

Epidemiology of hepatitis C

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History of the HCV epidemic

100,000 to 400,000 individuals

Transfusion

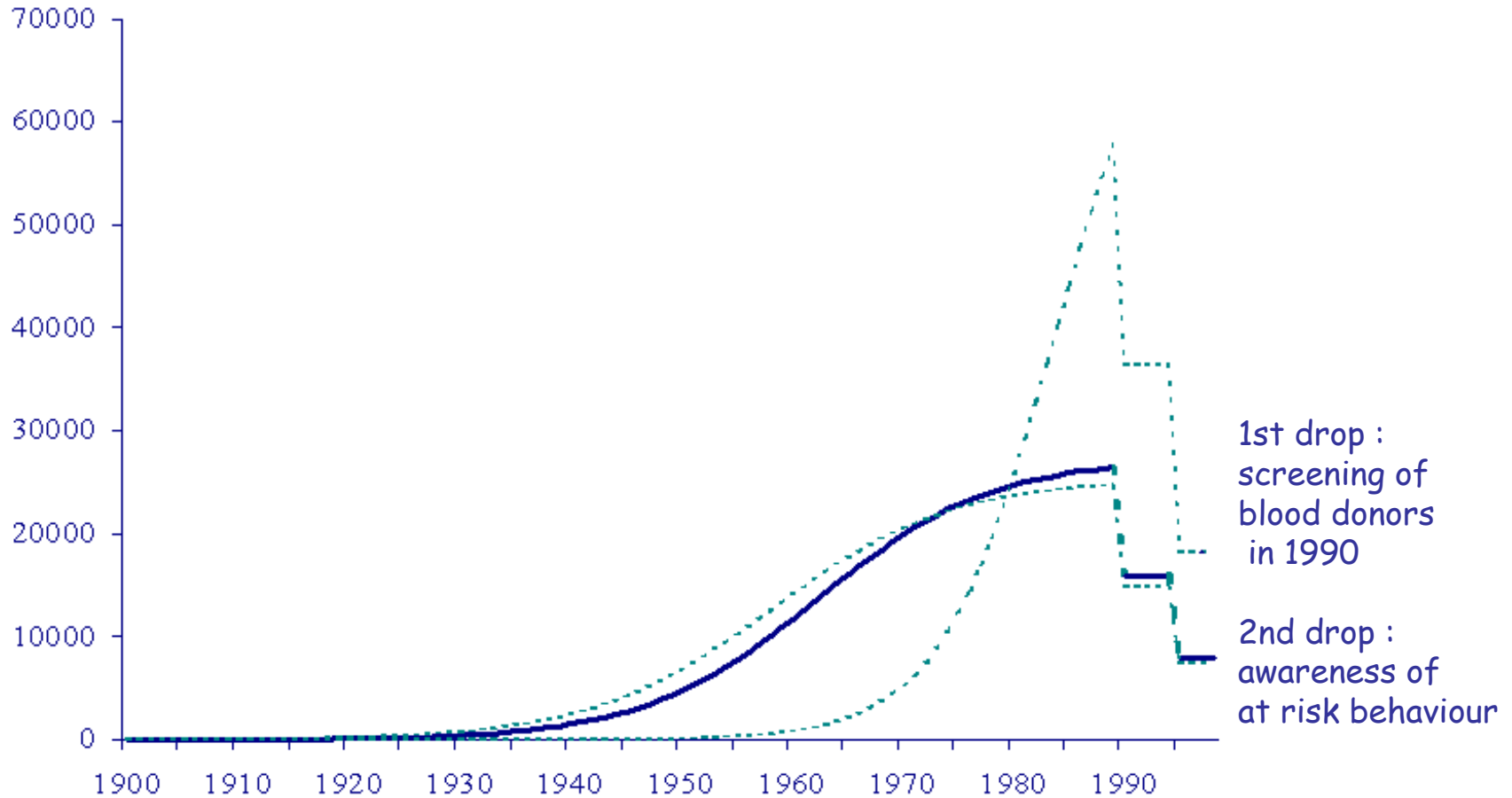
Medical/surgical
procedures

IV drug use



Back-calculated past incidence of HCV

Annual incidence
Of HCV



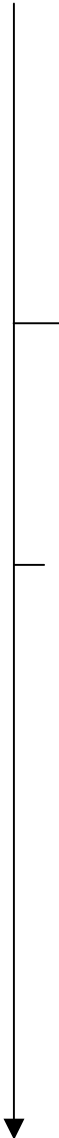
Data available (1)

- 1994 :
 - estimated prevalence : 1.1 %
 - \approx half a million individuals infected with HCV in France
- 2004 :
 - Probably lower
 - New estimation not yet available

Data available (2)

Time (years)

Exposure to HCV



Data available (2)

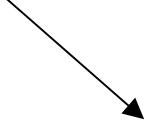
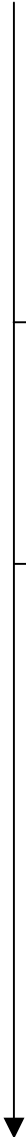
Time (years)

5 to
20 years

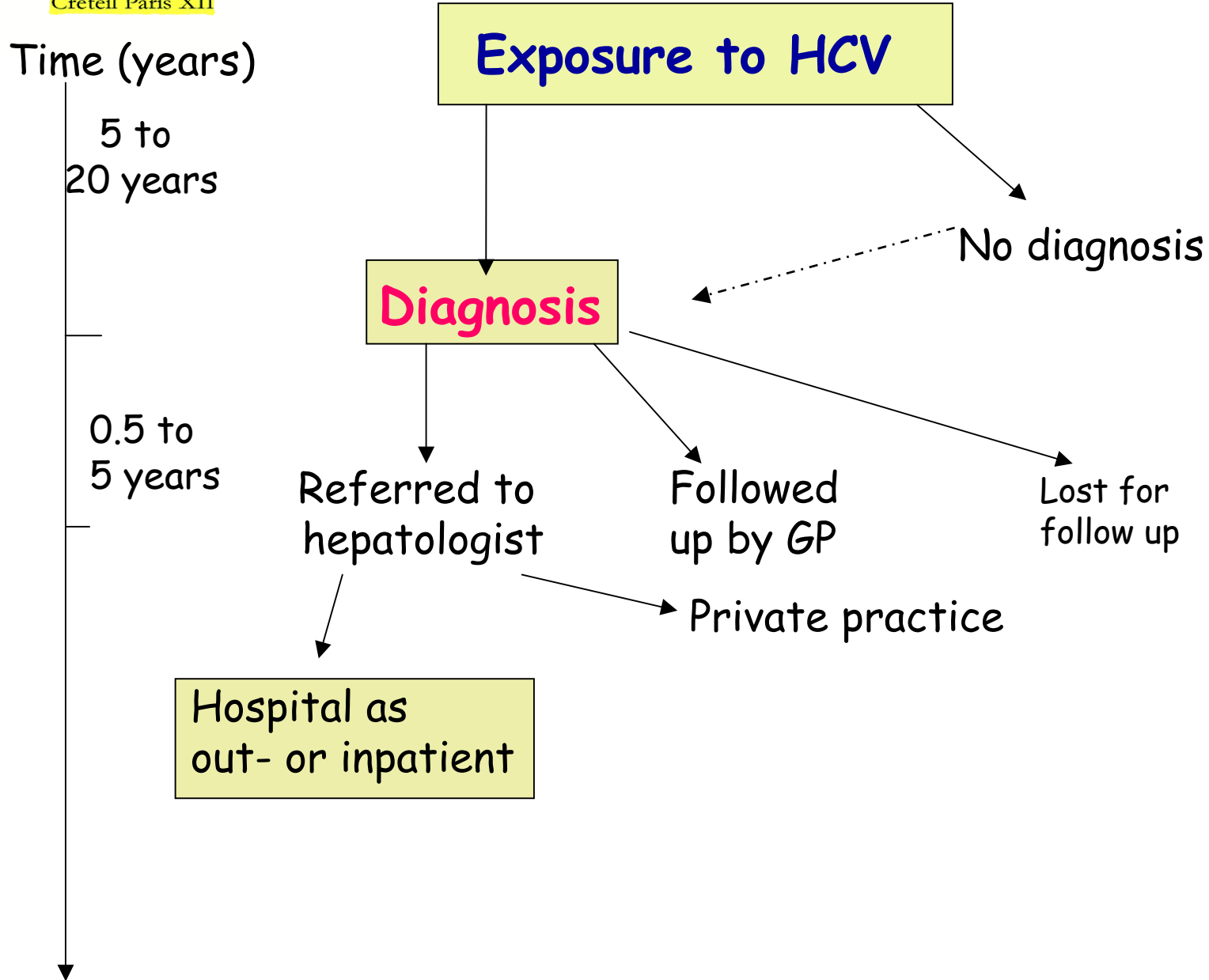
Exposure to HCV

Diagnosis

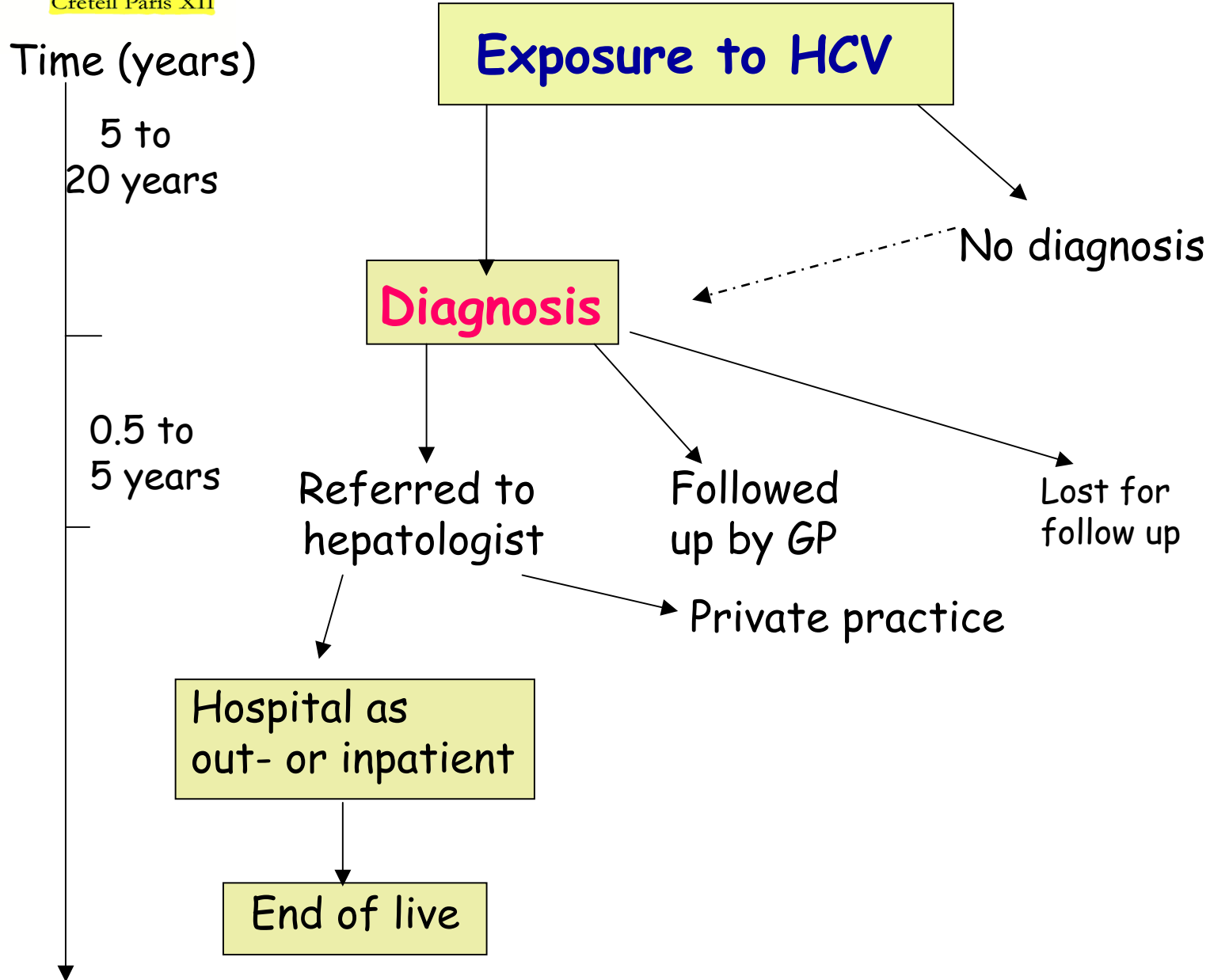
No diagnosis



Data available (2)



Data available (2)



Data available (2)

Time (years)

5 to 20 years

Exposure to HCV

Estimation of incidence in particular at risk groups

Diagnosis

No diagnosis

0.5 to 5 years

Referred to hepatologist

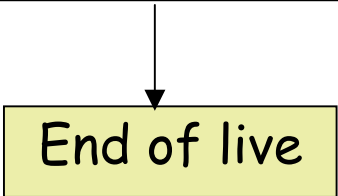
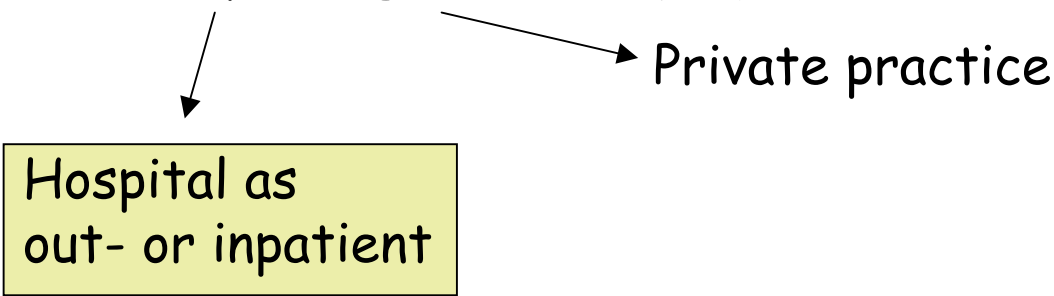
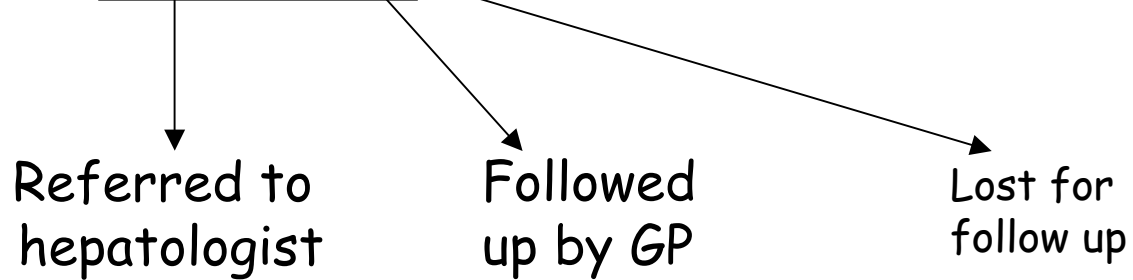
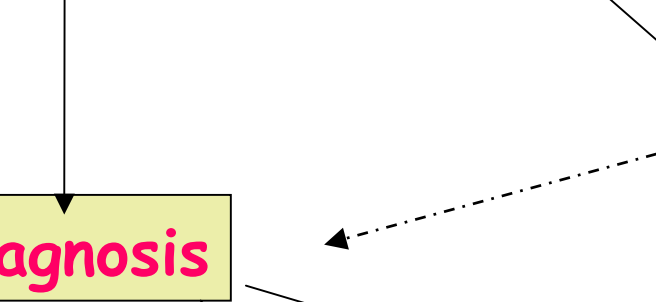
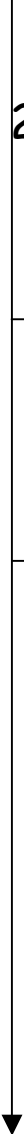
Followed up by GP

Lost for follow up

Private practice

Hospital as out- or inpatient

End of live



Data available (2)

Time (years)

5 to 20 years

Exposure to HCV

Estimation of incidence in particular at risk groups

Diagnosis

No diagnosis

Registers

0.5 to 5 years

Referred to hepatologist

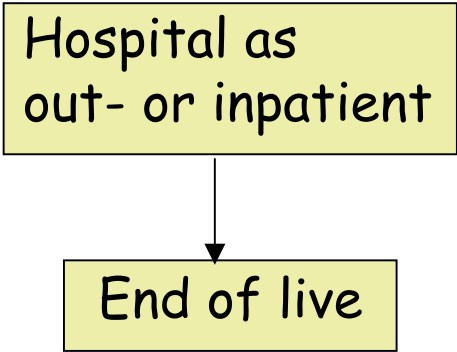
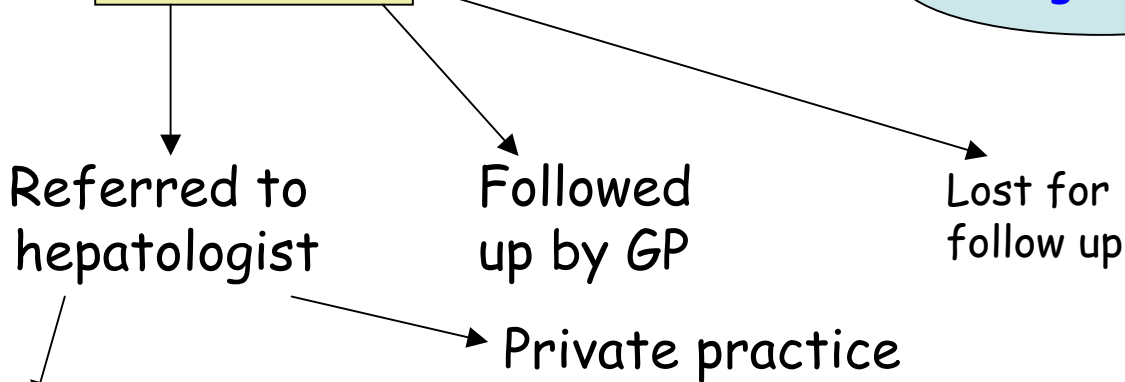
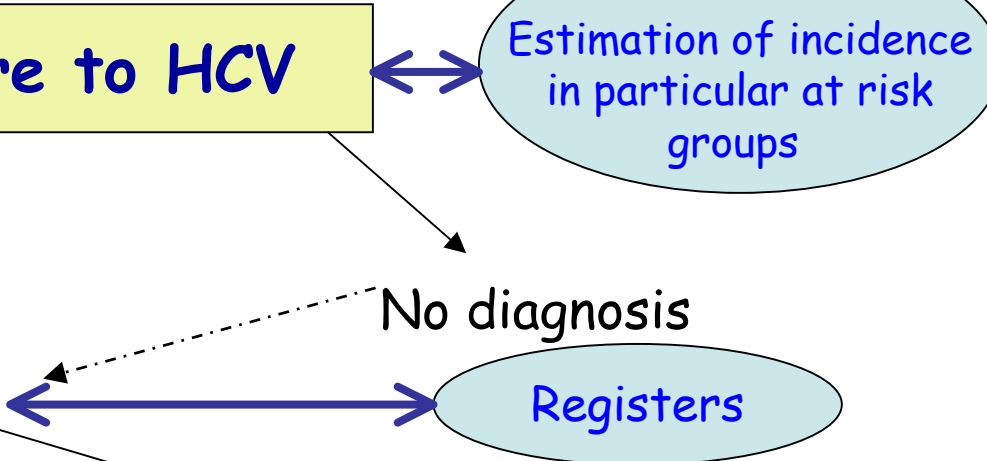
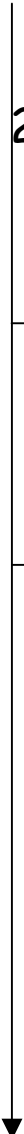
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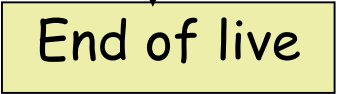
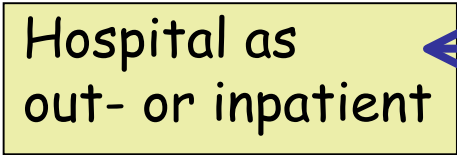
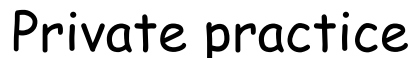
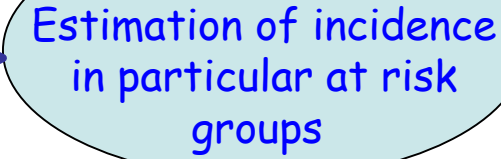
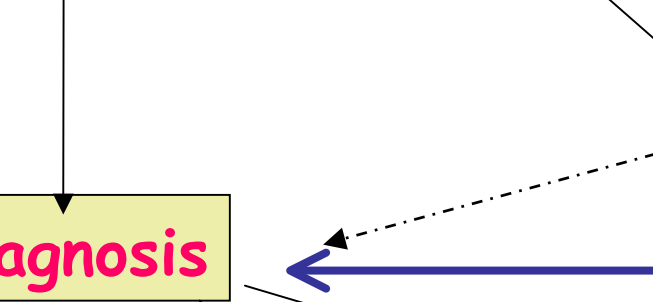
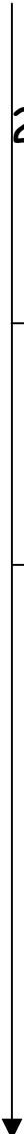
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Private practice

Hospital as out- or inpatient

System of surveillance
Reference centres-InVS

End of live



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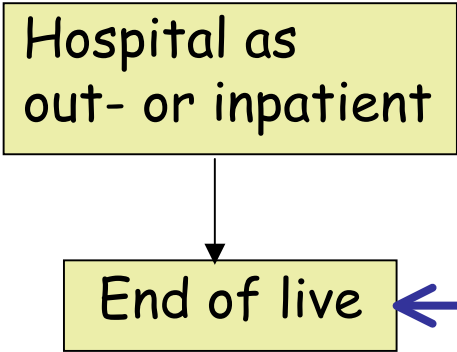
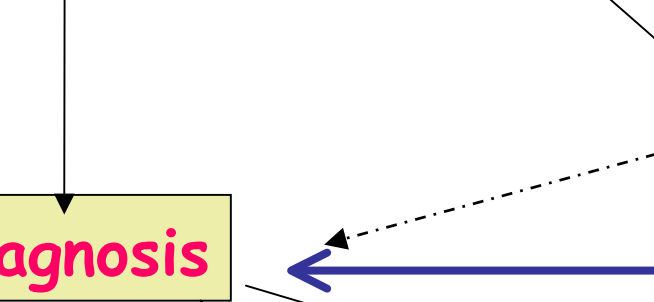
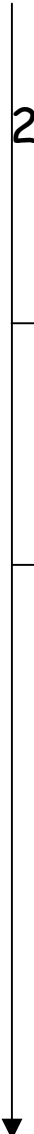
Private practice

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System of surveillance
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End of live

Statistics of mortality (INSERM)



Current incidence of HCV infection

- Recipients of blood products : residual risk ≈ 0
- Nosocomial (/iatrogenic) transmission : cannot be easily quantified (screening in hemodialysis units)
- IVDU : $\approx 10\%$ seroconversions / p.y
2,700 to 4,400 new infections/year
- Mother-infant transmission* :
 - 3.8 % (95% CI : 0.8-6.8%) in monoinfected mother,
 - 10.9% (95% CI : 4.1-22.3) in mothers coinfecting with HIV
 - ≈ 300 neonates infected at birth
- Transmission in sexual partners
 - No French large series available
 - Recent cases of acute hepatitis C in HIV +ve homosexual men

* : E. Mariné-Barjoan, personal communication

Characteristics of patients referred to the reference centres (2000-02)

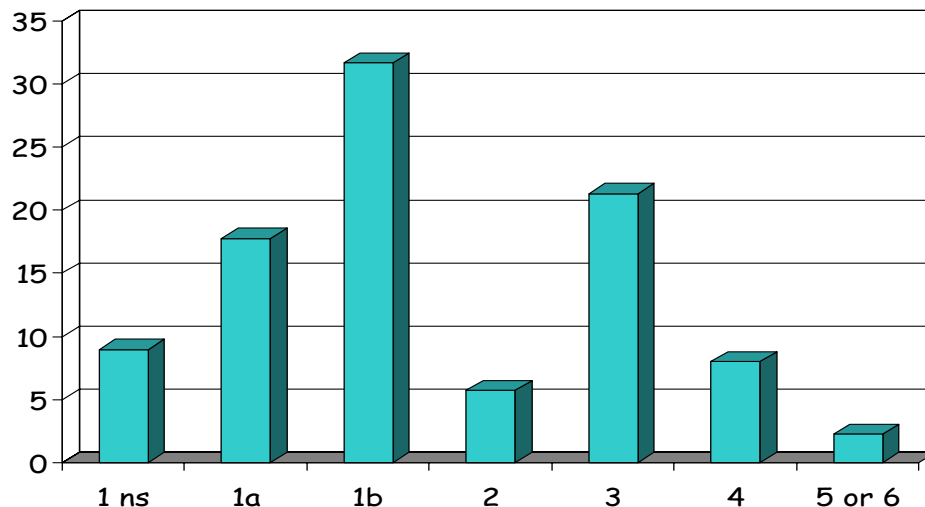
(n = 10,228)

	Males	Females
Sex ratio	1.29	1
Age < 45 y.o	63 %	46 %
Potential source of infection*		
- transfusion	25 %	40 %
- drug use	60 %	27 %
- nosocomial	16 %	20 %
- no identified risk factor	13 %	14 %

* : not exclusive, total > 100 %

Characteristics of patients referred to the reference centres (2000-02)

- Clinical stage at referral :
 - Normal ALT : 20 %
 - Cirrhosis : 11 % (2 % decompensated)
 - Hepatocellular carcinoma : 1 %
 - Acute hepatitis : 37 cases in 3 ans
- HCV genotype distribution (n = 5218):

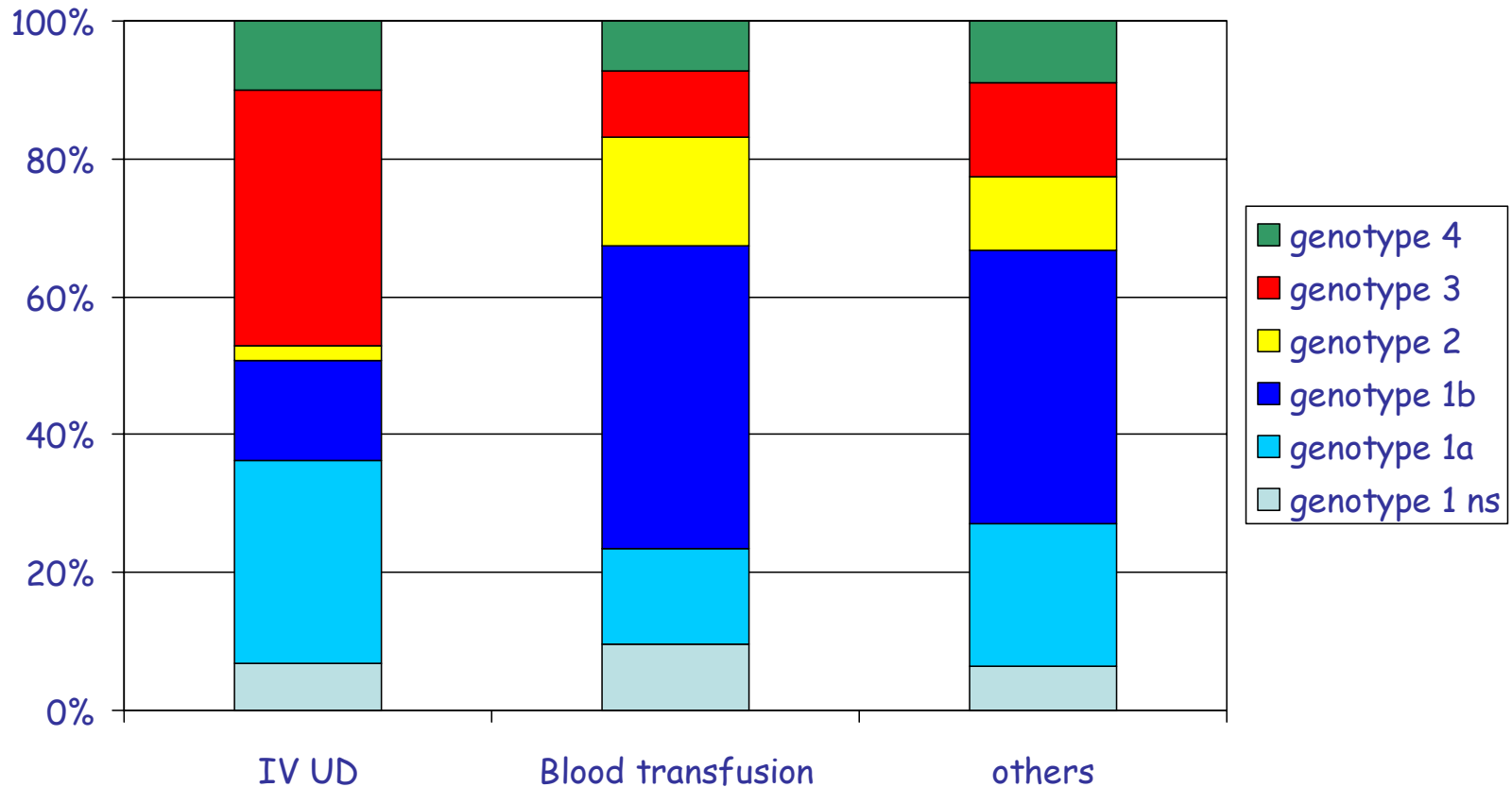


Characteristics of patients referred to tertiary hospitals: comparison of 2 periods

	1991-93	2000-02
Route of transmission		
- transfusion	37.0 %	31.5 %
- drug use	24.7 %	45.6 %
- nosocomial	14.9 %	17.8 %
- not identified	20.4 %	13.1 %
Severity of the disease		
- cirrhosis	21.4 %	10.6 % (13.2 % among patients with elevated ALT)
- hepatocellular carcinoma	0.9 %	0.97 %

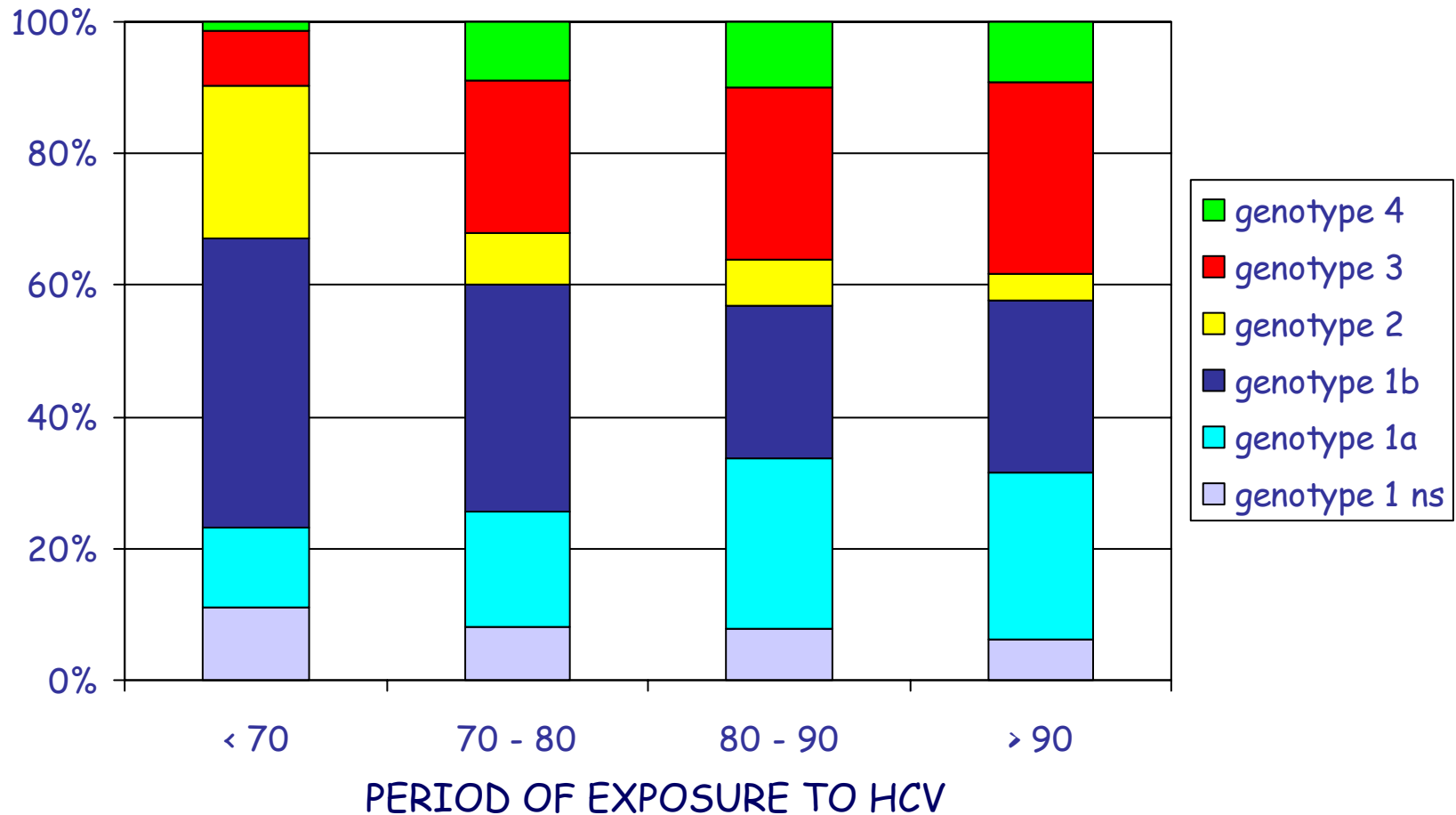
HCV genotypes and sources of infection (2000-2001)

(n = 1662)



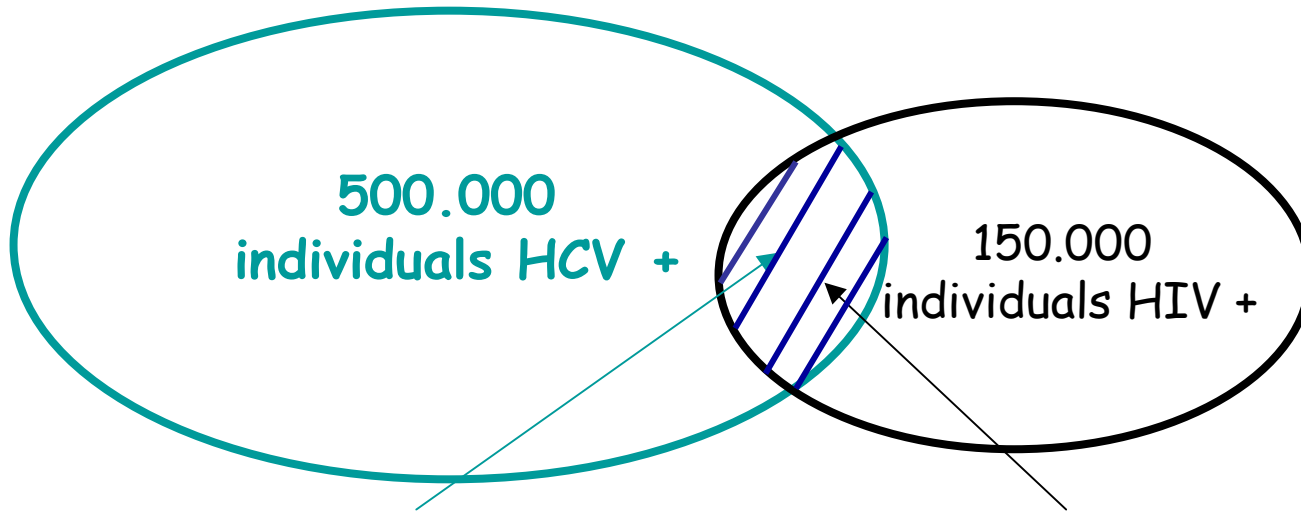
Relationship between genotypes and period of exposure (2000-01)

(n= 985)



HCV - HIV coinfections

Estimations in France



≈6 % of HCV+ve patients
are HIV+ve

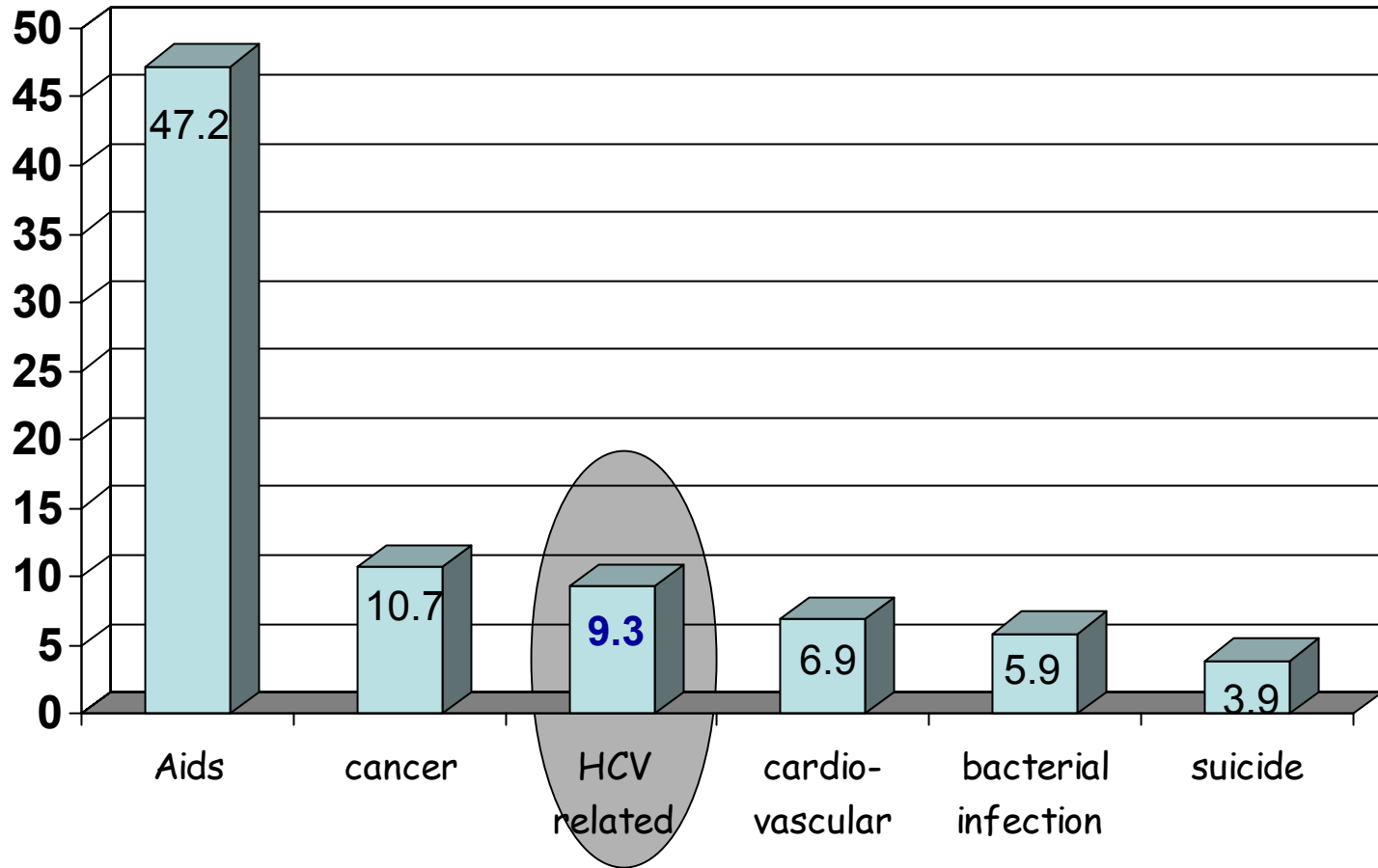
≈ 20 % of HIV+ patients
are HCV +ve

30.000 coinfected patients

Patients recently referred to HCV reference centres (2001-2002)

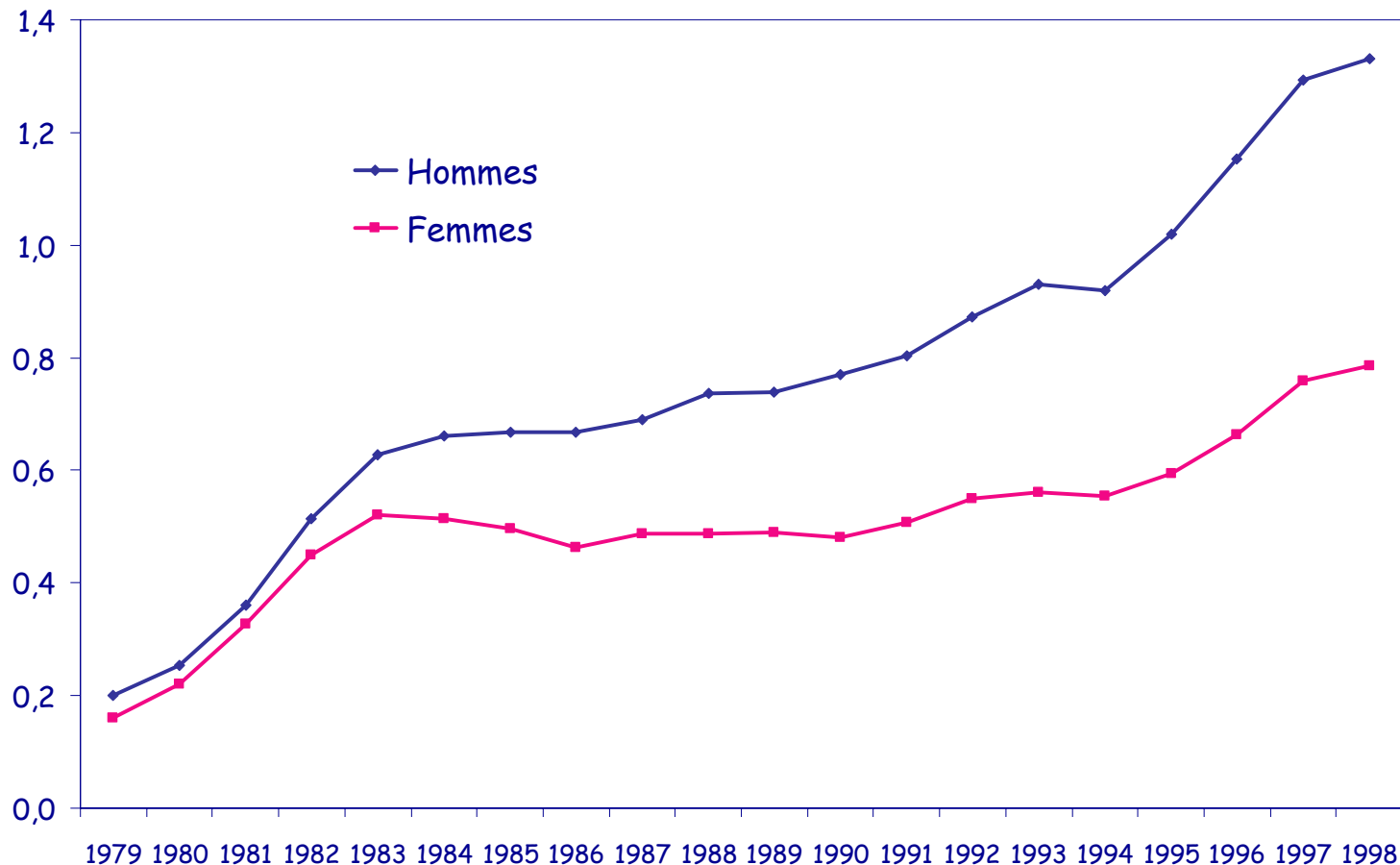
	HIV +ve (314)	HIV -ve (7848)
Sex ratio M:F	2.9:1	1.25:1
Age <45 years	83 %	55 %
Alcohol consumption	33 % >60g	25 % >40g
Route of transmission		
- transfusion : M - F	7 % - 26 %	24 % - 39 %
- IVDU : M - F	68 % - 68 %	59 % - 26 %
Clinical stage		
- normal ALT	9 %	20 %
- cirrhosis	16 %	11 %

Causes of death in HIV infected patients (2000, n= 924)



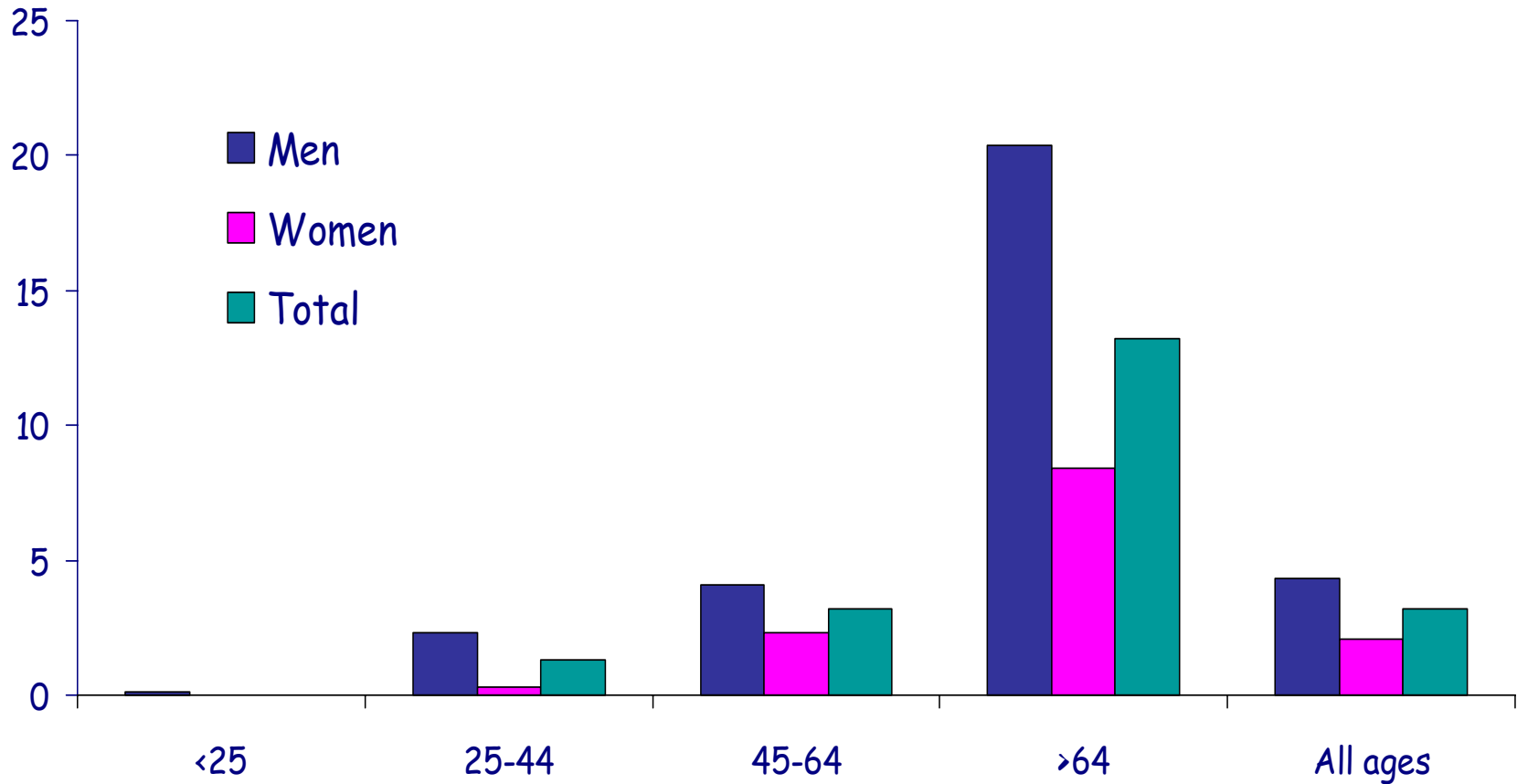
Death associated with chronic hepatitis per 100 000 population, by gender, France, 1979-1998. Source : CépiDC-INSERM

Death rate / 100,000



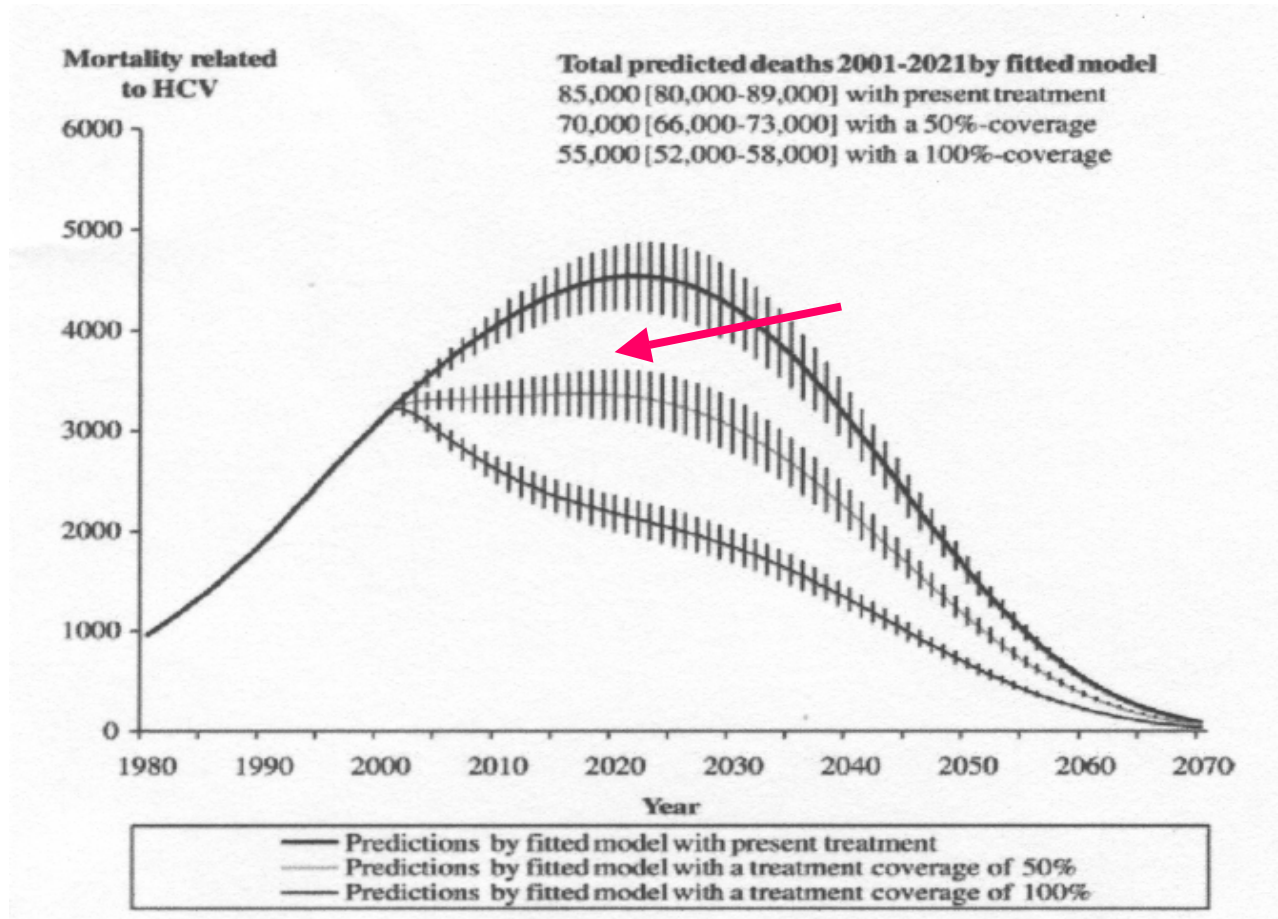
Deaths associated with HCV infection, according to age and gender (France 1997)

Death rate/100,000



Source : CépiDC- INSERM

Prediction of mortality related to HCV



In conclusion

1. Incidence of hepatitis C has dramatically decreased in recent years
 - uncontrolled issue in DU
2. Older patients we have to cope with are :
 - in treatment failure
 - cirrhotics at risk of cancer and end stage liver disease
 - at need for transplantation
 - represent a great burden for reference centres
3. There is a need for an accurate surveillance system for a better funding allocation