



Surveillance, epidemiology and prevention of Hepatitis B in Germany

Results of the EUROHEP.NET feasibility survey

D. Radun¹, G. Rasch¹, Eurohep.net team²

¹ Robert Koch Institut, Berlin

² University of Antwerp, Belgium

Surveillance system Since 1983

mandatory reporting	yes	passive
voluntary reporting	no	
sentinel	no	
laboratory	yes	passive

Flow chart of the surveillance system¹

```

    graph TD
      Clinicians[clinicians] -- individual data --> Local[Local authority: Gesundheitsamt]
      Labs[laboratories] -- individual data --> Local
      Local -- individual anonymised data --> Regional[Regional authority: Gesundheitsbehörden der Bundesländer]
      Regional -- individual anonymised data --> National[National Surveillance System: Robert Koch Institut]
  
```

CASE DEFINITION

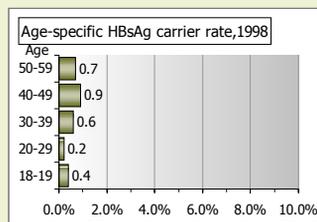
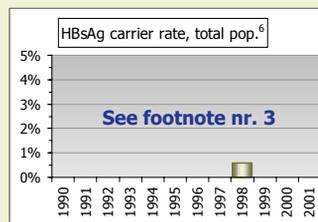
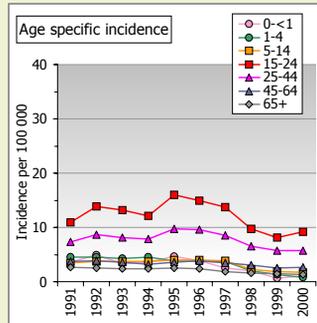
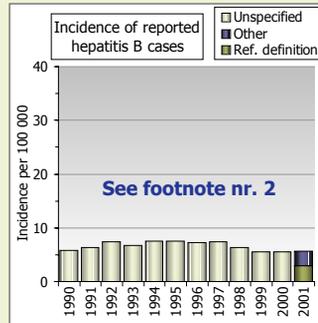
- As of January 2004, the case definition for hepatitis B is based on:
- Laboratory evidence** of acute hepatitis B (HBsAg or anti-HBc-IgM of HBV DNA) and **clinical signs** (elevated liver enzymes or jaundice or abdominal pain), provided that a known chronic infection is excluded.
- If laboratory criteria **and** clinical criteria are fulfilled, the case meets the reference definition.
- If laboratory criteria are fulfilled but clinical ones are unknown or not present, the case is still notified but does not comply with the reference definition.

OBJECTIVES and METHODS

The EUROHEP.NET project is a concerted action, supported by the Quality of Life Programme of the fifth framework of the European Community for research. This project addresses issues related to surveillance and prevention of hepatitis A and B in the EU countries, Associated States and Israel. The overall goal is to study the feasibility of a future network on surveillance and prevention and to facilitate the progress of these countries towards enhanced control of hepatitis A and B.

Early 2003, EUROHEP.NET sent a feasibility survey to all participating countries to take stock of the country-specific surveillance and prevention activities for hepatitis A and B. The first achievement of this EU concerted action is to provide in a standardized/comparative way an overview of the different surveillance systems, epidemiology, burden of disease and prevention programmes for these infectious diseases.

EPIDEMIOLOGY²



BURDEN OF DISEASE⁴

Hepatitis B	1997	1998	1999	2000	2001
Acute hepatitis B: Hospitalised cases/100000	NA	NA	NA	2.95	2.35
Acute hepatitis B: Hospitalisation days per case	NA	NA	NA	10.7	11.2
Chronic hepatitis B: Hospitalised cases/100000	NA	NA	NA	NA	NA
Chronic hepatitis B: Hospitalisation days per case	NA	NA	NA	NA	NA
Total: Hospitalised cases/100000	NA	NA	NA	NA	NA
Total: Hospitalisation days per case	NA	NA	NA	NA	NA
Deaths (acute hepatitis B)	190	158	96	98	93
Mortality (total number of deaths per 100 000)	NA	0.19	0.12	0.12	0.11
Cirrhosis cases (any cause)	1051848	1011013	956390	NA	NA
Total number of patients with hepatocellular cancer	NA	NA	NA	NA	NA
Total number of liver transplants	762	722	757	780	757
Proportion of liver transplants due to hepatitis B	NA	NA	NA	NA	NA

NA= not available

COMMENTS

- Surveillance for Hepatitis B is passive in Germany; missing information is actively retrieved by the local health authorities.
- Germany is considered as a low endemic country for hepatitis B.

FOOTNOTES

- Results are published on the internet (www.rki.de/SurvStat/), in the weekly 'Epidemiologisches Bulletin', and in the yearly 'Infektionsepidemiologisches Jahrbuch meldepflichtiger Krankheiten'.
- Sources (epidemiological data): 1990-2000: Statistisches Bundesamt. (1990: Sum of notifications former east and west Germany). 2001: Robert Koch Institut, reference date 4/03/2003. The data from 2001 onwards include symptomatic cases according to the reference definition. In addition, laboratory confirmed cases without (information on) clinical signs are reported but not published regularly.
- In 1998, a serosurvey among the German population showed a mean seroprevalence of HBs-Ag of 0.6% (95% CI: 0.4-0.8). Reference: Thierfelder W. et al.: Prevalence of markers for hepatitis A, B and C in the German population. Results of the German National Health Interview and Examination Survey 1998. Eur J Epidemiol. 2001;17(5):429-435.
- Burden of disease: until 1998, viral hepatitis was coded as diagnosis on admission. Since then, it is possible to distinguish between the types of viral hepatitis, although many cases of cirrhosis due to hepatitis B may be classified as cirrhosis undefined rather than cirrhosis due to hepatitis B. In 2000, ICD-10 replaced ICD-9 for the coding of morbidity data, causing some partial changes in the grouping of diagnoses.
- Coverage data for 2002-2003 collected at school entry (\pm 6 years)
- Reimbursement is decided on by Health Insurances but mostly all expenditures for vaccinations which are recommended by the STIKO are reimbursed. Costs for vaccinations due to occupational exposure are covered by the employer.
- Vaccination is also recommended for people with chronic liver diseases, HIV positives, mentally disabled, sex workers and prisoners that are arrested for a longer period of time. In addition, travellers who are at risk for infection when travelling to countries with high hepatitis B prevalences or anticipated close contact to the community should be protected by vaccination.

PREVENTION by active immunisation

Universal programme	starting	starting	schedule	coverage
	in	at age		rate
universal screening policy for pregnant women	1994			
vaccination of infants	1995	2 months	0,1,6	73% ⁵
vaccination of adolescents	1995	10 years	0,1,6	

Risk group programmes	available	booster	reimbursed
	(since)	recommended	
injecting drug users	1982 (FRG) 1984 (GDR)		yes ⁵
men who have sex with men	1982 (FRG) 1984 (GDR)		yes ⁶
attendees of STI clinics	no		
dialysis patients	1982 (FRG) 1984 (GDR)	yes	yes ⁵
groups with occupational risk	1982 (FRG) 1984 (GDR)	yes	yes ⁶
household contacts of known hepatitis B carriers	1982 (FRG) 1984 (GDR)	yes	yes
hospitalised patients	no		
neonates born to HBsAg positive mothers	1982 (FRG) 1984 (GDR)		yes ⁶
other risk groups ⁷	yes		

FRG = Federal Republic of Germany; GDR = German Democratic Republic