



Epidemiology of Hepatitis B in Germany

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Viral Hepatitis Prevention Board Meeting
“Prevention of viral hepatitis in Germany and Scandinavia:
lessons learnt and the way forward”

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Sources of information

Notification system

annual incidence
demographics
risk factors
vaccination status

Serosurveys

seroprevalence

Blood donors' data

seroprevalence
incidence

National Bureau of Statistics

morbidity, mortality

Notification of hepatitis B in Germany

- mandatory since 1980 (West), 1983 (East)
- 2001: new Infectious Disease Law
introduces specific case definition
- clinicians and laboratories report to local
health department
- local health department merges information
- information is passed on to state, then to
national level

Case definition

Clinical picture + laboratory findings

(acute infection)

HBs-Ag confirmed

HBc-IgM

HBV-DNA

=reference definition

Also reportable

- laboratory findings positive, symptoms absent
- laboratory findings positive, symptoms unknown

Advantages of the new surveillance system (2001)

- standardised case definition
- reporting of
 - risk factors*
 - travel history
 - vaccination status
 - hospitalisation data

* enhanced surveillance of hepatitis B and C (in collaboration with HepNet, a German network of competence)
[www.kompetenznetz.hepatitis.de]



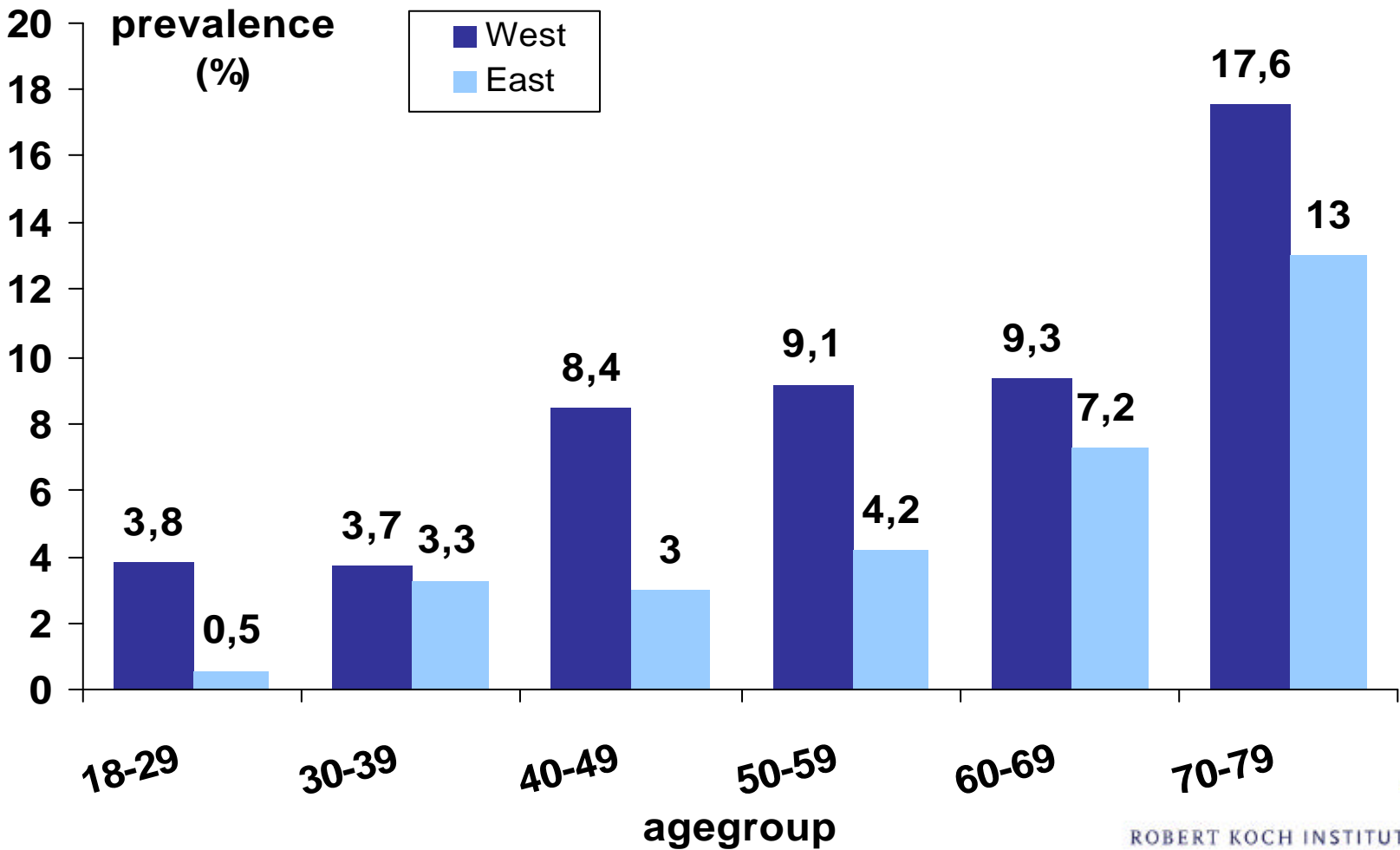
Serosurveys in general population

Author	Year	Sample size	Prevalence (%) (95% CI)
Thefeld	1990-92	7430	anti-HBc 6.1
			West 6.5
			East 5.2
Thierfelder	1998	6748	anti-HBc 7.0 (7.0-7.6)
			West 7.7 (7.0-8.4)
			East 4.3 (3.2-5.3)
			HBs-Ag 0.6 (0.4-0.8)
Jilg	1993-96	5305	anti-HBc 8.7 (7.9-9.5)
			HBs-Ag 0.6 (0.4-0.8)

Thefeld W; Bundesgesundheitsblatt 1994
 Thierfelder W; Eur J Epidemiol 2001
 Jilg W; J Medical Virol 2001

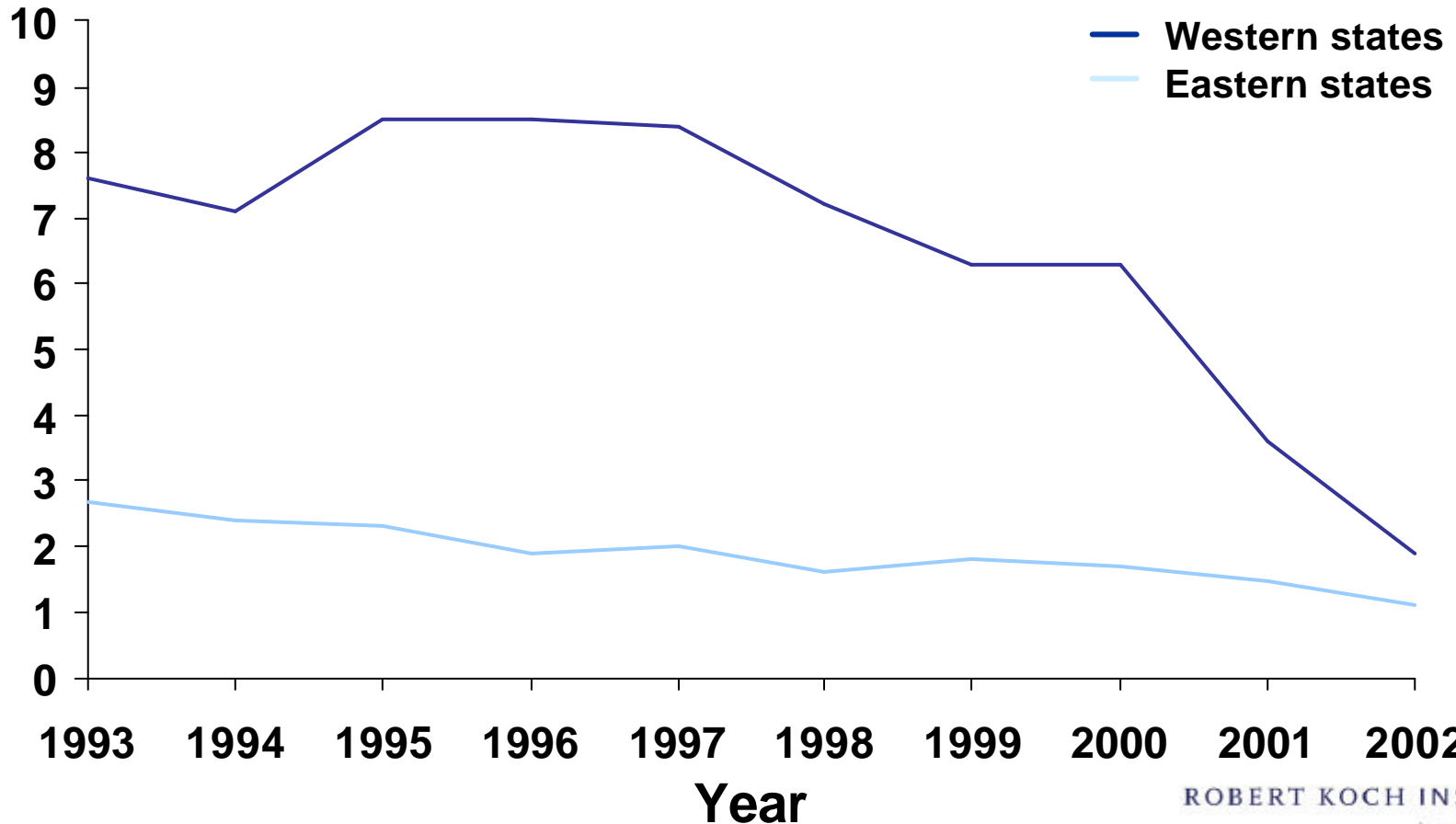


Prevalence of anti-Hbc antibodies by age groups, Eastern and Western states, Germany, 1998 (n=6748)



Incidences of hepatitis B in Eastern and Western states, Germany, 1993-2002 (Notification data)

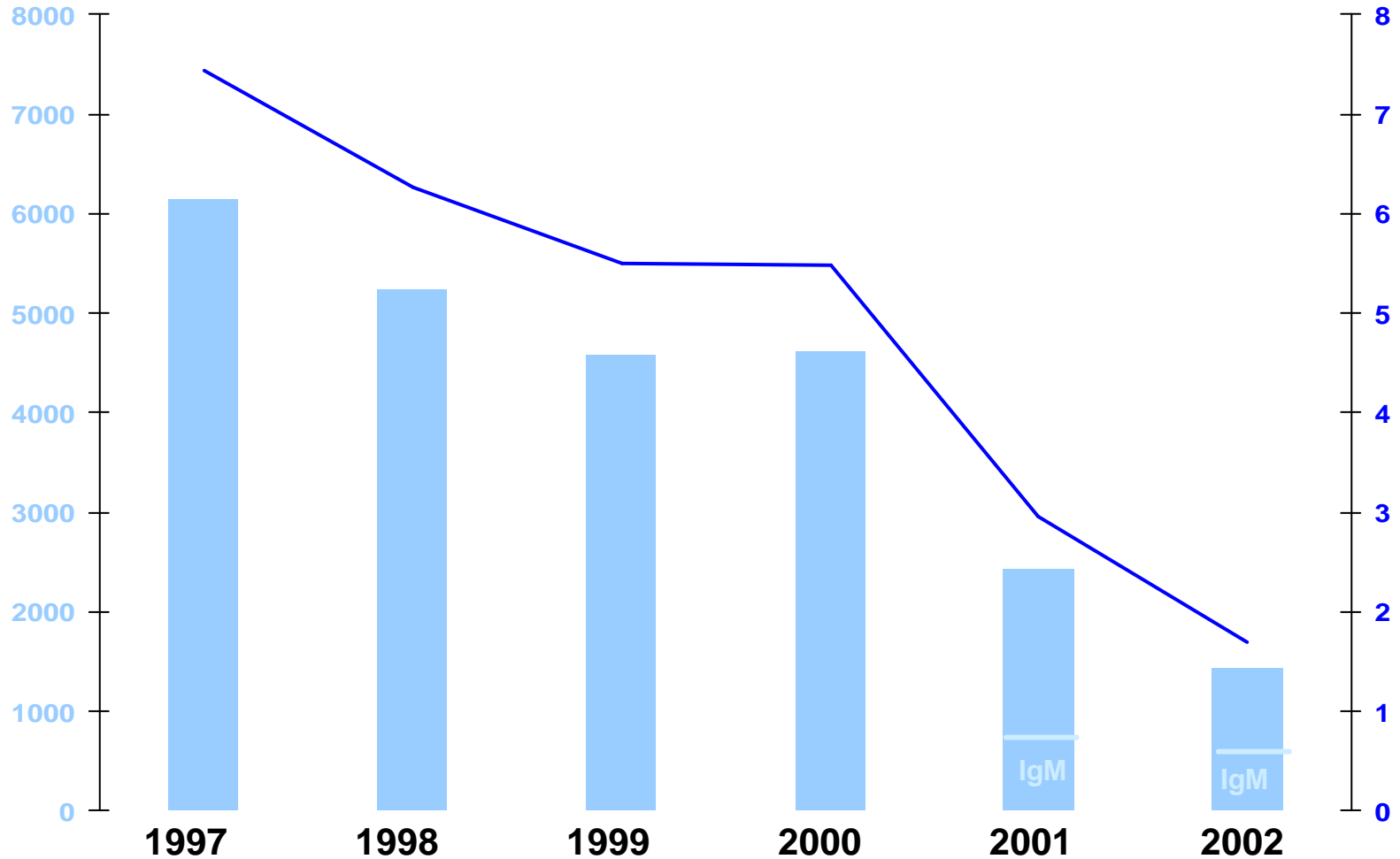
Incidence



Notified cases of hepatitis B, Germany, 1997-2002

No. of cases

Incidence

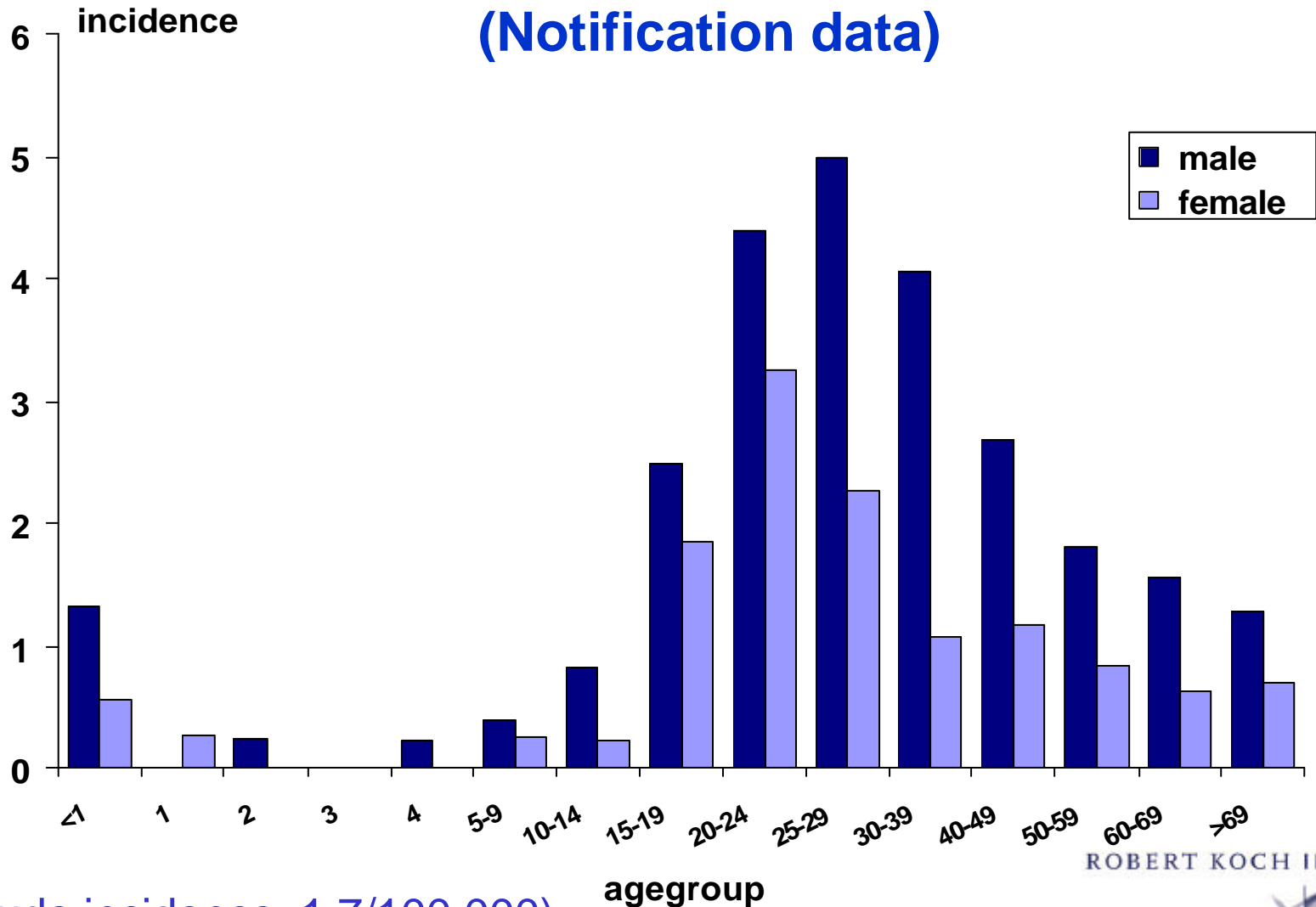


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Incidences of hepatitis B by age and sex, Germany, 2002

(Notification data)

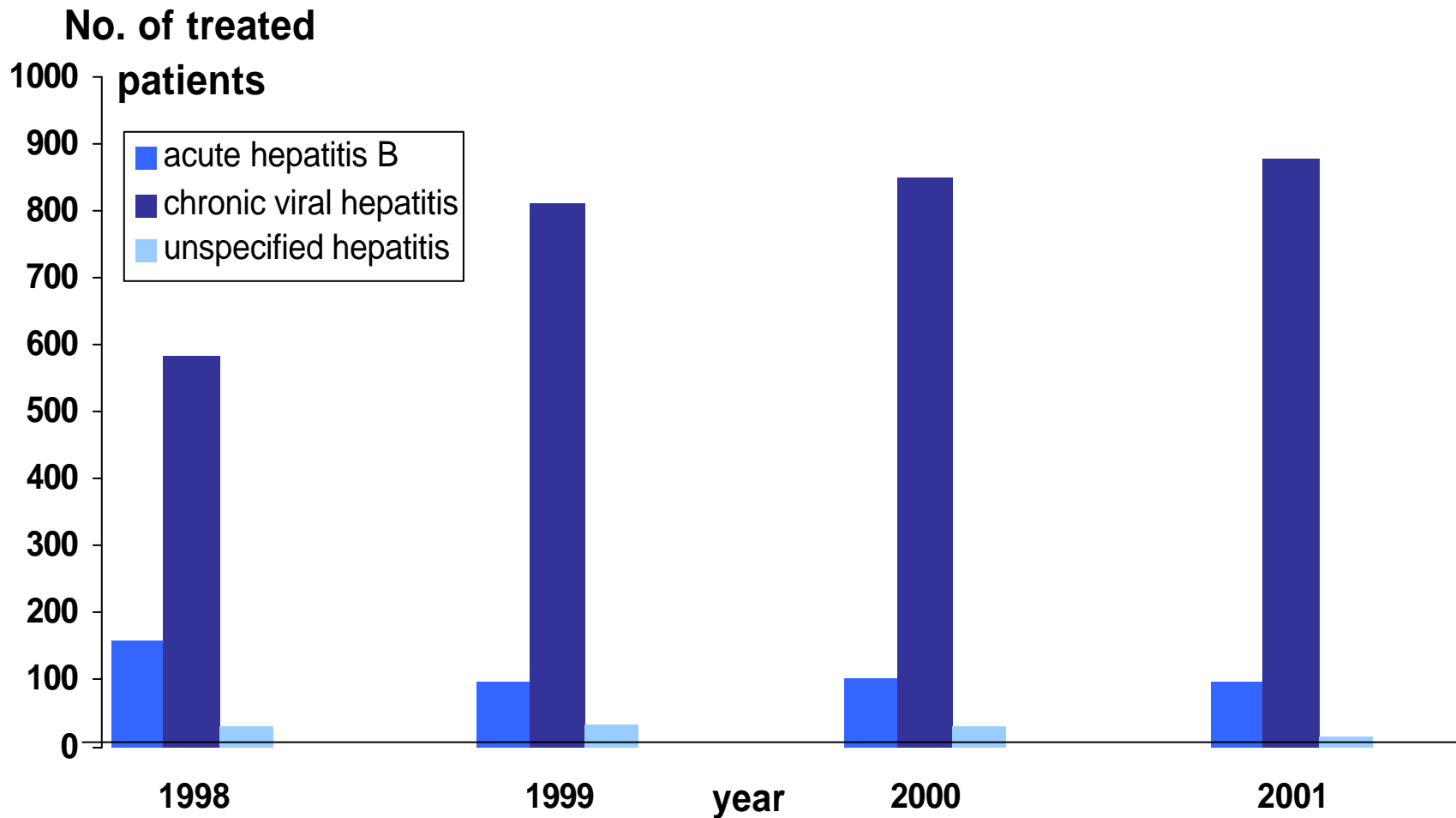


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(crude incidence: 1.7/100.000)

Number of deaths due to hepatitis, hospitalisation data, Germany, 1998-2001



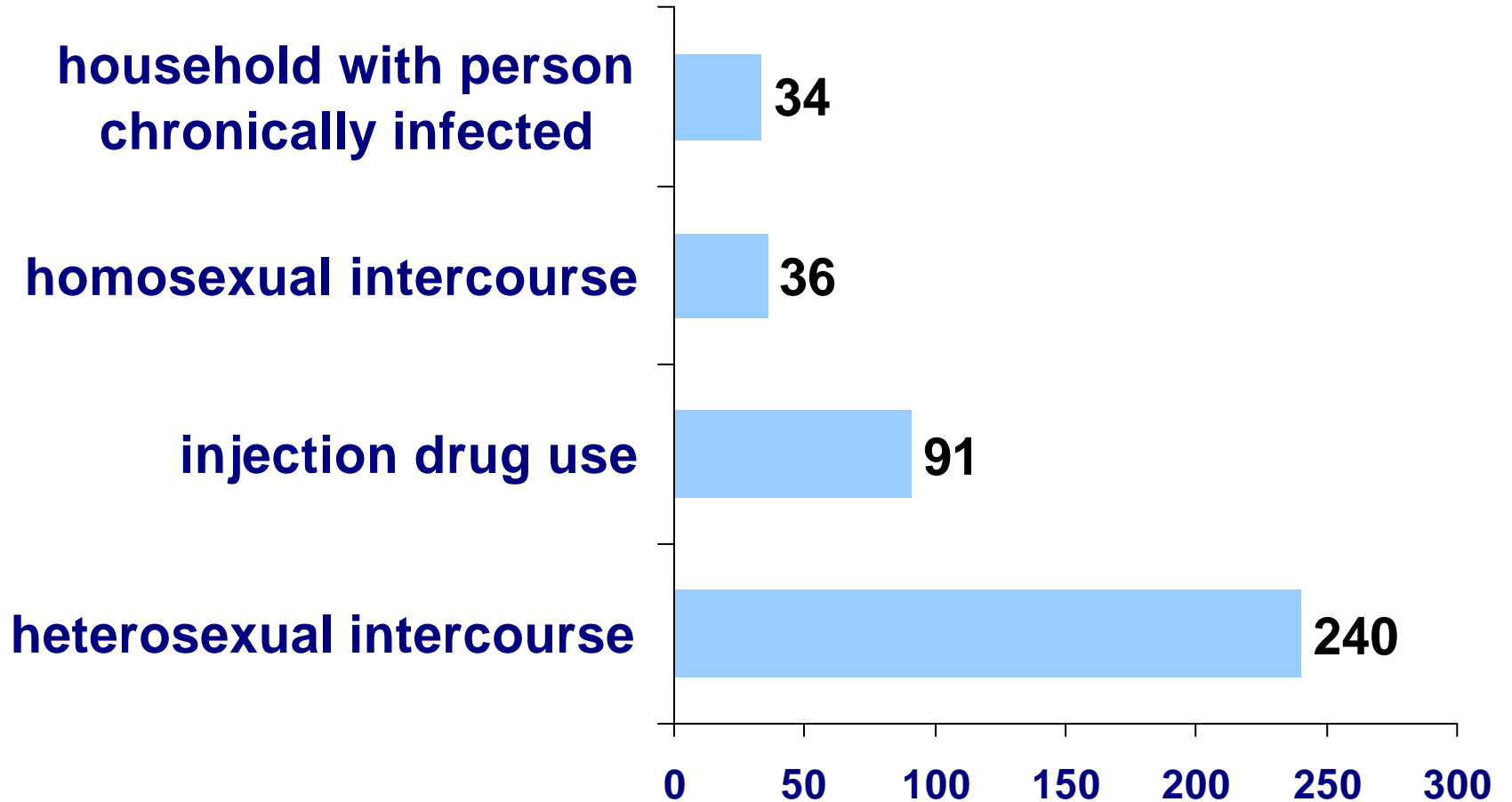
Data source: National Bureau of Statistics

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Main reported exposures for hepatitis B

(German notification data, 2002, n=578)



Blood donors

- since 1970, HBs-Ag-screening of blood products
- calculated residual risk for transfusion-transmitted hepatitis B ('97/'98): 1: 200 000¹
- suspected cases of transfusion-transmitted infections are reported to the Paul-Ehrlich-Institut (since 1995, 11 reports of transfusion-transmitted hepatitis B)

¹ Glück D; Infusionsther Transfusionsmed 1999

Prevalence and incidence of hepatitis B markers in blood donors, 2001

Population	Prevalence (HBs-Ag)	Incidence (HBs-Ag)
blood donors ²	0.16%	<u>1.43</u> 100 000 donations
general population ^{3, 4}	0.6%	<u>2.96</u> 100 000 inhabitants x year

² Offergeld R: Bundesges.blatt Ges.forsch Ges.schutz 2003

³ Thierfelder W; Eur J Epidemiol 2001

⁴ German Notification data; Yearbook 2001

Prevalence and incidence of hepatitis B markers in injection drug users, 1993-94

Population	Prevalence (antiHBc)	Incidence
injection drug users ⁵	64%	<u>26.3</u> 100 person-years
general population ^{6,7}	7%	<u>1.7</u> 100 000 inhabitants × year

⁵ Stark K; Int J Epidemiol 1997

⁶ Thierfelder W; Eur J Epidemiol 2001 ⁴

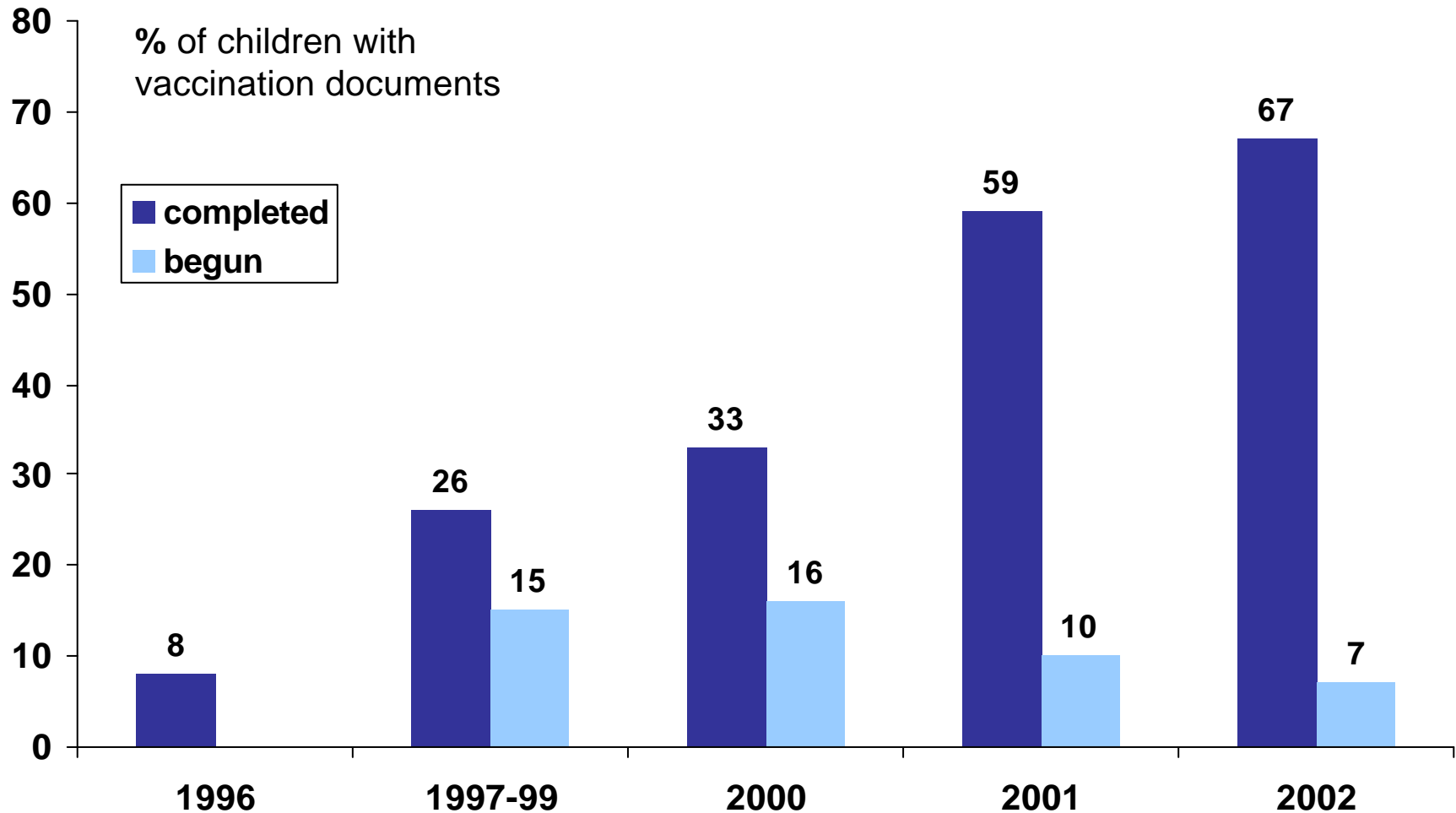
⁷ German Notification data; Yearbook 2002

Vaccination for hepatitis B

- STIKO (German Standing Committee on Immunisation) provides guidelines
- until 1995, recommendation only for risk groups
- since 1995, in addition, standard vaccination for infants, children, adolescents
- vaccination coverage measured at school entry
- in 2000, two hexavalent combination-vaccines including hepatitis B were approved (EC)

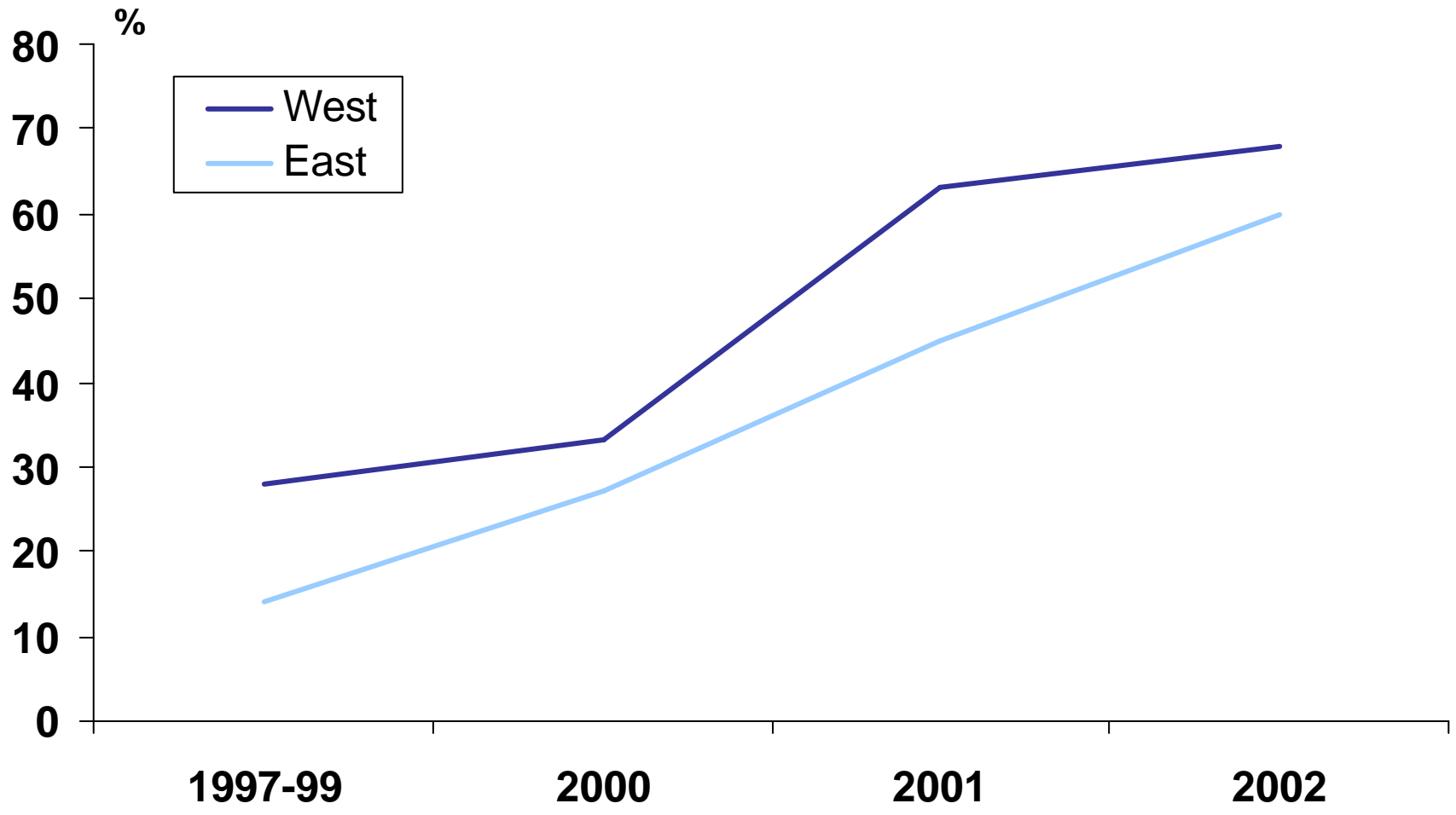


Vaccination coverage for hepatitis B at school-entry, Germany, 1996-2002



Vaccination coverage for hepatitis B at school-entry, 1997-2002

Eastern and Western states



Antenatal screening

- routine screening of pregnant women for HBs-Ag (after 32 week of gestation)
- if positive, the newborn receives HB-Ig and active immunisation

Clustering of cases of hepatitis B,

German notification data, 2001-2002

- in 2001, 33 clusters with less than 5 cases and one cluster with 18 cases were reported
 - long-term care facility
 - in 2002, 9 clusters with less than 5 cases and one cluster with 6 cases were reported
 - dialysis practice
- violation of hygiene standards

Summary

- new Infectious Disease Law allows for improved surveillance of hepatitis B
- incidence of reported hepatitis B cases decreased
- serosurveys provide valuable information on seroprevalence
- since 1995, standard vaccination for hepatitis B (infants, children and adolescents)
- vaccination coverage reached 67% (children at school-entry)