



EuroTEST

Working together for integrated
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Addressing Hepatitis, HIV, STIs and TB

Practical Implementation Guidance for Bloodborne Virus Opt-out Testing in Adult Emergency Departments in Europe

November 2026



Practical implementation guidance for BBV opt-out testing in adult emergency departments in Europe

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EuroTEST Steering Committee

The Steering Committee is an independent group of experts in HIV, viral hepatitis, sexually transmitted infections. The Committee is instrumental in helping achieve the aims and objectives of EuroTEST.

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Abbreviations

ART	Antiretroviral therapy
BBV	Blood-borne virus
CDC	Centers for Disease Control and Prevention
EACS	European AIDS Clinical Society
EASL	European Association for the Study of the Liver
ECDC	European Centre for Disease Prevention and Control
ED	Emergency department
EEA	European Economic Area
EU	European Union
GP	General Practitioner
HBV	Hepatitis B virus
HCP	Health care personnel
HCV	Hepatitis C virus
IUSTI	International Union Against Sexually Transmitted Infections
NHSE	National Health Service England
NPT	Normalisation Process Theory
PDSA	Plan-Do-Study-Act
PWID	People who inject drugs
STI	Sexually transmitted infection
SOP	Standard Operating Procedure
UKHSA	UK Health Security Agency
WHO	World Health Organization

Introduction

EuroTEST (www.eurotest.org) is a pan-European initiative with the overall objective to ensure that people living with HIV, viral hepatitis, STIs or TB have access to testing and enter care early as well as to study the decrease in the proportion presenting late for care.

Since its foundation, the EuroTEST initiative has evolved into a recognized European platform that brings together independent experts from diverse sectors to influence policy, share knowledge, and build a robust evidence base.

In 2023 EuroTEST hosted the [HepHIV Conference](#) in Madrid where presentations and sessions discussed screening for bloodborne viruses (BBV) such as HIV, Hepatitis B and Hepatitis C in emergency departments (EDs) as a highly effective, feasible, and cost-effective intervention in high-prevalence areas. A key takeaway from these discussions was the lack of concrete implementation guidance for other countries to use and learn from.

In 2025, EuroTEST began the development of a practical guidance document to support the implementation of BBV testing for adults in EDs across high-prevalence settings in Europe drawing on pilot experiences and expert knowledge.

Aim and target audience

The aim of this guidance is to provide practical guidance to support the implementation of BBV opt-out testing in adult emergency departments in high prevalence settings in Europe. The guidance document will serve as a toolkit, outlining key considerations for implementation and showcase best practices from different countries and different settings illustrating how individuals can adapt these practices to their unique situation.

The primary audience for this guidance is politicians, clinicians, and public health physicians.

Scope and use of this guidance

This implementation guidance provides high-level, practical recommendations to support the implementation of BBV opt-out testing in adult emergency departments across Europe. Given the considerable variation in healthcare systems, service organisation, funding mechanisms, legislation, and epidemiological contexts across European countries, the guidance is not intended to provide detailed instructions for every setting or circumstance. Rather, the guidance outlines key principles, considerations, and approaches that may support implementation in a range of contexts.

To complement these recommendations, a series of case studies has been included, describing experiences from different European settings. Readers are encouraged to review these examples and identify approaches, challenges, and solutions that are most applicable to their own healthcare system and local context.

Background

Late diagnosis of BBV is associated with poorer outcomes and increased transmission. According to the WHO estimates 791,531 people in the WHO European Region were living with transmissible levels of HIV in 2023 [1]. Of these, 48% were undiagnosed, and 37% were diagnosed but not receiving antiretroviral treatment (ART). Available modelling estimates that only 34% of people living with Hepatitis B (HBV) and 38% of those, living with Hepatitis C (HCV) were diagnosed in 2024 in EU/EEA [2]. Late presentation remains a critical barrier to epidemic control; over 50% of HIV diagnoses in the

EU/EEA occur with CD4 counts <200 cells/mm³ [1]. ECDC report that many HBV and HCV infections in Europe continue to be diagnosed only after progression to cirrhosis or liver cancer and that there is a need to improve data collection on late diagnosis for viral hepatitis in Europe [3]. A recent global systematic review including European studies reported that 15-51% of hepatitis B cases and 11-70% of hepatitis C cases were diagnosed late [4].

Undiagnosed and untreated BBV infections drive avoidable transmission, morbidity, and mortality. There is an urgent need to address the issue of undiagnosed BBVs and promote prompt testing and linkage to care in order to achieve the WHO 2030 goals of zero transmission of HIV, and the elimination of viral hepatitis as a public health threat [5]. Novel strategies are needed to reduce transmission of BBVs, and thus morbidity and mortality.

HIV, HBV, and HCV often affect overlapping populations and share similar pathways for diagnosis and care. A combined testing strategy is proven to be cost-effective and offers significant benefits on individual and public health levels [6]. Emergency departments provide a unique opportunity to address the diagnostic gap. EDs provide open-access care to large and diverse patient populations, including those at higher risk for BBVs, who otherwise have limited contact with routine health services. These include people who inject drugs, migrants, and individuals experiencing homelessness [7]. Routine opt-out testing has proven to be particularly effective in increasing the detection rates of BBVs [8]. It optimizes the testing process, reducing stigma and barriers to testing. Guidelines from WHO and ECDC recommend opt-out BBV testing in hospital settings, including EDs, in areas with high prevalence [6, 9]. Opt-out BBV testing is already well established and widely accepted in antenatal care in most European countries.

In 2006, the U.S. Centers for Disease Control and Prevention (CDC) published revised HIV testing guidelines for healthcare settings, introducing opt-out testing in emergency settings and removing requirements for pre-test counselling and separate written consent [10]. In line with CDC recommendations for one-time HBV and HCV screening for all adults, several U.S. EDs have since adopted opt-out testing models [11].

In 2022, the UK initiated implementation of a BBV opt-out testing programme across 34 EDs in London, Manchester, Blackpool and Brighton, funded by NHS England. The Programme provides BBV testing anyone aged 16 years and over having a routine blood test during their ED attendance. The programme expanded to 47 more EDs in 2024.

Evidence from the US and UK show that opt-out BBV testing in EDs is highly effective in both identifying new cases and re-engaging previously diagnosed individuals who had disengaged from care [12-14]. Between 2022 to 2024 the UK programme successfully identified a large number of new diagnoses: 719 new HIV, 3,667 HBV, and 831 HCV diagnoses, the majority in individuals without prior BBV testing.

BBV opt-out testing in emergency departments complements existing testing strategies and can help identify individuals with undiagnosed HIV or viral hepatitis who may not recognise their own risk and would therefore be unlikely to be reached through targeted testing approaches.

However implementation of opt-out testing in EDs across Europe remains inconsistent, and there are currently limited operational data.

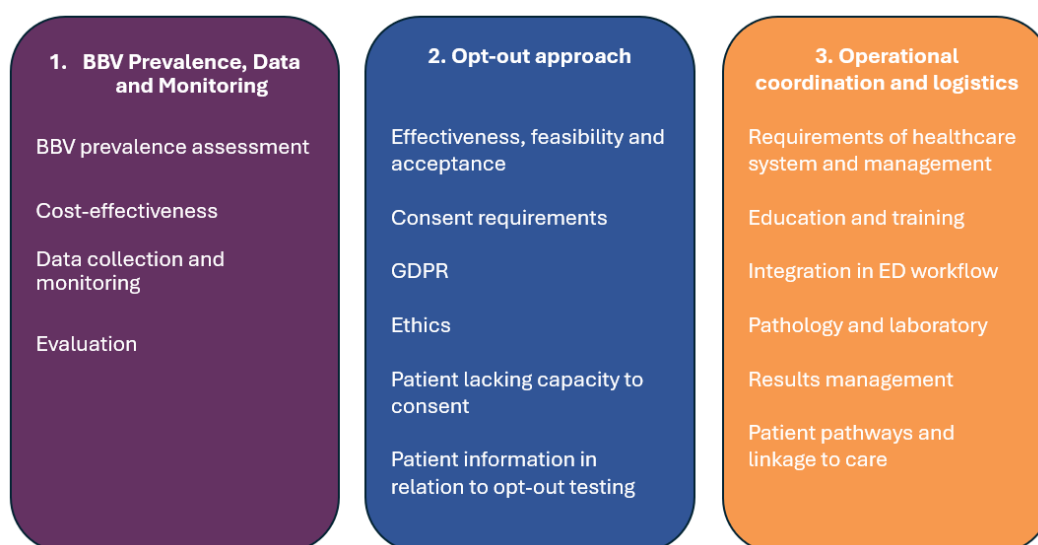
Methodology

The development of this implementation guidance was coordinated by EuroTEST under the lead of Michael Rayment and Ann Sullivan, and with the support of an expert advisory group convened for this activity supervising both the development process and the content of the guidance. The advisory

group included experts in infectious diseases, hepatology and emergency medicine, data experts from UKHSA, European organisations including ECDC, EASL and IUSTI, and patient organisations. Please find an overview of the advisory group in Annex 1.

The advisory group worked across three thematic workstreams to identify and discuss key topics that should be included in this practical implementation guidance. Figure 1 shows the three workstreams and key topics discussed under each workstream. Workstreams subsequently reviewed the available evidence collected under each topic through a rapid literature review.

Figure 1: Thematic workstreams within advisory group members discussed and defined key guidance topics



Literature search and review

A rapid literature review was conducted to identify European studies and grey literature covering implementation of routine BBV testing in EDs. Literature searches were carried out in 3 databases: OVID Medline, Embase and Cochrane CENTRAL. Specific search strings were built for bloodborne viruses, opt-out testing and emergency departments. Grey literature was searched for similar conference proceedings, unpublished studies and reports.

Inclusion of studies was restricted to: studies of adults (aged ≥ 15 years), conducted in countries within the WHO European region describing approaches to implementation of BBV routine testing in ED. No language restrictions were applied.

Title and abstract screening were performed by two independent reviewers and full text review and data extraction by one reviewer. Qualitative and quantitative data were extracted from included studies using a standardized data collection form in the Covidence application.

Review searches generated 1537 results. After removal of duplicates title, and abstract screening was done for 1226 references and full-text review for 202. Seventy-five references were ultimately included in the review.

Eligible references included 66 studies (14 conference abstracts, 52 published studies), 4 reports and 5 guidelines from the following countries: the UK (46), Ireland (3), France (6), Spain (6), Portugal (2), Belgium (1), Switzerland (2), Italy (2), the Netherlands (1) and Germany (2).

Twenty-five studies focused on testing for all three BBVs, 32 focused only on HIV, and 18 on HBV and HCV.

Decision making tables

To structure the evidence synthesis, the evidence base was compiled by developing decision-making tables under each guidance subtopic. Decision making tables and collected best practices were reviewed by the advisory group which provided expert input resulting in a number of consensus practice recommendations for implementation of BBV opt-out testing in EDs.

Case studies

A range of case studies from different European countries illustrating different steps in implementing BBV opt-out testing in ED have been selected through the literature review and subsequent meetings with the expert advisory group. Please find collected case studies in Annex 2.

Requirements of health care systems and management

Through interviews with stakeholders across different European countries, EuroTEST has identified key considerations for health care systems and management for the successful implementation of BBV opt-out testing programmes. These include main drivers for political and organisational support, establishment of governance and oversight structures, engagement of relevant stakeholders throughout the different phases of implementation and ensuring clear referral and linkage-to-care pathways (Annex 3).

Public consultation process

The practice recommendations were presented at a session at the EACS 2025 conference in Paris to receive input on the recommendations from session participants. An estimated 300 delegates attended the session, and questions were received on a number of topics.

The practice recommendations were hereafter put up for public consultation on the EuroTEST website for a 5-month period. Key stakeholders were invited to provide feedback and input using a standardised form. A total of 15 responses were received from professionals across different disciplines and European countries.

Feedback and input received through both the conference session and the public consultation process were reviewed by the expert advisory group and, where appropriate, incorporated into the final guidance document (see Annex 4).

Structure of the Guidance

To ensure consistency and clarity, recommendations are phrased according to the strength of evidence underpinning the recommendation and the extent of expert consensus:

- For recommendations where there is a strong consensus supported by a robust evidence base and/or expert agreement the following wording is used: “*We recommend...*” or “*...should be considered.*”
- For recommendations where there was a weaker consensus and/or the supporting evidence is limited, the following wording is used: “*We suggest...*” or “*...may be considered.*”

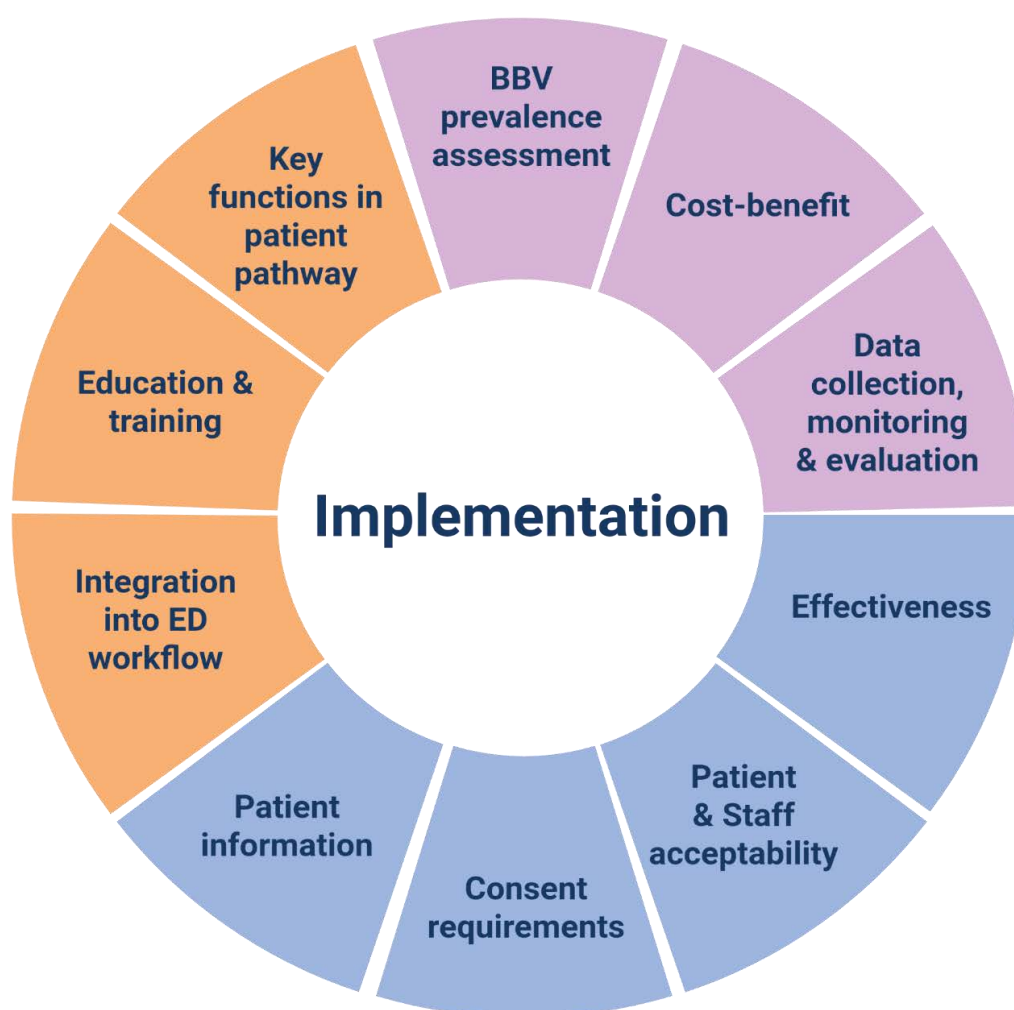
The guidance is focused around 11 key steps to consider for implementation.

Key steps to consider before implementing BBV opt-out testing in ED

BBV prevalence, data and monitoring	
1	BBV prevalence assessment Efforts should be made to understand the likely prevalence of undiagnosed blood borne viruses in the proposed ED setting prior to implementing opt-out testing.
2	Cost-benefit Cost-benefit has been instrumental in driving successful programs. Assessment of the costs and benefits of implementing BBV opt-out testing within local context may be considered.
3	Data collection, monitoring and evaluation Systems should be in place to collect and measure operational and clinical factors to monitor the success of the BBV testing programme.
The Opt-out approach	
4	Effectiveness For optimal coverage and operational sustainability the adoption of an opt-out approach when implementing routine testing for blood borne viruses in emergency departments is recommended. It is suggested that local programs capture and monitor markers of clinical effectiveness.
5	Patient and staff acceptability Measures of patient and staff experience should be undertaken prior and during the implementation of BBV testing programs. Collected feedback should be used to inform and modify programme implementation to maximize acceptability and operational integration.
6	Consent requirements All BBV testing should be informed and align with medical core ethical principles, but the opt-out approach is incompatible with requirement of written consent for testing.
7	Patient information Patient information should be made widely available in a variety of formats to inform ED attendees of BBV opt-out testing.
Operational coordination and logistics	
8	Integration into the ED workflow BBV opt-out testing should be integrated into existing ED workflows with minimal impact on ED staff efficiency. Opt-out testing should be implemented in ED settings where people are already having phlebotomy for other clinical reasons.
9	Education and training Prior and subsequent to implementation of BBV opt-out testing ED staff should receive training on the purpose, methodology and delivery of opt-out testing as well as the benefits of BBV testing.

10	Lab & pathology Laboratories involved in testing programs should be accredited for HIV and hepatitis B and C testing. Selection of tests for BBV programs should follow recommendations from ECDC and WHO.
11	Key functions in patient pathway The following key functions in the patient pathway from ED to care should be in place before implementing BBV opt-out testing in EDs: <ul style="list-style-type: none"> • Failsafe automatic reporting of all non-negative results to designated relevant parties • Delegation of results governance and linkage to care facilitation to appropriate local services outside the emergency department.

Figure 2: Overview of the key steps to consider when implementing BBV opt-out testing in emergency departments.



Practice Recommendations

1 BBV prevalence assessment

We recommend: that efforts be made to understand the likely prevalence of undiagnosed blood borne viruses in the proposed ED setting prior to implementing opt-out testing.

We suggest this may be supported by:

- **Locally performed pilot studies**
- **Seroprevalence studies**
- **Using national data**
- **Using national or regional tools to inform estimates of undiagnosed prevalence**
 - **ECDC HIV Modelling tool**
- **Using local data sources**
- **Other methods are available as informed by local data which might include attendance fractions by risk groups or proportion of late diagnoses**

Current guidelines recommend that implementation of routine testing is determined by the local seroprevalence of an infection. Areas with high diagnosed prevalence are often associated with high levels of undiagnosed infection. In areas where local diagnosed BBV prevalence is high consideration should be given to routine testing of all adult patients who undergo blood tests in ED provided that adequate funding, laboratory capacity, and care pathways are in place to support diagnosis and follow-up. ECDC recommends systematic BBV screening in EDs in high-prevalence areas of HIV ($\geq 1\%$) and in areas of intermediate or high prevalence of HBV and HCV (intermediate $\geq 2\%$ and high $\geq 5\%$) [6].

In low BBV prevalence areas a targeted testing approach could be a more appropriate strategy such as indicator condition guided testing where testing is offered to patients presenting with conditions associated with a higher prevalence of HIV [6, 9].

BBV prevalence has been assessed through pilot studies, anonymous seroprevalence studies, estimation from national data or mathematical modelling of proxy data [15-22]. National or regional tools can also be used to inform estimates of undiagnosed prevalence. The [ECDC HIV modelling tool](#) is freely available from the ECDC Learning Portal. The platform uses routinely collected HIV surveillance data but requires technical skills and support from national experts to operate [23]. Conducting scientific assessments, such as pilot studies or seroprevalence surveys, can require substantial resources. However, Case study C1 from Chelsea and Westminster Hospital demonstrated a pragmatic alternative by using samples already collected through an emergency department HIV testing programme to inform the potential value of introducing HCV and HBV testing. Five hundred randomly selected, irreversibly unlinked samples from individuals with a negative HIV test result were analysed for anti-HCV IgG and hepatitis B surface antigen (HBsAg) [15].

As a pragmatic alternative to conducting dedicated prevalence studies, sites can estimate local BBV prevalence by leveraging readily available local data. Relevant information may include recent HIV, HBV and HCV diagnoses identified through review of retrospective local routine hospital data, the proportion of key populations in the area and the number of late diagnoses reported locally.

To support these estimates, it is recommended that sites liaise with local HIV clinicians, hepatologists, and public health institutes, which may be able to provide relevant epidemiological data and insights. In addition, engagement with community organisations can offer valuable on-the-ground intelligence regarding local population groups and patterns of BBV transmission.

[Case study: C1]

2 Cost-benefit

We suggest that the readers of this guidance consider assessing the costs and benefits of implementing BBV opt-out testing within their local context. The following inputs may be considered to inform such assessments:

Epidemiological variables:

- Estimated local undiagnosed BBV prevalence
- ED attendance
- Test coverage rate
- Test positivity
- Numbers needed to test to identify one new diagnosis

Cost of testing:

- Cost of tests
- Cost of confirmatory HIV testing and HCV RNA testing

Cost of linkage to care:

- Proportion needing linkage to care
- Contact rates
- Referral attendance
- Treatment costs
- Disease progression
- Treatment uptake
- Monitoring

Start-up costs and Staff expenses

- Start-up costs (e.g. IT adaption, patient information and communication)
- Results administration
- Project management
- Clinical leadership
- Training and education

Potential savings:

- Cost associated with late presentation & admissions
- Savings from prevention and onward transmission (estimated new cases prevented by each new diagnosis and lifetime cost of a patient with BBV)

The level of detail in assessment of costs and benefits should be proportionate to the scale, scope and complexity of the proposed testing project.

Testing in healthcare settings is often opportunistic. For patients already undergoing blood tests for other reasons the additional cost for HIV, HBV and HCV testing is relatively small. When the diagnosed prevalence is known or can be reliably estimated, it becomes possible to identify areas where routine testing can be most cost-effective. These decisions should also consider local factors such as epidemiological patterns, available infrastructure, and financial feasibility [6].

Cost-effectiveness analyses from various European countries have identified prevalence thresholds for implementing routine BBV screening in EDs. However, comparing these results across countries is challenging as parameters included in the economic analyses such as epidemiology, testing and treatment costs are likely to vary across countries and different health care systems.

Based on results from two long-term studies from the England opt-out testing was found to be cost-effective if the HBsAg prevalence was 0.25% or above, and the HCV RNA prevalence 0.49% or above [24].

In France routine screening for HIV has been found to be cost-effective when the background prevalence rate of undiagnosed HIV infection is greater than $\geq 0.1\%$ [25] and when the local HCV prevalence amongst ED attendees remain higher than in the general population (0.3%)[26].

In an Italian study a prevalence threshold analysis showed that at a prevalence threshold at 0.25% HIV universal testing will be cost-effective compared with indicator condition guided testing [27].

Findings from a recent study from Germany suggest that ED-based combined BBV opt-out testing in high-prevalence areas could offer greater health benefits and substantially improve value for money than the current testing strategy in EDs. ED BBV opt-out testing was estimated to be cost-effective at a combined BBV prevalence of 1.5% [28].

Based on review of studies a list of parameters to consider for a cost-benefit analysis was developed including epidemiological variables, cost of testing, cost of linkage to care, start-up costs and staff expenses and the potential savings [24-27, 29, 30].

The level of economic assessment should be proportionate to the scale of implementation. For pilot projects, simple monitoring indicators may be sufficient to assess programme feasibility and inform local decision-making. As programmes are expanded regionally or nationally, a broader evaluation of costs, outcomes, and long-term value should be considered to support strategic planning and sustainable investment.

For pilot projects, a formal cost-effectiveness analysis is generally not required. Instead, sites may monitor a small set of indicators, such as:

- Number of individuals tested
- Estimated cost per person tested
- Number of new BBV diagnoses identified
- Number of individuals successfully linked to care
- Estimated cost per new diagnosis identified

These indicators can provide valuable information on programme feasibility, resource requirements, and potential value. They can also help sites assess whether the anticipated benefits justify the resources invested and provide evidence to support discussions with management and other decision-makers.

In a case study (C2) from Charing Cross Hospital authors conducted a cost analysis to pitch for the hospital business department for funding approval. In this analysis they included cost per test, estimated number of eligible ED attendees, anticipated testing coverage, the expected number of new diagnoses, and the estimated healthcare cost savings associated with earlier diagnosis [31].

For wider regional or national implementation, a more comprehensive assessment of costs and benefits should be undertaken where feasible. In addition to monitoring programme outputs, healthcare systems should consider the broader economic and public health impact of BBV opt-out testing. This may include estimating total programme costs, healthcare costs averted through earlier diagnosis and treatment, reductions in late presentation, and prevention benefits associated with reduced onward transmission.

A recent model-based economic evaluation of the first 33 months of ED opt-out testing programme in England estimates that the intervention was highly cost-effective due to averted HIV-related morbidity and mortality from improving diagnosis and linkage to care of people who would otherwise not be tested, many of whom had already reached an advanced stage of HIV progression. The programme identified 802 previously undiagnosed people living with HIV and was projected to prevent 187 HIV-related deaths and 28 onward transmissions over 20 years. As only HIV outcomes were evaluated, inclusion of hepatitis B and hepatitis C outcomes would likely further improve the cost-effectiveness of the testing programme [32].

[Case study C2]

3 Data collection, monitoring and evaluation

We recommend: that systems are in place to measure a number of operational and clinical factors to monitor the success of the BBV testing programme

We suggest considering collection and monitoring of the following metrics:

Markers of operational effectiveness

- Total number of attendees
- Total number of eligible patients
- Total number of tests performed by each BBV
- Number of positive tests and confirmatory tests
- Status: New positives, known positives, not engaged in care
- Site of diagnosis
- Linkage to care (proportion contacted, timeliness, linkage to care outcomes)
- Refusal/opt-out rate

Markers of clinical effectiveness

- Proportion of new diagnoses
- Fraction of early diagnoses
- Fraction of late diagnoses
- Clinical characteristics for the 3 infections (CD4, HIV viral load, fibrosis stage, routine laboratory values including serum aminotransferase levels)
- Engagement in care
- Re-engagement in care
- BBV risk factors
- History of BBV testing
- Demographic characteristics (age, gender, ethnicity, IMD, exposure)
- Comparison data for other sites testing for BBVs

European guidelines emphasise that data collection, monitoring and evaluation is an essential component of any effective testing programme. Monitoring and evaluation of key operational and clinical indicators permit continuous re-evaluation of targets as well as assessment of programme effectiveness, efficiency and impact [6]. These markers enable services to detect workflow challenges and gaps in pathways and are essential in planning improvements and ensuring continuous optimisation of the programme.

Acknowledging the difficulty of monitoring the performance of BBV testing programmes due to potential gaps and different degree of data availability the above list of metrics is based on data captured in pilot studies across Europe [21, 22, 33-53].

Data should be captured through hospital information systems that are fit for purpose and GDPR compliant.

Depending on the virus in question, there are well-defined criteria and indicators of early and late diagnosis. For HIV, early and late diagnosis can be assessed using clinical indicators such as CD4 cell count and viral load at diagnosis and the presence of AIDS-defining conditions. For HBV and HCV, indicators commonly relate to the presence and severity of liver disease, such as elevated liver enzymes (ALT/AST), fibrosis, cirrhosis, or hepatocellular carcinoma.

In England the UK Health Security Agency (UKHSA) and partners set up a comprehensive data, monitoring and evaluation framework to support the project. An interim reporting template was used across all UK sites including data items from multiple hospital systems (laboratory information management systems, electronic patient records and local clinic service systems)[8].

In order to evaluate the impact and effectiveness of the programme and potential inequalities in uptake of BBV testing and linkage to care, data has been collected from multiple sources including National Emergency Care Data Set, NHSE BBV opt-out testing in ED programme dashboards and sentinel surveillance of bloodborne virus testing in England [54].

Availability of both programmatic and routine surveillance data has enabled deduplication of records, linking outcomes from ED attendance to BBV testing, and linkage to care. Linking to past diagnoses also allow distinguishing new cases from previously diagnosed individuals [54].

A more detailed description of the NHSE BBV opt-out testing in ED programme dashboards used to capture programmatic data are given in case study C3.

[Case study: C3]

4 Measures of effectiveness

We recommend: the adoption of an opt-out approach when implementing routine testing for blood borne viruses in emergency departments for optimal coverage and operational sustainability.

We suggest considering capturing the following data for local programs to demonstrate the clinical effectiveness:

- **Previous BBV testing behaviour (proportion of first test ever, time since last test)**
- **Which new diagnoses would have been missed with the adoption of a risk-based and indicator condition guided testing approach**

International guidelines from ECDC and WHO recommend routine offer of testing for BBV in hospital settings, including EDs, in high-prevalence areas. Universal test offer in areas of intermediate or high prevalence can effectively increase testing coverage and diagnose infection in healthcare settings [6, 9].

Opt-out testing in EDs and other acute medical settings is also consistent with UK testing guidelines from National Institute for Health and Care Excellence, RCEM and BHIVA/BASHH/BIA for areas of high HIV prevalence. This approach follows the successful antenatal screening programs for BBVs and syphilis [55].

A systematic review of BBV testing in ED in Europe shows that testing uptake using an opt-out approach especially in combination with automated test ordering systems are associated with a higher uptake than opt-in and risk-based testing [56].

Three studies from the UK and one study from Spain report large increases in testing coverage after implementing an opt-out testing approach in ED [34, 37, 57, 58].

A German study where BBV testing was implemented in ED using an opt-in approach identified important limitations including low test offer rates and inconsistent testing volumes. The authors concluded that the opt-in design constrained programme reach and prevented full utilisation of testing capacity, highlighting the need to explore opt-out strategies [59].

The final report for the first wave of the English ED BBV opt-out testing programme looking at data from 2022 - 2024 concludes that the programme was successful in accessing people who did not have a previous record of a BBV test. Overall, 62.8% of eligible attendees had previously not been tested for any BBV (68.1% for HIV, 76.3% for HCV, and 74.8% for HBV) [14]. In addition, 5 studies from the UK, Ireland and Spain show that local programs have been successful in reaching individuals who have never been tested for BBVs before [22, 37, 47, 60, 61].

People newly diagnosed through the English ED testing programme reported different routes of acquisition or risk factors to people diagnosed in other settings, reflecting the success of the opt-out testing approach in diagnosing people compared to more traditional settings [14]. Fifteen European studies identified new BBV diagnoses in individuals with no indicator conditions or risk factors which would have been missed with a targeted testing approach [34-37, 47, 53, 60, 62-69].

[Case study: C4]

5 Patient and staff acceptability

We recommend: that measures of patient and staff experience are undertaken prior and during the implementation of BBV testing programs and that the collected feedback is used to inform and modify programme implementation to maximize acceptability and operational integration.

The following methods for assessing patient and staff acceptability may be considered:

- Questionnaires
- Online surveys
- Semi-structured interviews
- Focus groups

Multiple European studies have looked into patient and ED staff acceptability of routine BBV testing in ED using questionnaires, online surveys, semi-structured interviews and focus groups. Both patient and staff acceptability of the use of an opt-out approach in ED is well-established in current studies.

Studies from UK, Switzerland and Spain demonstrate a very high level of patient acceptability of both routine testing for HIV (70-85%) and HIV testing in ED settings (72-96 %). Main reasons seen for patients declining a BBV test in ED include having tested recently, not perceiving themselves at risk and other health concerns related to their ED visit. [22, 44, 46, 50, 70-72].

Several studies from the UK have explored staff experience of implementation of BBV opt-out testing programs in EDs. These studies consistently report high acceptability of both BBV testing in ED and the opt-out testing approach [22, 31, 38, 40, 73-76].

Active staff engagement in program implementation and ongoing evaluations, combined with regular training sessions on BBV testing, positively influenced acceptance and understanding of the overall purpose of the testing intervention. Many staff members found it easier to offer BBV testing as part of routine policy rather than relying on clinical suspicion.

Key barriers to implementation reported include heavy workloads, competing priorities within the ED environment, and a perceived low risk of blood-borne viruses among ED patients.

[Case study: C5]

6 Consent requirements

We recommend: that BBV testing should be informed and align with medical core ethical principles, but we note that the opt-out approach is incompatible with a requirement of written consent for testing.

We acknowledge the diversity of consent requirements for BBV testing across the European region and readers of this guidance need to be aware of the specific national testing policies within their setting before implementing BBV screening.

Testing should adhere to core principles of medical ethics and always be voluntary, confidential and contingent on informed consent. However, best practice guidance from WHO and ECDC no longer recommend written consent for adult BBV testing and individualised risk assessment and pretest counselling is no longer considered standard practice [6, 9].

A survey conducted by EuroTEST in 34 countries within the WHO European region provides an overview of legal and policy frameworks for blood borne virus testing consent requirements in Europe. The survey was disseminated to clinical and community-based testing facilities, national public health institutions and HIV/hepatitis organisations/societies [77].

Survey responses indicate that written consent or documented verbal consent remained a requirement for HIV testing in 22 countries. Written consent was a legal and policy requirement in eight of the countries and documented consent a legal requirement in two and a policy requirement in four.

Written or documented consent for HIV was more often a legal or policy requirement in central and eastern European countries. For viral hepatitis, testing consent requirements were less strict in most countries and with opt-out testing being much more common for viral hepatitis than HIV testing. Several survey respondents noted that written consent and pre-test counselling require significant resources, limiting providers ability to test widely, especially in busy non-specialist settings like ED. Due to persistent HIV-related stigma in healthcare settings and mistrust of government facilities among individuals engaged in criminalized behaviours (e.g., drug use, sex work, undocumented migration), requiring a signed form creates a barrier that likely reduces testing uptake. Survey results highlight the need for countries to initiate national level discussions and initiatives involving key stakeholders to revise outdated legislation and guidance requiring written consent for HIV testing [77].

Case study C6 show an example from Spain where a revocable consent model was applied where patients received HCV screening information at admission and could choose to opt out via a revocation form.

[Case study: C6]

7 Patient information

We recommend: that patient information is made widely available in a variety of formats to inform ED attendees of BBV opt-out testing. Information should be clearly visible and available in all relevant areas.

We suggest that the following information could be included in the patient information:

- **Epidemiological and health reasons for BBV screening in ED**
- **Opt-out test procedure and how to opt-out**
- **How will testing results be provided**
- **What the different results mean**
- **Clarification of window periods**
- **Information regarding post-test discussion**

Examples of different patient information formats used in BBV opt-out testing:

- **Posters**
- **Leaflets**
- **Banners**
- **Verbal information provided by staff using a standard script**
- **Verbal reminders at blood draw**
- **Newspaper ad**
- **Digital information (video, tablet)**
- **Social media channels**

Following international guidelines appropriate information should be available before and after testing. It is considered sufficient to provide information on BBV opt-out testing in ED waiting rooms through a range of written and visual materials [6, 9].

Depending on the organisation of the health care system it might be relevant to include additional information for example regarding the costs associated with testing and the sharing of relevant data across healthcare providers. Testing programmes should recognise and adhere to relevant laws, regulations, and ethical principles related to the sharing and protection of health data.

Some people may require additional support and information before they are tested. UK guidelines on opt-out testing recommend translating patient information into the most spoken languages locally and to have paper large print versions available for partly sighted individuals [55, 78].

In European studies a wide variety of patient information formats have been used. Patient information focused on the purpose and benefits of BBV testing, the opt-out testing strategy and instructions on how to opt-out of testing and how test results will be provided [21, 35, 38, 42, 45, 46, 48, 51, 52, 60, 69, 70, 73, 79-81].

Please see Annex 5 for examples of patient information on BBV opt-out testing.

[Case study; C7]

8 Integration into the ED workflow

We recommend: implementing BBV opt-out testing in ED settings where people are having phlebotomy for other clinical reasons to ensure optimal integration in ED workflow.

In order for programs to be successful the readers of this guidance may wish to consider how testing programs can be integrated into the ED workflows with minimal impact on ED staff efficiency.

We suggest considering the following interventions for optimal integration of BBV testing programs in ED workflow:

- **Use of automated BBV test requesting have proven specifically successful for obtaining a high uptake of BBV testing. Time dependant blocking of duplicate testing should be considered to minimise unnecessary repeat testing in people who attend the ED frequently.**
- **Close collaboration across speciality teams involved**
- **BBV tests offered and performed by existing ED staff**
- **Training of ED staff by specialist services**
- **Appointing key staff to lead on training and updates**
- **Providing patient information on opt-out testing offered through a variety of media**
- **Early involvement of laboratories to ensure capacity**
- **Diversifications of sample types for BBV opt-out testing e.g. using vials with another colour**

BBV screening programs have been implemented in emergency departments across Europe using a variety of approaches. Some of these are described in detail in the case studies presented in Annex 2. The list of recommended interventions to consider for integration into the ED workflow builds on current UK guidelines and experience from the practical setups in European pilots and programs. For successful implementation, it is essential that BBV testing is embedded within existing ED processes, delivered by ED staff, and designed to minimize any impact on efficiency or patient flow.

The use of automatic BBV test requesting has proven effective in facilitating high testing uptake within ED settings [12, 33, 51, 54, 56, 74, 76, 79]. Through this approach the electronic ordering system automatically generates BBV tests alongside routine ED blood panels, eliminating the need for staff to manually request these. Automation helps overcome barriers related to stigma and risk profiling, by reducing the influence of staff bias in determining who should be tested and supporting the

normalisation of BBV testing as part of routine care.

Guidelines further recommend “blocking” within a set time period to prevent unnecessary repeat testing within locally determined time intervals incurring extra cost and time [78].

Successful implementation of BBV opt-out testing in emergency departments relies on strong collaboration across all involved teams. Coordinated efforts help align protocols, address operational challenges, and maintain consistent support and communication allowing issues to be resolved quickly and continuous modification of the testing programme. Nursing staff can be key to delivering the programme.

For detailed information and recommendations on patient information, staff training, and laboratory processes, please refer to the relevant sections in this document.

In case study C8 and C9 the authors assessed how different interventions can contribute to a sustainable model for delivering testing using the methodology for improvement model Process Mapping. Interventions are evaluated through plan-do-study-act (PDSA) cycles examining the impact on test offer and test uptake. Interventions studied included: training exercises, identification of key staff /testing champions, incentivization, information technology solutions, and changes to the testing pathway and methodology [31, 49].

The Normalisation Process Theory (NPT) provides another useful framework for evaluating and optimising the implementation of BBV opt-out testing in emergency departments. By examining staff understanding of the programme, engagement with its delivery, operational processes, and ongoing reflection and adaptation, NPT can help identify barriers and facilitators to implementation. Findings from an English qualitative study (C10) suggest that training, champions, automation, collaboration, and regular feedback support successful implementation, while high workloads and uncertainty about testing processes may hinder normalisation into routine care [76].

[Case studies C8, C9, C10]

9 Education and training

We recommend: that prior and subsequent to implementation of BBV opt-out testing ED staff should receive training on the purpose, methodology and delivery of opt-out testing as well as the benefits of BBV testing.

We suggest introducing:

- **An iterative approach to assess and improve delivery of training interventions**
- **Incorporation of lived-experience stories from patients diagnosed through opt-out testing in training sessions**
- **Frequent, short and easily accessible training sessions to help maintain awareness of testing programme and sharing experience from other local ED testing projects.**
- **Identification of BBV testing champion or other key individuals to lead on updates and training, maintain momentum and support ED staff during implementation**
- **Training and involvement of nursing staff in testing service**
- **Regular feedback on local programme performance: number of BBV tests conducted and new diagnoses**

Education and training of healthcare personnel are essential for making BBV testing routine and reducing barriers to offering tests [6, 9]. Guidelines recommends that all ED personnel should be provided with training to carry out routine opt-out BBV testing, understand the rationale behind the testing strategy, how to ensure testing is avoided when a person wish to opt-out and how to direct patients to further information [55, 78]. Furthermore, guidelines recommend all hospital staff, including administrative and support staff, should be trained to recognize and address stigma and discrimination associated with HIV, HBV, and HCV, particularly among populations at increased risk [6, 9, 82].

Studies examining staff perspectives on implementation of BBV opt-out testing all identify a need for training among ED staff and highlights training as a key component in ensuring staff engagement [22, 47, 70, 73-76, 83]. In European studies staff training has been delivered using a range of different formats including educational lectures, hands-on practice, Q&A sessions and briefings at ED handover. Training has focused on the purpose of the testing intervention, the opt-out methodology, test results procedure and benefits of testing [15, 21, 22, 31, 36, 38, 41, 46, 47, 49, 57, 67, 76, 84-86]. What has proven important in ensuring ED staff buy-in in a busy working environment is delivery of repeated short training interventions, frequent feedback on local results and the incorporation of personal narratives of participants diagnosed through the BBV opt-out programmes [76].

Please see Annex 5 for materials used for staff training.

[Case study C8]

10 Pathology and laboratory

We recommend: engagement of laboratories that are accredited for HIV and hepatitis B and C testing. Selection of tests for BBV programs should follow recommendations from ECDC and WHO.

We suggest consideration of the following:

- **Early involvement of laboratories to ensure capacity for BBV opt-out testing**
- **If BBV tests can be conducted on a serum biochemistry sample for simplicity, or whether a separate serum sample is required**

Successful implementation of BBV opt-out testing in emergency departments depends on early and close engagement with diagnostic laboratories. Laboratories play a critical role in determining feasibility, test selection, sample requirements, turnaround times, and result reporting pathways. Involving laboratory services at an early planning stage helps ensure that testing capacity and workflows, are aligned with the anticipated testing volume and clinical context of the ED [8].

BBV testing should be conducted by accredited laboratories. Selection of assays for HIV and hepatitis B and C testing should follow current ECDC and WHO recommendations, ensuring high diagnostic accuracy, appropriate confirmatory algorithms, and compliance with regulatory requirements [6, 9, 82].

Where possible, programmes should assess whether BBV testing can be performed using existing serum samples collected for routine biochemistry, as this can simplify workflows [55]. The need for separate samples, reflex testing, or confirmatory procedures should be clearly defined and agreed with the laboratory in advance [78].

11 Key functions in patient pathway

We recommend: that the following key functions in the patient pathway from ED attendance to care are in place before implementing BBV opt-out testing in EDs:

- **Failsafe automatic reporting of all non-negative results to designated relevant parties**
- **Delegation of results governance and linkage to care facilitation to appropriate local services outside the emergency department.**

We suggest the readers of this guidance consider the following:

- **Using a “no news is good news” approach as an appropriate method for management of negative test results**
- **How to handle indeterminate results and situations where testing could not be performed e.g. underfilled vials**
- **Offering community and peer support to help engage patients in care**

Current guidelines from the UK recommend establishing failsafe automatic reporting of all non-negative results for ED BBV testing and the delegation of results management to specialist services outside the ED [55, 78].

These recommendations are reinforced by implementation experiences from BBV ED testing programs across Europe. Studies describe various failsafe reporting methods to ensure all non-negative results are acted upon, including automatic electronic notifications, secure emails, and daily reporting lists sent directly to specialist teams. Some also report cross-checking weekly and monthly failsafe lists for added assurance [34, 35, 38, 47, 48, 51, 79, 81, 87, 88].

Several studies also describe the delegation of results management to specialist services including infectious disease specialist teams, local sexual health services or dedicated BBV linkage to care coordinators or teams [7, 15, 22, 33-40, 42, 44, 45, 47-49, 51, 52, 66, 68, 80, 87, 88]. In case study C11 a coordinating hepatologist was responsible for evaluating medical records for participants with a positive result and referring them to care.

Multiple studies report using a “no news is good news” approach as an appropriate method for management of negative test results. Local SOPs should specify how to handle indeterminate results and situations where testing could not be performed on blood samples [78].

Sites may consider the use of peer and community support to help newly diagnosed people engage in care [55, 78]. Peer and community support play a critical role in strengthening linkage to care for individuals newly diagnosed through ED BBV programmes or individuals that have disengaged from care. Shared clinical and peer-led support offers opportunities to reduce isolation and anxiety by connecting patients with those who have lived experience, thereby fostering engagement with treatment and care pathways. Community organisations are central to delivering holistic, patient-centred support, including through embedded services within healthcare settings and outreach initiatives that improve accessibility. Peer navigators, whose lived experience and cultural relatability enhance trust and engagement, have been identified as particularly effective in supporting retention in care.

Evidence suggests that opt-out ED testing programmes are most successful when linkage pathways are rapid, integrated, and patient-centred, with strong partnerships between healthcare services and community organisation [72].

UK post-diagnosis referrals show that when moving from HCP offered peer support referral for newly diagnosed patients to an opt-out approach where a peer support worker call within a week of diagnosis increased the uptake from 11% to 67% [89].

Case study C12 describes how a comprehensive linkage network connecting existing services allowed linkage to care for traditionally poorly served, at-risk groups that would not otherwise have been possible [33].

[Case study C11 and C12]

Glossary:

Targeted testing:

Testing offered to specific population groups, settings, or individuals identified as having a higher risk of infection.

Non-targeted testing:

Testing offered to all individuals within a defined healthcare setting or population, regardless of risk factors, symptoms, or demographic characteristics

Routine testing:

Testing that is integrated into standard clinical care and offered consistently as part of usual healthcare practice.

Opt-out testing:

A testing approach in which individuals are informed that a test will be performed as part of routine care unless they actively decline.

Indicator-guided testing

Testing offered to individuals presenting with specific clinical conditions, symptoms, or diagnoses known to be associated with an increased likelihood of infection.

Risk-based testing:

Testing offered based on an individual's reported behaviours, exposures, demographic characteristics, or other factors associated with an increased risk of infection.

Cost analysis

An assessment that measures only the costs associated with an intervention, without considering outcomes or benefits. Example: Calculating the costs of test kits, laboratory analyses, staff time, training, and programme administration for BBV opt-out testing.

Cost-effectiveness analysis:

An economic evaluation that compares the costs and health outcomes of two or more interventions. Outcomes are measured in natural units, such as infections diagnosed, infections prevented, or life-years gained. Example: Comparing the cost per new HIV diagnosis identified through BBV opt-out testing versus current testing practices.

Cost-benefit analysis:

An economic evaluation in which both costs and benefits are expressed in monetary terms. This allows direct comparison of the investment required with the economic value of the benefits generated. Example: Comparing the costs of implementing BBV opt-out testing with savings from avoided healthcare costs, reduced disease transmission, and improved productivity.

Model for improvement and Process Mapping

The model for improvement provides a framework for developing, testing and implementing changes leading to improvement. This model help organisations define objectives, assess current workflows,

identify barriers and opportunities for improvement, measure outcomes, and test changes through iterative cycles - PDSA (Plan-Do-Study-Act) cycles. The approach involves planning a change (Plan), implementing it on a small scale (Do), analysing the results (Study), and adapting or expanding the intervention based on lessons learned (Act). PDSA cycles are commonly used in healthcare to support the implementation and continuous improvement of new services and care pathways.

The Normalisation Process Theory (NPT)

A theory that helps explain how new healthcare interventions become embedded and sustained in routine practice. NPT focuses on four key mechanisms:

- Coherence (Sense-making): Understanding the purpose and value of the intervention.
- Cognitive Participation (Engagement): Building commitment and buy-in among those involved.
- Collective Action (Operational Work): Integrating the intervention into everyday workflows and practices.
- Reflexive Monitoring (Appraisal): Evaluating the intervention's impact and identifying opportunities for improvement.

FAQ

What is BBV opt-out testing?

BBV (blood-borne virus) opt-out testing is an approach where HIV, hepatitis B and hepatitis C testing is routinely offered to eligible patients attending the emergency department as part of standard care. Patients are informed that testing will be performed unless they decline.

Why implement BBV opt-out testing in emergency departments?

EDs provide open-access care to large and diverse patient populations, including vulnerable populations at higher risk for BBVs, who otherwise have limited contact with routine health services.

Which infections should be included?

Where feasible, programmes should test for all 3 BBVs: HIV, hepatitis B and hepatitis C. BBV often affect overlapping populations and share similar pathways for diagnosis and care. An integrated testing strategy is proven to be cost-effective and offers significant benefits on individual and public health level.

Not every ED can start with all three infections, and a phased approach can be considered. The choice should reflect: Consent requirements, Local epidemiology, Clinical pathways, laboratory capacity and available resources.

Which patients should be offered testing?

Many programmes offer testing to all adults undergoing routine blood sampling in the ED. Eligibility criteria may vary according to local policy, prevalence, and available resources.

Is patient consent required?

Testing programmes should comply with national laws, regulations, and ethical requirements. In opt-out programmes, patients are informed that testing will be performed and with clear instruction how to decline testing.

How should patients with a previous BBV diagnosis or a recent negative test be managed?

Guidelines and pilot projects recommend setting up a “blocking” in the EPR within a set time period to prevent unnecessary repeat testing within locally determined time intervals incurring extra cost and time.

Individuals with a known BBV diagnosis who are not engaged in care should be re-linked to appropriate services. Peer and community support play a critical role in strengthening linkage to care for both individuals newly diagnosed through ED BBV programmes and those who have previously disengaged from care.

Does opt-out testing replace other testing strategies?

BBV opt-out testing in emergency departments complements existing testing strategies and can help identify individuals with undiagnosed HIV or viral hepatitis who may not recognise their own risk and would therefore be unlikely to be reached through targeted testing approaches.

How should patients be informed about BBV testing?

Patients should receive clear and accessible information explaining: which infections are being tested for; the public health and clinical rationale for BBV screening in the ED; testing is voluntary and

information on how to opt-out, how and when test results will be communicated and what the different results mean.

Patient-facing information should be widely available in a range of accessible formats to ensure all ED attendees are informed about BBV opt-out testing. Information should be clearly visible throughout the ED and available at all relevant patient touchpoints.

Does opt-out testing increase workload for ED staff?

Experience from existing programmes indicates that successful BBV opt-out testing should be integrated into routine ED workflows. By utilising existing ED staff, blood-taking pathways, electronic ordering systems, and laboratory processes, opt-out testing can be delivered with minimal impact on staff workload and operational efficiency.

What training do staff need?

Prior and subsequent to implementation of BBV opt-out testing ED staff should receive training on the purpose, methodology and delivery of opt-out testing as well as the benefits of BBV testing. Frequent, short and easily accessible training sessions and the incorporation of lived-experience stories from patients diagnosed through opt-out testing has proven effective in existing programmes.

Should test ordering be automated?

The use of automated BBV test requesting have proven specifically successful for obtaining a high uptake of BBV testing. Through this approach the electronic ordering system automatically generates BBV tests alongside routine ED blood panels, eliminating the need for staff to manually request these. Automation helps overcome barriers related to stigma and risk profiling, and support the normalisation of BBV testing as part of routine care

Who will review and follow up on non-negative BBV test results?

Responsibilities should be clearly defined before implementation. Results governance and linkage to care facilitation should be delegated to appropriate local services outside the emergency department. European studies describe the delegation of results management to specialist services including infectious disease specialist teams, hepatologists, local sexual health services or dedicated BBV linkage to care coordinators or teams.

How should negative results be managed?

Multiple studies report using a “no news is good news” approach as an appropriate method for management of negative test results. Local SOPs should specify how to handle indeterminate results and situations where testing could not be performed on blood samples.

How can peer support improve outcomes for people diagnosed through ED BBV testing?

Peer support is an integral component of high-quality BBV care. Community and peer-support services can help individuals adjust to a diagnosis, support long-term engagement in care, and improve treatment adherence. Particular attention should be given to vulnerable groups at increased risk of disengaging from services.

What data should be routinely collected and monitored?

Systems should be in place to measure a number of operational and clinical factors to monitor the progress and success of the BBV testing programme. Data collection should be proportionate to the scale and scope of the proposed testing programme.

Suggested markers of operational effectiveness: total number of ED attendees, total number of eligible patients, total number of tests performed by each BBV, number of positive tests and

confirmatory tests, status: New positives, known positives, not engaged in care, number linked to care, Refusal/opt-out rate

Suggested markers of clinical effectiveness: proportion of new diagnoses, fraction of early diagnoses, fraction of late diagnoses, engagement in care, re-engagement in care, Presence of BBV risk factors, history of BBV testing , demographic characteristics.

Monitoring and evaluation of key operational and clinical indicators permit continuous re-evaluation of targets as well as assessment of programme effectiveness, efficiency and impact. These markers enable services to detect workflow challenges and gaps in pathways and are essential in planning improvements and ensuring continuous optimisation of the programme.

Data should be captured through hospital information systems that are fit for purpose and GDPR compliant.

Annex 1: Advisory group

European Organisations

- Juliana Reyes, ECDC
- Loreta Kondili, EASL
- Deniz Gökengin, IUSTI

Infectious Diseases & Hepatology

- Michael Rayment, Chelsea and Westminster Hospital, UK
- Ann Sullivan, Chelsea and Westminster Hospital, UK
- Rachel Hill-Tout, NHS, UK
- Daniel Bradshaw, UKHSA, UK
- Juan Carlos Ruiz Cobo, Hospital Universitari Vall d'Hebron, Spain
- Maria Buti, Hospital Universitari Vall d'Hebron, Spain
- Anny Camelo Castillo, University Hospital Torrecárdenas, Spain
- Hartmut Stocker, St. Joseph Hospital, Germany
- Jürgen Rockstroh, University of Bonn, Germany
- Raimonda Matulionyte, Vilnius University, Lithuania

Emergency Medicine

- Hartmut Stocker, St. Joseph Hospital ED, Germany (ID)
- Emma Young, Barts Health Trust, UK

Data

- Rachel Roche, UKHSA, UK
- Tamara Djuretic, UKHSA, UK

Patient organisations

- Cary James, World Hepatitis Alliance

Annex 2: Case studies

A range of case studies illustrating different ways and steps of implementing BBV routine testing in ED have been selected through the literature review and subsequent meetings with the expert advisory group.

Please find a more detailed description of the individual case studies on the EuroTEST website.

C1: HIV/HCV/HBV testing in the emergency department: a feasibility and seroprevalence study

Authors: D Bradshaw, C Rae, M Rayment, N Turner, R Turner, G Pickard, K Pillay, P Roberts, M Foxton, A K Sullivan.

Affiliation: Chelsea and Westminster Hospital NHS Foundation Trust, London, UK, Imperial College Healthcare NHS Trust, London, UK

Country: UK

Description:

In order to decide whether a prospective testing program for HCV and HBV would be worthwhile, a retrospective, unlinked anonymous seroprevalence survey was performed in the ED of Chelsea and Westminster hospital, London.

500 randomly selected, irreversibly unlinked samples from individuals who had tested HIV-negative as part of an ED testing program were tested for anti-HCV IgG and hepatitis B surface antigen (HBsAg). 15 (3.0%) were HCV IgG-positive and 8 (1.6%) were HBsAg positive. Authors found high prevalence with respect to the UK national average (0.4% and 0.3% respectively), a pilot BBV testing program was undertaken as part of routine clinical care.

Source: Journal article [15]

C2: Cost analysis for implementation of pilot project on BBV opt-out testing in ED

Authors: Matilda Fox, Rosie Pettit, Ernest Mutengesa, Alice Harper, Maria Nakhoul

Affiliation: Emergency Department, Charing Cross Hospital, London, UK.

Country: UK

Description:

This quality improvement study was conducted in the emergency department at Charing Cross Hospital in London, an area with a high prevalence of HIV. The project aimed to increase routine HIV testing among ED attendees aged 16-59 years. The programme tested different interventions like staff education, appointment of a nurse champion, updated testing guidelines, and modifications of electronic blood sample order-sets to embed HIV testing into routine care in the ED.

HIV testing rates increased from a baseline of 8% to an average of 28% during the first 12 months and reached 44% by the end of the extended study period. Eight new HIV diagnoses were identified through the programme

The authors conducted a cost analysis to pitch to the hospital business department for funding approval. To support approval and funding for routine HIV testing in the ED, the authors included the following key cost inputs:

Programme cost:

- Cost per HIV test: £6.50-£7.00
- Eligible ED attendees: 2.013/month
- Target testing coverage: 25%
- Individuals tested: 503/months

Programme cost: £3,397/month (£40,764/year)

Cost savings:

- Estimated 5-16 new HIV diagnoses that could be identified annually.
- Cost difference between early and late HIV diagnosis: £14,000 per patient/year
- Estimated savings: £70,000-£224,000/year

Based on the actual results of the programme, which identified eight new HIV diagnoses over the study period, the authors estimated potential annual savings of £112,000.

Source: Journal article [31]

C3: NHS England Data Dashboards

Authors: NHS England emergency department blood-borne virus opt out testing programme team.

Country: UK

Description:

The emergency department opt-out blood borne virus testing programme in England started in 2022. A data, monitoring and evaluation strategy was developed, including a three-pronged evaluation in partnership with the UK Health Security Agency and University of Bristol.

Data collection was key to the strategy and informs programme management, evaluations and continued funding decisions. It has also been a key enabler with insights on where back-office support and direct care resources should be focused.

The programme initially used a custom Microsoft Excel template for data collection, which produced high-quality data but was time consuming to administer due to limited input validation and data quality. It was decided to use an existing online data submission portal, the NHS Data Collection Framework (DCF), for sites to submit data. This made it possible to add validation checks at point of submission and has made it easier to automatically track submissions and respond to sites facing difficulties with timely submission of the required data.

The DCF process has also enabled a full end-to-end modern data analytics pipeline that allows the

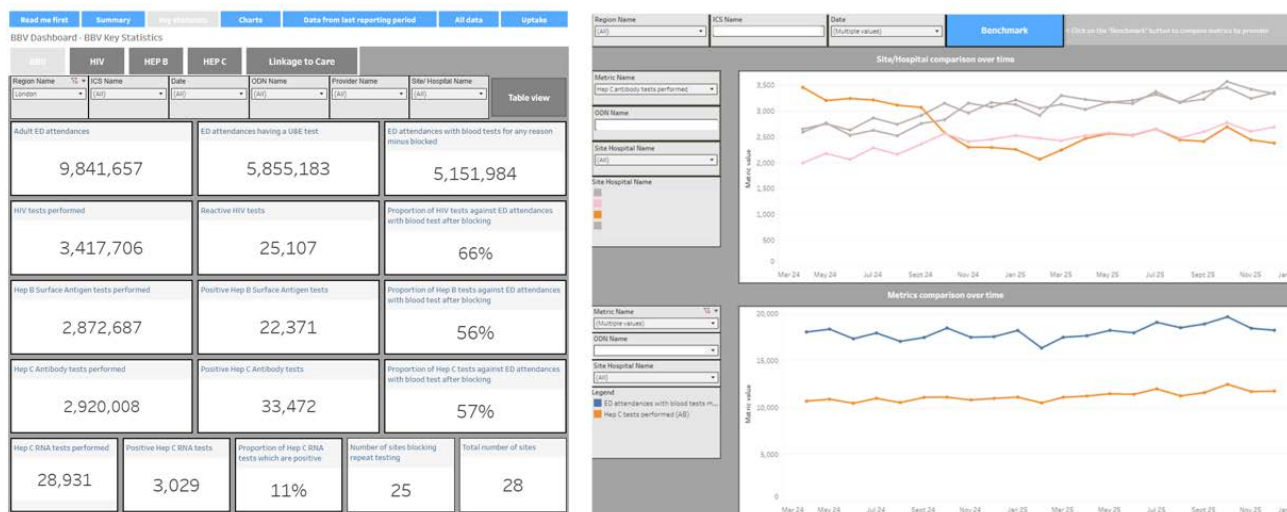
testing data to be stored in a data warehouse and drawn automatically into a visually rich, interactive front-end Tableau based dashboard.

Four separate data collections which is completed by different teams make up the ED opt-out data set:

- Monthly site reports: Activity data which gives information about ED attendances, testing coverage and reactive tests.
- Individual data collections for the HIV, HBV and HCV including aggregated tests results, numbers of people with reactive tests and confirmatory tests, whether people with positive results were previously diagnosed, linkage to care and linkage to peer support.

The dashboard is used in a variety of ways. The programme team use it for oversight of the programme including individual site testing coverage, linkage to care rates and also to assess funding due to each site. Integrated Care Boards use it to understand testing patterns within their area, individual hospitals use it to assess their progress, to understand any fluctuations, using the run charts to present back to emergency department staff, pathology and virology colleagues and to senior Board colleagues. It receives universal acclaim for its functionality, accessibility and ability to show data clearly in both tabular and visual diagrams.

Diagrams illustrate some of the ways that data can be displayed.



Please find a more detailed description of the NHS England Data Dashboards and lessons learned under Case Studies on the EuroTEST website.

Source:

Correspondence with NHS England emergency department blood-borne virus opt out testing programme team.

Public health evaluation of BBV opt-out testing in EDs in England, 33-month final report 2025 [14]

C4: [High-level compliance to opt-out HIV testing in the emergency department of a large teaching hospital using the biochemistry sample as the sample type for HIV screening](#)

Authors: Rebecca Marchant, Anne Patterson, Bojana Dragovic, Bernard Kelly, Lisa Hamzah, Melissa Hempling

Affiliation: Central and North West London NHS Foundation Trust, London, UK and St George's University Hospital NHS Foundation Trust, London, UK

Country: UK

Description:

First 3-year results from HIV ED testing programme. Routine ED HIV testing was implemented in ED initially using an opt-in approach. The program was changed to an opt-out approach after 4 months. HIV testing was added to all ED blood test order sets and was performed on the biochemistry samples of those aged 18–59 years. The age range was extended to include those aged 16+ years along with a shift to notional consent.

Utilizing the novel method of HIV testing on biochemistry samples the programme demonstrated a 69.5% uptake of HIV testing in the ED.

During the initial 4-month period of opt-in HIV testing, uptake was low on average 57.9% despite it being well-publicized among staff and patients. Following the change to an opt-out approach and inclusion of HIV tests in ED blood order sets, uptake improved to a sustained average of 69 % over the next 32-month period, uptake increased to 74.2% after age range was extended to 16+ years and a shift to notional consent.

Source: Journal article [37]

C5: [‘Just another vial...’: a qualitative study to explore the acceptability and feasibility of routine blood-borne virus testing in an emergency department setting in the UK](#)

Authors: Lucy Cullen, Pippa Grenfell, Alison Rodger, Chloe Orkin, Sema Mandal, Tim Rhodes

Affiliation:

Department of Public Health, Environments and Society, Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine, London, UK

National Institute for Health Research (NIHR), Health Protection Research Unit (HPRU) in Blood Borne and Sexually Transmitted Infections, London, UK

Country: UK

Description:

Both patients and staff participants were recruited to explore the multiple dimensions of test expectation and experience. Patient participants were sampled from individuals accessing ED services who had bloods taken as part of their care and included:

- Individuals who were offered and accepted the BBV test
- Individuals offered the test but who chose to opt out
- individuals who did not recall being offered testing and assumed not tested

Health professionals were sampled from staff members directly involved in taking bloods and implementing the test intervention and included:

- women and men of different staff grades, who had worked at the department for between 3 and 8 years

Interview discussions were semi-structured, shaped by a topic guide developed by the research team but also guided by participants' responses. Interview participants were asked about their views and direct experiences of the test intervention:

- Previous test experiences and current test practices
- Knowledge and awareness of HIV, HCV and HBV viruses
- Transmission risks and treatments
- Felt and perceived barriers and facilitators to BBV testing
- Felt appropriateness of the ED as a site for testing

Study findings indicate that routine opt-out BBV testing in the ED setting is viewed as an acceptable and valuable practice by the majority of patient and staff participants.

Source: Journal article [70]

C6: Use of revocable consent for HCV testing in ED setting in Spain.

Authors: Anny Camelo-Castillo, Teresa Jordán Madrid, Marta Casado Martin and colleagues

Affiliation: Torrecárdenas University Hospital, Almería, Andalusia, Spain

Country: Spain

Description:

The study team used a revocable consent model aligned with Spanish legal frameworks. At admission, administrative staff provided patients with a leaflet containing information on HCV infection, transmission, screening rationale, and treatment options. On the reverse side was a revocation form for patients who did not wish to participate.

The form could be filled in and deposited in a designated mailbox at the admissions area. To ensure proper documentation, once the information leaflet was delivered, a checkbox was automatically marked in the electronic admission system.

Before proceeding with HCV testing, staff verified that no revocation had been recorded for the patient.

Many patients diagnosed with active HCV through this programme had no recorded risk factors or presented with non-specific symptoms and would likely have been missed by risk-based testing alone. Strong linkage-to-care pathways, including rapid contact and direct referral to hepatology, were essential to translate diagnosis into treatment and cure.

Patient information and revocable consent form used in study:

The image displays two forms related to Hepatitis C screening in the Torrecárdenas Emergency Department. The left form, titled 'HEPATITIS C SCREENING IN THE TORRECÁRDENAS EMERGENCY DEPARTMENT', provides patient information. It explains that Hepatitis C is a chronic viral infection that can lead to serious liver damage but is curable in over 95% of cases. It states that the Emergency Department offers screening to eligible patients (18-69 years old) during blood tests. It also mentions that if the result is positive, care and treatment will be offered, and if negative, the patient will not be contacted. A small illustration of a liver is shown. The right form, titled 'REVOCATION OF CONSENT', is for patients who do not agree to the test. It includes a section for the patient or legal representative to sign and date. A small illustration of a liver is also present. Both forms include the logos of the Hospital Torrecárdenas, the Junta de Andalucía, and the Unidad de Gestión Clínica Urgencias.

Source: Journal article [65] and correspondence with authors.

C7: Opportunistic screening for hepatitis C virus infection in an emergency department in Almería, Spain

Authors: Anny Camelo-Castillo, Teresa Jordán Madrid, Marta Casado Martin and colleagues

Affiliation: Torrecárdenas University Hospital, Almería, Andalusia, Spain

Country: Spain

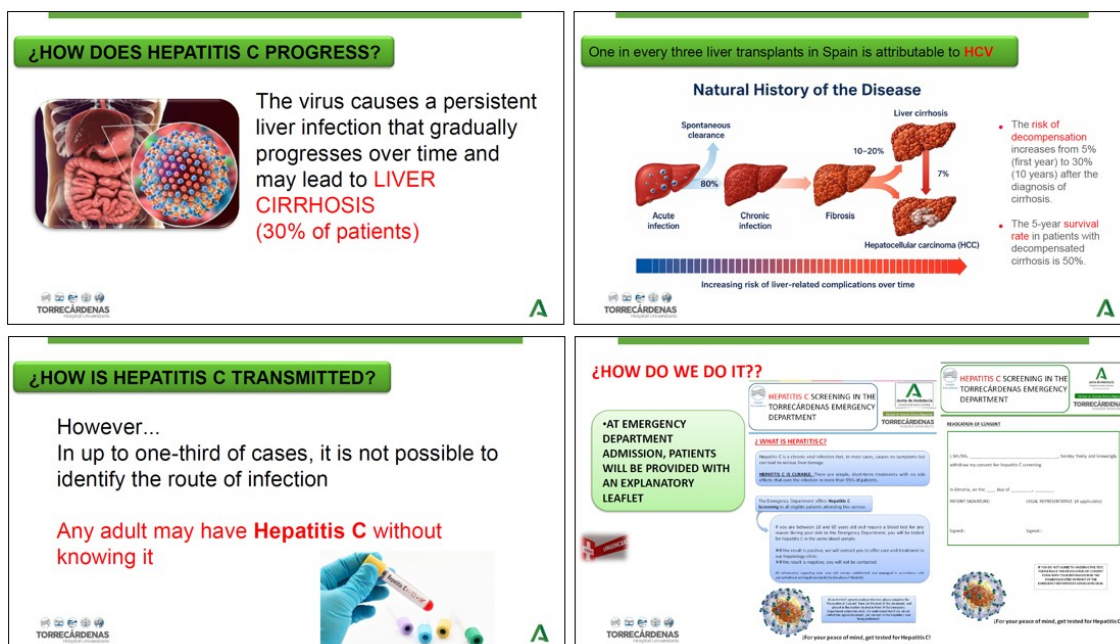
Description:

The study team developed an informative video presentation on HCV including information on:

- Symptoms
- Routes of transmission
- ED screening strategy, and available treatment

The video was continuously shown on screens in ED waiting rooms, enhancing patient education and reinforcing transparency.

A key lesson from the programme was that embedding screening into routine clinical workflows using remnant blood samples and a simple opt-out information strategy enabled implementation without disrupting emergency department activity.



Source: Journal article [65] and correspondence with authors

C8: Routine HIV testing in the emergency department: tough lessons in sustainability

Authors: M Rayment, C Rae, F Ghooloo, E Doku, J Hardie, S Finlay, S Gidwani, M Atkins, P Roberts, AK Sullivan

Affiliation: Directorate of HIV/GU Medicine, Chelsea and Westminster Hospital NHS Foundation Trust.

Country: UK

Methodology: Sustainability methodology - Process mapping: plan-do-study-act (PDSA)

Description:

Using the sustainability methodology known as Process mapping: plan-do-study-act (PDSA) the study evaluates the success of an implemented HIV testing programme in ED and assessing how different interventions can contribute to a sustainable model for delivering testing.

Interventions were planned based on stakeholder input. Interventions were implemented and thereafter the impact on key outcome measures were examined.

Key outcome measures:

- the proportion (%) of eligible patients offered an HIV test
- the proportion (%) of patients accepting an HIV test

Interventions included: training exercises, identification of key staff /testing champions, incentivisation, information technology solutions, and changes to the testing pathway and methodology.

The ED and sexual health teams met weekly to evaluate the effectiveness of the testing service.

Interventions that proved to have the biggest impact were:

- Switch to offer blood testing in addition to oral fluid-based testing
- **Training and involvement of nursing staff into the testing service**

Source: Journal article [49]

C9: Improving detection of undiagnosed HIV through routine screening in a central London emergency department

Authors: Matilda Fox, Rosie Pettit, Ernest Mutengesa, Alice Harper, Maria Nakhoul

Affiliation: Emergency Department, Charing Cross Hospital, London, UK.

Country: UK

Methodology: Sustainability methodology - Process mapping: plan-do-study-act (PDSA)

Description:

The study team conducted a quality improvement project based on the Methodology for Improvement Model using process mapping: plan-do-study-act (PDSA) cycles to evaluate different interventions with the overall aim to increase HIV testing in ED attendees.

The study team met on a monthly basis to discuss updates and new ideas for implementation and ideas were based on behavioural insights. The team also contacted nearby hospitals where similar projects had been conducted, to gather ideas on sustaining observed changes.

Interventions for evaluation were focused around two areas:

- Targeted education of ED staff
- Ensuring easy and memorable methods of ordering tests was available to all staff.

PDSA cycle	Intervention	Impact on testing
PDSA 1	Distributing an anonymous survey to ED staff – awareness raising	12% rise in testing rate
PDSA 2 & PDSA 3	20min teaching session for all ED doctors & appointment of ‘HIV advocate nurse’	8% rise in testing rate
PDSA 4	Creation of order prompt posters displayed them around ED	No change in testing rate
PDSA 5	‘Gamified’ teaching session for ED nurses	3% rise in testing rates
PDSA 6	HIV test added to care set	10% rise in testing rate

Source: Journal article [31]

C10: Staff perspectives on implementing opt-out blood- borne virus testing in English emergency departments: a qualitative study

Authors: Siobhán Allison, Tom May, Jonathan Roberts, Rachel Hill- Tout, Stephen Hindle, Matthew Hickman, Lucy Yardley, Rachel Todd, Robyn Heath, Jeremy Horwood

Affiliation:

NIHR Health Protection Research Unit, University of Bristol, Claude Nicol Centre, University Hospitals Sussex, NHS England, School of Psychological Science, University of Bristol

Country: UK

Description:

This qualitative study explored the experiences of healthcare staff involved in implementing BBV opt-out testing in five emergency departments in England. The study aimed to identify barriers and facilitators to implementation and generate recommendations for future roll-out and scale-up.

Researchers conducted semi-structured interviews with 23 staff members, including ED clinicians, laboratory staff, specialist BBV teams, and programme leads. Analysis was informed by Normalisation Process Theory, which examines how new interventions become embedded in routine practice

Overall, staff were highly supportive of the programme and recognised its value. Key facilitators of successful implementation included:

- Strong leadership
- Multidisciplinary collaboration
- Automated test ordering systems
- Dedicated BBV champions
- Staff training
- Regular communication, and continuous monitoring and feedback.

The main challenges related to:

- The realities of a busy ED environment, including high workloads, competing clinical priorities
- Inconsistencies in staff training
- Uncertainty about the opt-out consent model.

The study found that programmes were most successful when testing was integrated into existing workflows, minimised additional workload for frontline staff, and allowed flexibility to adapt processes based on local experience and monitoring data.

The authors concluded that successful implementation of ED-based BBV opt-out testing requires automated systems, clear communication, ongoing staff engagement and training, dedicated programme champions, and strong collaboration across services to ensure effective testing and linkage to care.

Source: Journal article [76]

C11: Integrating viral hepatitis management into the emergency department: A further step towards viral hepatitis elimination

Authors: Jordi Llaneras, Juan Carlos Ruiz-Cobo, Ariadna Rando, María Buti and colleagues

Affiliation: Hospital Universitari Vall d'Hebron, Barcelona

Country: Spain

Description:

The study team implemented HBV and HCV testing in the hospital ED. Individuals aged >18 years attending the ED for a medical condition requiring a blood test were offered hepatitis B and C testing. HCV antibody and HBsAg were analysed in the same ED blood sample in all those who had not been tested for these markers in the previous 3 months.

Results obtained were encrypted and sent to the study coordinator, a hepatologist from the hospital Liver Unit that was in charge of review and validation. The coordinating hepatologist was responsible for referral to care. Medical records of participants with detectable HCV RNA or HBsAg were evaluated to determine their clinical, social, and functional status. After evaluation of each case, the study coordinator decided which patients were candidates for an outpatient consultation for evaluating HBV and HCV therapy and monitoring. Patients with treatment criteria were started on therapy at the first specialist visit to minimise the possibility of loss to follow-up

- HCV: 69 patients were considered candidate for treatment, 45 started treatment and 42 achieved SVR.
- HBV: 47 patient requiring linkage to care, 42 linked to care, 5 started treatment.

Having a hepatologist act as the screening coordinator was considered a key factor in facilitating fast and simple linkage to care and reducing the time from diagnosis to treatment.

Source: Journal article [35]

C12: VirA+EmiC project: Evaluating real-world effectiveness and sustainability of integrated routine opportunistic hepatitis B and C testing in a large urban emergency department

Authors: Gaia Nebbia, Murad Ruf , Laura Hunter and colleagues.

Affiliation:

- Department of Infection, Guy's and St Thomas' NHS Foundation Trust, London, UK.
- Gilead Sciences Ltd UK & Ireland, Medical Department, London, UK.
- Department of Emergency Medicine, Guy's and St Thomas' NHS Foundation Trust, London, UK

Country: UK

Description:

The study describes how linkage to care approaches were under constant review and evolved throughout the testing programme. A dedicated part-time research nurse was employed as care navigator to lead contacting of the patient

Process for contacting patients included:

- First contacted by telephone (2 attempts 24 h apart)
- Text message sent
- Letter was posted
- Notification of GP by post
- Electronic notes were left on hospital and ED re-attendance patient records.
- Hospital homeless teams checked community health records for contact details or GP details.
- Find and Treat team (UCLH NHS Trust) – A dedicated pan-London NHS community inclusion health outreach team. Uses peer-support coupled with bespoke pan-London homeless databases and links with shelters and charities to identify, contact and engage patients with care.

A comprehensive linkage network with better connection between existing services allowed care provision to traditionally poorly served, at-risk groups that would not otherwise be possible.

Source: Journal article [33]

Annex 3: Requirements of Healthcare systems and management

The users of this guidance may wish to consider some of the following points before implementing BBV screening in EDs:

- Policy support: successful development and implementation of BBV testing services will require political commitment to overcome regulatory and financial barriers
- Stakeholder engagement: Involvement of patient organisations, risk groups, and other relevant stakeholders early in the planning process to build trust and ensure programme meets community needs
- Establishing a networked approach across different specialist teams involved
- Integrated Healthcare Systems: Establishment of clear referral pathways to connect individuals diagnosed through BBV screening with appropriate clinical care and support services
- Funding of testing program: Assess the costs associated with BBV screening and work to eliminate financial barriers to both testing and subsequent treatment.
- Management and leadership oversight of testing program
- Resource allocation to key implementation areas (staff training, laboratory, results management, linkage to care, data collection and monitoring)
- Development of SOPs including end to end clinical pathways and data process flows with clear lines of responsibility
- Monitoring of local programme progression and impact on capacity

To inform this guidance section EuroTEST have collected input from stakeholders in different European countries that have implemented BBV opt-out testing in ED and other non-specialist.

Strong clinical and public health drivers

Political and organisational support for introduction of BBV opt-out testing in ED has typically been driven by a combination of clinical need, public health priorities, and growing evidence demonstrating the effectiveness of routine testing programmes. While the specific drivers vary across countries and healthcare systems, stakeholders consistently highlighted the importance of responding to substantial unmet need and improving access to testing and linkage to care for populations who may otherwise remain undiagnosed.

A key advantage of emergency departments is their ability to reach people who have limited engagement with healthcare services.

“Emergency departments are truly open access, probably the last open access part of our health care system. It means that people who are not registered with a GP, who are struggling to engage with preventative health care in our national health care system, they can just walk through the door in the emergency department and ask for help. That is important because in the emergency department, we’re able to reach people who are most affected by sociodemographic inequalities, people who are in the greatest need, who may face language barriers, who may have mental health problems, who may be struggling with drugs and alcohol, who may be new to the country.” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Beyond the individual patient benefit, stakeholders emphasised the important public health rationale for expanding testing beyond specialist services and traditional risk-based approaches. Achieving HIV and viral hepatitis elimination goals requires identifying infections among people who may not perceive themselves to be at risk and who would not be reached through targeted testing strategies alone.

“If we are to move towards hepatitis elimination, screening cannot rely exclusively on patients presenting to specialist services or on traditional risk-based approaches.” Maria Buti, Senior Consultant at Hospital Universitari Vall d’Hebron, Barcelona, Spain

Interviewees highlighted that when effective treatment and cures are available, missed opportunities for diagnosis become increasingly difficult to justify. Opt-out testing is therefore viewed as an important mechanism for reducing late diagnoses, preventing avoidable morbidity and mortality, and improving health outcomes.

Evidence from pilot projects played a particularly important role in securing support for implementation. Stakeholders pointed to the importance of a growing evidence base from emergency department pilots and other routine testing programmes, including antenatal care and other non-specialist healthcare settings.

“The evidence base was already there. There had been so many pilots demonstrating success without a shadow of a doubt.” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Stakeholders also emphasised the importance of generating local evidence. Data demonstrating programme feasibility, testing uptake, case detection, linkage to care, and clinical impact can be particularly persuasive when building the case for continued investment, expansion to additional sites, and wider national implementation.

“Demonstrating that screening could identify patients with treatable infection and potentially prevent future complications helped to support the allocation of resources ...Collect local data and use those data to demonstrate the value of the programme. Once the benefits are visible to the hospital and the clinical teams, it becomes much easier to maintain and expand the programme.” Maria Buti, Senior Consultant at Hospital Universitari Vall d’Hebron, Barcelona, Spain.

The scale of opportunity available within emergency departments was also seen as a major driver for implementation. Emergency departments receive large volumes of patients from across the general population, many of whom already undergo routine blood sampling as part of their clinical assessment.

“The emergency department became very clear as a setting where there's a very high volume of the general population attending, potentially an area where we could test at scale, millions of people attending every year and around 60% of people having blood tests. A setting in which we could feasibly implement a mass testing program” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Together, these factors have made emergency departments an attractive setting for BBV opt-out testing, offering the potential to diagnose infections earlier, improve access to treatment and care, reduce health inequalities, and contribute to broader disease elimination goals.

Establishing effective governance and oversight

Strong governance arrangements were identified as a critical component of successful implementation. Stakeholders highlighted the importance of establishing clear structures for programme oversight, monitoring, and decision-making from the outset. Continuous monitoring of programme performance was viewed as particularly important. Regular review of testing activity, positivity rates, linkage-to-care outcomes, and operational indicators allowed programme leads to identify emerging challenges and respond rapidly when necessary.

One stakeholder described how close monitoring of testing data enabled the programme team to detect reductions in testing activity and quickly engage with sites to understand barriers and provide support before problems became entrenched.

“By keeping close sight of the data, we were able to pick up if there was a drop off in testing. We were able to really rapidly reach out and say, what's going on? How are things? What can we do to help?”, Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Regular communication between stakeholders, combined with ongoing evaluation and feedback mechanisms, was considered essential to maintaining programme quality. Successful programmes tended to adopt a continuous improvement approach, using monitoring data to refine implementation processes, address operational challenges, and adapt testing pathways as circumstances changed.

“We monitored how many patients were diagnosed, how many could be contacted, and how many eventually entered specialist care or received treatment. This experience allowed us to identify practical problems and modify the pathway accordingly.” Juan Carlos Ruiz Cobo, MD, specialist in Gastroenterology and Hepatology at Hospital Universitari Vall d'Hebron, Barcelona, Spain.

Stakeholders also emphasised that monitoring and evaluation should be incorporated into programme design from the beginning. Building evaluation mechanisms into implementation plans enables programmes to demonstrate both activity and outcomes, generating evidence that can support continued investment and future expansion.

A joined effort is the key to success

Stakeholders consistently emphasised that BBV opt-out testing programmes are most successful when developed and delivered through a coordinated, multidisciplinary approach. Early engagement of all relevant stakeholders helps ensure that testing pathways are feasible, acceptable, and well integrated within existing healthcare systems.

“The project was developed as a multidisciplinary initiative, which was essential. We involved the Emergency Department, Hepatology, Internal Medicine and the laboratory services from the

beginning”, Maria Buti, Senior Consultant of Hepatology at Hospital Universitari Vall d'Hebron, Barcelona, Spain.

Successful programmes typically involved partnerships between emergency department clinicians, laboratory services, infectious disease specialists, hepatology services, programme managers, public health experts, community, data and evaluation specialists. Frequent meetings during the planning phase help ensure that all relevant perspectives are represented and allow programmes to identify missing stakeholders early in the process.

“We started by thinking about the values and principles about how we were going to do it. Then we very quickly started bringing in all of the experts and all of the key players... Clinicians who had done this before, people who were representing the voice of people living with HIV, HBV and HCV, evaluation partners, people who understood data monitoring and evaluation, and people who understood communication with patients and staff.” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Ensuring emergency department ownership and engagement

Meaningful involvement of emergency department staff was identified as one of the most important determinants of successful implementation. Stakeholders highlighted that emergency clinicians must be involved from the early stages of programme development. Their practical understanding of patient flow, staffing pressures, clinical priorities, and operational realities is essential for designing testing pathways that can function effectively in busy emergency care environments.

“They (ED) were very much at the table when we started developing this. We asked them, what language is helpful for you when framing our guidance, the training for staff? We took their advice on how we could be most influential with their specialist societies ... We asked them to help us inform all of our documentation and our program design. ...It was really our way in and that meant that we were able to produce work and policies that not only sat well with the frontline emergency medicine clinicians, but was also able to influence higher at that specialist society level” , Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Importantly, stakeholders reported that emergency department clinicians consistently communicated that testing programmes could not disrupt clinical care or increase workload for frontline ED staff.

“We asked them about the design, and they told us very loudly, the emergency department consultants, you cannot put any extra work on the emergency department. We will support this, but you cannot delay the patient flow. You cannot make our job harder. So we thought about that and we built it into the design. That is what I think gave them confidence to say, yeah, we can do this. We're behind it.”, Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Implementation approaches were designed around existing workflows and infrastructure wherever possible. Building testing into routine blood sampling processes, using automated laboratory systems, and minimising additional administrative tasks were regarded as essential elements for achieving sustainable implementation.

“The main challenge was the reality of working in a busy Emergency Department. Any additional request that increases the workload of physicians or nurses is difficult to sustain. For this reason, we tried to make the screening process as automatic and simple as possible”, Juan Carlos Ruiz Cobo, MD, specialist in Gastroenterology and Hepatology at Hospital Universitari Vall d'Hebron, Barcelona,

Spain.

Community engagement and accountability

Stakeholders described the value of establishing community advisory groups involving representatives of people living with HIV, HBV, and HCV, as well as affected communities more broadly. These groups can provide advice on programme design, patient communication, consent processes, and service delivery approaches.

Community engagement helps ensure that testing programmes are implemented in a manner that is acceptable, equitable, and respectful. It can also strengthen trust in the programme and improve accountability to the populations being served.

“We set up a community advisory group. We said, please hold us to account. Tell us how we can run this in a way, so we ensure that the language and the procedures and the handling of this is done in a way that you agree with, that you inform, that you help us design. We really put it as a principle that we would expect and want to be held to account if anything was happening that was going against those principles.” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Clear Testing Pathways

Several stakeholders described the importance of developing clear testing pathways that define roles and responsibilities across all stages of the patient journey, including test ordering, laboratory processing, result management, patient notification, linkage to care, and follow-up.

“The programme was coordinated through a multidisciplinary team, with responsibilities clearly divided between the Emergency Department, laboratory and hepatology teams. The Emergency Department identified patients and incorporated testing into routine care, the laboratory performed and confirmed the tests, and the hepatology team was responsible for the subsequent clinical assessment and linkage to care. In my view, having a clearly defined pathway from a positive test to specialist evaluation was as important as the screening itself. It prevented the programme from becoming simply a laboratory screening exercise.” Maria Buti, Senior Consultant of Hepatology at Hospital Universitari Vall d'Hebron, Barcelona, Spain.

Stakeholders consistently stressed that opt-out testing should not be viewed solely as a case-finding intervention. Testing programmes need to be designed as integrated pathways that ensure individuals diagnosed with HIV, HBV, or HCV are successfully linked to specialist care, treatment, and peer support services.

“Another principle was that linkage to care, that's medical care, but also linkage to all of the support, holistic services and critically peer support needed to be integrated into this. We were very clear that this was an integrated testing and linkage to care programme. It's not just about doing tests to find cases. The linkage to care and peer support has to be integrated. And so we really put the ask to systems to say, you have to have sight over this whole programme. You have to join your local partners to build this pathway. It's not just about testing. So that was another important principle.” Rachel Hill-Tout Clinical lead for the English ED opt-out testing programme, London, UK.

Annex 4: Public Consultation

The implementation guidance recommendations were presented at a session at the EACS 2025 conference in Paris to receive input on the recommendations from session participants. An estimated 300 delegates attended the session, and questions were received on a number of topics. Please find below list of questions and comments received at the special session at the EACS conference 2025.

The draft implementation guidance was put up for public consultation on the EuroTEST website for a 5-month period (April - August 2026). Key stakeholders were invited to review the draft guidance and provide feedback through a standardised consultation form.

In total, 15 responses were received from professionals working in emergency medicine (n=3), infectious diseases (n=3), hepatology (n=1), public health agencies (n=2), NGOs/civil society organisations (n=2), hospital management (n=1), academia and research (n=1), and policy development (n=1). Respondents were based in England, Scotland, France, Portugal, the Netherlands, Belgium, Spain, and Germany, ensuring a broad range of expertise and geographical perspectives. Feedback from the public consultation focused on the need for practical guidance on implementing pilot studies, the inclusion of additional details and evidence underpinning the recommendations, and greater emphasis on the role of peer support involvement in post-diagnosis support.

Feedback and input received through both the conference session and the public consultation process were reviewed by the expert advisory group and, where appropriate, incorporated into the final guidance document

	Questions received at the EACS conference 2025 in Paris,
1	What is the lost to follow up rate of patients with a positive test?
2	Some patients return to the ED often. Do you retest every time? Yearly? Other recommendation?
3	Ideal opportunity to train healthcare workers on stigma?
4	Would a fast test with an immediate result improve the situation?
5	Why not include syphilis along with BBV testing?
6	Who is paying for the screening? Is it the hospital (as part of the ED diagnostics) or the government (because it is public health)?
7	Having all the indicator conditions of newly diagnosed HIV patients and do opt-out testing to these conditions do you think that this could be more difficult?
8	What safety mechanism have you put in place to ensure 1) no positive results are missed and 2) that people who have not consented aren't accidentally tested?
9	What was the prevalence of HIV and Hep B in the high prevalence areas?
10	How often do you recommend testing as A&E often has 'frequent flyers'?

11	If you use the ED with minimal patient and doctor interaction. Is it not better to do this at the lab directly?
12	How different was the HIV prevalence obtained by your group compared with the WHO prevalence?
13	Are there plans to roll out to psychiatric emergency wards?

Annex 5: Repository of resources

To support countries implementing BBV opt-out testing in ED, EuroTEST is creating an online repository of patient-facing information materials (e.g., posters, leaflets, scripts) and training materials used to train ED staff in BBV opt-out testing pilots and programmes.

Please visit the EuroTEST website to access materials:

Poster used in the England ED BBV opt-out testing programme developed by NHS England.



Testing for HIV, hepatitis B and hepatitis C

Everyone aged 16 and older who has their blood tested in a London Emergency Department (A&E) now has it tested for HIV, hepatitis B and hepatitis C.

It's important to get diagnosed early as treatment is life-saving and free from the NHS.

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If you do not wish to be tested, please let a member of staff know.

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