

# Blood-borne virus testing in European Emergency Departments: current evidence and service considerations

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## Background

- Innovative testing for HIV, hepatitis B & C (blood-borne viruses [BBVs]) is needed to meet global targets.
- Emerging evidence that systematic testing in emergency departments (EDs) can diagnose BBV in those who do not routinely access/engage with healthcare.
- We conducted a systematic review of BBV testing in EDs in Europe to evaluate the disease prevalence in this setting and effectiveness of ED testing and linkage to care (LTC) and discuss best practice models.

## Methods

- PubMed, Embase and Cochrane Library searched for articles on ED BBV testing, published between Jan 2012 – July 2022.
- Excluded studies conducted outside Europe
- Reference lists from articles were manually searched

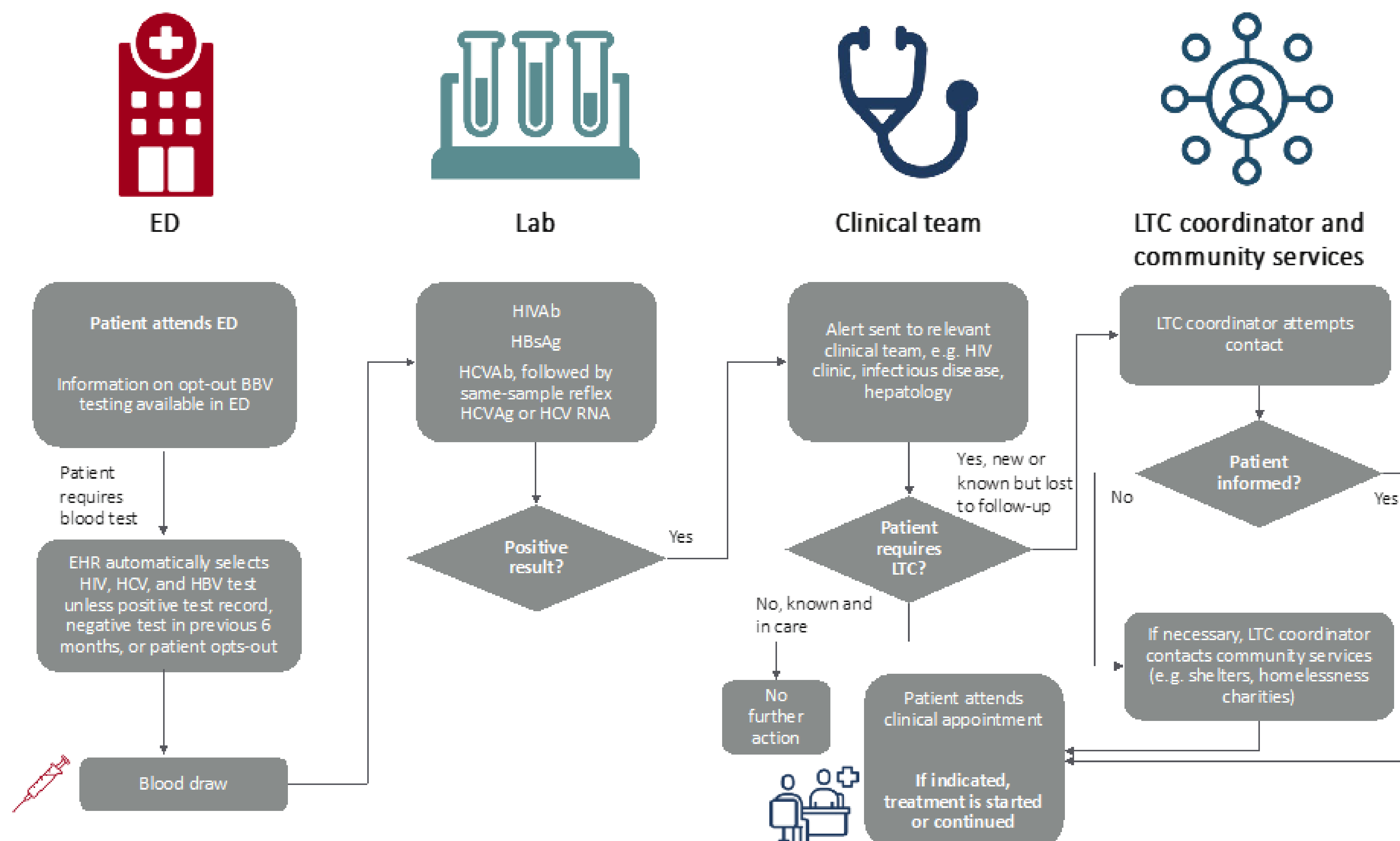
## Results

- 17 original articles met inclusion criteria. Studies were conducted in England, France, Ireland and Portugal.
- 7 studies reported on all three BBV infections, seven studies considered HIV only, two included HBV and HCV only, and one study looked at HIV and HCV only.
- **ED prevalence range: HIV-Ab: 0.0-1.1%, HBs-Ag: 0.2-0.9%; and HCV-RNA: 0.2-2.9%.**
- **Linkage to care (LTC)** varied by BBV, HIV: 8.1-100%, HBV: 27.7%-95.5% for HBV and cHCV: 12.9-48.6%.

**Table 1: ED BBV testing uptake, by ED testing policy, method and patient numbers**

ED testing policy	Test offer (institutional policy)	Test uptake (range)	Number of studies	Number of patients tested
Opt-out	Provider-initiated	9.7%-61.7%	9	1,747 - 41,535
	Electronic health record (EHR)	52.1-88.9%	5	3,265 – 38,357
Opt-in	Provider-initiated	3.9-37.7%	3	324 – 12,754

**Figure 1: Suggested schematic pathway for ED BBV testing and Linkage to care (LTC)**



## Conclusions

- ED BBV testing in Europe is **feasible** and identifies high numbers of **new** infections and **disengaged** patients, often among **marginalised** populations.
- **Opt-out testing** models, especially in combination with **innovative EHR modification** both achieved higher levels of sustained testing uptake than traditional opt-in, provider-led testing.
- To maximise **LTC**, establishing **formalised pathways** embracing secondary, primary and community care is crucial to achieve targets.