Epidemiology and control of hepatitis A in the UK

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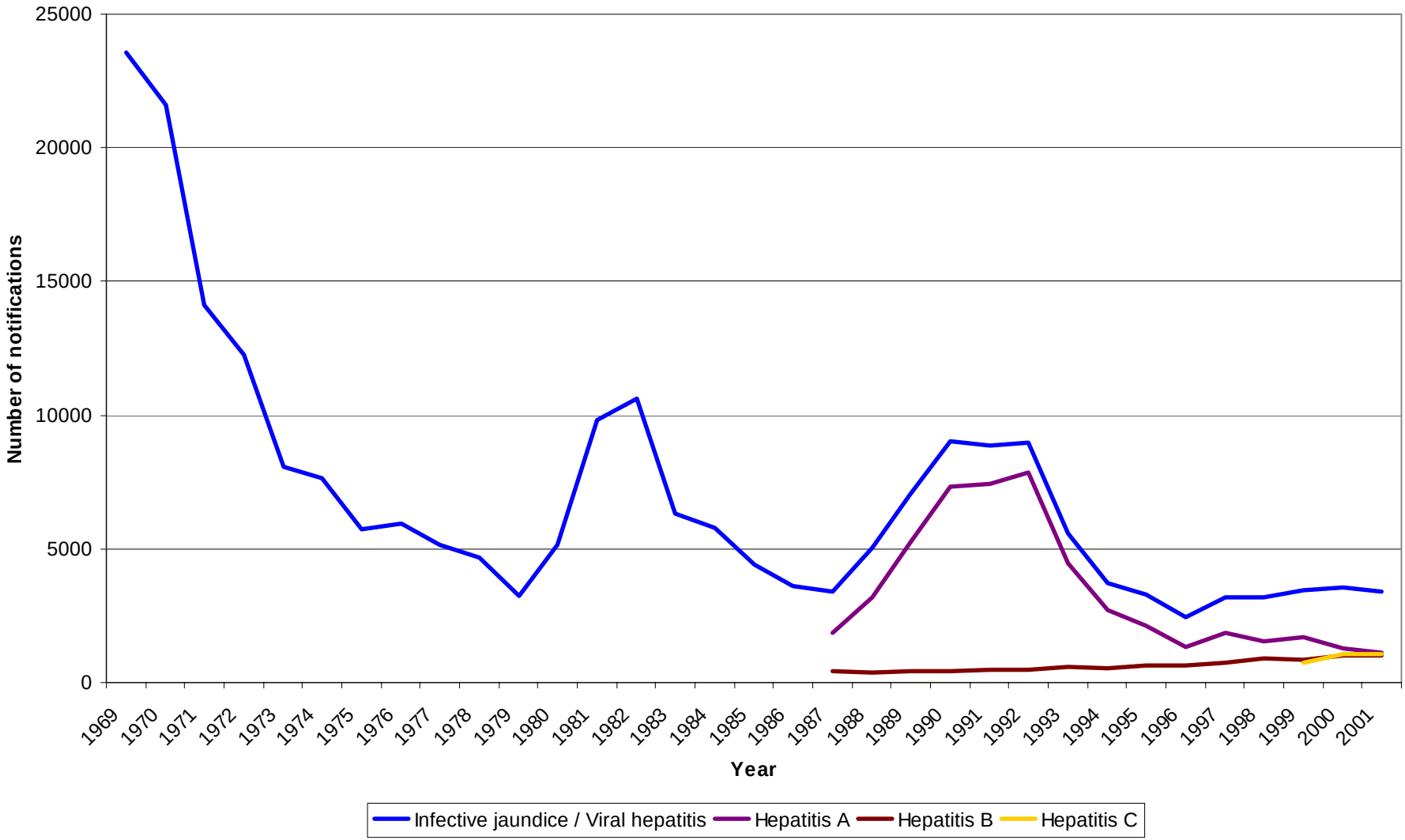
HPA Centre for Infections

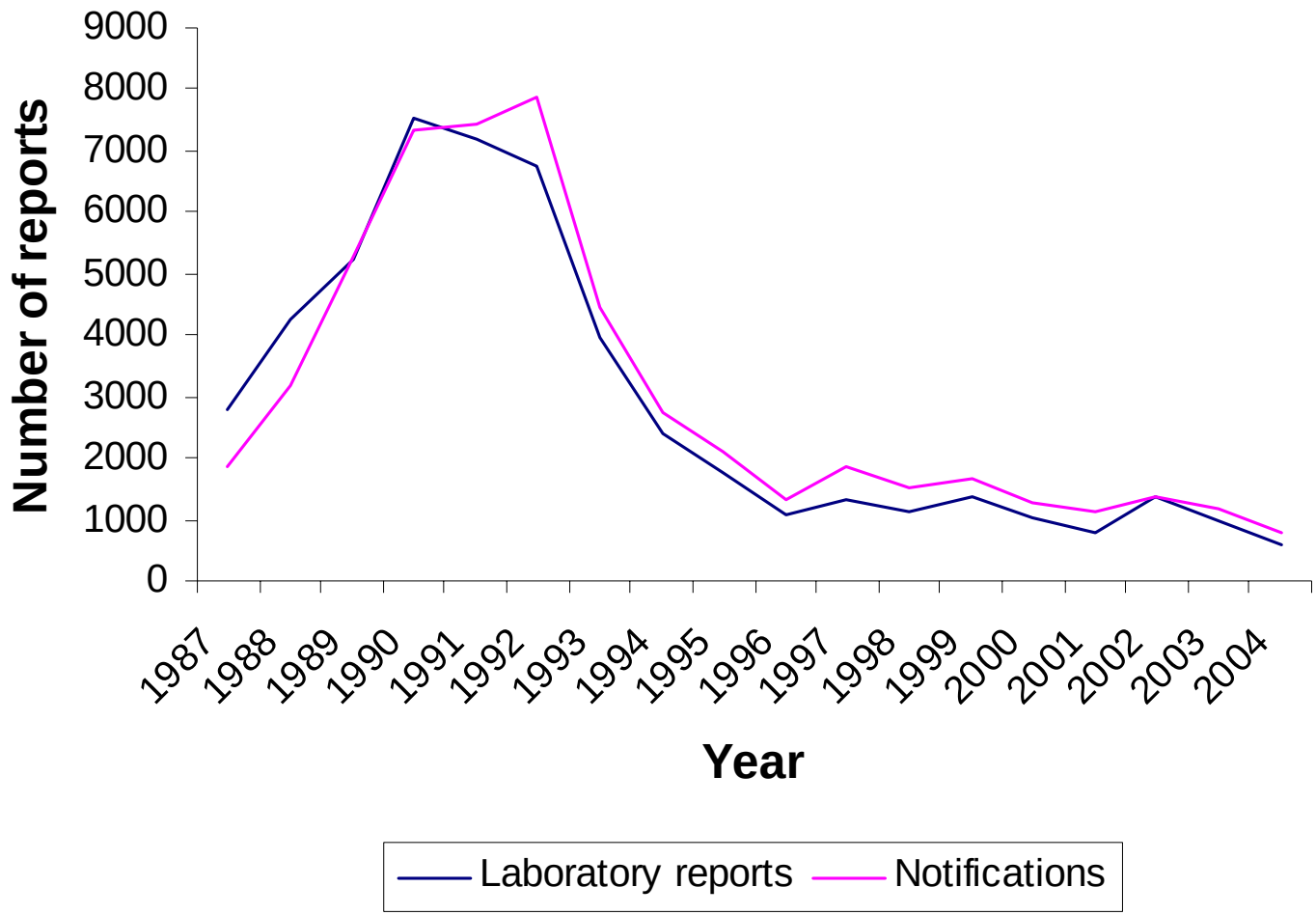
Sources of information

- Statutory notifications
- Laboratory reports
- Mortality statistics
- Liver transplantation registries
- Ad hoc reports to HPA: Incident database, reports to CfI, bulletins
- Modelling of serosurveillance data

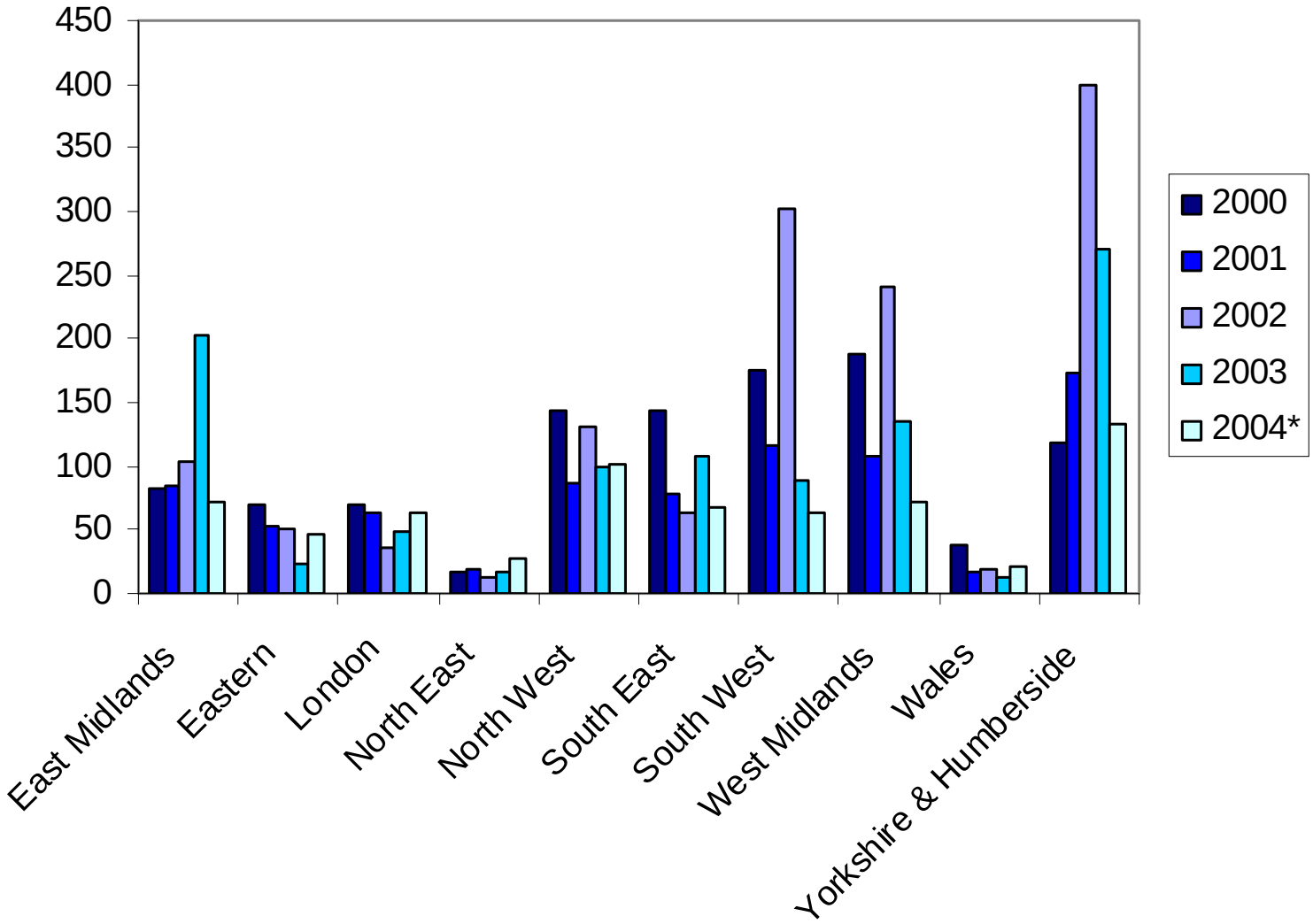
Infectious jaundice notifications England & Wales 1969-2001



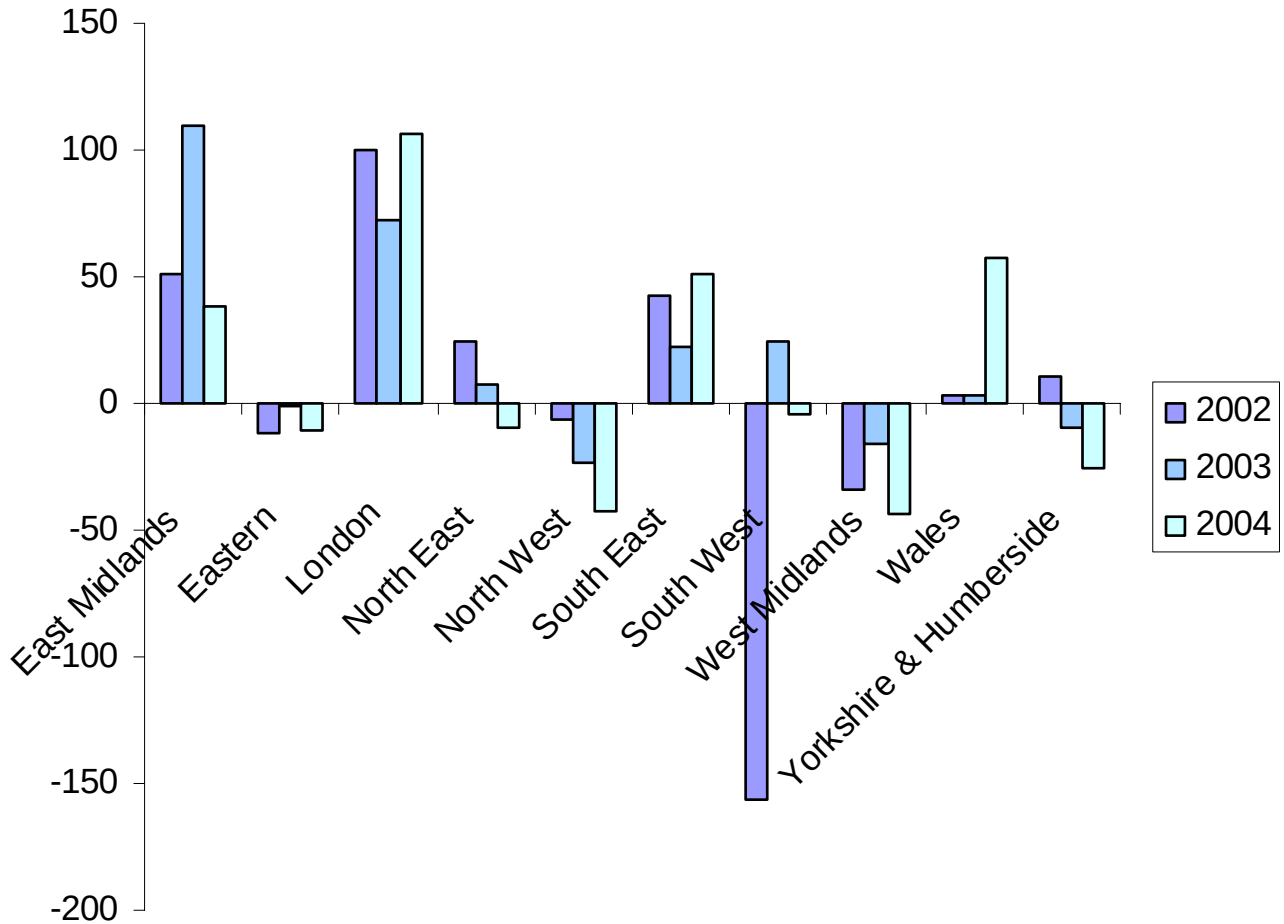
Hepatitis A notifications and laboratory reports, England and Wales 1987-2004



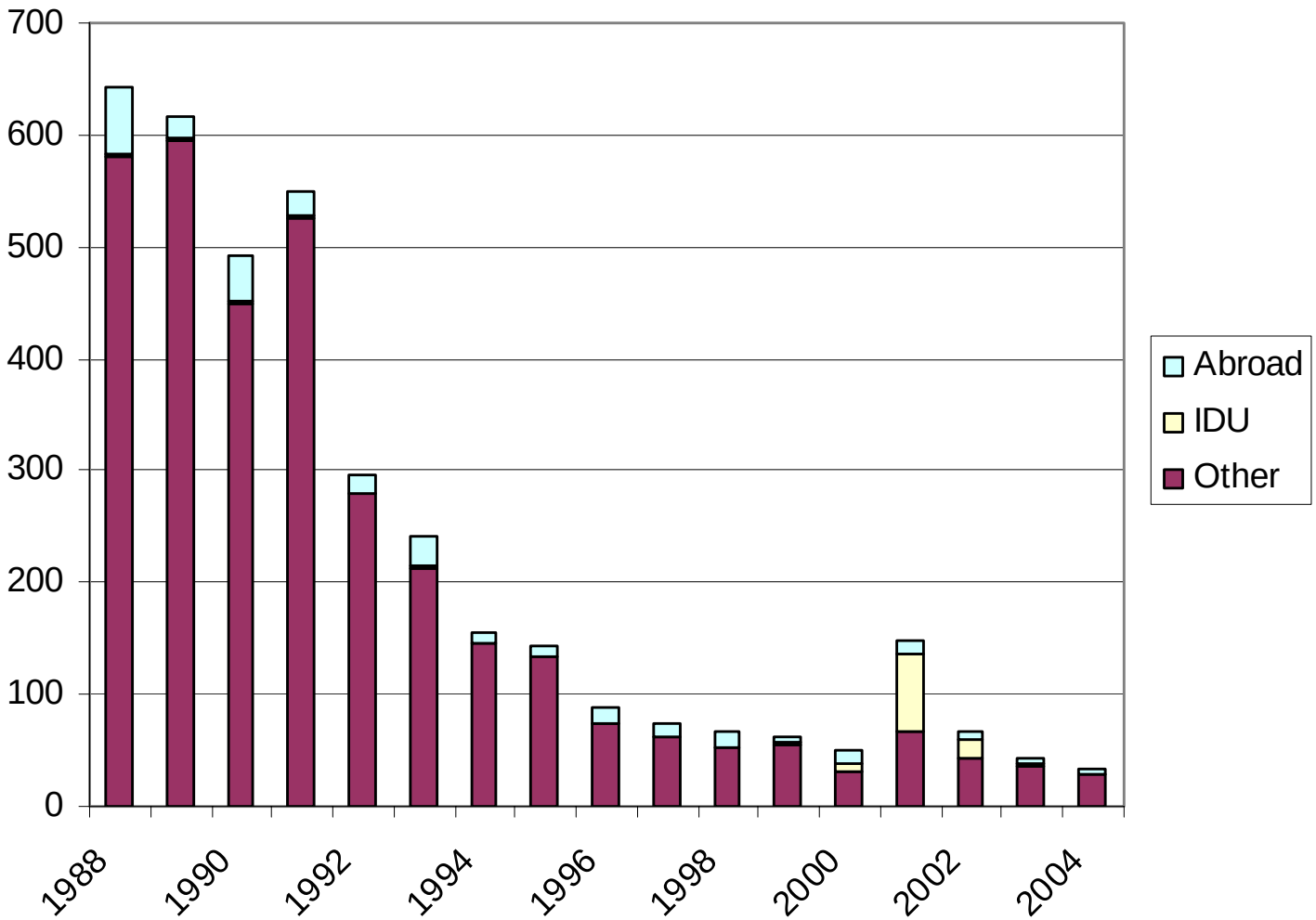
Regional laboratory reports



Difference between notifications and laboratory reports in England and Wales by region, 2002-4

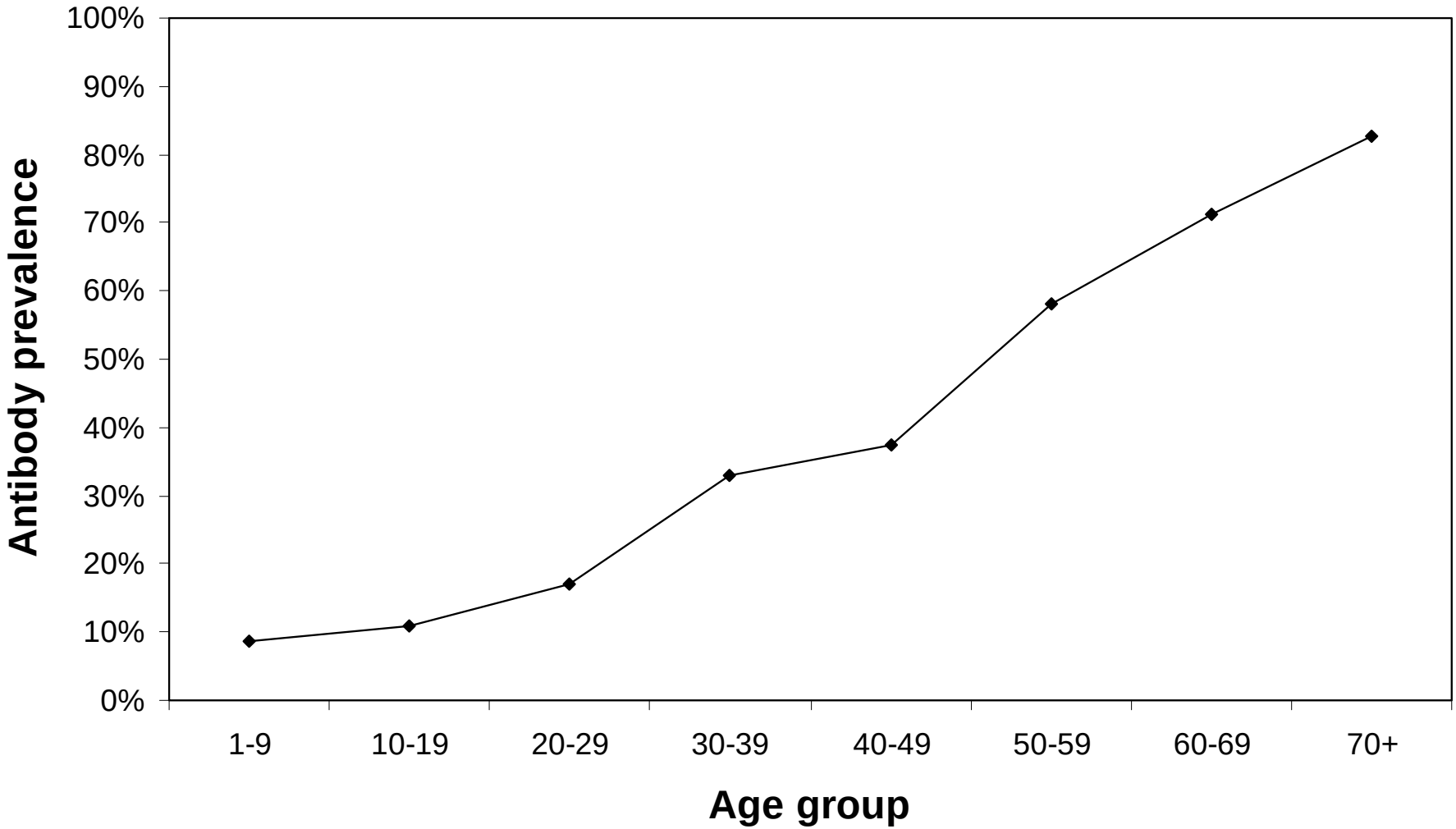


Laboratory reports Scotland 1988-2004



Prevalence of Antibody to Hepatitis A in E&W 1996

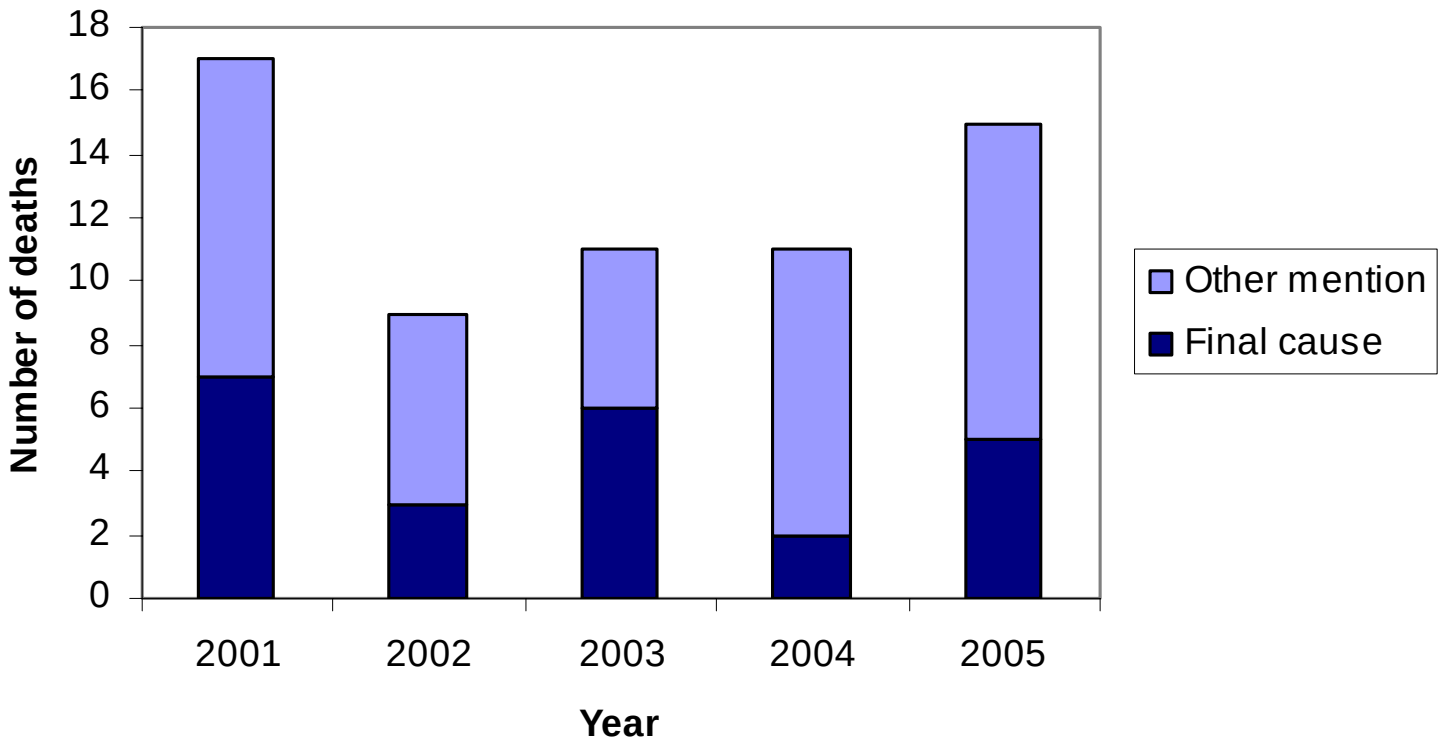
Morris et al Epidemiol & Infect 2002;128:457-63



Deaths in England, any mention of hepatitis A, 2001 – October 2005

Age	Deaths
<5	1
15-34	3
35-54	13
55-74	23
>74	23
Total	63

Deaths from hepatitis A in England 2001-2005*



** Data in 2005 to October only*

Incomplete information

- Quality of laboratory surveillance poor and deteriorating Travel history, injecting drug use, sexual or foodborne exposure, ethnic group should be reported
- Less than 5% reports have information
- Travel history has fallen from 80% in 1990 to 3% in 2004

Evaluation of surveillance 2004/5

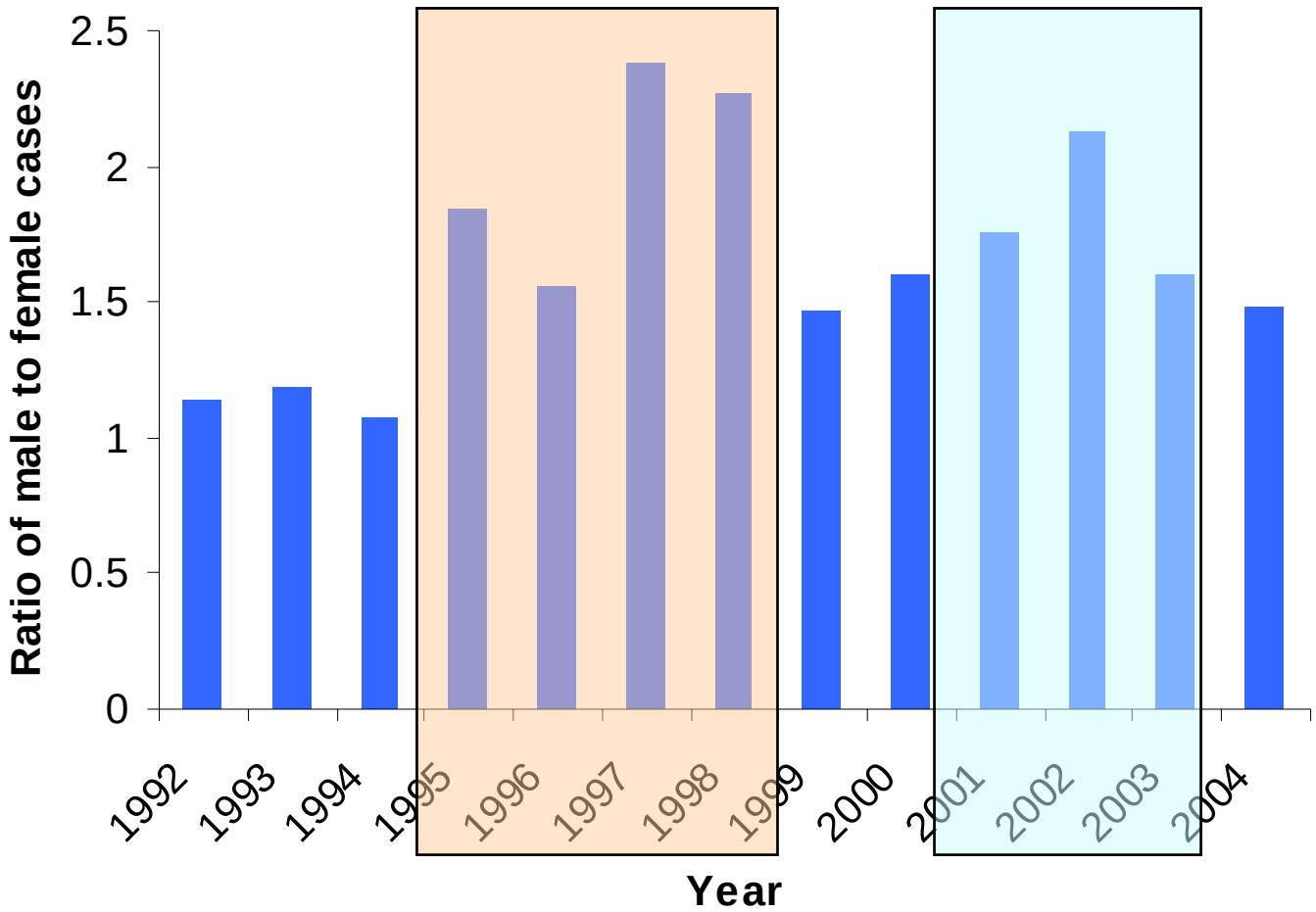
- Patient postcode – not available
- Ethnicity – virtually never
- Information is collected at local level, not integrated into national reporting
- Poor reporting of outbreaks
- Genotyping – tried but not evaluated

Outbreaks

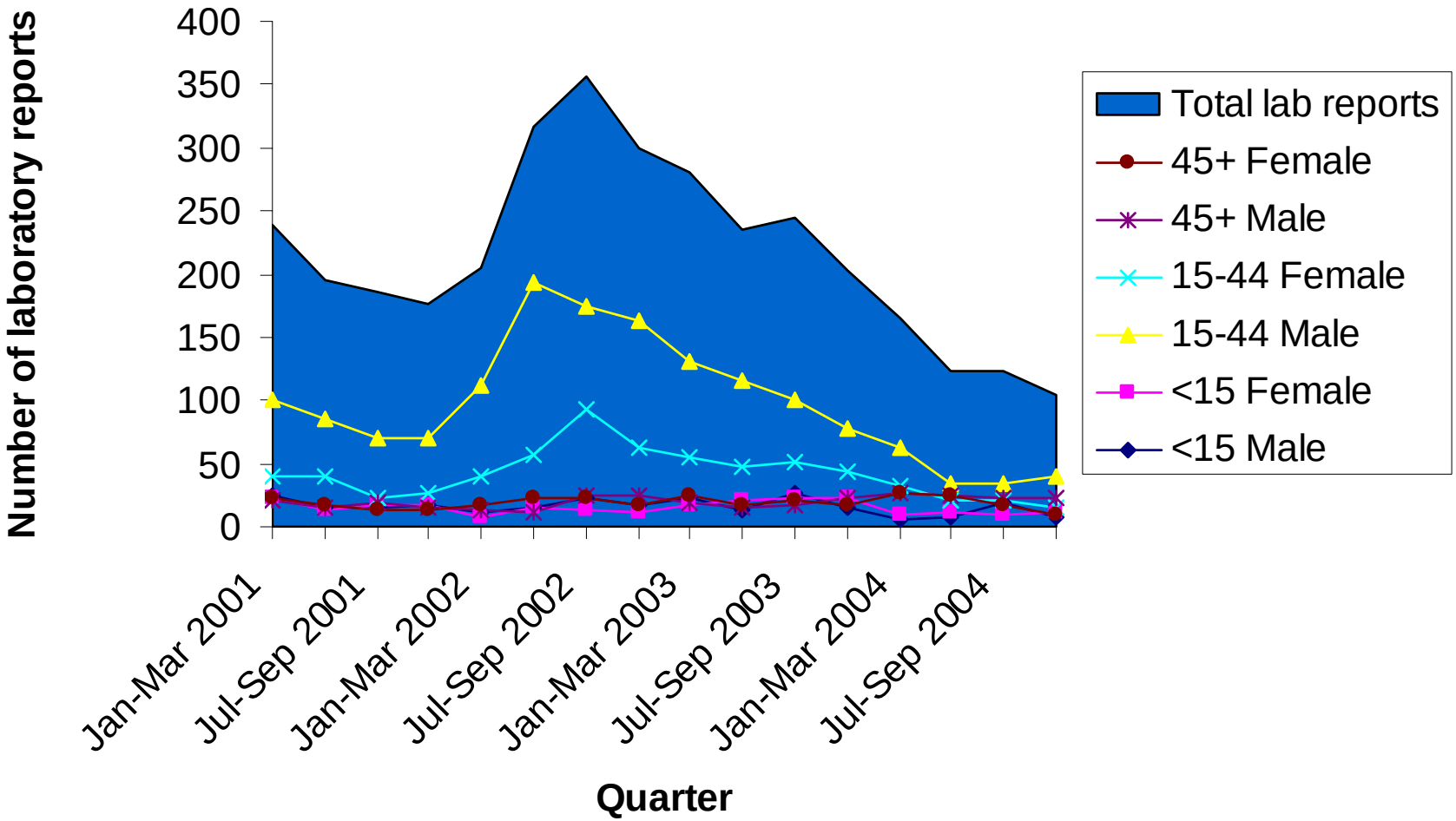
- Outbreaks in MSM in mid to late 1990s and in 2004 in London(Walsh B et al Genitourinary Medicine 1996;72:449-50). Rate in London in 1995 estimated 94/100,000
- Outbreaks in IDUs in Scotland in 2001-2 linked to an outbreak in Grampian
- Survey in 2002 of public health departments found 20 outbreaks ocured in England and Scotland since 1999
- In 2004 three outbreaks reported to HPA incident database: kebab shop, primary school and MSM

Risk groups

Male: female ratio of cases



Laboratory reports of hepatitis A England & Wales by age and sex, Jan 2001 - Dec 2004

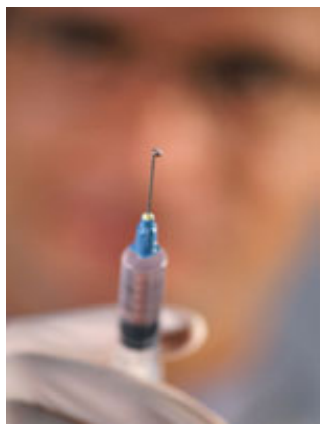


Rates of hepatitis A infection per 100,000 population in England and Wales, 2002

Region	Rate per 100,000	Rate in children <15y
YORKSHIRE & HUMBER	7.4	1.5
SOUTH WEST	5.9	0.9
WEST MIDLANDS	4.2	1.3
EAST MIDLANDS	2.2	0.5
NORTH WEST	1.7	0.4
EASTERN	0.9	0.3
SOUTH EAST	0.7	0.2
WALES	0.6	0.1
NORTH EAST	0.5	0.2
LONDON	0.4	0.1

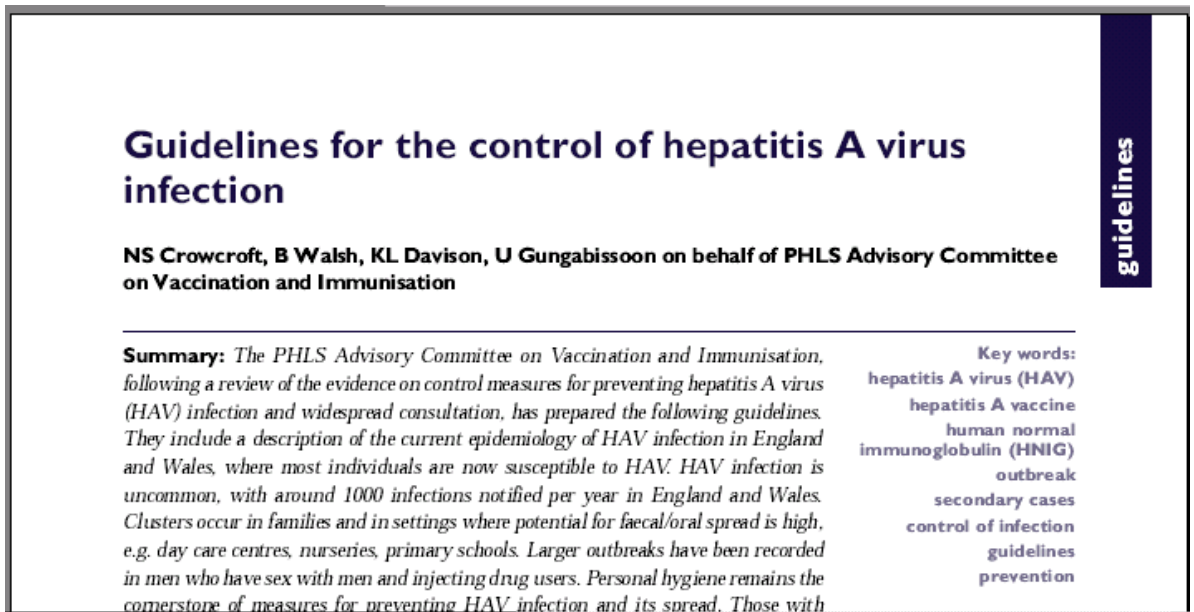
Control measures

- Hygiene
- Human Normal Immunoglobulin (HNIG)
- Vaccine available since 1992



Guidelines

- Department of Health and Joint Committee on Vaccination and Immunisation's Immunisation against infectious diseases ("Green Book")
- PHLS Guidelines: Crowcroft et al Commun Dis Public Health 2001;4:213-27



guidelines

Guidelines for the control of hepatitis A virus infection

NS Crowcroft, B Walsh, KL Davison, U Gungabissoon on behalf of PHLS Advisory Committee on Vaccination and Immunisation

Summary: *The PHLS Advisory Committee on Vaccination and Immunisation, following a review of the evidence on control measures for preventing hepatitis A virus (HAV) infection and widespread consultation, has prepared the following guidelines. They include a description of the current epidemiology of HAV infection in England and Wales, where most individuals are now susceptible to HAV. HAV infection is uncommon, with around 1000 infections notified per year in England and Wales. Clusters occur in families and in settings where potential for faecal/oral spread is high, e.g. day care centres, nurseries, primary schools. Larger outbreaks have been recorded in men who have sex with men and injecting drug users. Personal hygiene remains the cornerstone of measures for preventing HAV infection and its spread. Those with*

Key words:
hepatitis A virus (HAV)
hepatitis A vaccine
human normal immunoglobulin (HNIG)
outbreak
secondary cases
control of infection
guidelines
prevention

Settings

- Contacts of cases - household contacts, sexual contacts
- Outbreaks
  - Institutional (“well defined”)
  - Community-wide (“poorly defined”)
- High risk groups
  - Occupational - laboratory staff
  - IDU
  - Homeless
  - Men who have sex with men
  - Chronic liver disease
  - Haemophiliacs
  - Travellers

Policy I

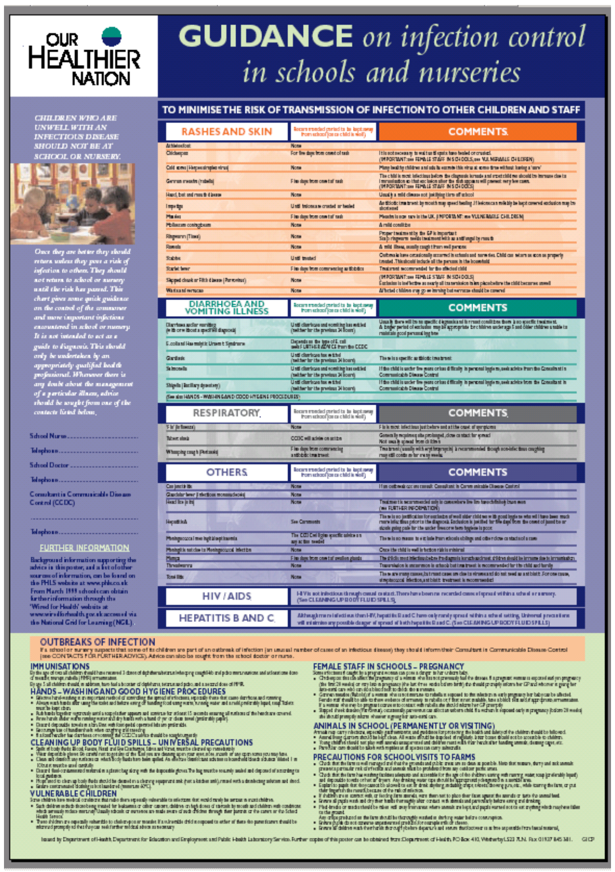
- Vaccination to be used in preference to HNIG for:
  - Travellers
  - Control of outbreaks
  - Protection of close contacts of cases provided they can be vaccinated within one week of onset in the index case *(“onset”=jaundice in most cases)*

Policy II

- Vaccination recommended for high risk groups
  - Injecting drug users, gay men, staff working with high risk groups such as special needs/hostels
- HNIG to be used for:
  - Protection of close contacts when the onset date in index case is more than one week ago (and less than two weeks)
  - Additional protection of vulnerable groups (with vaccine)

Other guidance - Schools and nurseries

Health Protection Agency



- There is no justification for exclusion of well older children with good hygiene who will have been much more infectious prior to the diagnosis
- Exclusion is justified for five days from the onset of jaundice or stools going pale for the under fives or where hygiene is poor

PREVENTING PERSON TO PERSON SPREAD FOLLOWING GASTROINTESTINAL INFECTIONS
A guide for public health physicians and environmental health officers

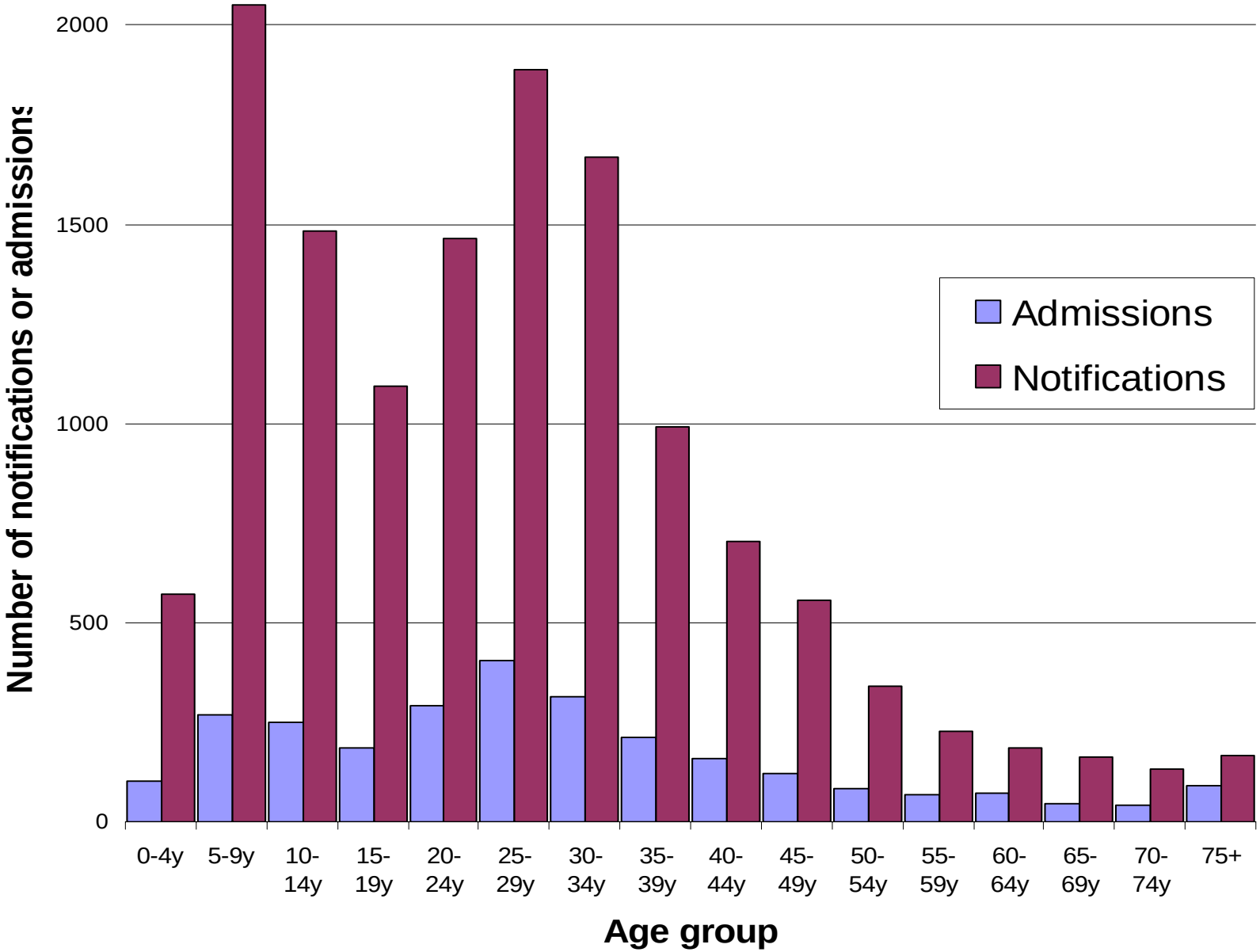
- **Control of human source**
  - Statutorily notifiable as viral hepatitis
- **Cases**
  - Enteric precautions
- **Contacts**
  - Handwashing by children must be supervised in nurseries and infant schools. Authorities must satisfy themselves that hygiene and toilet facilities are adequate

Exclusions

- All cases including those in risk groups A to D (that pose an increased risk of spreading infection) should be excluded for 7 days after onset of jaundice and/or other symptoms

- Microbiological clearance
  - None required

Number of notifications and admissions for Hepatitis A by age group 1993 - 1998 in England and Wales



Policy for children in contact with a case

- Recommend same policy for all children 5 years and older
  - Deaths are concentrated in older age groups but not exclusively – fulminant hepatic failure occurs in childhood
  - 5-9 years hospitalisation pattern similar to 10-14 years
- Children less than 5 years old – discuss with parents
  - A significant number of hospitalisations
  - Consider the protection of others

Vaccinating IDUs (with HBV programme)

- Prison vaccination campaigns have been successful (Gilbert R et al CDPH 2004; 7:289-293)
- Combined HAV/HBV vaccine is equivalent protection to single HAV vaccine **only** if all doses given
- Single HAV has better seroconversion rate than single HAV/HBV BUT may have worse compliance (two injections)

From policy to reality

Vaccine or HNIG for post-exposure prophylaxis?

- Use of vaccine based on one study (Sagliocca et al 1999).
- HNIG and vaccine never been compared
- Studies of efficacy of vaccine and HNIG are heterogeneous
- Recommendations for use of HNIG have not changed in US, Canada
- BUT public health practice HAS changed in UK

Efficacy

- HNIG 47-95% depending on setting etc
  - Various studies, some quite old
- Vaccine efficacy pre-exposure 95% (81-99%)
  - 4 studies
- Vaccine efficacy post-exposure 82% (23-96%)
  - 1 study (Sagliocca et al)

Conclusions

- Incidence is at historically low levels
- Surveillance is incomplete
- Utility of genotyping needs evaluating
- Highest risk groups IDUs, MSM, South Asians, travellers
- National control policies are based on hygiene, HNIG and vaccine
- Local practice varies

Acknowledgements

- 23 laboratories that contributed samples for genotyping
- R.E.s, CMMs and CCDCs who helped
- Anjna Mistry
- Usha Gungabissoon
- Julia Granerød
- Nick Andrews
- Kevin Perrett
- Margot Nicholls
- Peter Markov, Shahed Ahmed
- Nasha Matin
- Andrea Mann
- Mary Ramsay