

# Epidemiology of hepatitis A and E in France

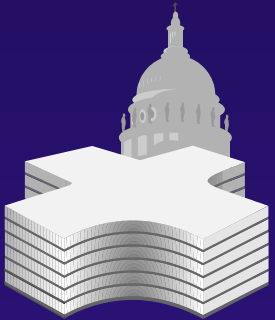
E NICAND, MD

Unit of Microbiology

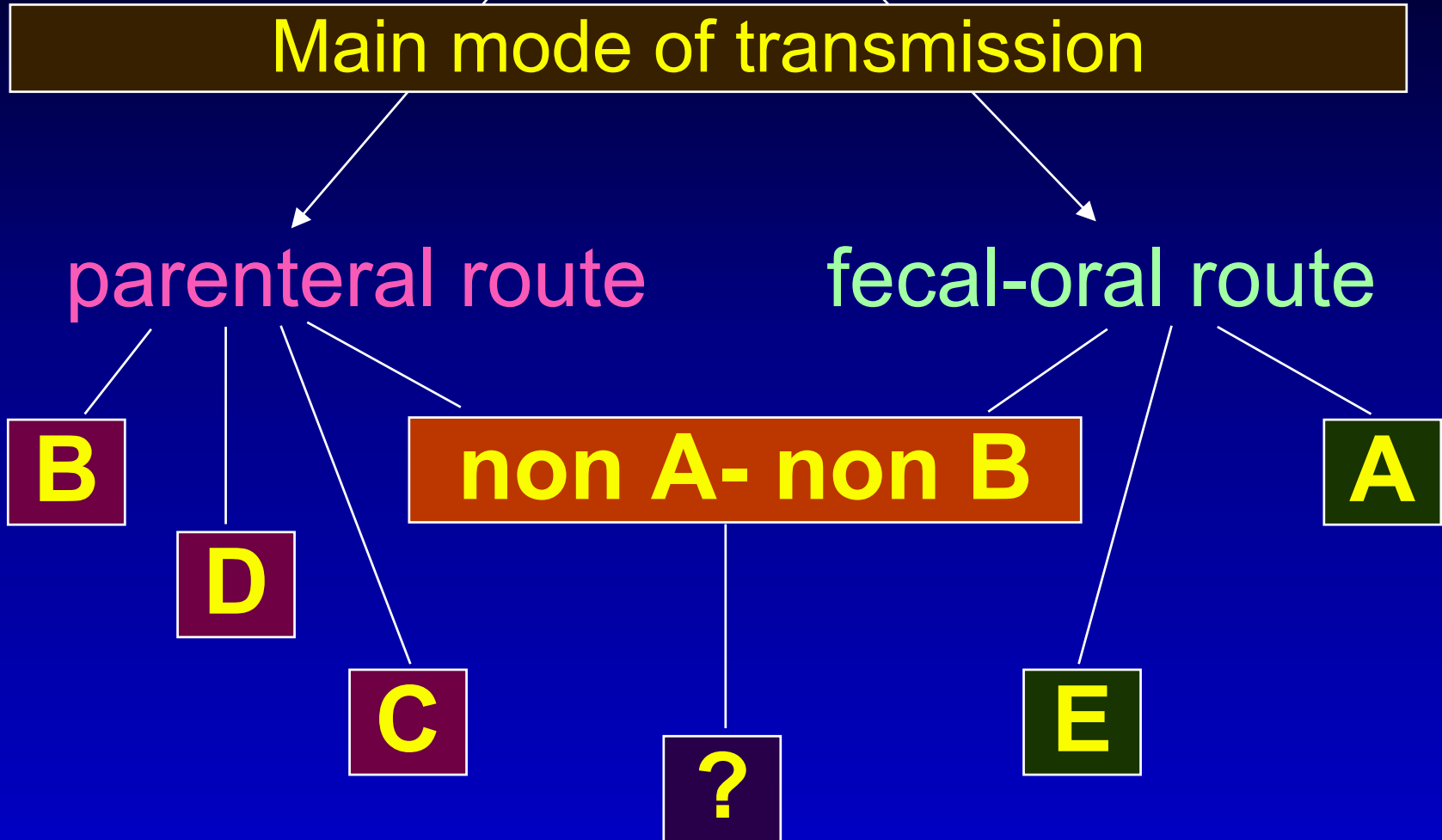
National Reference Centre for enterically-transmitted hepatitis (HEV)

Military Hospital Val de Grâce

Paris, France

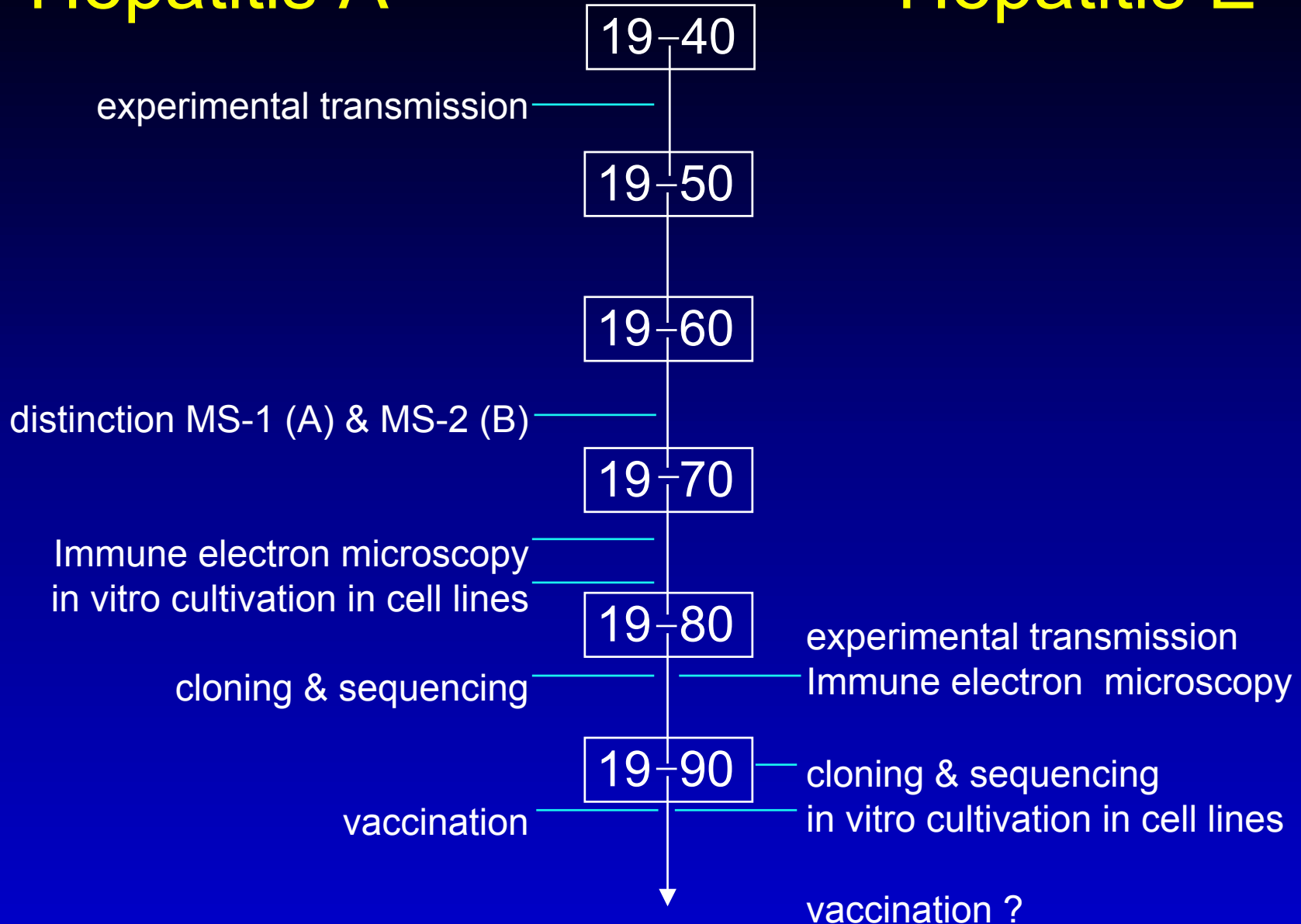


# Viral hepatitis



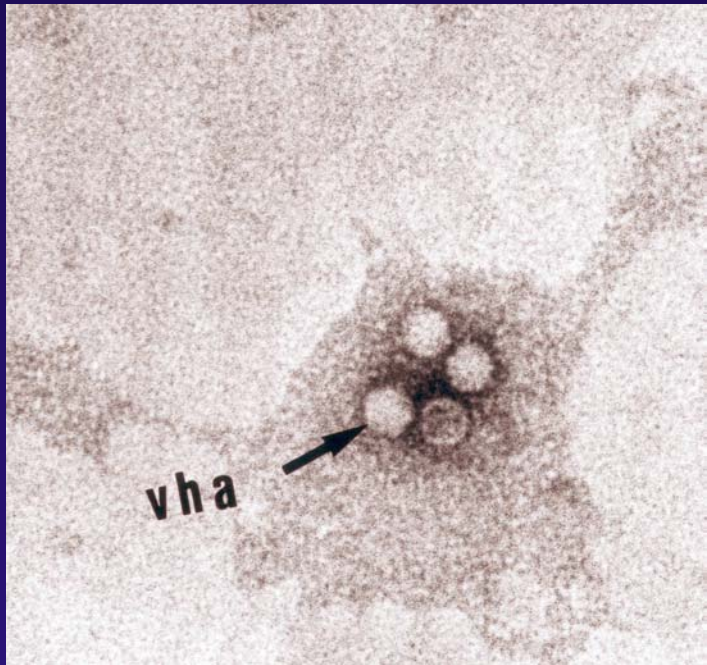
# Hepatitis A

# Hepatitis E

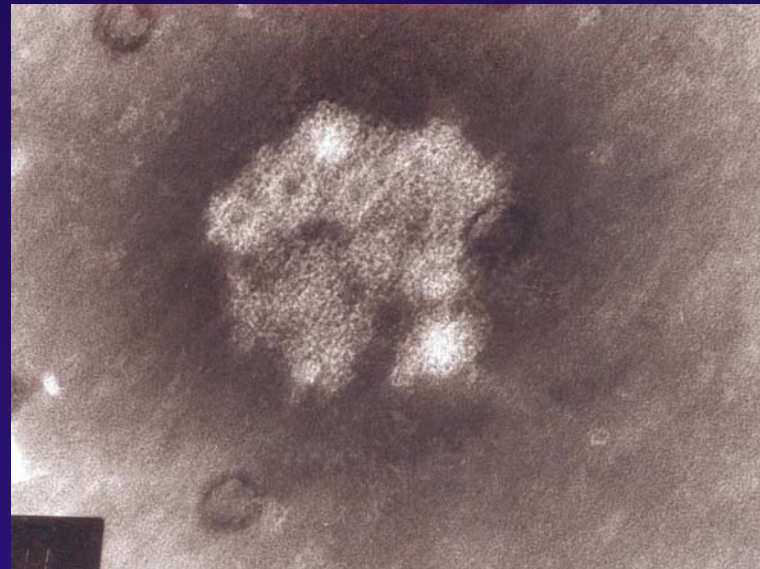


# Viral agents

- HAV



- HEV



Viral agent

*HAV*

*HEV*

Family

*Picornaviridae*

*Hepeviridae*

genus

hepatovirus

hepevirus

diamètre (nm)

27 - 32

27 - 34

densité (g/cm<sup>3</sup>)

1,33

1,37

genome

ms RNA +  
linear

ms RNA +  
linear,

size genome

7474 nt

7400 nt

Replication site

cytoplasm

cytoplasm

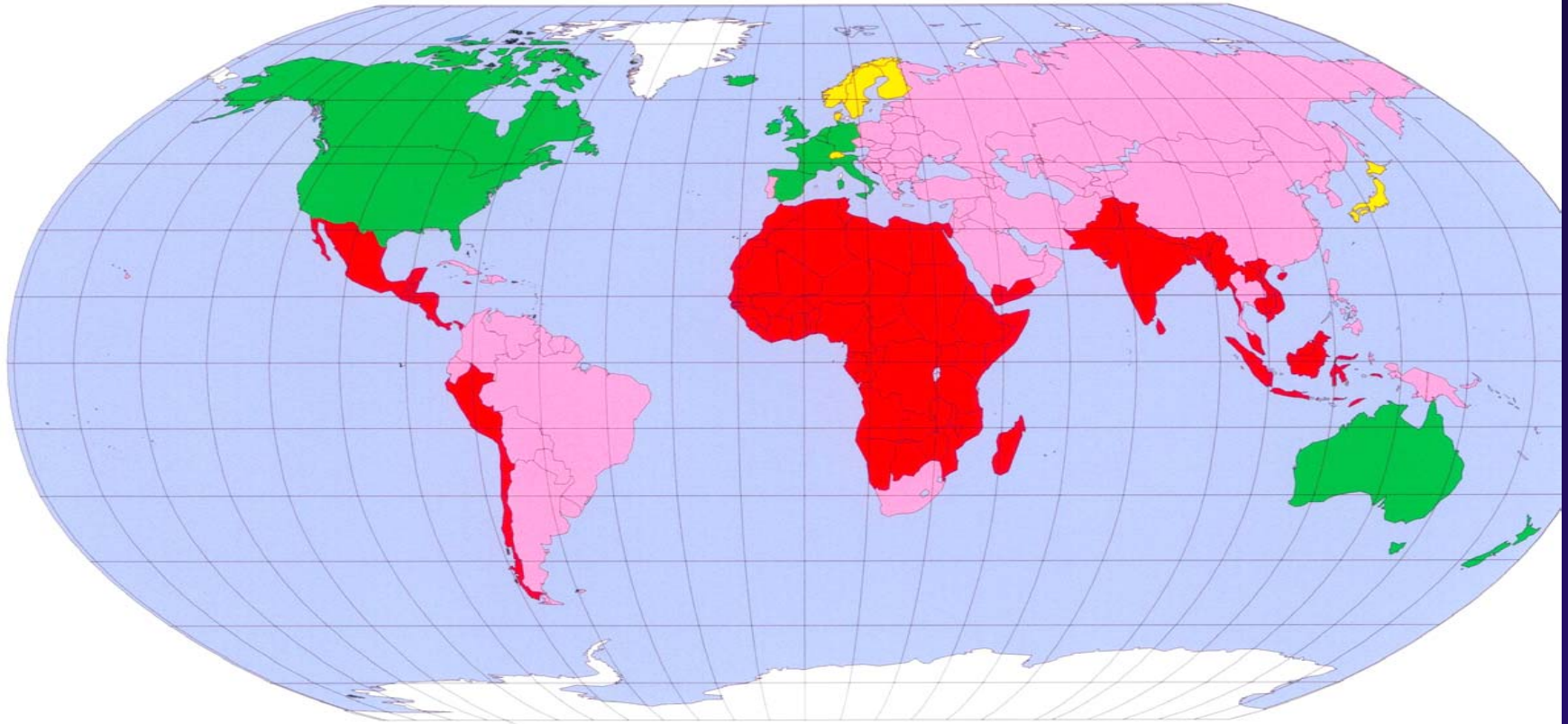
nb. serotype






1

1

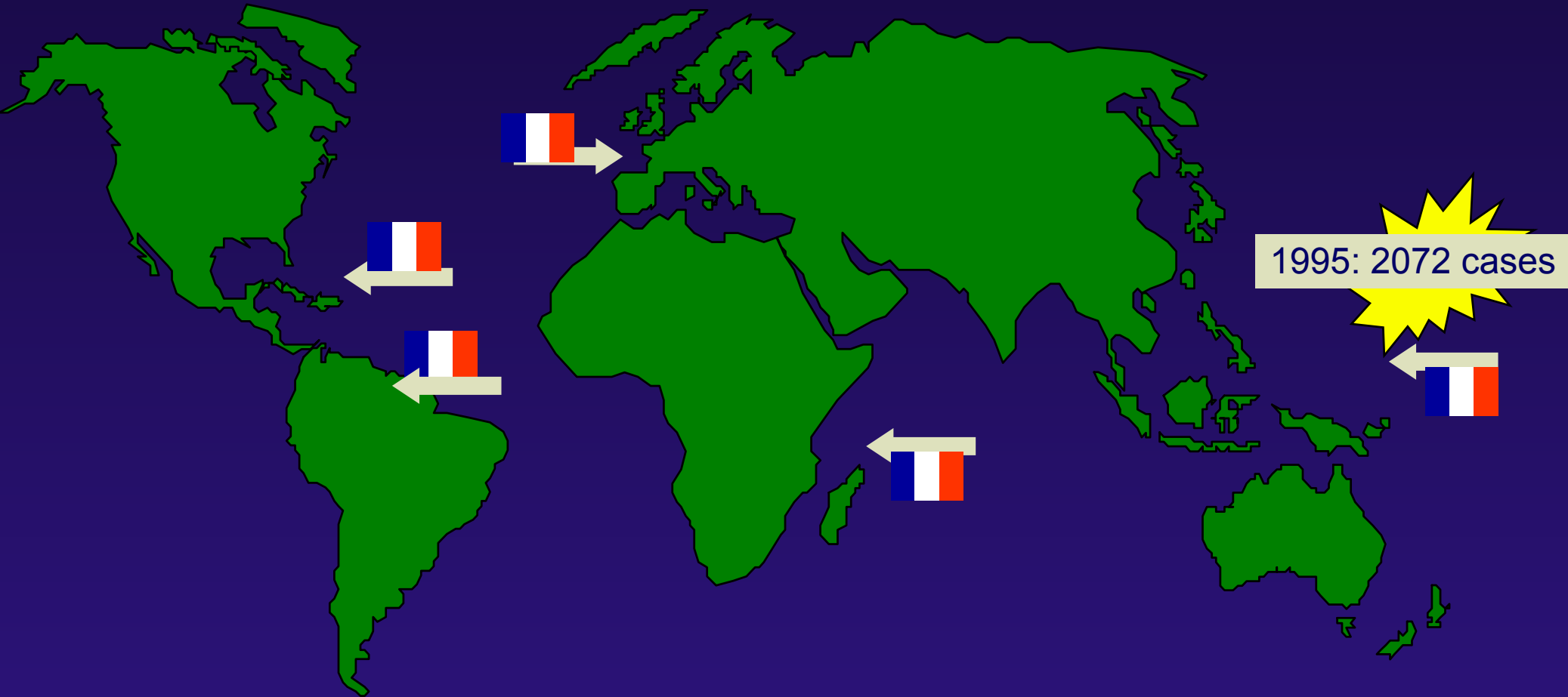
# Epidemiology of Hepatitis A

# Geographic distribution of hepatitis A



-  Zone de faible endémicité
-  Zone d'endémicité modérée
-  Zone d'endémicité intermédiaire
-  Zone de haute endémicité
-  Endémicité non évaluée

# Seasonal patterns





For travellers from low prevalence countries

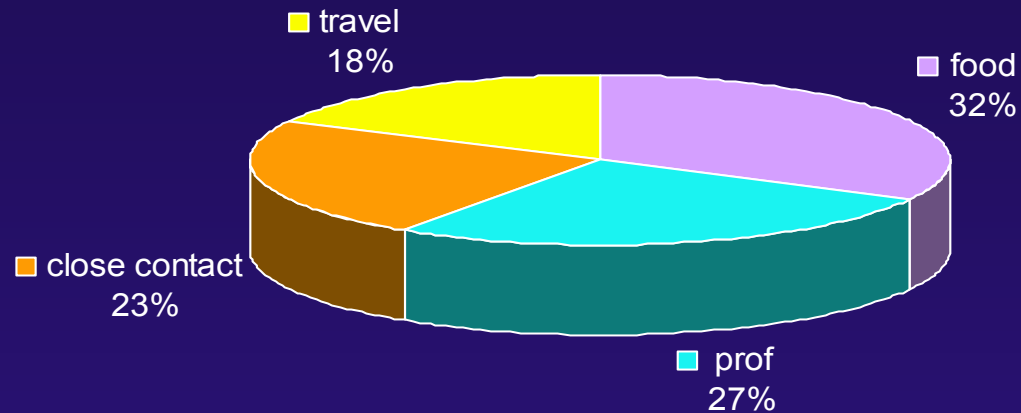
## Risk of acquiring hepatitis A

3 to 6 per 1000/month (Steffen et al. JID 1995: S24-28)

0.3 per 1000/month (Teitelbaum et al, J Travel Med 2004;  
11: 102-106)

# Hepatitis A in France

- not a reportable disease
- decrease of annual incidence
  - 1995 – 1996: 16 600 cases of HAV (National Observatoire of HAV)



2002: < 10 000 cases of acute hepatitis A-B-C-E / year

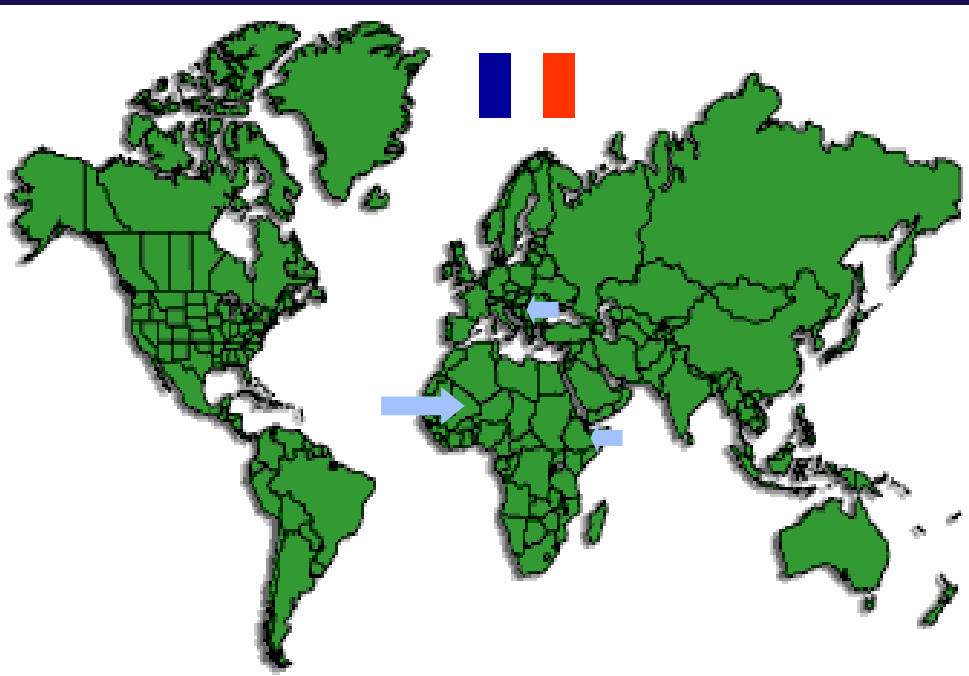


Homosexuals (n= 57 cases)  
(BEH 2001,44)

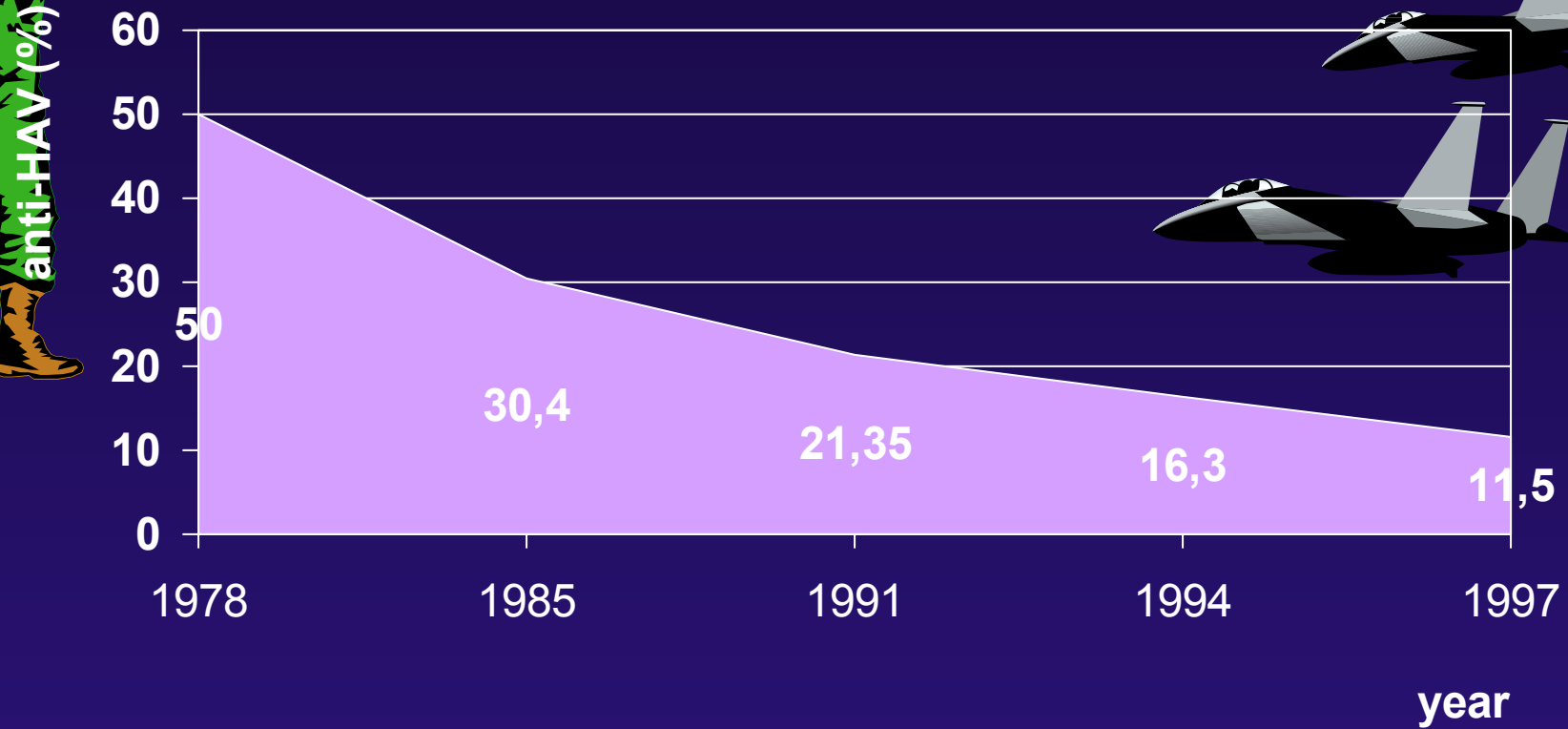
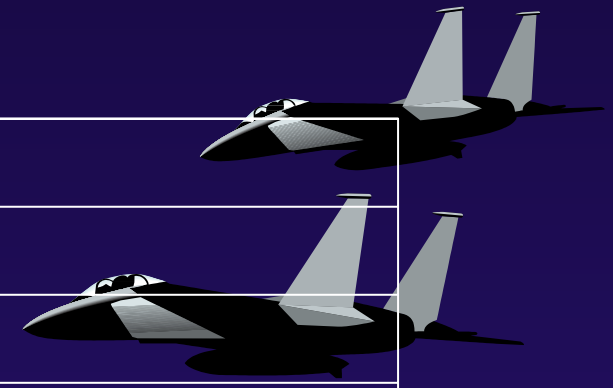




# *Prevalence of anti-HAV in the French Army*

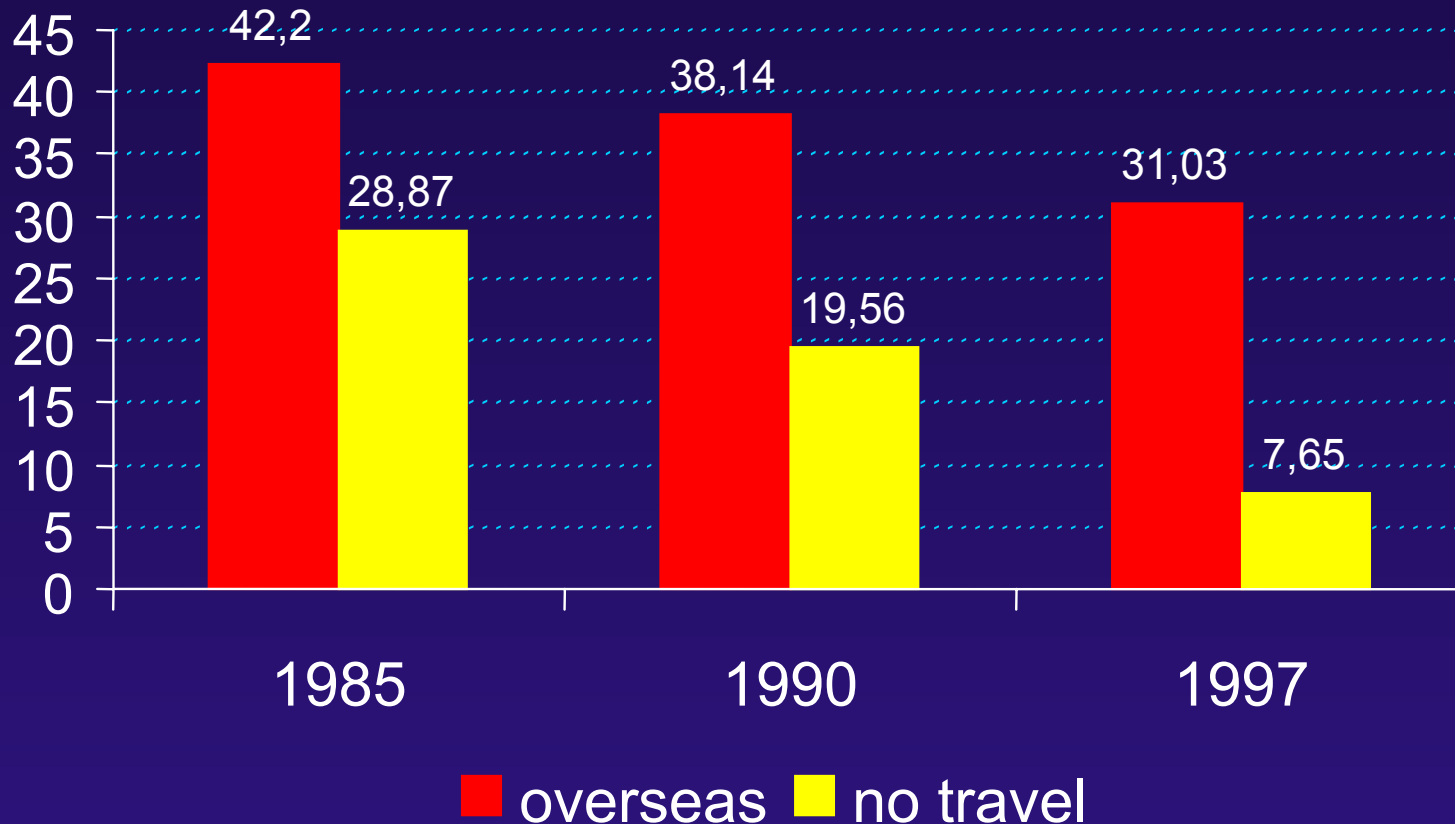


# Prevalence of anti-HAV among French recruits



# anti-HAV seroprevalence

anti HAV (%)



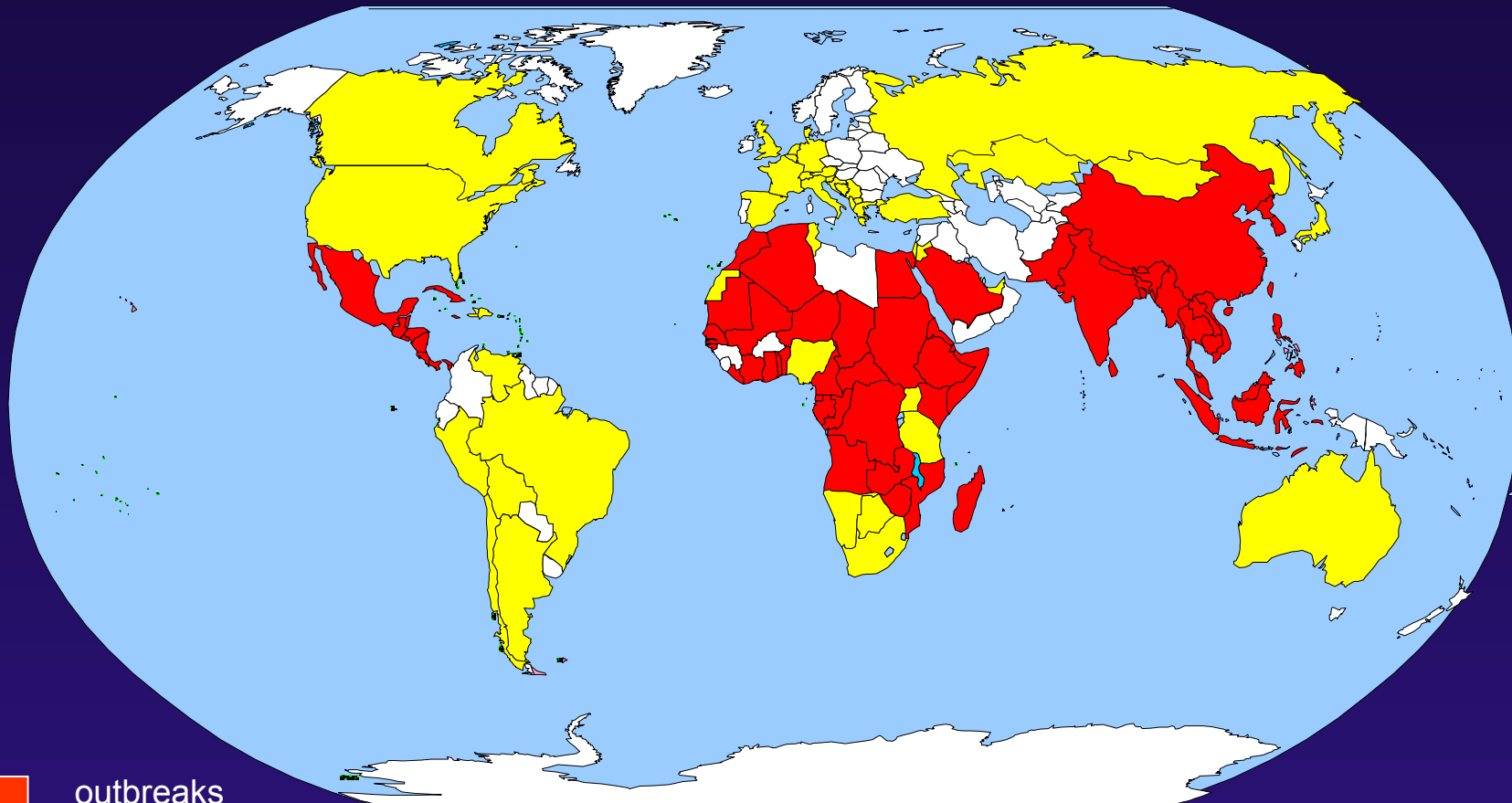
# Prevention of Hepatitis A in France

- **Recommendations with occupational exposure**
  - Workers in day care centers
  - Workers in health care institutions
  - Food handlers
  - Workers exposed to raw sewage
  - Workers in medical laboratories
- **Individual recommendations**
  - Non immune travelers to developing countries (over 1 year old)
  - Children with developmental disabilities in health care institutions
  - Persons with chronic liver disease
  - Men with sex with men



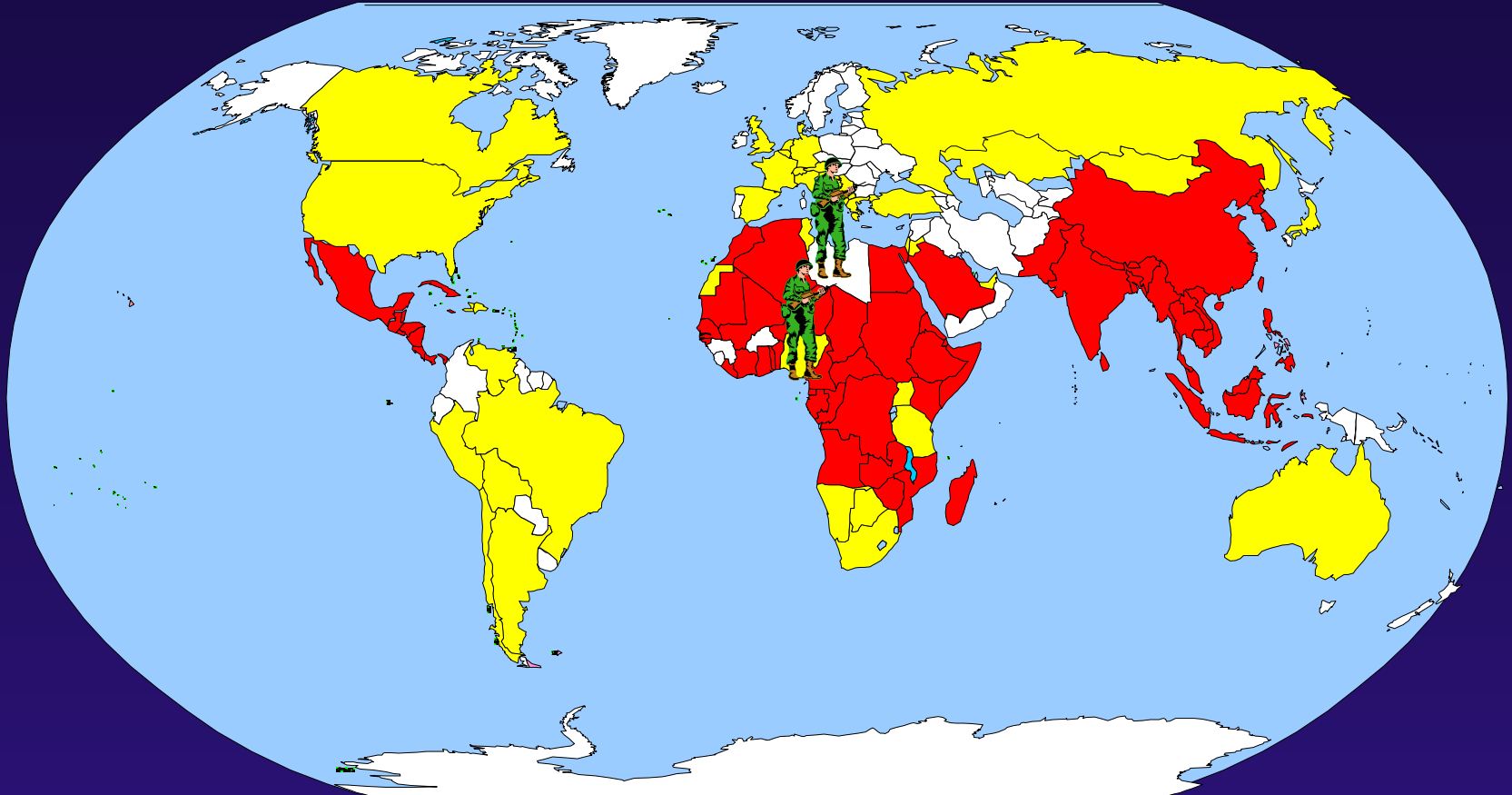
# Epidemiology of hepatitis E

# Global patterns of hepatitis E

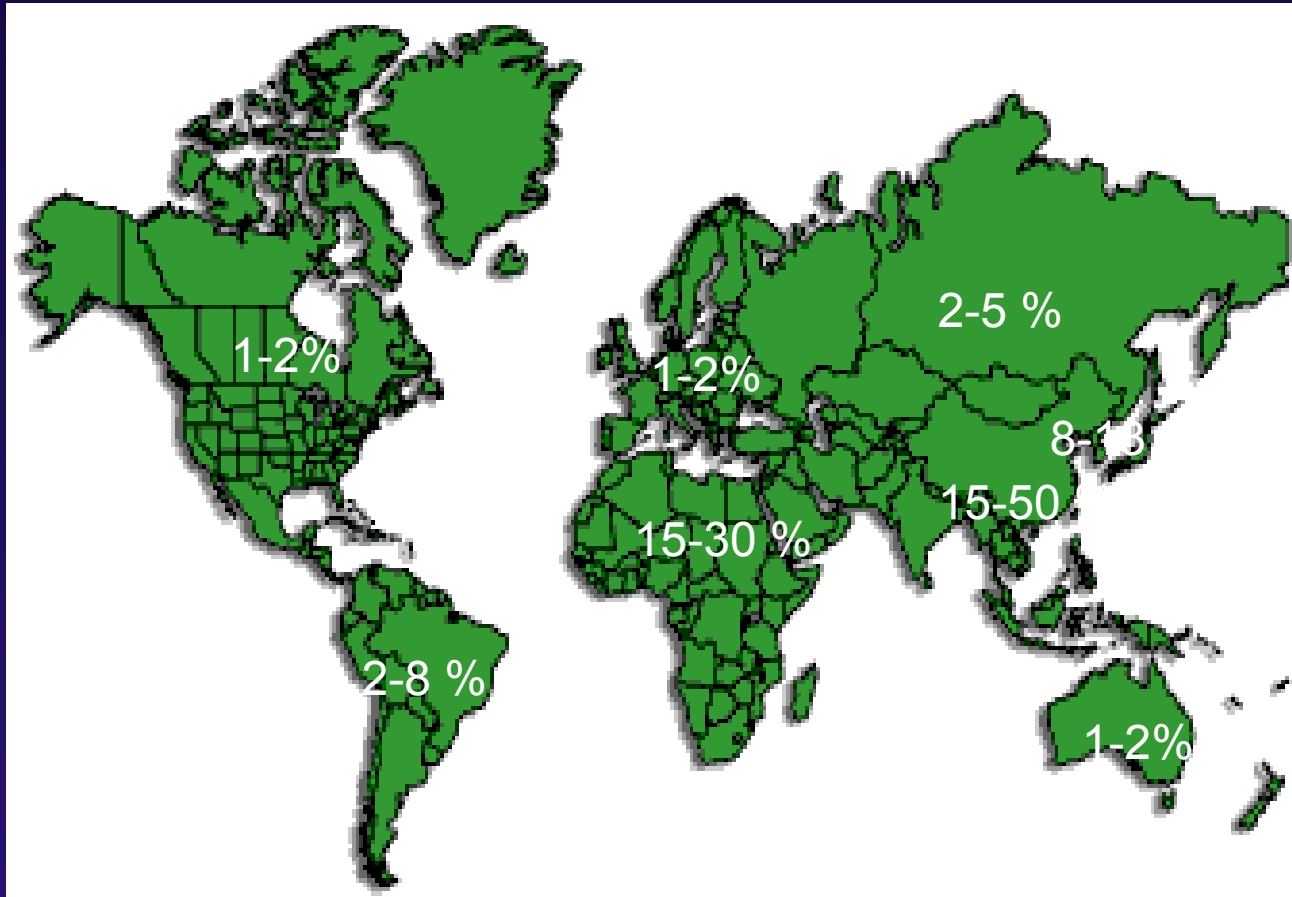


- outbreaks
- Sporadic cases

# Hepatitis E in the French Army



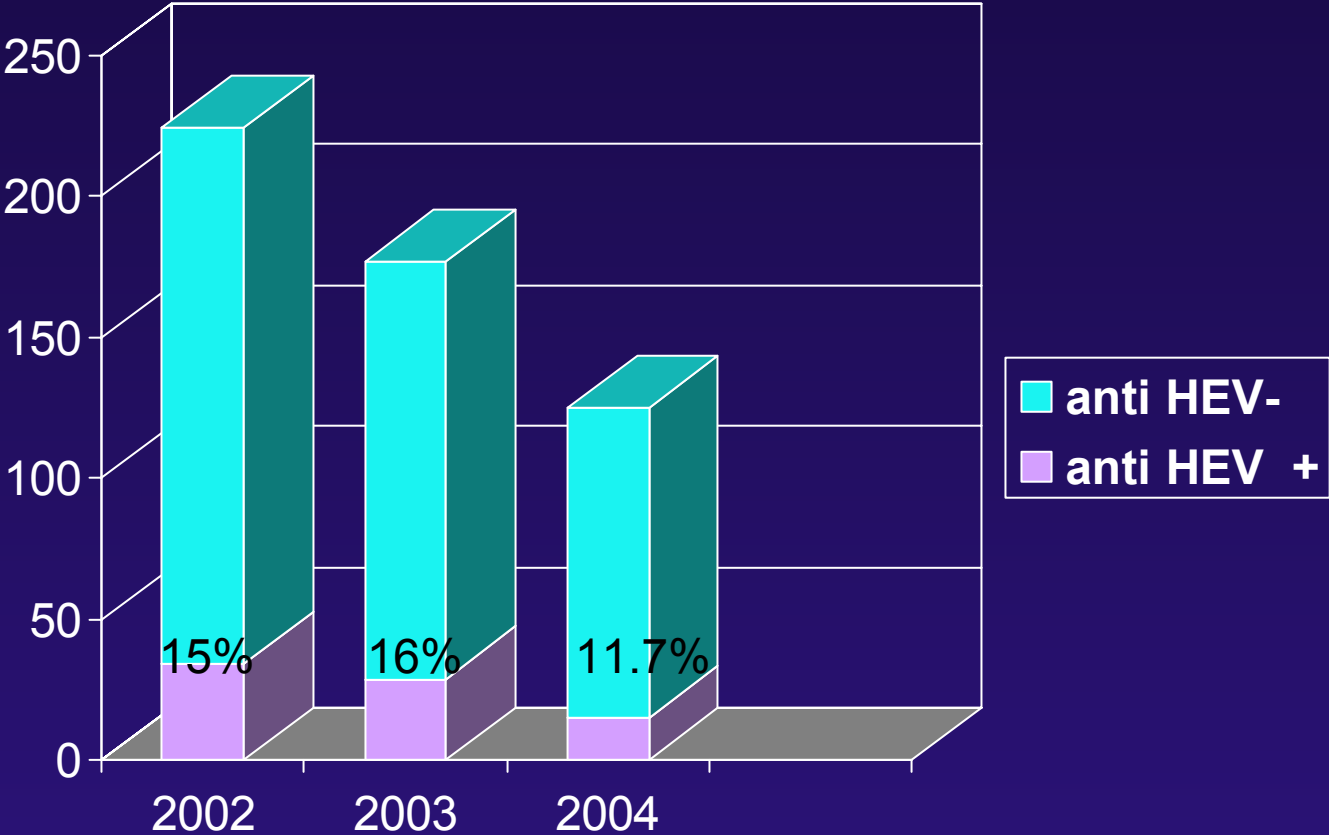
# *anti-HEV seroprevalence among blood donors*



# National Reference Centre for enterically transmitted hepatitis (hepatitis E)

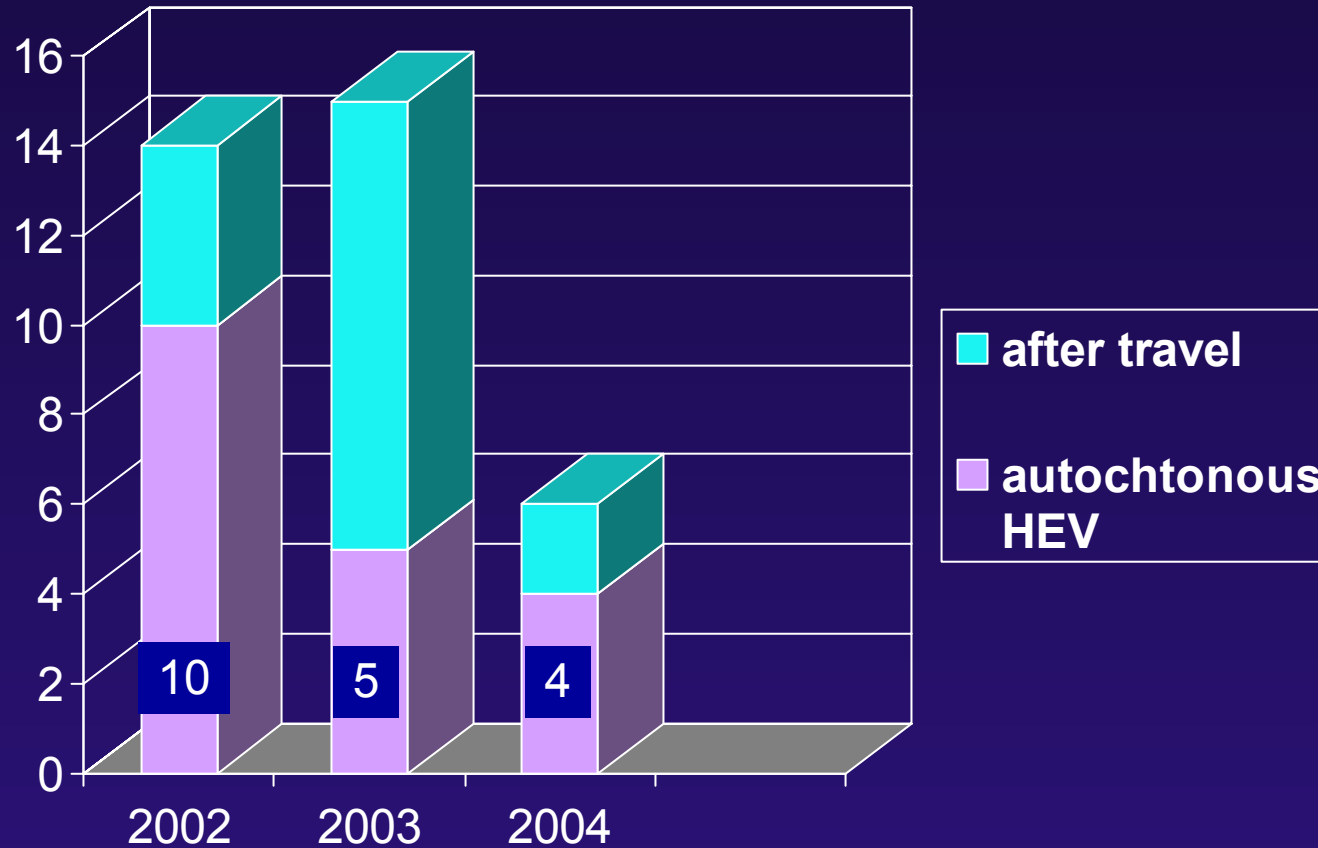
*anti HEV seroprevalence*

N



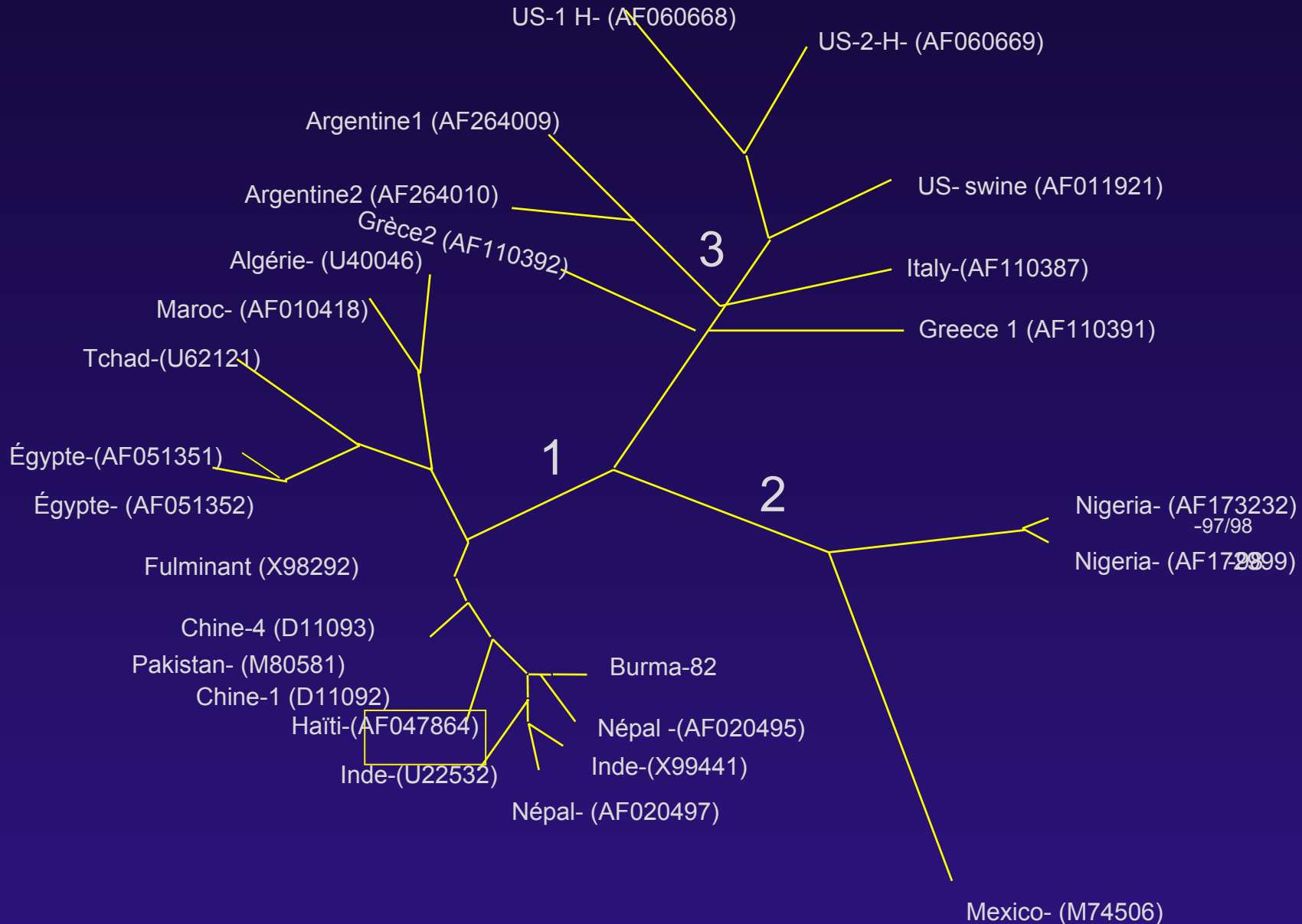
# National Reference Centre for enterically transmitted hepatitis (hepatitis E)

## *Acute hepatitis E*



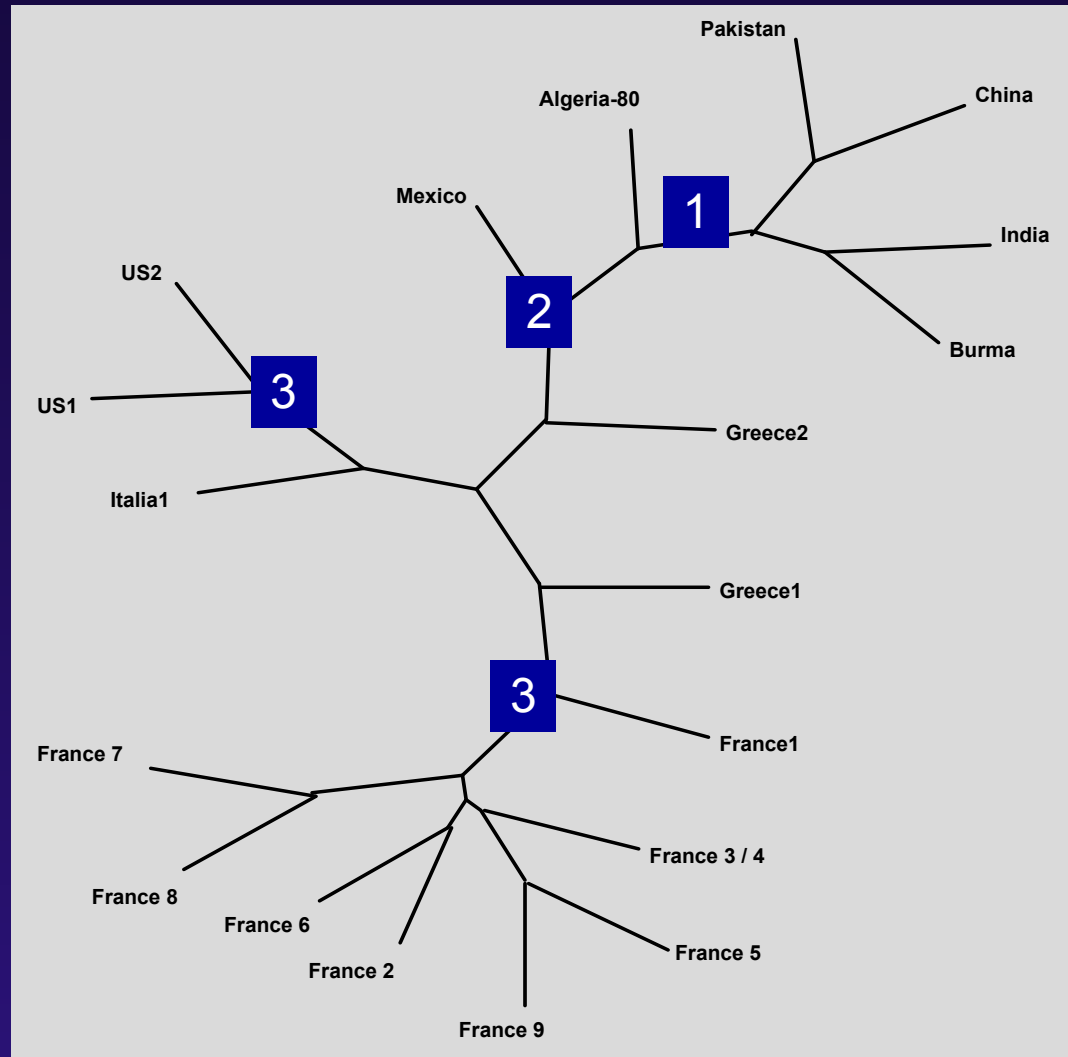


# Genetic diversity of hepatitis E (3' ORF2)





# Genetic diversity of hepatitis E (ORF2)



# Prevention of hepatitis E

- Improvement of living conditions



- Reservoir?
- Vaccination