



Programme STI, HIV/AIDS and viral hepatitis

Screening programmes for Hepatitis B/C in Europe

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Why might screening be needed for hepatitis B and C in Europe?



Criteria by Wilson and Jungner 1968:

Condition: The condition sought should be an **important health problem** whose natural history, including development from latent to declared disease, is adequately understood. The condition should have a recognizable latent or early symptomatic stage.

Diagnosis: There should be a **suitable, acceptable and safe diagnostic test**. There should be an agreed policy, based on respectable test findings and national standards, as to whom to regard as patients, and the whole process should be a continuing one.

Treatment: There should be an **accepted and established treatment** or intervention for individuals identified as having the disease or pre-disease condition and facilities for treatment should be available.

Cost: The cost of case-finding (including diagnosis and treatment) should be **economically balanced** in relation to possible expenditure on medical care as a whole.

General population: prevalence profiles

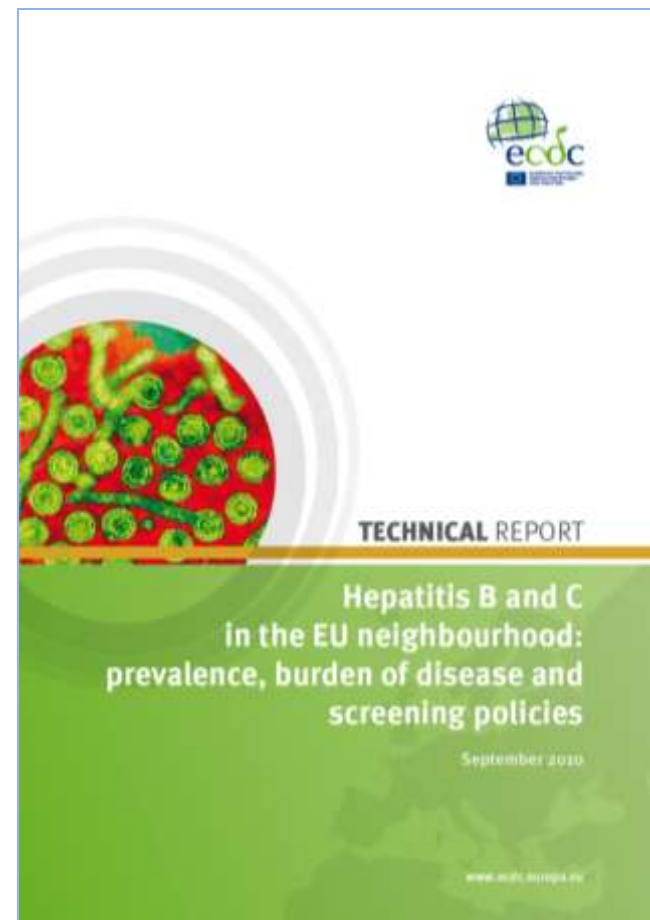
HBsAg HCV Ab	Low ($\leq 1\%$)	Intermediate ($> 1\%$ and $\leq 2\%$)	High ($> 2\%$)	Insufficient data
Low ($\leq 1\%$)	BE, DE, NL, SK, SE, SW, UK			
Intermediate ($> 1\%$ and $\leq 2\%$)	FR, ES		GR, Turkey	BG, PL
High ($> 2\%$)		Italy	Romania	
Insufficient data	CY, CZ, DK, FI, IE			AT, Croatia, EE, FYROM, HU, IS, LV, LI, LT, LU, MT, NO, PT, SL

Aim of the ECDC literature review

For the EU/EEA obtain insight into

- **National screening policies and their effectiveness**
- The HBV and HCV prevalence
- Burden of disease

by reviewing the published literature



Review Questions



1. National practices regarding screening for chronic HBV and HCV infections in (sub)populations
2. Effectiveness of these programmes in terms of process, outcome, prevention of secondary cases, cost-effectiveness

Limitations:

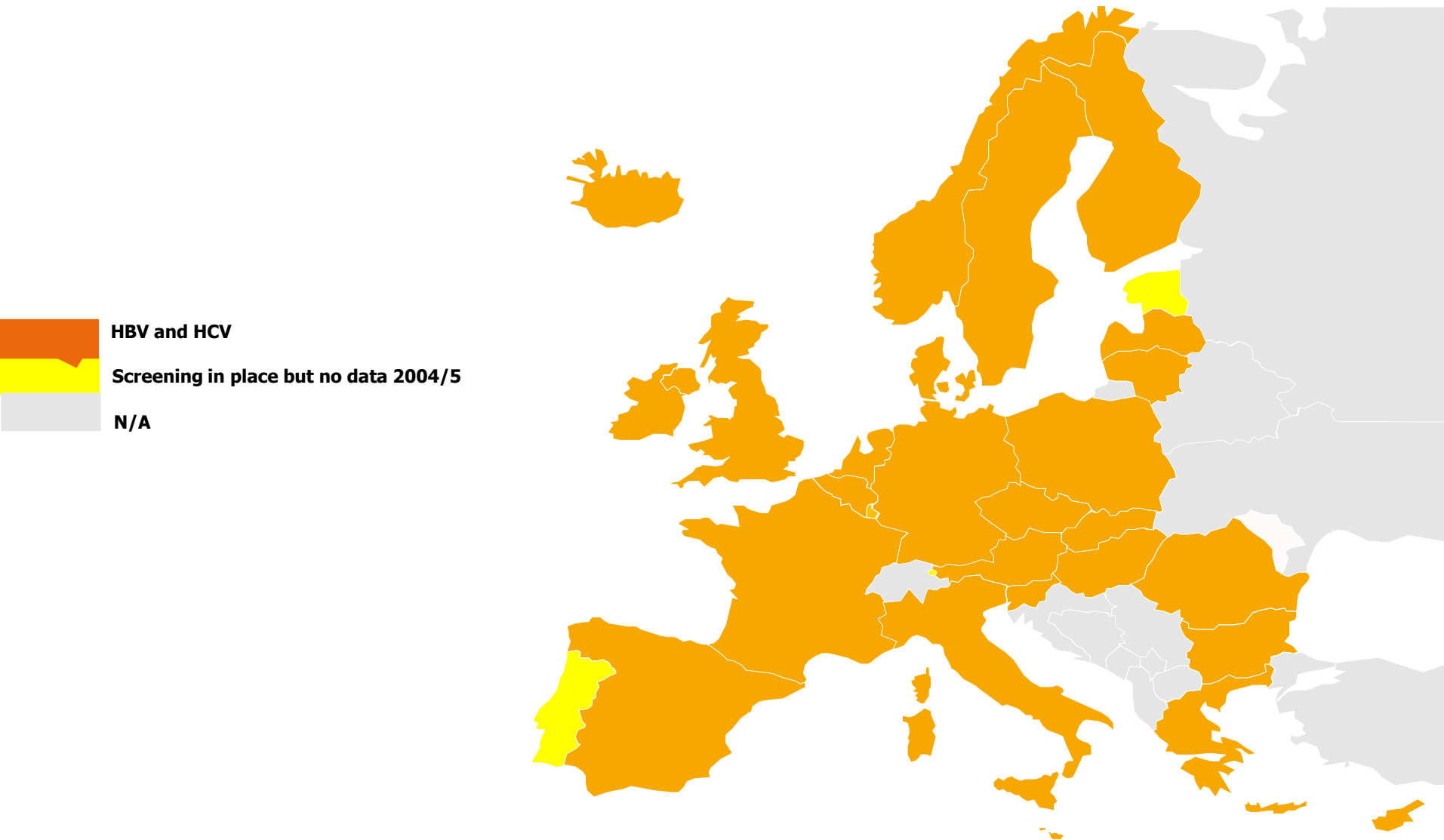
- Limited to studies published post 2000
- Limited to scientific literature (with some exceptions)
- Limited to literature in English
- Time of data collection variable
- Limited to EU/EEA area

Addressing the effectiveness of screening

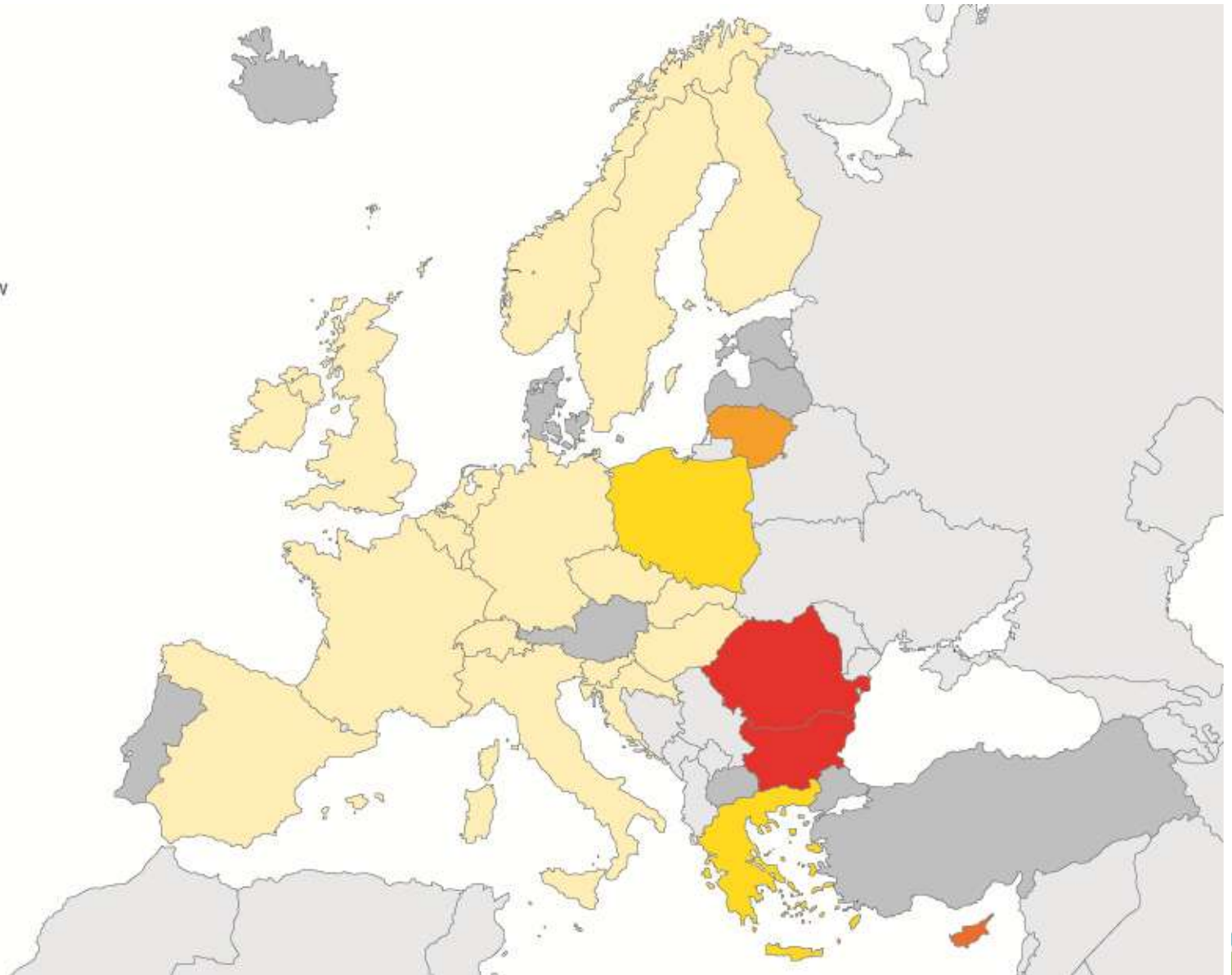
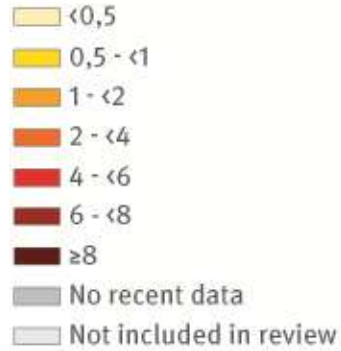


- Blood donors – Testing for Hepatitis B and C mandatory (Directive 2002/98/EC)
- Pregnant Women – Intervention available for hepatitis B
- Groups at increased risk:
 - Injecting drug users
 - Men who have sex with men
 - Sex workers
 - Migrants from high prevalence areas
- General population

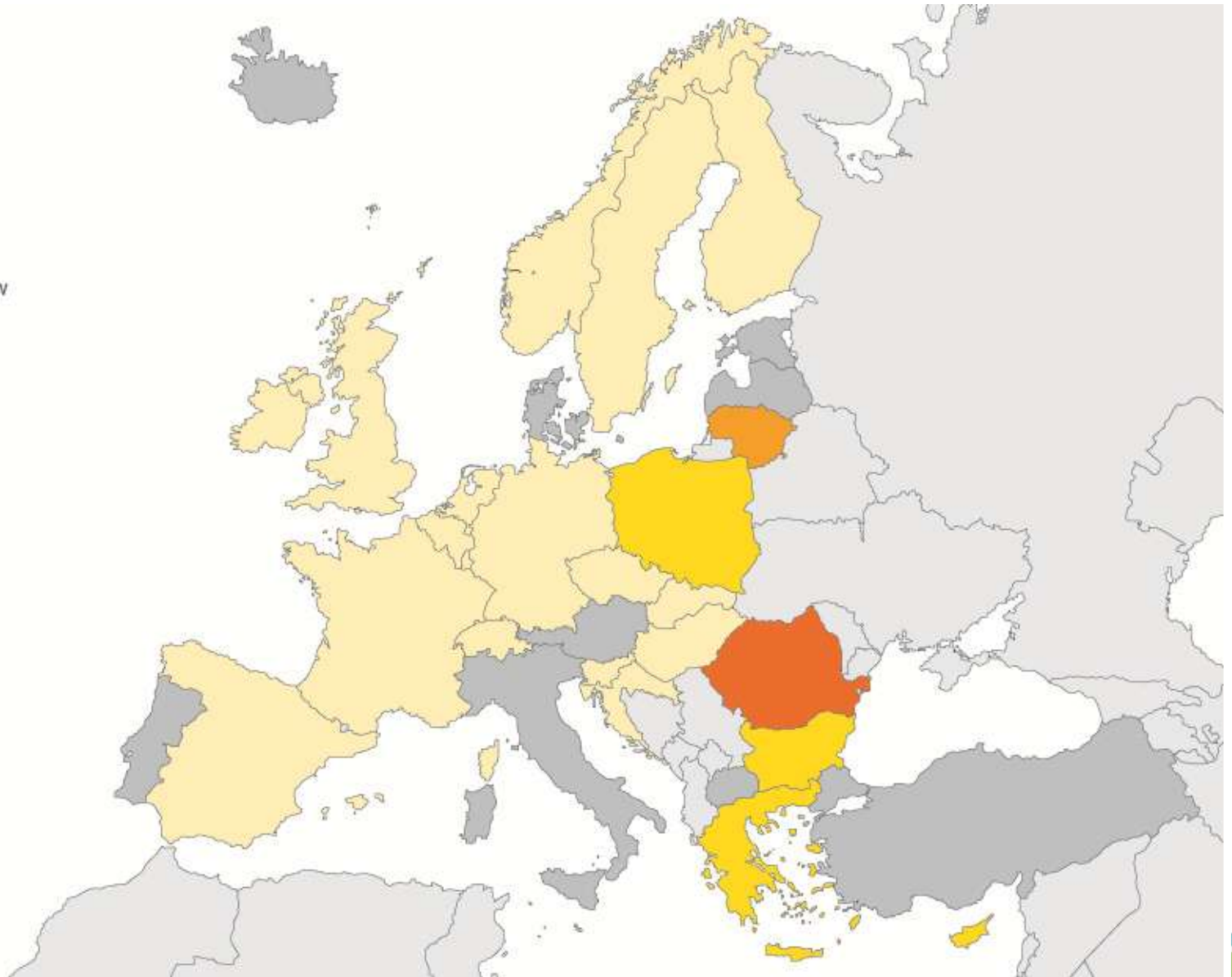
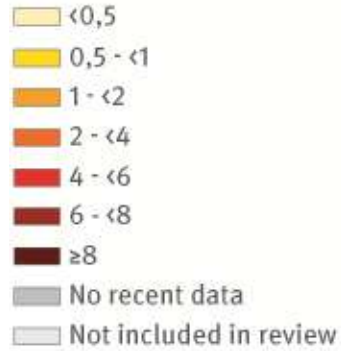
Screening programme for blood donors, Europe



The prevalence of HBsAg among first time blood donors

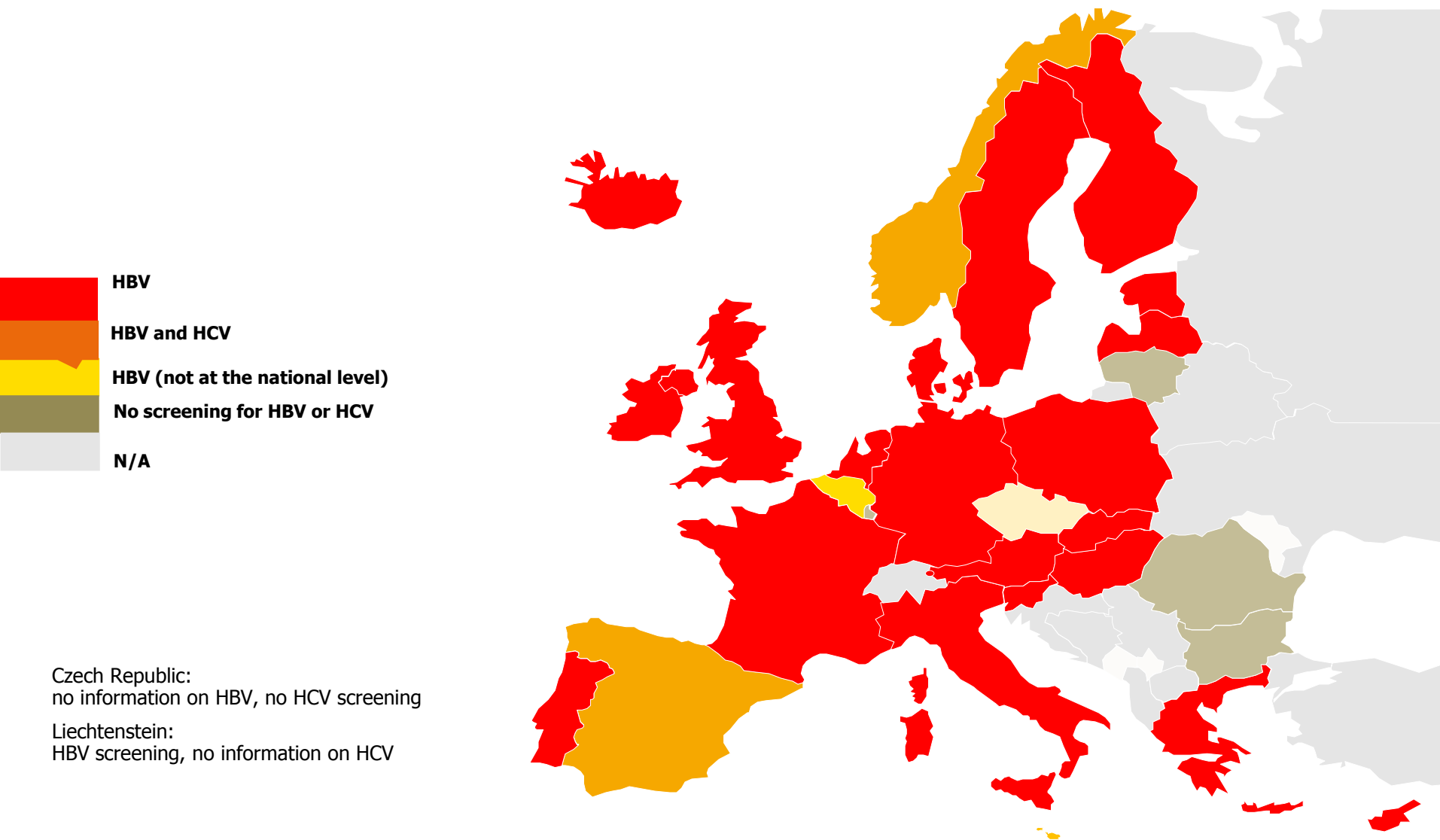


The prevalence of anti-HCV among first time blood donors

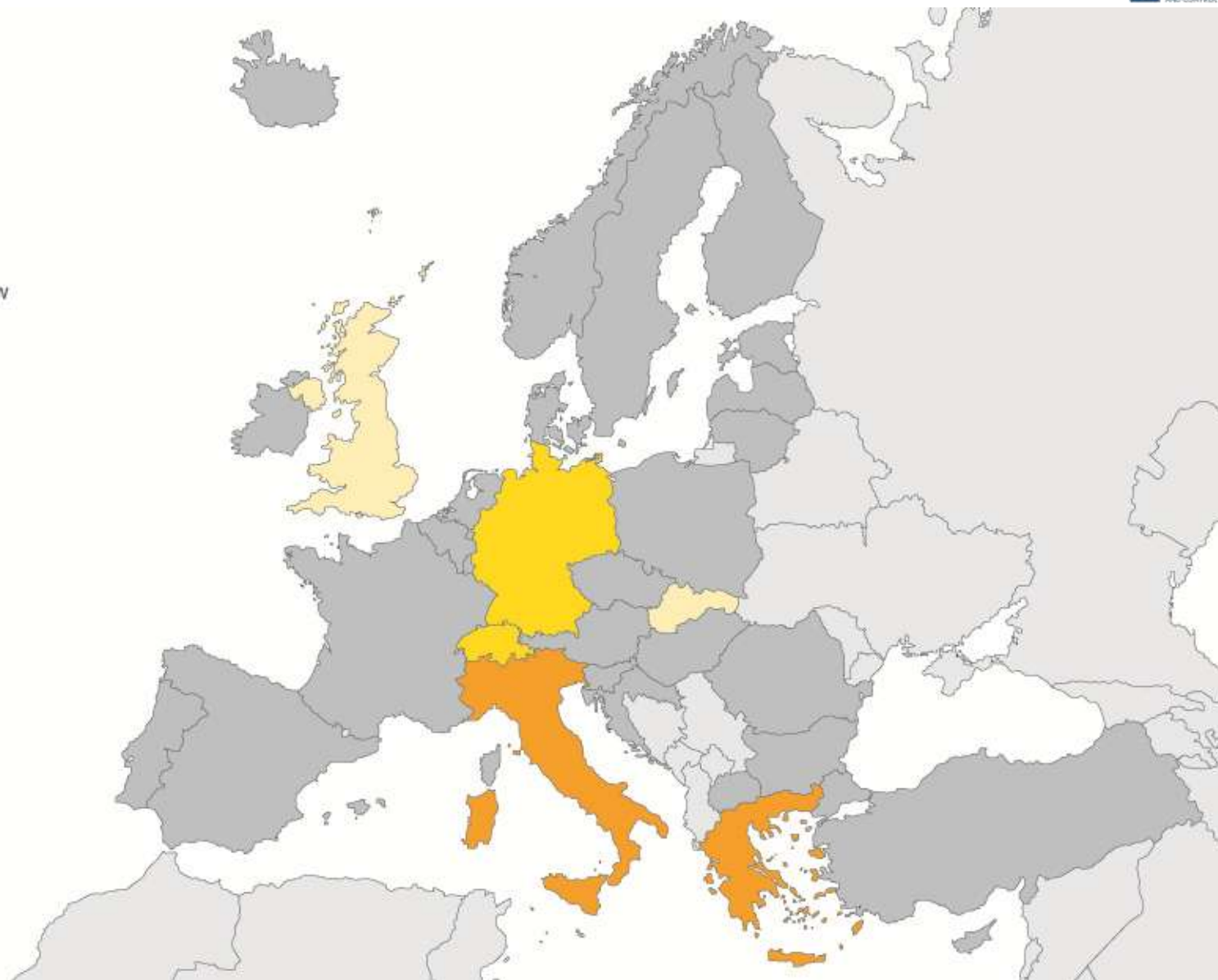
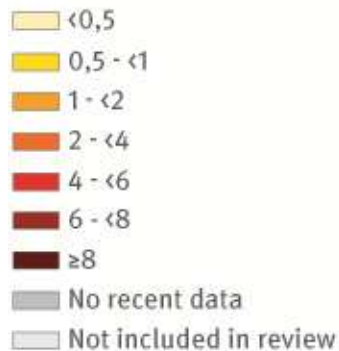


Non-visible countries
Liechtenstein
Luxembourg
Malta

Screening program for pregnant women



The prevalence of anti-HCV among pregnant women



Findings

- Prevalence in **first time blood donors** has generally been regarded as the lower limit of the prevalence in the general population
 - ➔ HBV/HCV prevalence estimates in first time blood donors were lower than those for the general population
- Prevalence in **pregnant women** in nearly all countries - with available data – is higher as compared with population
 - ➔ may reflect higher proportion of migrant women compared to general population studies

Findings cont.



Migrants: HBV and HCV prevalence studies are limited

- In nearly all countries the estimated prevalence of HBV and HCV is higher among migrants compared to the general population
- Large estimated numbers of chronically HBV and HCV infected migrants in Western European countries (Germany, Spain, France, Italy, UK)

IDU: large number of prevalence studies of HCV

- Representativeness of studied populations is variable
- HCV is highly prevalent among IDUs in Europe
- HBV prevalence among IDUs is much lower than that of HCV

National practices on screening



- **Blood donors:** screening policy in place in all EU/EEA Member States
- **Pregnant women:** studies from minority of countries: HBsAg screening widespread, HCV-Ab only in a few
- **Migrants:** no published studies on screening policies
- **IDU:** screening for HCV supported by professional consensus statements, published policies on HCV (UK) and HBV (NL)
- **MSM:** screening programme HBV in the Netherlands
- **General population:** no comprehensive programmes but France and Italy have recommendations for HCV screening for multiple additional population groups

Effectiveness of the screening programmes

Antenatal screening for HBsAg



Country	Year of publication	Proportion screened (%)	Proportion of infants completely vaccinated (%)
Denmark	2006	97%	Not reported
Greece	2006	91.3%	Not reported
Italy	1990	71%	85%
Italy	1998	91.6%	100%
Italy	2003	91.8%	95%
Italy	2005	100%	Not reported
Switzerland	2004	99.3%	95%
Netherlands	2001	97%	99.7%
UK	2002	93%	Not reported
UK	2004	99.9%	93%

Effectiveness of the screening programmes

IDU screening for HBV/HCV



Country	Year of publication	Condition	Indicator	Result
Hungary	2004	HBV and HCV	% drug treatment centres offering screening	
Ireland	2005	HCV	% screened	88%
		HBV	%screened	68%
		HBV	% susceptibles vaccinated	56%
Netherlands	2002	HBV	% screened	19%
			% susceptibles vaccinated	58%
UK	2000	HBV	% drug agencies offering testing	27%
		HCV	% drug agencies offering testing	24%
UK	2008	HCV	% screened	5%

Cost effectiveness: screening HCV in IDU in general practice



Country	CER (year)	Conclusion	Comment
UK		Cost-effective	Uncertainties regarding for example the uptake of screening remain.
UK	£28,120 / QALY (2001)	Cost-effective	
UK	£ 20,084 / LY (2004) £ 16,514 / QALY (2004)	Cost-effective	Case finding is most cost-effective in people with longstanding infection
UK	£ 10,177 / QALY (1997)	Cost-effective	
France	Not reported	Screening IDUs and transfusion recipients was the most cost-effective	
France	ICER compared to baseline is €3,825 (1998)	Cost-effective	

Conclusions



- Wide variation in published screening policies across Europe
- Evidence of cost-effectiveness of screening for HCV of IDU, migrants in one country and for HBV among pregnant women
- Evidence-base for population screening effectiveness is limited, but it is possible that considerable health gain could be achieved by secondary prevention of HBV and HCV
- Methodology on prevalence studies needs to be harmonized and EU-wide cost-effectiveness studies to be explored

Thank you!

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