

Hepatitis B and C testing strategies in healthcare and community settings in the EU/EEA: a systematic review

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Conflicts of Interest

No conflicts of interest to declare

Background

- **2016:** WHO launch the Global Health Sector Strategy and European Regional Action Plan to eliminate viral hepatitis by 2030
- **2016:** ECDC to develop the first European public health guidance on HBV/HCV testing
 - Assessment of EU/EEA testing policies and practices
 - Systematic reviews to assess HBV/HCV prevalence and incidence in general and key populations
- **2017:** ECDC launch plan for an integrated HEP/HIV testing public health guidance
- Systematic reviews to synthesise the body of recent evidence from the EU/EEA on:
 - Strategies aimed at increasing HBV/HCV testing
 - Strategies aimed at increasing HBV/HCV linkage to care
 - Strategies aimed at increasing HIV testing and barriers to testing

<https://ecdc.europa.eu/sites/portal/files/documents/HepatitisBC-testing-in-EU-May2017.pdf>

<https://ecdc.europa.eu/sites/portal/files/media/en/publications/Publications/systematic-review-hepatitis-B-C-prevalence.pdf>

<https://ecdc.europa.eu/sites/portal/files/documents/Hepatitis-B-C-epidemiology-in-selected-populations-in-the-EU.pdf>

Methods 1/2

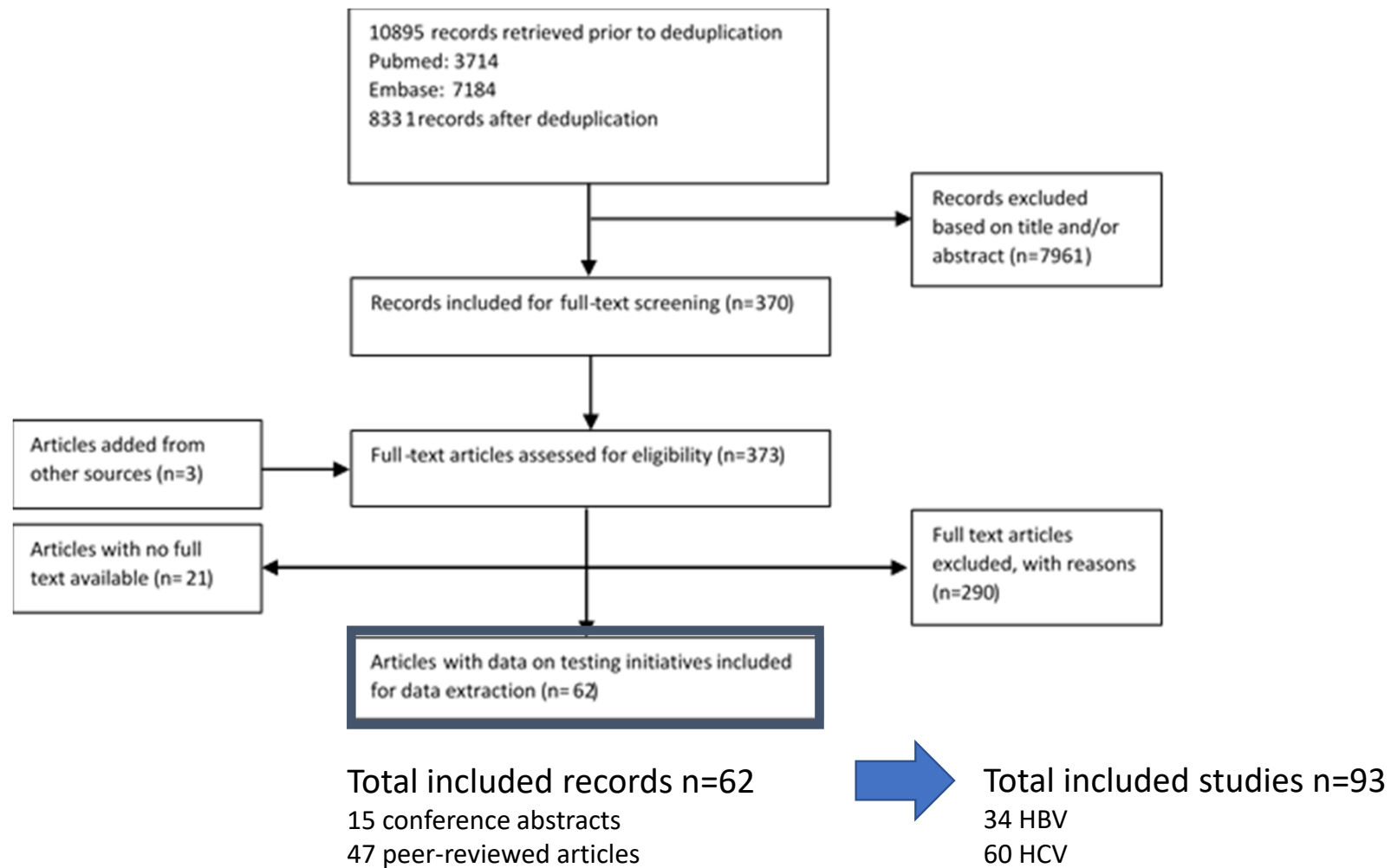
What approaches to increase coverage and uptake of hepatitis B/C testing have been implemented in the EU/EEA and how effective are they?

- Protocol followed the PRISMA guidelines (www.prisma-statement.org/)
- Search strings were developed for the following concepts: HBV/HCV, interventions, screening, EU/EEA countries
- Peer-reviewed literature search (2008-Sept 2017): Pubmed and Embase
- Language: no restrictions
- Grey literature search (2015-Sept2017): Conference abstracts
- Hand search (e.g. references of included records)

Methods 2/2

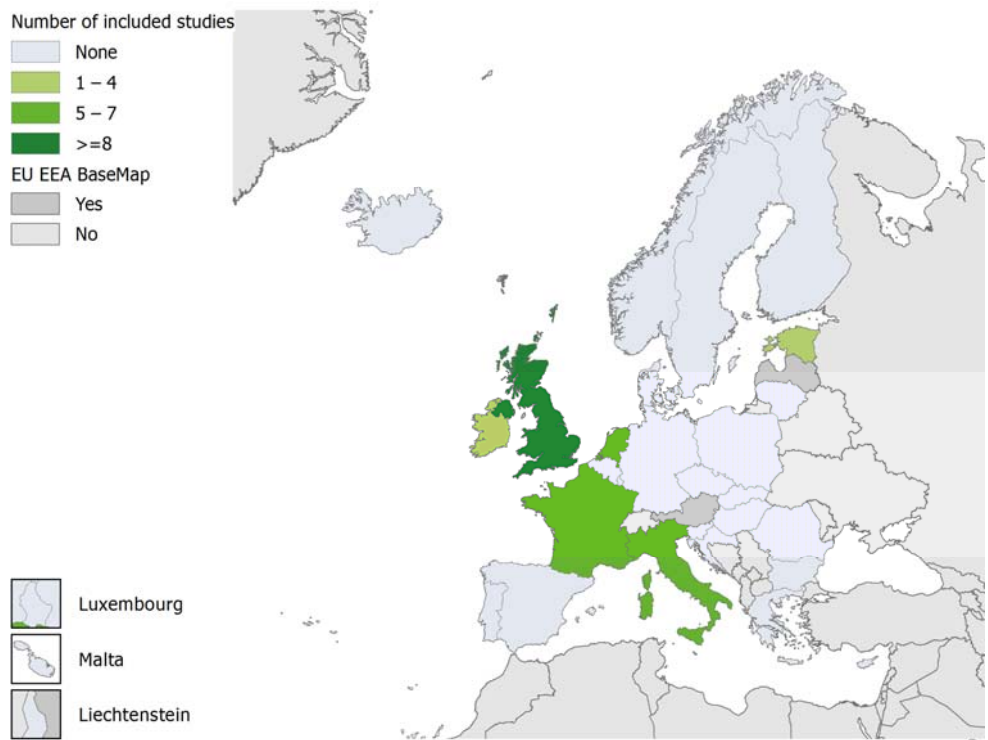
- Inclusion/exclusion criteria
 - EU/EEA (31 countries)
 - No language restrictions
 - Primary studies
 - Excluded unlinked-anonymous testing
 - Adults (aged ≥ 15 years) being tested for or diagnosed with HBV/HCV
- Quality assessment: SIGN checklist
- Evidence was analysed based on:
 - **Setting:** Health care (primary care, hospital, other services); community (fixed sites; online; outreach)
 - **Target population:** Gen pop, PWID, migrants, MSM, homeless, etc
 - **Type of intervention:** Testing implementation, campaigns, education, clinical decision making tools, communication technology, audits
- Studies were not formally weighted by quality in the synthesis

Results- PRISMA flowchart

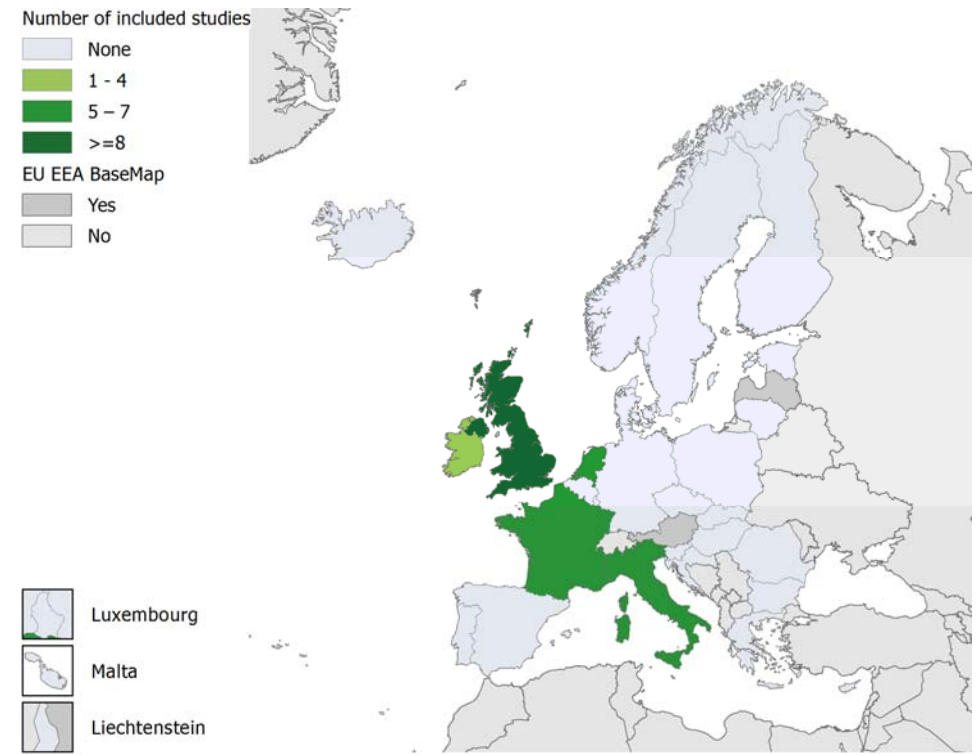


Geographical representativeness of included studies by study location

Hepatitis B

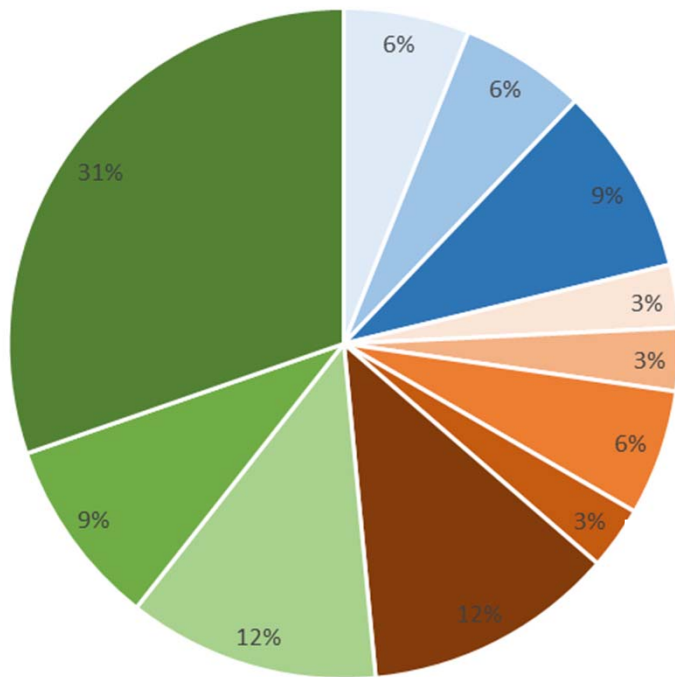


Hepatitis C

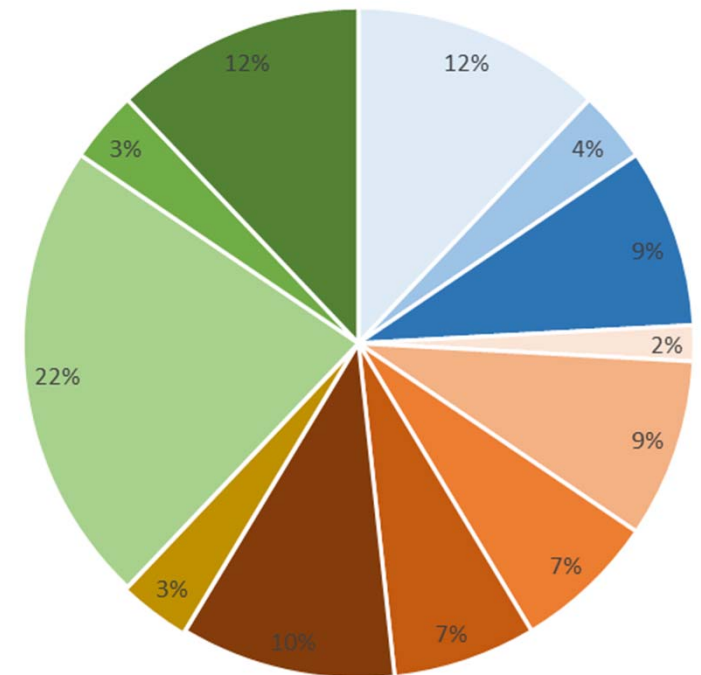


Distribution of included studies by study setting

Hepatitis B (34 studies)



Hepatitis C (60 studies)



- Primary care
- Emergency dept
- Other hospital wards
- Antenatal Care
- Harm Reduction services
- Prisons
- STI clinics
- Other health care settings
- Pharmacies
- Community-based testing sites
- Online platforms (self-sampling)
- Outreach

Primary Health Care

	Target population	Pathogen	Coverage	Positivity rate
<ul style="list-style-type: none"> — 9 studies included — Positivity/reactivity varied by target group — Not all studies reported key testing indicators 	Migrants	HBV	2.3%-70%	0%-6.7%
		HCV	2.3%-70%	0%
	PWID	HBV	-	-
		HCV	0.3%-24.8%	22%-77%
	Homeless	HBV	-	-
		HCV	-	26%
	Gen pop	HBV	-	-
		HCV	0%-20%	0%-13%

4 comparative studies:

- ❖ Provider-initiated testing and educational interventions targeting GPs increased testing offer and uptake among high risk groups and general population compared to control groups or routine care

Hospital Settings

	Hospital ward	Pathogen	Coverage	Positivity rate
12 studies included	Emergency department	HBV	27%-88.4%	0.5%-0.7%
		HCV	9.1%-88.4%	1.8%-5%
Positivity/reactivity varied by target group	Other wards	HBV	28%-61%	0.7%-7%
		HCV	28%-61%	0.3%-8.7%
Not all studies reported key testing indicators				

2 comparative studies:

- ❖ Introduction of HCV oral testing increased testing uptake (from 9.1% to 22%) and positivity rates (from 0.5% to 4.5%) over time
- ❖ National awareness raising campaign increased by 15.5% the number of HCV tests taken in hospitals

Other Health Care Settings

- 31 studies included
- Positivity/reactivity varied by service type and target group
- Not all studies reported key testing indicators

Target population	Pathogen	Coverage	Positivity rate
Antenatal services	HBV	39%-97%	0-22%
	HCV	28.3%	1.3%-1.8%
Harm Reduction services	HBV	34%-69%	33%
	HCV	8.4%-84.2%	26%-61%
Pharmacies	HBV	-	-
	HCV	13%-36%	25%-26%
Other specialized services	HBV	64.2%-91.4%	6%-9.6%
	HCV	90%-98%	3.6%-60%

11 comparative studies:

- ❖ Provision of HCV rapid tests and DBS sampling increased testing uptake in a variety of settings including pharmacies, prisons and low thresholds services
- ❖ Universal test offer and DBS sampling increased testing uptake in antenatal services
- ❖ Guidelines and clinical tools increased testing coverage in STI clinics

Community Settings

- 41 studies included
- Positivity/reactivity varied by service type and target group
- Not all studies reported key testing indicators

Target population	Pathogen	Coverage	Positivity rate
Fixed sites	HBV	7.4%-71.1%	8.3%-20%
	HCV	7.4%-100%	0%-53%
Online platforms	HBV	16.2%-43%	0-0.2%
	HCV	4.4%-16.2%	4.5%-4.6%
Outreach	HBV	9.8%-76.2%	0%-12.4%
	HCV	9.8%-100%	0.8%-37.6%

7 comparative studies:

- ❖ Provision of DBS sampling or HCV oral test to high risk groups increased uptake
- ❖ Targeted educational interventions and awareness campaigns increased testing uptake among homeless, PWID and migrants

Conclusions

- Effective testing approaches reported in all settings
- Targeted testing, testing using novel approaches, educational intervention and awareness campaigns shown to be effective in increasing test offer and/or uptake in at least one setting
- Combining a diverse set of testing opportunities within national testing strategies may lead to higher impact
- Limitations:
 - Geographical coverage limited - most studies set in Northern and Western Europe
 - Not all studies could be assessed for quality
 - Heterogeneity of outcomes definitions and reporting

More information

PS4/04: Community-based HIV testing in Europe: a systematic review (oral/poster)

PO4/01: HIV self-sampling and self-testing in Europe: a systematic review (poster)

PS3/05: Evidence-based public health guidance for integrated HBV, HCV and HIV testing in Europe (oral/poster)

ECDC. Hepatitis B and C testing strategies in healthcare and community settings in the EU/EEA – A systematic review. 2018. Available at

<https://ecdc.europa.eu/sites/portal/files/documents/HepBC-testing-strategies-2018.pdf>

ECDC. Public health guidance on HIV, hepatitis B and C testing in the EU/EEA: An integrated approach. 2018. Available at:

<https://ecdc.europa.eu/sites/portal/files/documents/HIV-hepatitis-B-and-C-testing-public-health-guidance.pdf>

Thank you

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