

# Overview of HAV, HBV and HCV surveillance in France

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VHPB, Veyrier, 18/11/2004

# Hepatitis C

# Hepatitis C virus infection in France

## Background

- Estimated prevalence in 1994 : 1%
- High prevalence among drug users
- Reports of episodes of transmission related to various medical procedures
- Deaths linked to HCV (year 1997): 1740 to 1930
- National prevention programme in the late 1990s

# Surveillance programme for hepatitis C in France

- Possible aims?
  - Provide data to
    - contribute to evaluation of the national prevention programme
    - adapt public health action
  - Alert and intervention
  - Hypothesis for research
- Possible methods?

# Hepatitis C: potential surveillance systems

- To monitor incidence
  - acute hepatitis C (symptomatic=20%)
  - newly acquired hepatitis C viral infection (seroconversion)
    - but complex case definition with a large amount of work for a limited number of cases
- To monitor diagnosis of hepatitis C (anti-HCV antibodies) and collect detailed epidemiologic data on cases
  - too many expected cases
  - difficulties in collecting epidemiological data
  - difficulties in interpreting the results (incident and prevalent cases, missing data)

# Hepatitis C programme

- Surveillance systems
  - Laboratory-based surveillance of HCV serology: screening activities; (Meffre, Eurosurveillance 2003; BEH 2003)
  - Newly referred hepatitis C virus infected patients in hepatology reference centres (BEH 2003, Annals of epidemiology in press)
  - Mandatory notification of nosocomial related hepatitis C (or B) (Lepoutre, BEH 2003)
  - Surveillance in blood donors (residual risk) (Pillonel, Transfusion 2002, BEH 2003)

# Hepatitis C programme

- Surveys

- HIV patients for co-infection with HCV

- 2000 (Salmon-Céron, Médecine et maladies infectieuses 2002)
    - 2004 (+HBV)

- Population-based seroprevalence

- 1994 (Dubois, Hepatology 1997)
    - 2003-2004

- survey of deaths linked to hepatitis C 2004

- Current modes of transmission 1998-2001

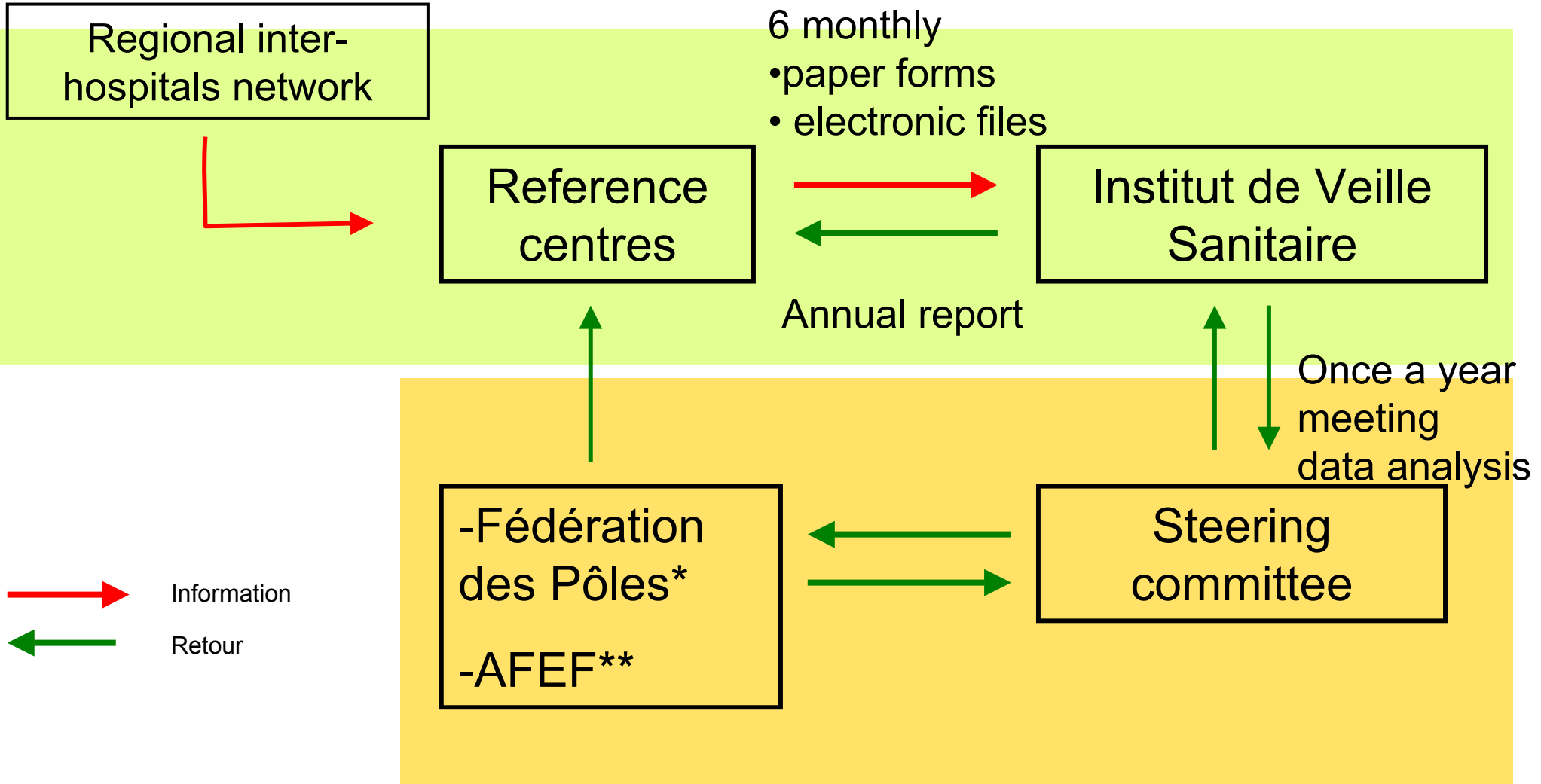
- surveys in specific populations (drug users)

- Valenciano, Addiction 2001
    - 2004

# Surveillance system for newly referred hepatitis C virus infected patients in hepatology reference centres

- Implemented in April 2000
- 26/31 reference centres participating
  - hepatology wards in university hospitals
  - some of them with a regional network
  - no prerequisites criteria for referral
- Case definition
  - newly referred patient (first contact) with positive anti-HCV antibodies in any of the participating reference centres
- Standardised notification form
  - epidemiological and clinical data

# Flow chart



\*French association for the reference centres; \*\*french association for the study of the liver

# Data collected/Information provided by this system

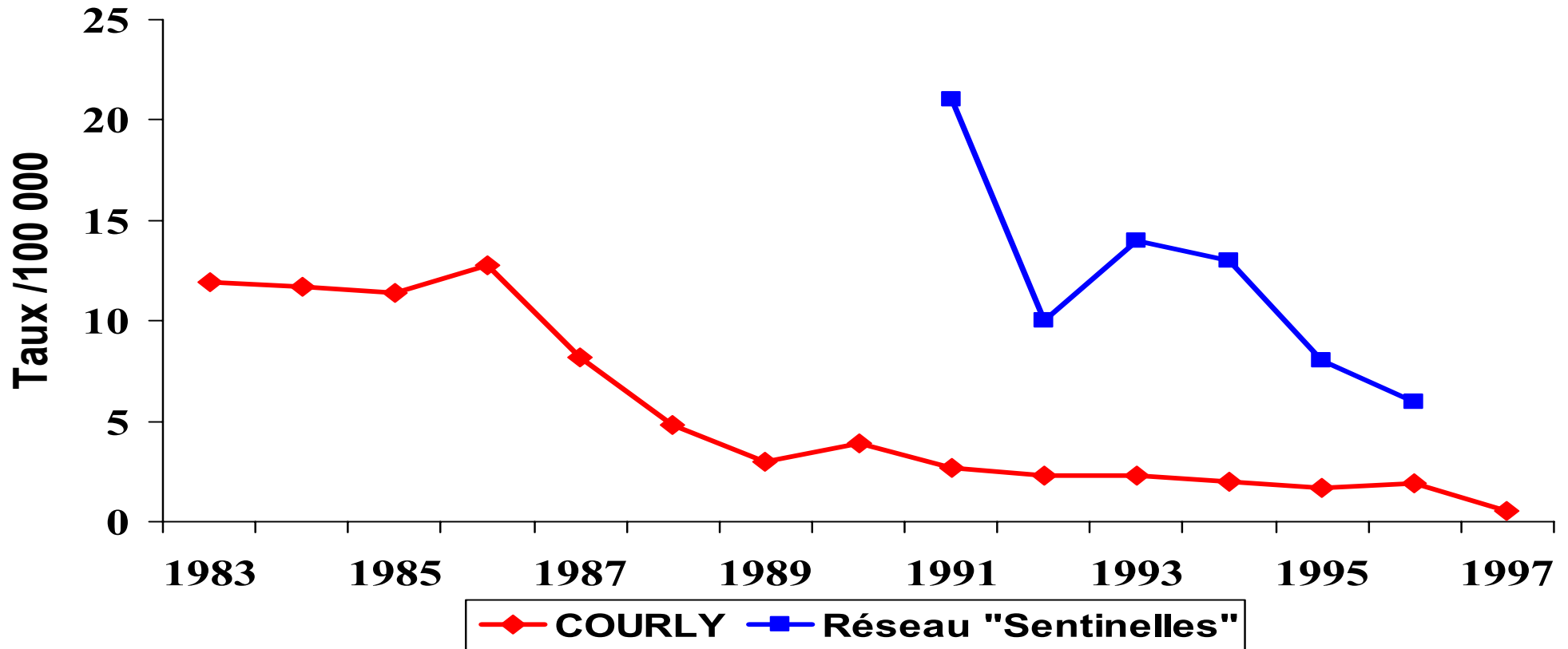
- Circumstances of HCV antibody testing and date of diagnosis
- Risk factors for HCV transmission
- Suspected year of infection
- “Clinical-biological-morphological” stages
  - completed for 87% of the patients
- ALT value, HCV RNA, genotype
- Results of the liver biopsy (Metavir)
  - completed for less than 40% of the patients
- Alcohol consumption

# « Clinical » stage distribution among HCV positive patients at first referral in hepatology reference centres; France 2000-2002

	<b>2000</b>	<b>2001</b>	<b>2002</b>
Total N° of patients	N= 2 063	N= 3 906	N= 4 259
Data available for	n= 1 650	n=3 404	n=3 586
Normal ALT values	20.5%	17.7%	22.5%
Chronic hepatitis	68.1%	70.4%	66.0%
Cirrhosis, primary liver cancer	10.7%	11.5%	12.1%
Acute hepatitis	0.5%	0.4%	0.4%

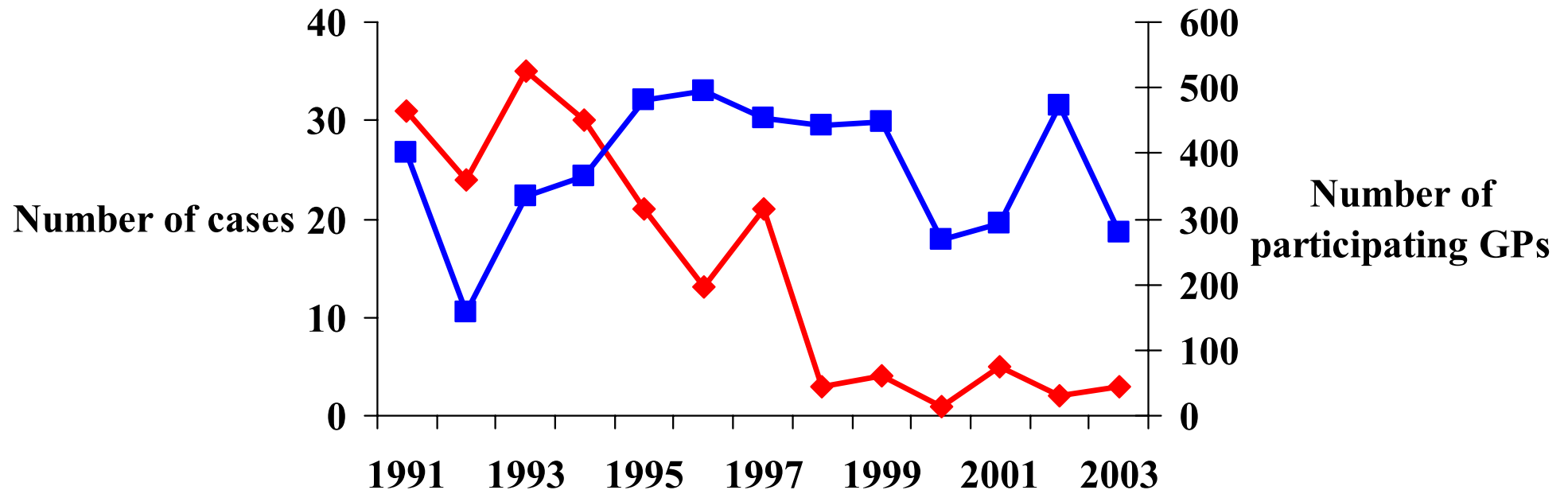
# Hepatitis B virus

# Incidence of hepatitis B per 100,000 inhabitants France, 1983-1996



# Hepatitis B : number of cases, number of participating GPs

## Réseau Sentinelles 1991-2003



Source réseau

Sentinelles <http://rhone.b3e.jussieu.fr/senti/php/doc/bilans/>

# Mandatory notification of acute hepatitis B cases

- 1998 : working group on hepatitis B surveillance  
→ mandatory notification

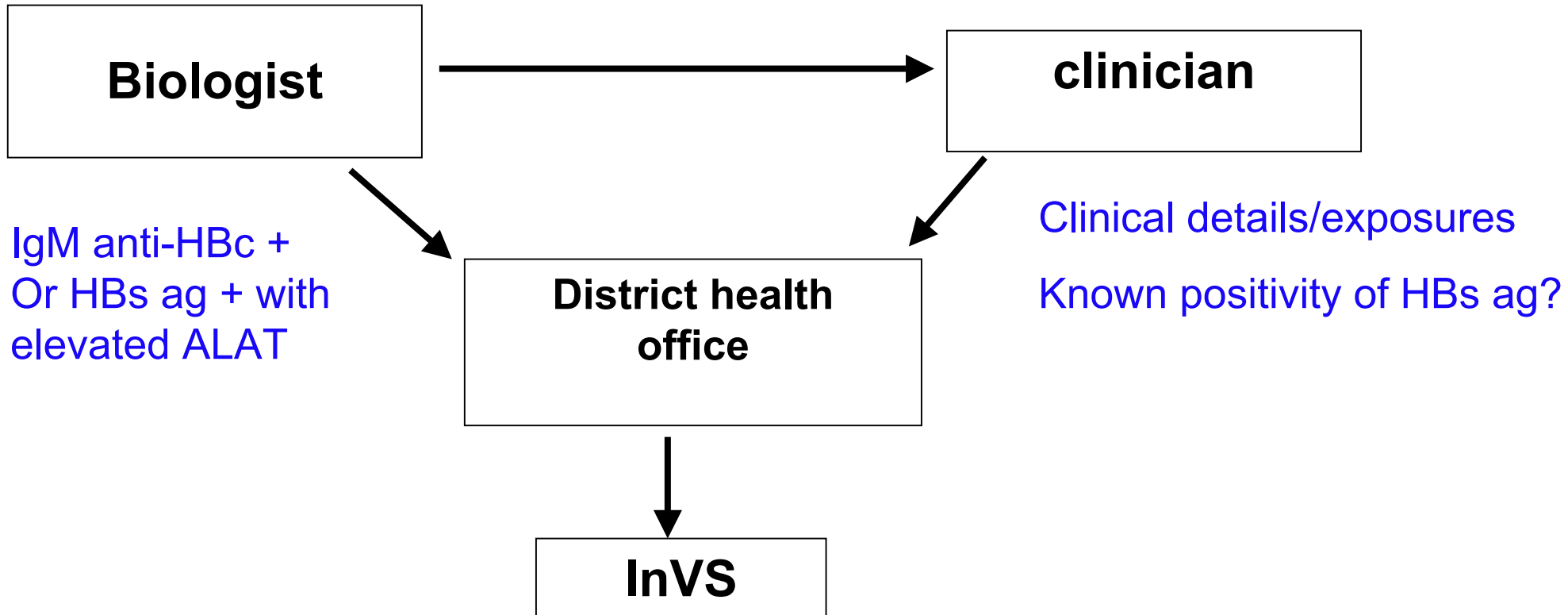


Anonymous system 2000-2002

Revisal of all the mandatory diseases

- March 2003 : implementation

# Flow chart/criteria for notification



## ***Notification form***

**Part1** : anonymisation code, year of birth, gender, district code

**Part 2** : biology

**Parts 3-5** : clinical details, exposures

**Parts 6-7** : names of the biologist and the clinician

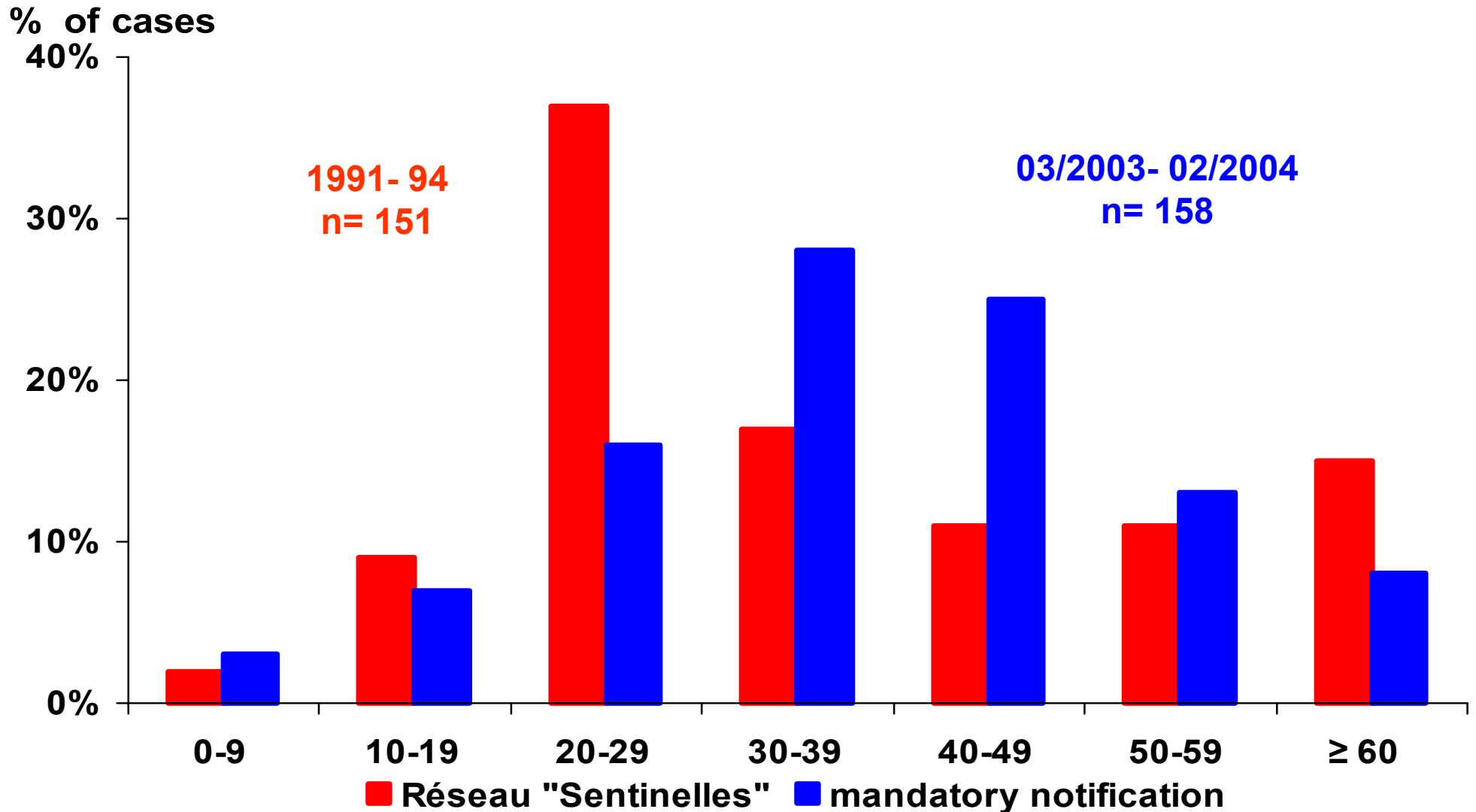
# Mandatory notification of acute hepatitis B cases : March 2003-March 2004

<http://www.invs.sante.fr/>

- Criteria for notification: 418 forms
  - 167 not fulfilling the notification criteria
  - 19 insufficient data
  - 158 acute hepatitis B + 8 possible (biological data only) + 66 chronic carriage (35 reactivations)
- Sensitivity probably better for hospitalised cases
  - 46% of cases hospitalised >> expected

# Acute hepatitis B by age groups

## Comparison 1991-1994 and 03/2003 - 02/2004



# Hepatitis B and C: National Reference Centres

- **Molecular epidemiology** V thiers Institut Pasteur /hopital Necker
  - Molecular typing, collection of “strains”, contribution to investigations
- **Blood donors** P Rouger, S Laperche INTS
  - Surveillance in blood donors, residual risk, reference techniques

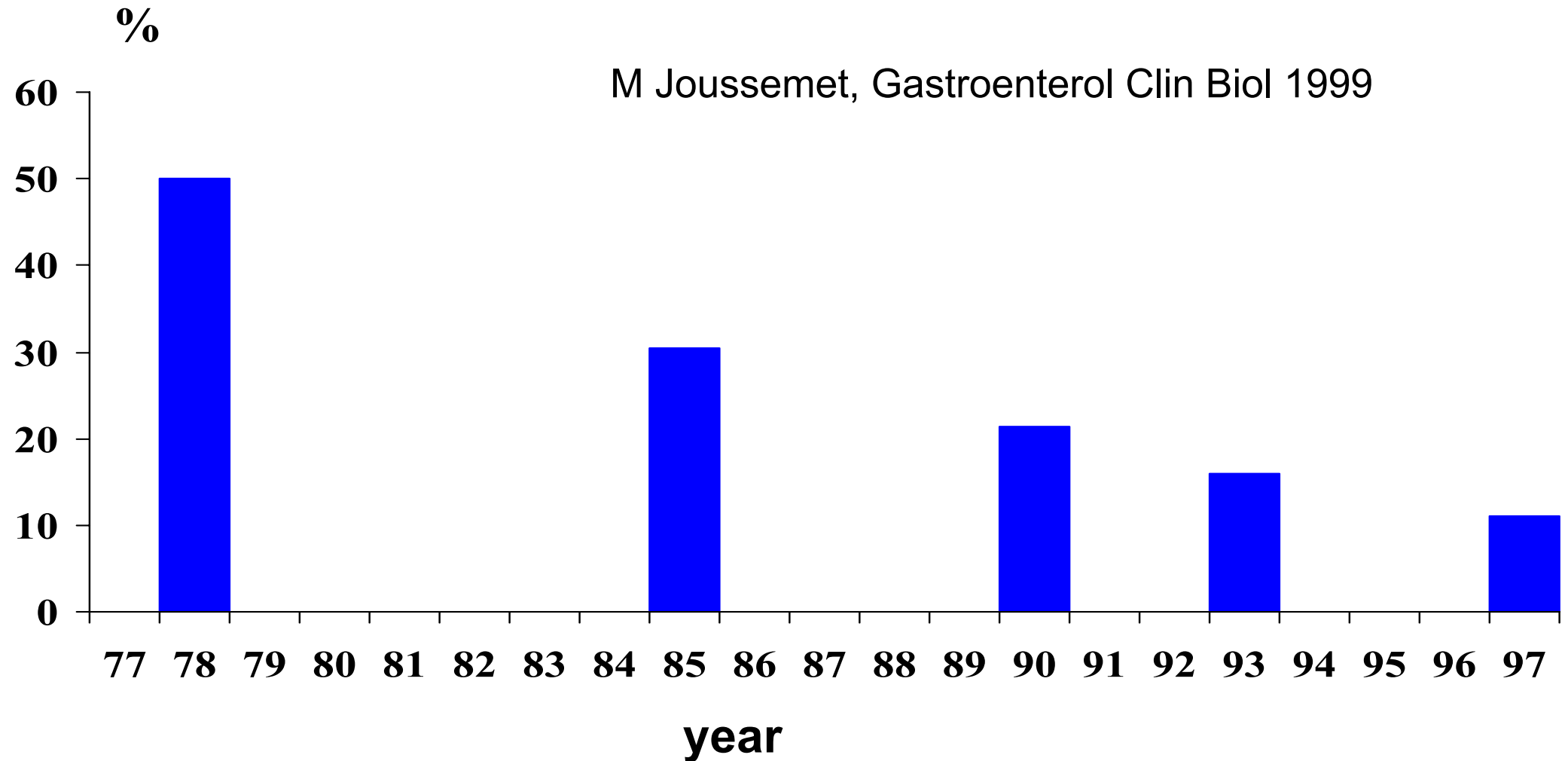
# Hepatitis A virus

# Hepatitis A. Background

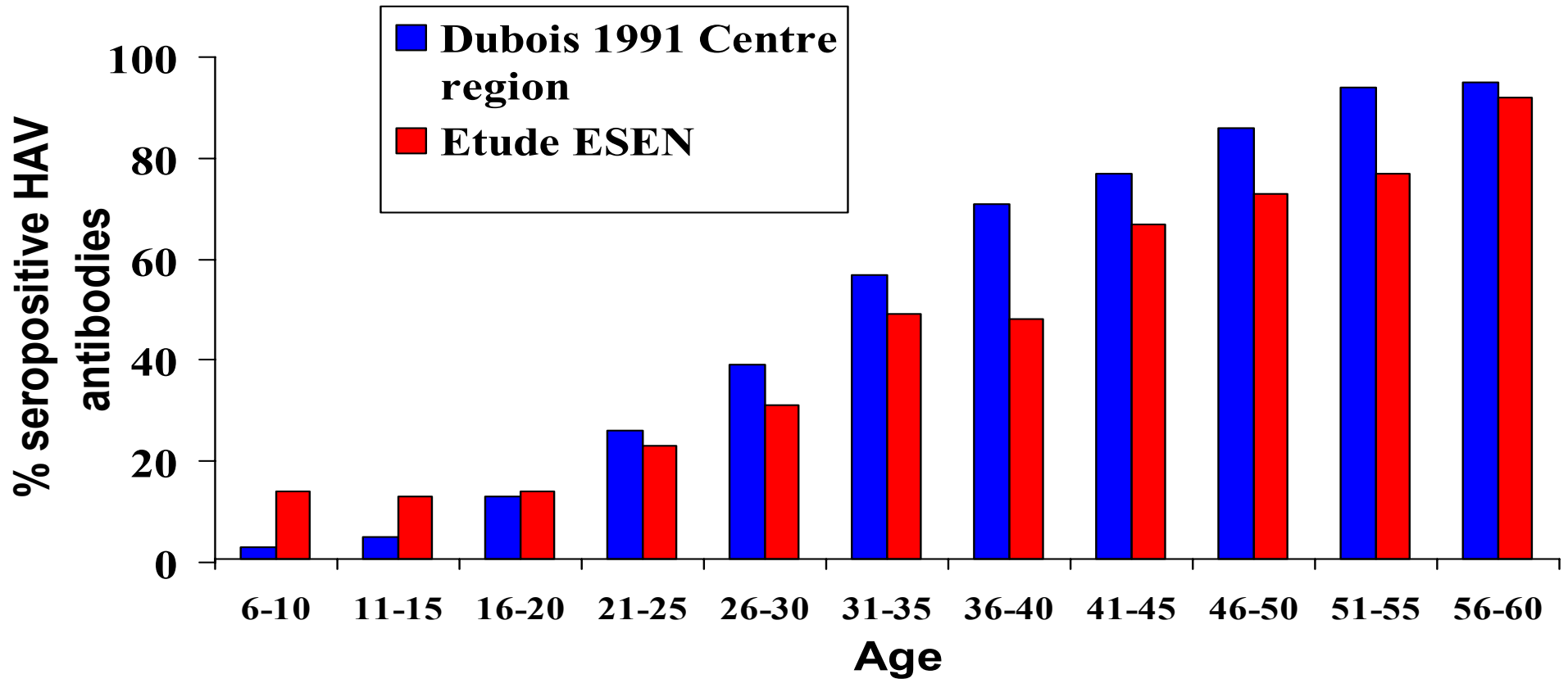
- Increase of susceptible adults
  - prevalence of anti-HAV antibodies military recruits, France, 1978-1997
  - prevalence of anti-HAV by age groups 1991; 1998-1999
- Sentinel surveillance system
  - decline in incidence : limited number of cases notified through the system
  - no out break detection (not an objective)
- Incidence, risk factors, outbreak detection??
  - Another surveillance system needed

# Prevalence of anti-HAV antibodies. Military recruits, France, 1978-1997

M Joussemet, Gastroenterol Clin Biol 1999



# Prevalence of anti-HAV antibodies by age groups ESEN - France 1998-1999. Centre region, Dubois *et al* 1991



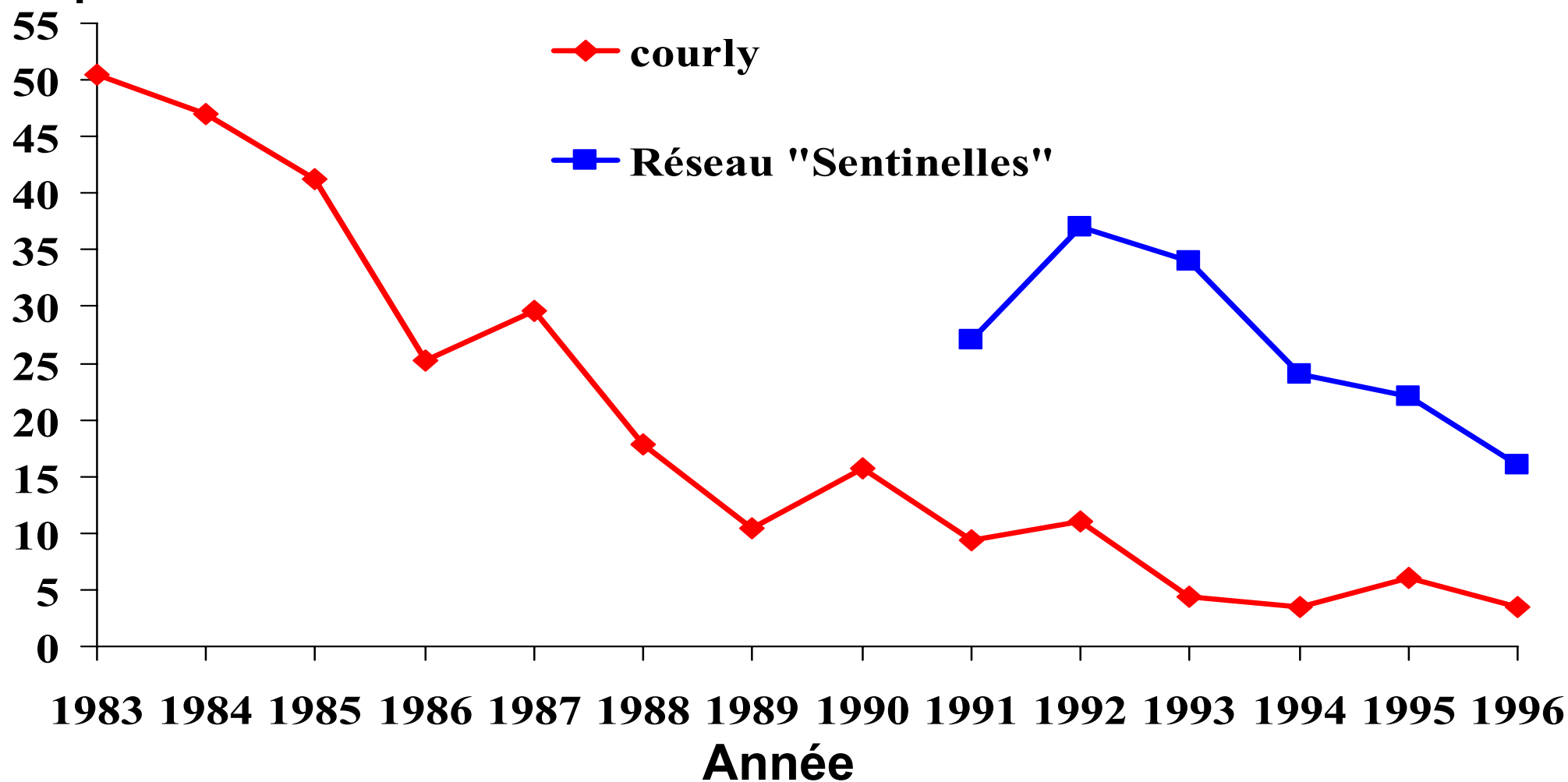
# Hepatitis A. Background

- Increase of susceptible adults
  - prevalence of anti-HAV antibodies military recruits, France, 1978-1997
  - prevalence of anti-HAV by age groups and gender
- Sentinel surveillance system
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# Incidence of hepatitis A per 100,000 inhabitants France, 1983-1996

<http://rhone.b3e.jussieu.fr/senti/php/doc/bilans/>

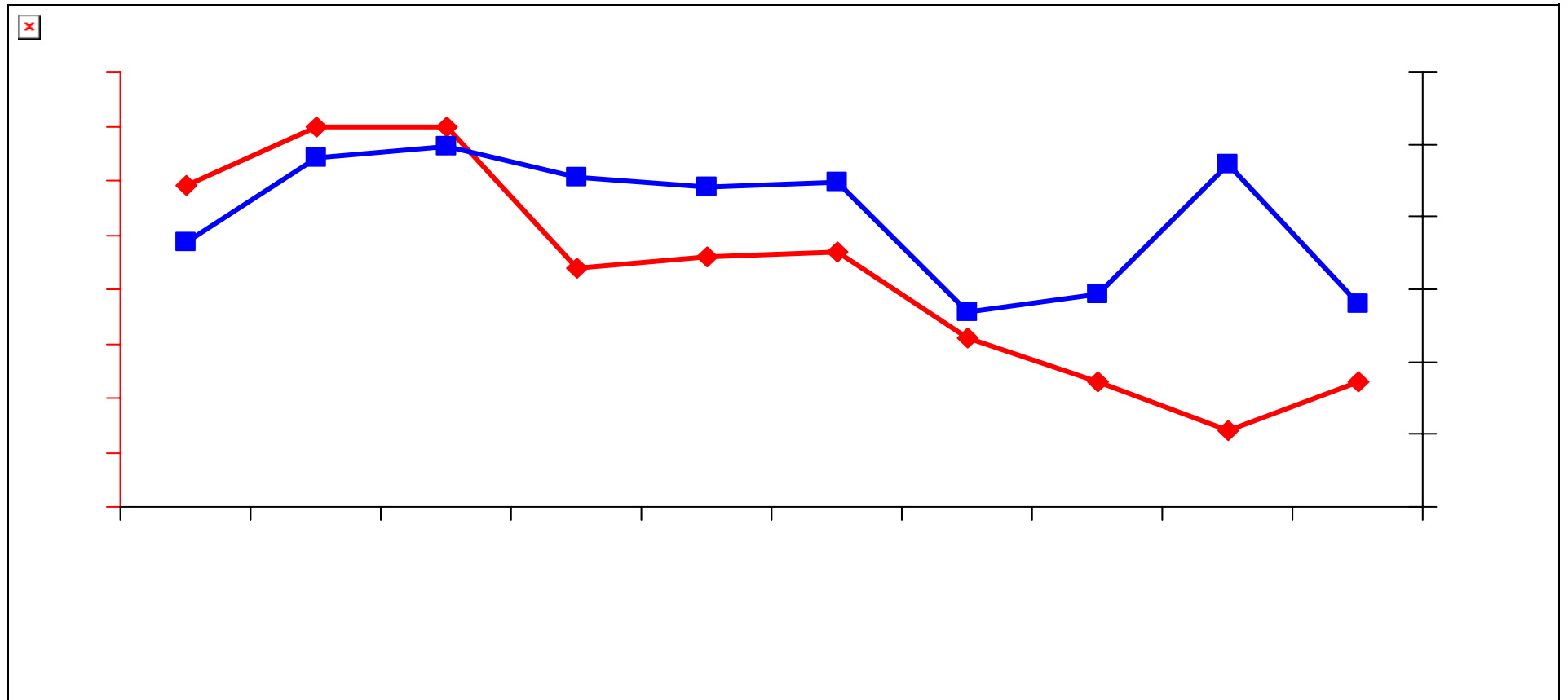
Taux pour 100 000



# Hepatitis A : number of cases, number of participating GPs

Réseau Sentinelles 1994-2003

<http://rhone.b3e.jussieu.fr/senti/php/doc/bilans/>





# Evaluation of the pilot system 2000

- Information provided by the system
  - Incidence by age and gender
- Objective not reached : outbreak detection
  - lack of sensitivity due to an insufficient proportion of participating laboratories
  - lack of capacity to identify clusters at the district level
- Willingness and acceptability of the biologists very good

# Mandatory notification?

- Conclusion of a working group 2004
- Objectives:
  - outbreak detection
  - incidence
- Mandatory notification by biologists to the district medical officer
- Contact with clinicians
  - in case of cluster
  - once every 3 years to collect data on exposures
- Proposition submitted soon to Conseil superieur d'hygiene publique de France 26/11/2004

# Hepatitis A. National reference centre

- Nominated in 2001
- A (+E) (E Dussaix, hôpital Paul Brousse; E Nicand, hopital du Val de grâce)
- Role
  - Expertise: identification, typing
  - Contribution to
    - alert
    - investigation of cluster

# Remerciements

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- and the reference centres
- Françoise Roudot-Thoraval