0.5	0.9	0.6	0.9	
ITALY	425	478	564			1.4	1.4	1.7		
LATVIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
LITHUANIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
MALTA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
SLOVAKIA	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0.0	0.0	0.0	0.0	0.1
SLOVENIA	0 (0)	4 (0)	9 (0)	10 (0)	9 (0)	0.0	0.1	0.2	0.2	0.2

No data available for: Czech Republic, Greece, Luxembourg, Norway, Poland, Romania, The Netherlands and Turkey.

* One case of liver transplant due to hepatitis A.

1. Hospitalized cases for hepatitis B (available data) **HEPATITIS B**

	HOSPITALISED CASES PER 100,000				
ACUTE HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA					3.52
BULGARIA	18.19	20.69	17.14	15.09	14.37
CZECH REPUBLIC	5.47	5.59	6.19	5.88	4.44
ESTONIA	27.85	16.65	15.18	25.80	27.58
GERMANY				2.95	2.35
HUNGARY	1.69	1.52	1.35	1.12	1.41
ITALY	2.48	2.28	1.80	1.81	1.71
LITHUANIA	14.55	13.92	11.75	11.03	10.00
MALTA	0.00	0.78	0.00	0.51	1.02
POLAND	12.51	10.26	8.91	7.09	5.98
ROMANIA	17.14	13.73	12.27	12.01	11.95
SLOVAKIA	4.83	3.69	3.80	3.05	2.75
SLOVENIA	1.01	1.27	1.37	1.26	0.85
CHRONIC HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA					1.70
SLOVAKIA	0.07	0.06	0.11	0.37	1.58
SLOVENIA	0.35	0.35	0.81	1.57	0.70
TOTAL HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA	3.37	3.38	2.84	2.95	
BELGIUM	12.32	13.55			
ISRAEL	13.93	15.63	18.32	19.75	19.50
THE NETHERLANDS				3.89	3.47



2. Hospitalization days per hepatitis B cases (available data)

ACUTE HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA					7.7
CZECH REPUBLIC	35.0	35.0	35.0	35.0	35.0
GERMANY				10.7	11.2
HUNGARY	19.8	22.1	24.1	13.9	13.5
ITALY	16.4	16.7	14.4	16.3	14.2
LITHUANIA	21.5	18.2	19.7	18.1	21.0
MALTA	0.00	4.17	0.00	8.00	7.00
CHRONIC HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA					6.34
TOTAL HEPATITIS CASES	1997	1998	1999	2000	2001
AUSTRIA	10.92	10.34	9.74	9.33	
THE NETHERLANDS				5.20	4.80

3. Total number of deaths due to hepatitis B **(available data)**

HEPATITIS B

	TOTAL NUMBER OF DEATHS					MORTALITY PER 100,000				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
AUSTRIA	1	1	2	2	1	0.01	0.01	0.02	0.02	0.01
BELGIUM	31					0.30				
BULGARIA	20	17	16	21	15	0.24	0.21	0.20	0.26	0.19
CZECH REPUBLIC	2	7	10	2	2	0.02	0.07	0.10	0.02	0.02
ENGLAND/WALES	64	57	65	57	54	0.12	0.11	0.12	0.11	0.10
ESTONIA	0	0	0	1	1	0.00	0.00	0.00	0.07	0.07
GERMANY	190	158	96	98	93	0.23	0.19	0.12	0.12	0.11
HUNGARY	5	4	3	2	2	0.05	0.04	0.03	0.02	0.02
ISRAEL	18	26				0.31	0.44			
ITALY	2	5	6	3	2	0.01	0.01	0.02	0.01	0.01
LATVIA	3	3		0	1	0.12	0.12		0.00	0.04
LITHUANIA	3	3	1	1	0	0.08	0.08	0.03	0.03	0.00
MALTA	0	0	0	0	3	0.00	0.00	0.00	0.00	0.76
POLAND	90	71	78	72	60	0.23	0.18	0.20	0.19	0.16
ROMANIA	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
SLOVAKIA	0	6	3	1	2	0.00	0.11	0.06	0.02	0.04
SLOVENIA	0	0	0	3	0	0.00	0.00	0.00	0.15	0.00
THE NETHERLANDS	33	50	49	49	71	0.21	0.32	0.31	0.31	0.45
TURKEY	11	10	18	17	9	0.02	0.02	0.03	0.03	0.01



4. Cirrhosis cases and patients with hepatocellular cancer **(available data)**

TOTAL NUMBER OF CIRRHOSIS CASES					
	1997	1998	1999	2000	2001
HUNGARY	6259	6669	6550	6146	5689
LITHUANIA	762	940	892	1000	1004
THE NETHERLANDS				2651	2841
TURKEY				13288	15098

TOTAL NUMBER OF PATIENTS WITH HEPATOCELLULAR CANCER					
	1997	1998	1999	2000	2001
BELGIUM	397	435			
BULGARIA		641	715		
HUNGARY			660	1024	980
ISRAEL	89	87	103	94	123
ITALY	11898	10905			
LITHUANIA	91	97	101	109	105
SLOVENIA	53	71	66	57	
TURKEY			350		

5. Total number of liver transplants (not hepatitis B specific)

HEPATITIS B

	TOTAL NUMBER OF LIVER TRANSPLANTS (proportion of liver transplants due to hepatitis B)					INCIDENCE OF LIVER TRANSPLANTS PER 100,000				
	1997	1998	1999	2000	2001	1997	1998	1999	2000	2001
AUSTRIA	134	134	151	151	128	1.7	1.7	1.9	1.9	1.6
BELGIUM		97	168	161	167		1.0	1.6	1.6	1.6
BULGARIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
ENGLAND/WALES	470 (4%)	465 (5%)	505 (4%)	510 (4%)		0.9	0.9	1.0	1.0	
ESTONIA	0	0	1	1	1	0.0	0.0	0.1	0.1	0.1
GERMANY	762	722	757	780	757	0.9	0.9	0.9	1.0	0.9
HUNGARY	16	19	22	23	19	0.2	0.2	0.2	0.2	0.2
ISRAEL	28	51	38	54	53	0.5	0.9	0.6	0.9	0.9
ITALY	425	478	564			1.4	1.4	1.7		
LATVIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
LITHUANIA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
MALTA	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
SLOVAKIA	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0.0	0.0	0.0	0.0	0.1
SLOVENIA	0 (0)	4 (0)	9 (0)	10 (0)	9 (0)	0.0	0.1	0.2	0.2	0.2

No data available for: Czech Republic, Greece, Luxembourg, Norway, Poland, Romania, The Netherlands and Turkey.



OBSTACLES:

1. Different data sources for hospital admission and mortality for hepatitis A and B.
2. Different names for the same data sources among involved countries.
3. No distinction between acute and chronic hepatitis B data on hospital admission.
4. Some data are available on hospital admissions only as chronic liver diseases, and not as HBV-related.
5. Underreporting data for non-specified jaundice.
6. Data related to hepatitis NANB.
7. Some data refer to different periods of time (i.e. from April to March in UK).



Conclusions:

1. All countries have surveillance systems for burden of disease in place but a wide diversity of surveillance systems exists among them due to different local situations.
2. The surveillance data on burden of disease are not collected in a standardized way: different data sources for hospital admission and mortality due to HAV and HBV are in place.
3. In some countries the data on total number of hospital admissions and deaths due to HAV and HBV are not available. Sometimes the data sources are present, but data are not immediately accessible or complete.
4. Data on days of hospitalization, total number of liver transplants and the proportion due to hepatitis A, B and C are not often included in the current surveillance systems of burden of disease.
5. The burden of disease for chronic hepatitis B (hospitalisation, cirrhosis cases, hepatocellular cancer) is not quantifiable in all participating countries.



6. There is not a unique adoption of ICD-10 code to report the diagnosis of hepatitis for hospital admission or death. ICD-10 came into use in WHO Member States since 1994, therefore, the results of the EUROHEP.NET Project highlight that many countries have not yet adopted this standard several years later (more countries adopted it since then).
7. In some countries, available data on burden of disease are gathered only for remuneration reasons, not for epidemiological purposes. Sometimes only data from extemporary studies are available, without a routine registration system.
8. In a number of countries, data are collected regionally and there is no centralised national data collection, or their aggregation at the central level is not timely.
9. Blanks or missing data in the answers to the EUROHEP.NET survey, unless otherwise specified, can either be due to non-available/traceable information in the country or to non-availability of such information to the country correspondent at the time of the survey. In the latter case, this does not necessarily mean that the information does not exist.

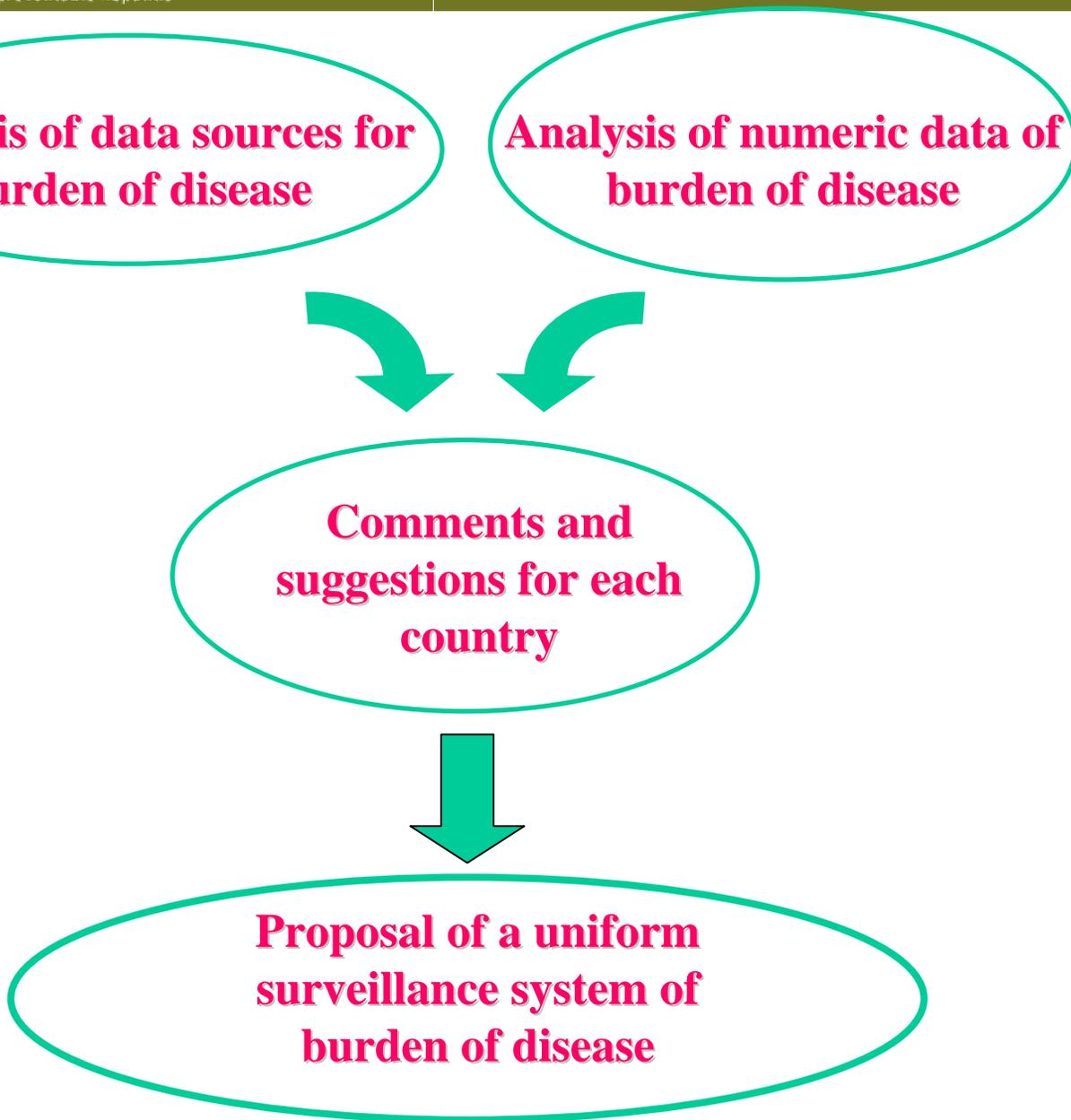


Analysis of data sources for burden of disease

Analysis of numeric data of burden of disease

Comments and suggestions for each country

Proposal of a uniform surveillance system of burden of disease





Rationale of the proposed guidelines:

- A wide diversity on surveillance systems on burden of disease for hepatitis A and B are in place among the participating countries.
- Identification of possible hurdles towards harmonisation of the surveillance systems and introduction of standardisation at the enlarged European Union level (respecting the current practices in the different countries as much as possible) is a primary need, especially for those data that should be collected in all countries.
- In particular, all countries should make an effort to systematically collect burden of disease data on hospital admission, mortality and liver transplantations related to hepatitis A and B, according to ICD-10. The burden of complications for chronic hepatitis B (cirrhosis cases and patients with hepatocellular cancer) should be collected also.
- If possible, the data on burden of disease should be (electronically) linked to the case identification in the surveillance databases.