

Epidemiology of Hepatitis A in Germany

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Data Sources

- **Surveillance**
 - **Federal Republic of Germany (FRG)**
 - 1962 viral hepatitis
 - 1980 HAV, HBV
 - **German Democratic Republic (GDR)**
 - 1951 viral hepatitis
 - 1983 HAV
 - **New Infection Protection Act (2001)**
- **Epidemiological Studies/Serosurveys**

Infection Protection Act (IfSG)

Surveillance system:

- Physicians to report clinical diagnoses
- Laboratories to report acute infections
- Single case reporting
- Case definitions
- Electronic transmission to States and RKI
- Central database
- Reporting of outbreaks

Case definitions

- **Standardisation and differentiation of reported cases**
- **Categories according to diagnostic certainty**
- **European case definitions taken into account**

Case definition for hepatitis A

updated version valid 1-1-2004

- **Clinical criteria:**
 - jaundice
 - fever
 - abdominal discomfort
 - high transaminases
- **Laboratory criteria:**
 - detection of nucleid acid in serum or stool (PCR)
 - detection of antigen in stool (ELISA)
 - postive for IgM-antibodies to HAV
 - significant rise in anti-HAV-IgG-titer (paired sera)

Case definition for hepatitis A

updated version valid 1-1-2004

- **Epidemiological criteria:**
 - epidemiological link to a laboratory confirmed case of HAV
 - person to person-transmission
 - consumption of same implicated food
 - consumption of food in which HAV was detected

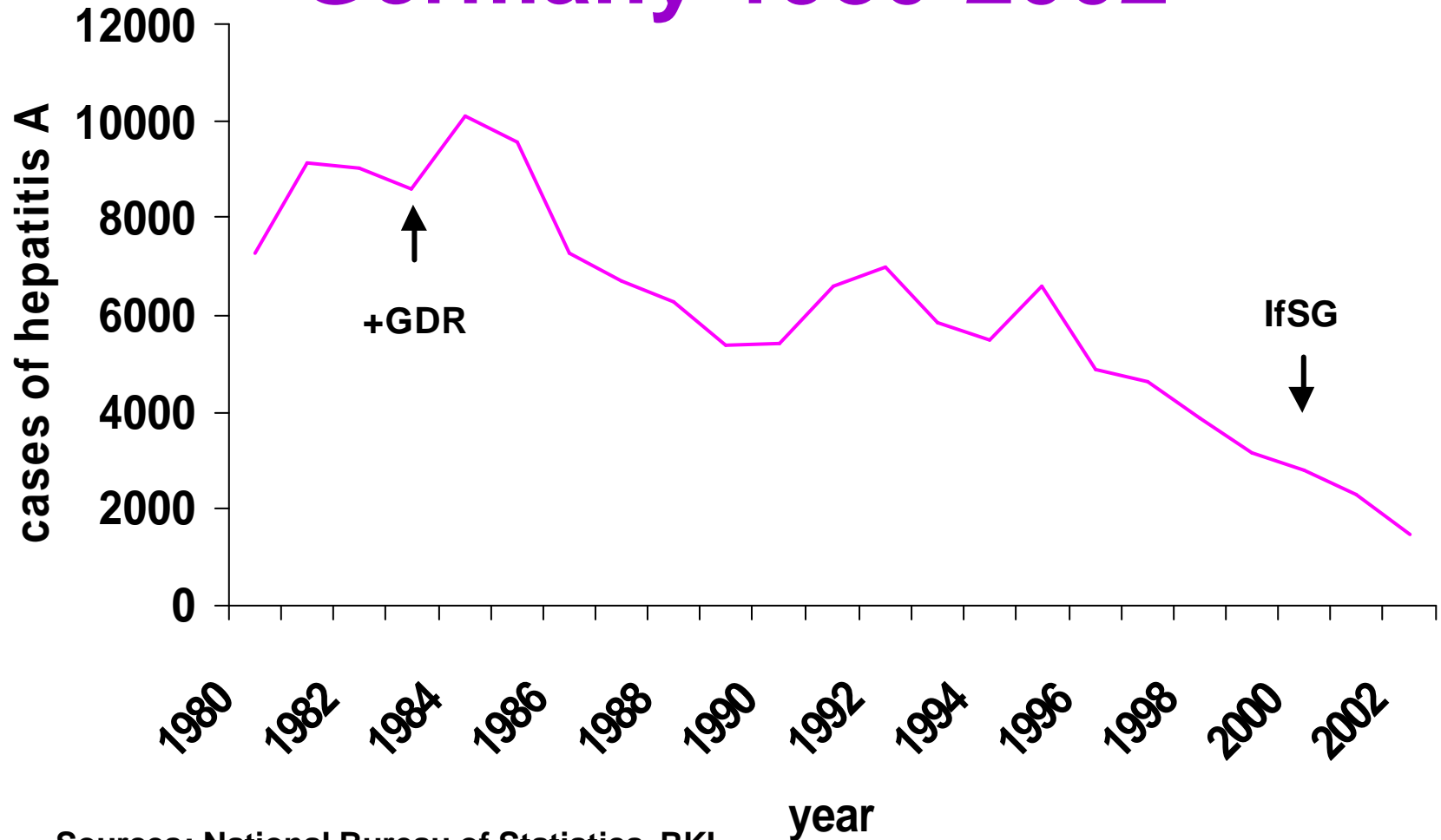
EU case definition for acute hepatitis A

- **Laboratory criteria for diagnosis**
 - IgM antibody to hepatitis A virus positive
 - detection of antigen in stool
 - detection of nucleic acid in serum.
- **Case classification**
 - possible: N.A.
 - probable: A case that meets the clinical case definition and has an epidemiological link
 - confirmed: A case that meets the clinical case definition and is laboratory confirmed.

Source: Commission decision of 19 March 2002 No 2119/98/EC



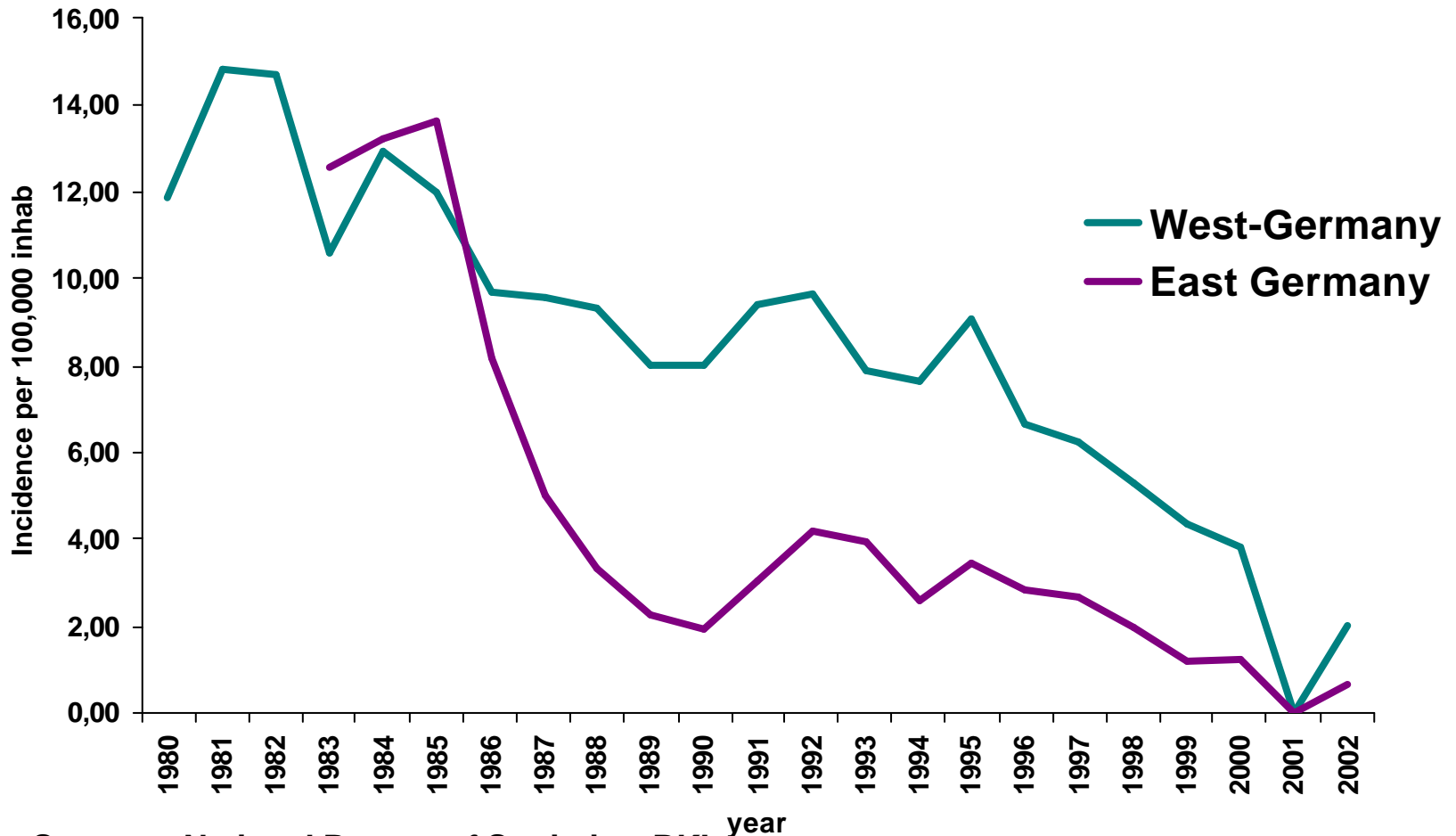
Notified cases of hepatitis A, Germany 1980-2002



Sources: National Bureau of Statistics, RKI



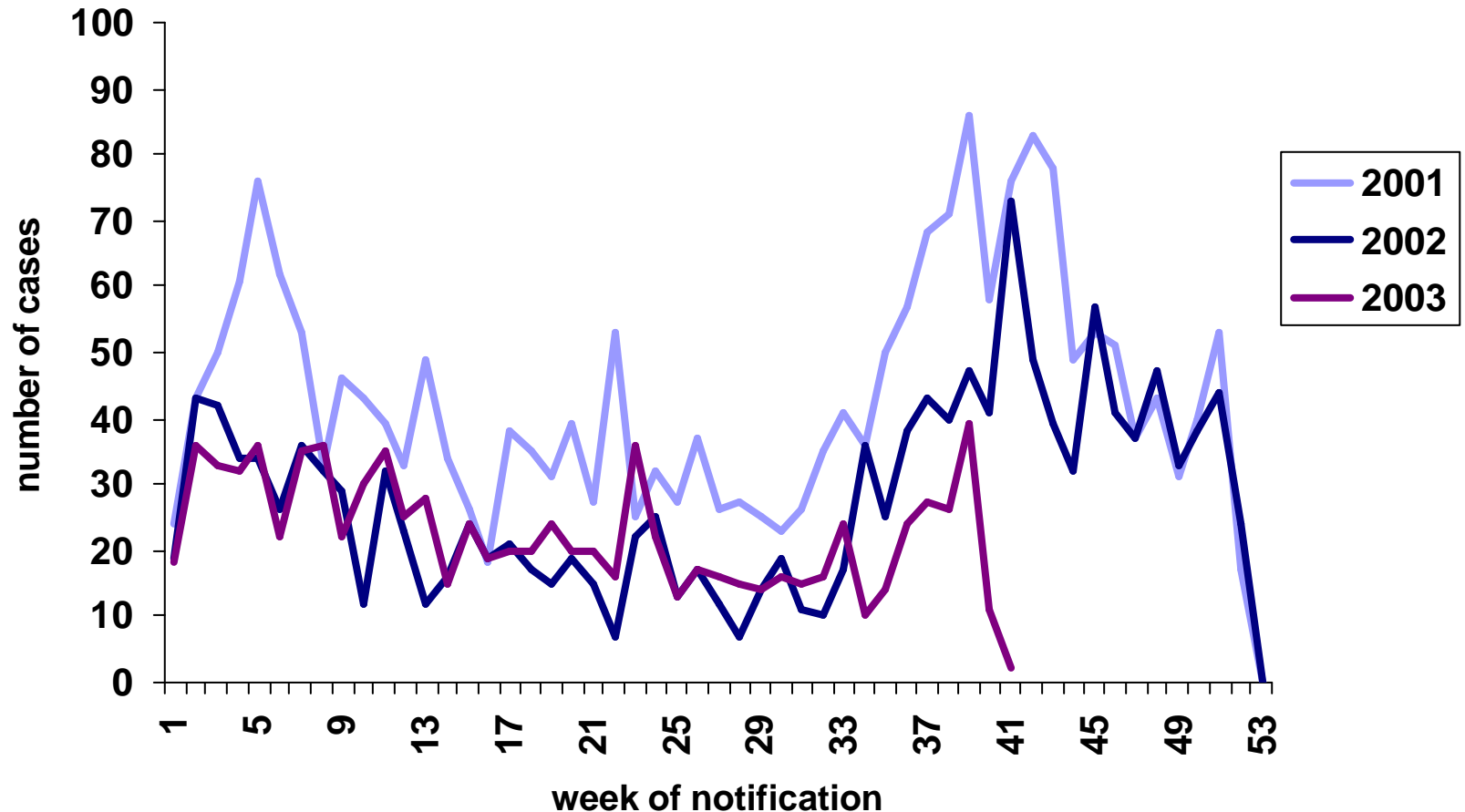
Incidence of HAV per 10,000 inhab. in East and West Germany,



Sources: National Bureau of Statistics, RKI



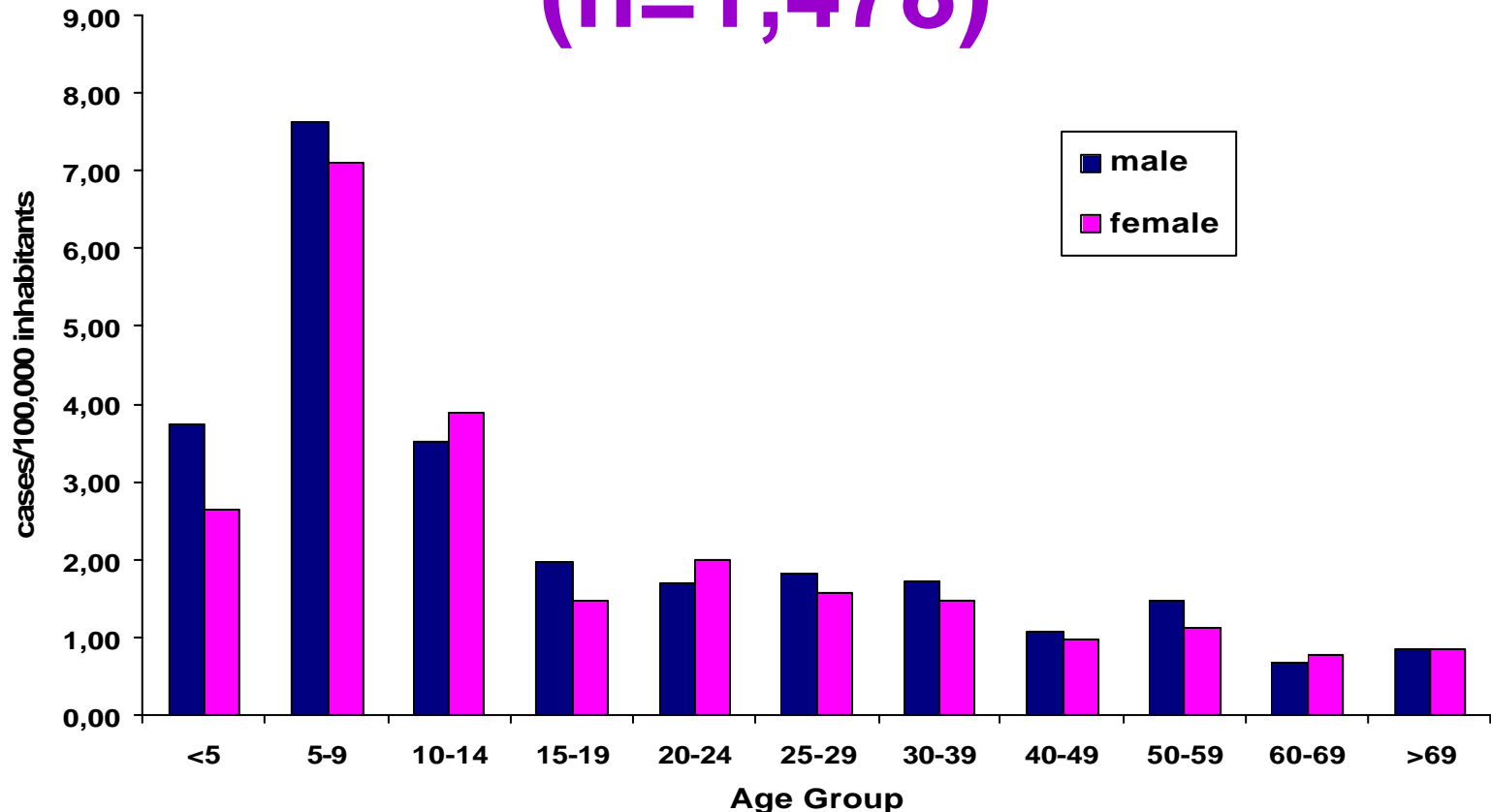
Reported cases of HAV by week of reporting, 2001-2003



Source: RKI

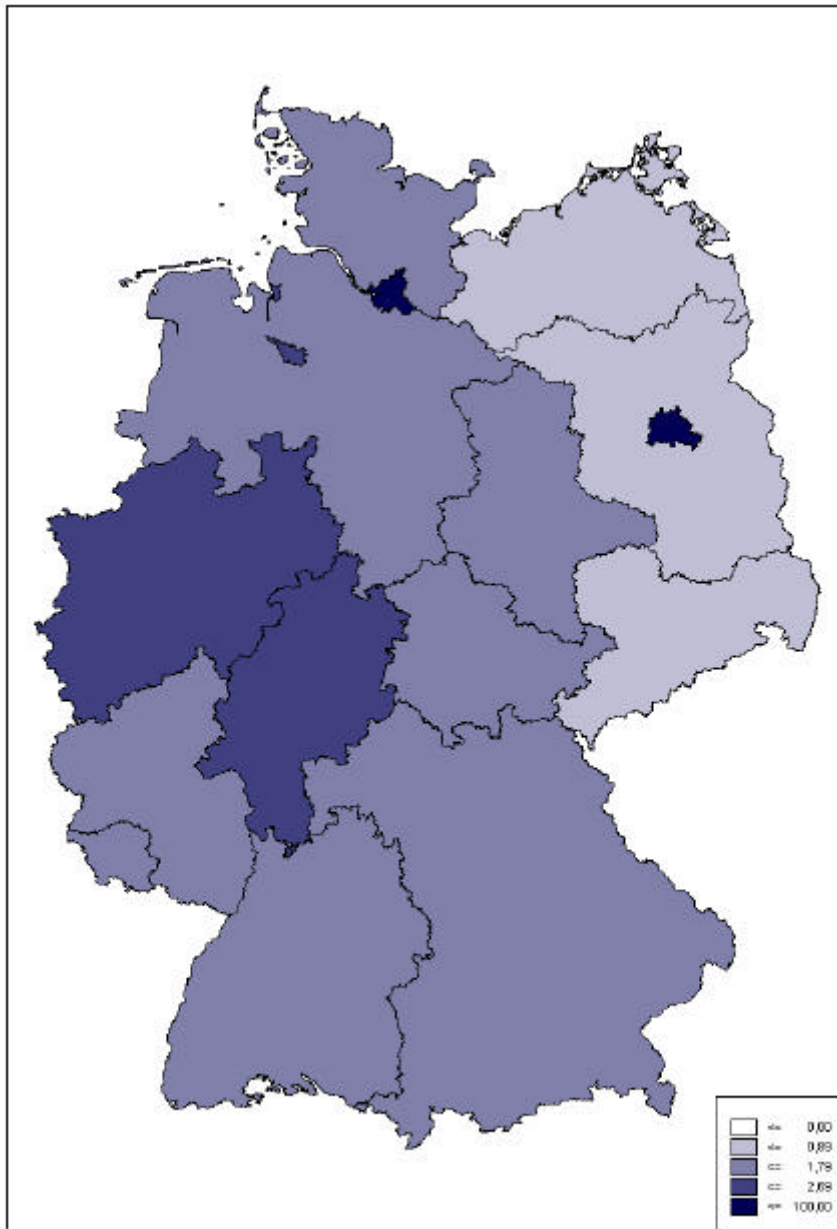


Incidence of cases of HAV by gender and age group, 2002 (n=1,478)



Source: RKI

HAV Incidence in Germany 2002 by Federal State (n=1,478)



Source: RKI

HAV Mortality, Germany 1991-2001

year	Deaths*	case-fatality (%)	Mortality/ Million Inhab.
1991	16	0,24	0,20
1992	13	0,19	0,16
1993	14	0,24	0,17
1994	12	0,22	0,15
1995	12	0,18	0,15
1996	19	0,39	0,23
1997	15	0,33	0,18
1998	9	0,23	0,11
1999	13	0,41	0,16
2000	11	0,39	0,13
2001	17	0,75	0,21

*Source: National Bureau of Statistics

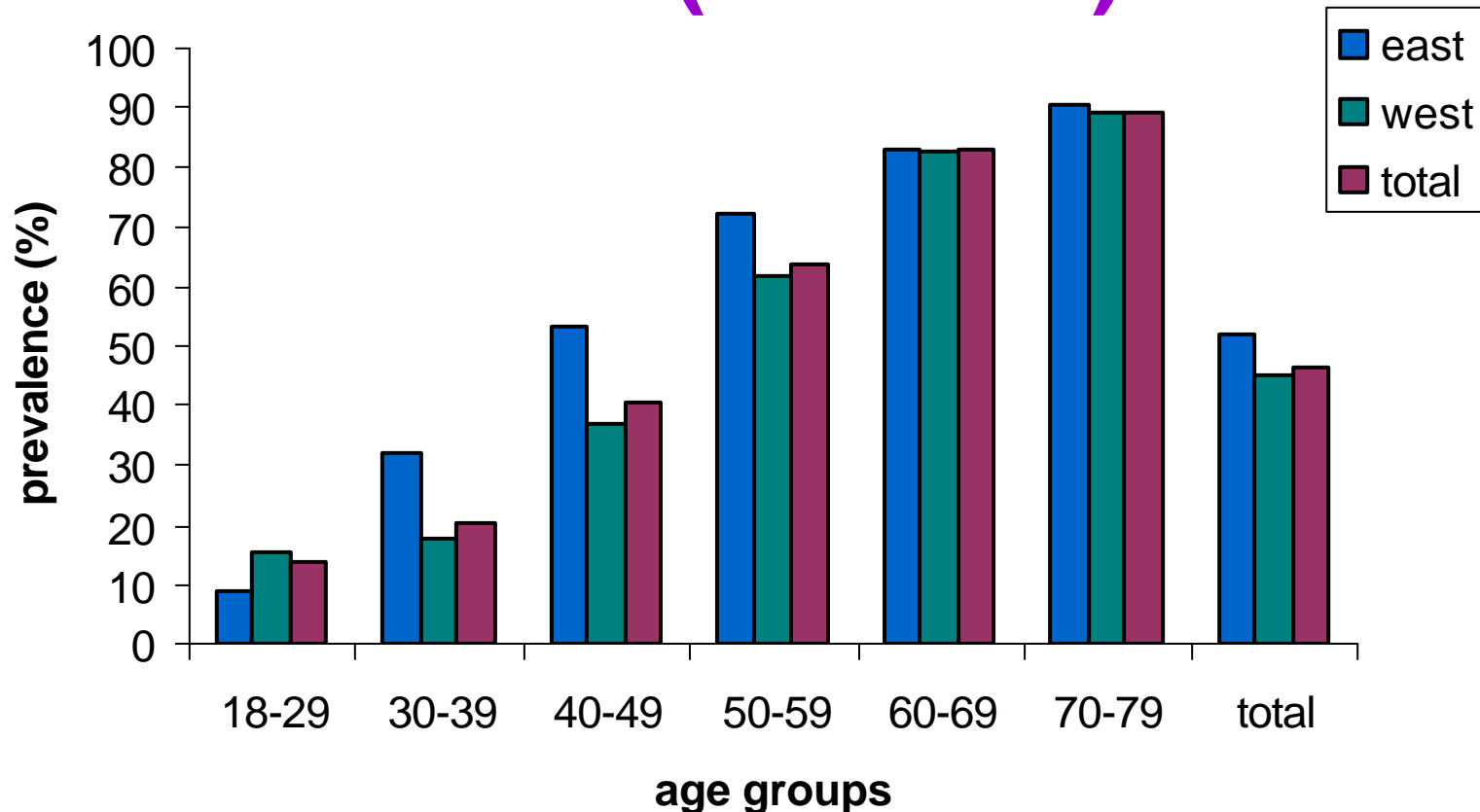
Reported cases of HAV by country of infection, 2001-2003 (n=3,989)

Country	No. cases	Percent
Germany	2500	62.7
Turkey	519	13.0
Egypt	87	2.2
Pakistan	76	1.9
Spain	73	1.8
Marocco	66	1.7
Italy	46	1.2
India	39	1.0
Tunesia	30	0.8
Russian Fed.	23	0.6

Source: RKI

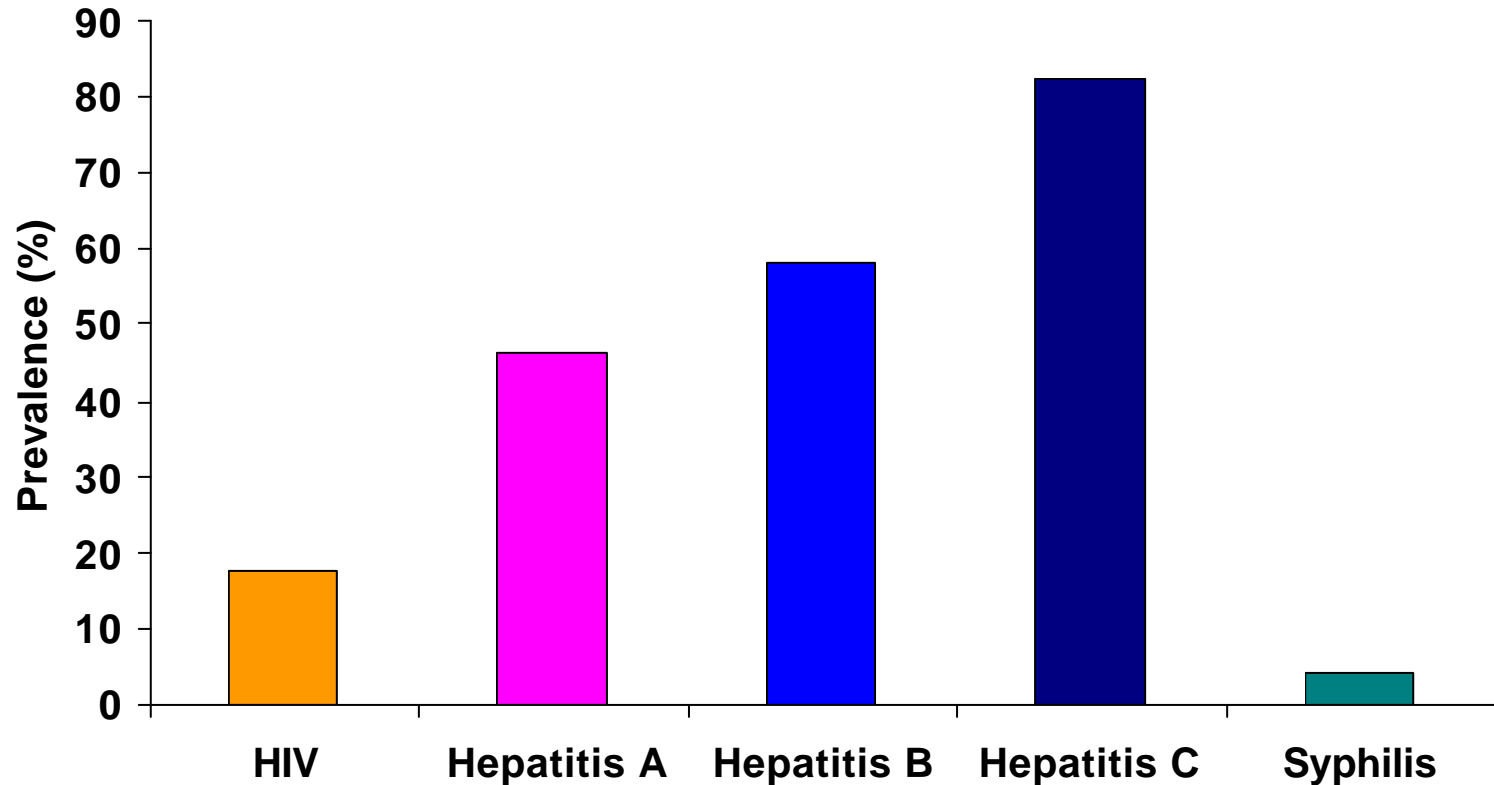


Prevalence of HAV-antibodies German National Health Survey, 1998 (n= 6748)



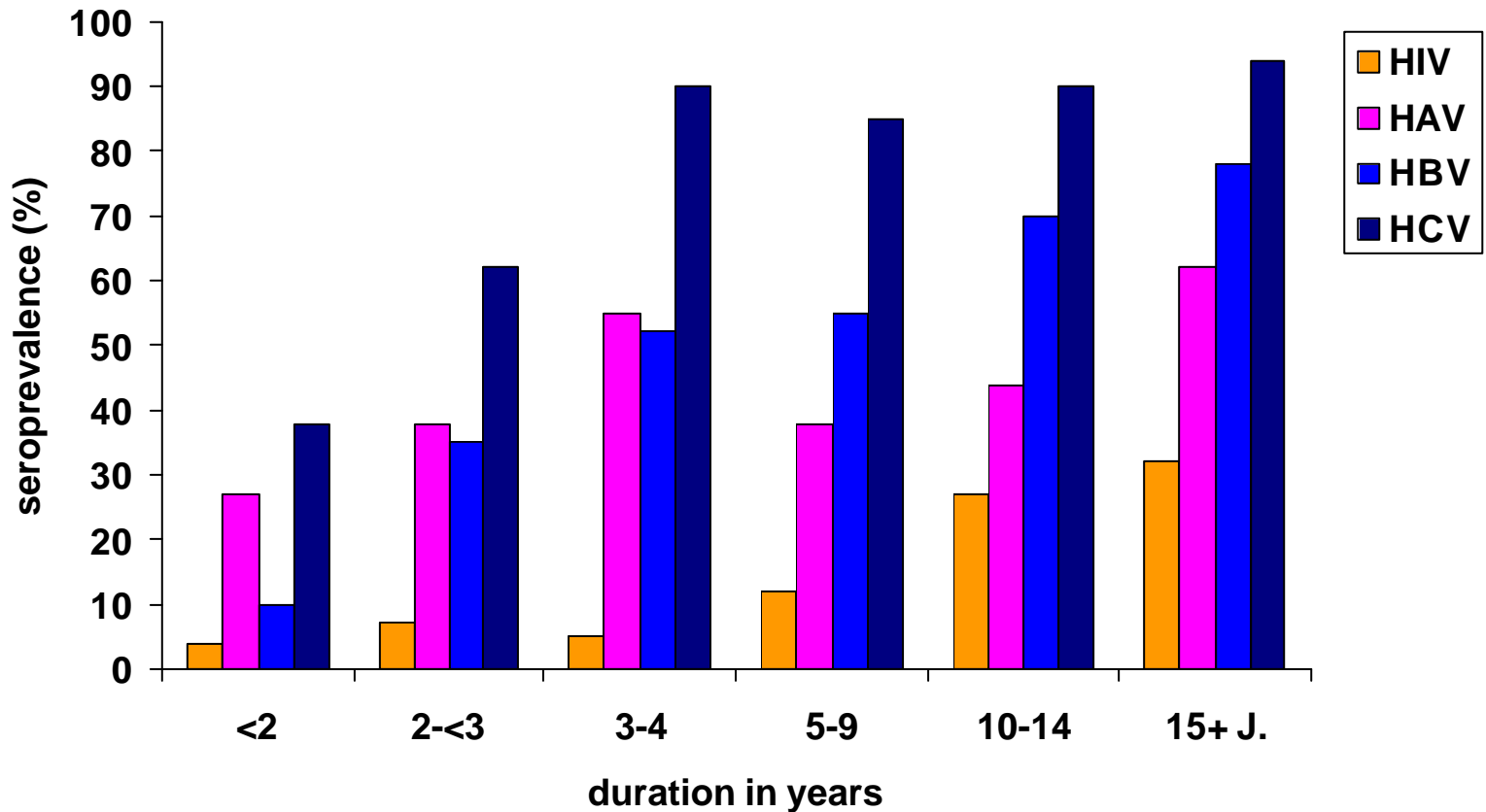
Source: W Thierfelder et al, Europ J Epid 17:429-435, 2001

Prevalence of HAV-antibodies among Risk-Groups: IVDA, Germany 1993



Source: K Stark et al: Int J Epidemiol 1997; 26:1359-66, and unpublished data

Prevalence of antibodies and duration of IVDA, Germany 1993



Source: K Stark et al: Int J Epidemiol 1997; 26:1359-66, and unpublished data

Outbreak-related cases of HAV Germany, 2001-2003

	2001	2002	2003 (up to Oct)
No. outbreaks	105	92	62
Cases involved	314	281	193
No. outbreaks > 5 cases	14	14	10


Source: RKI

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Steps of an outbreak investigation

- **Confirm outbreak and diagnosis**
 - **Define case**
 - **Identify cases and obtain information**
 - **Analysis of descriptive data**
 - **Develop hypothesis**
 - **Analytical studies to test hypotheses**
 - **Communication and outbreak report**
-  **Implement control measures**

Source: WHO

Conclusions

- **Decreasing incidence of HAV**
- **Lacking information on risk factors in surveillance data**
 - MSM, IVDA, immigrants
- **Risk of outbreaks**
- **Need to train field epidemiologists**
- **Need for international collaboration**