Clinical staff attitudes towards opt-out consent for blood-borne virus screening in emergency departments in England

Running head: Attitudes towards opt-out consent in EDs

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Key Words

'HIV testing', 'mass screening', 'Emergency Service', Hospital', 'attitude', 'health personnel'

Abstract

Objective: Opt-out screening for blood-borne viruses (BBV) in emergency departments (ED) has been established in high-diagnosed-prevalence areas (for HIV) in England. This multi-site study explored health-care-worker (HCW) attitudes towards BBV screening in EDs post-implementation.

Design: Cross-sectional electronic survey of HCW.

Methods: Between November 2023 and February 2024 HCWs across 33 EDs in England participating in opt-out BBV screening were invited to complete a survey covering the feasibility and acceptability of screening, including the opt-out consent process. Factors independently associated with acceptability of opt-out screening were identified using multivariable logistic regression. Free-text responses were analyzed thematically.

Results: Responses from 610 HCW in 19 EDs were provided: 50.4% were nurses; 43.1% doctors and 6.5% other healthcare professionals. Acceptability of the screening program and opt-out consent was high (90.3% and 77.7% respectively), with some variation between EDs. Acceptability of opt-out consent was greater among doctors compared to other HCWs, and among HCWs who proactively discuss screening further with patients who opted-out. However, 50.8% of HCWs felt patients should be verbally reminded at blood-draw. 44.3% of HCWs wanted more training in discussing opt-out screening with patients. Free-text answers suggested changes to test ordering systems including simple integration of tick-boxes to document patients opting-out and blocking repeated testing.

Conclusions: There was substantial support from ED HCWs for routine opt-out ED BBV screening, including opt-out consent. Key areas suggested for improvement included test ordering system changes and additional training for HCWs. Frequent preference for verbal reminders at the point of blood-draw suggests continued HIV testing exceptionalism.

Introduction

Routine opt-out screening for HIV and other blood-borne viruses (BBV) in adults attending emergency departments (ED) has been established in high-diagnosed-HIV-prevalence areas in England[1]. This involves patients having blood tests in ED receiving BBV testing as standard. Positive test results are managed by specialist HIV or hepatitis teams who arrange confirmatory testing and linkage to care[2]. Since implementation the program has successfully identified significant numbers of people living with undiagnosed HIV, hepatitis B and hepatitis C, as well as successfully re-engaging people with previously diagnosed BBVs who were not currently accessing care[2].

Historically, due to the poor prognosis and stigma associated with HIV explicit consent for HIV testing was required, resulting in 'exceptionalism' of HIV testing compared to other investigations[3,4]. Given the major advances in HIV care, in settings where there is easy and sustained access to treatment and support for newly diagnosed people the continued exceptionalism of HIV testing is unnecessary and a potentially harmful barrier to testing.[4,5]. Similarly, although less well understood, emerging literature suggests that patients with hepatitis are also negatively impacted by stigma(C,D,E). The ethical framework for ED opt-out testing follows the precedent of over 20 years of antenatal testing for BBVs (including HIV) and syphilis in the UK[4,6]. In EDs the consent model for opt-out testing, sometimes called assumed or implied consent[5], has attracted some controversy as it principally relies on patients seeing posters or other materials stating that all patients having blood drawn will receive screening unless they opt-out. EDs are additionally expected to train healthcare worker (HCW) staff to identify patients unable to see or understand this publicity and provide alternative information formats[2,4]. A proportion of EDs also have a policy of reminding patients about BBV screening at the point of blood-draw[2,4].

Little is known about ED HCWs attitudes towards opt-out BBV screening, in particular the opt-out consent process. Despite findings that routine BBV testing is acceptable to patients and staff[7], early evaluations of opt-out testing suggest staff concern that posters/leaflets in

ED may be insufficient for valid consent[8]. Some feel that patients should always give consent verbally at the point of blood-draw[5,7,8].Understanding HCW experiences of opt-out BBV screening can identify important operational challenges, including how to use test ordering systems to maximize efficiency, concern over time to conduct testing and HCWs feeling ill-prepared to answer patient queries[7,9]. Understanding HCWs priorities is important in enabling opt-out screening programs to be maintained, improved and expanded. Finally, given findings of limited HIV knowledge, misperceptions about BBV screening in ED and ongoing HIV-related stigma amongst ED staff[10,11,12], understanding HCWs perceptions of screening is vital to combat stigma and its potential impacts on screening.

Methods

A brief thirteen-question online survey (supplementary **Table 1**) was distributed to the 33 participating EDs in the original programme[2], in addition to one other ED in Northeast England, following its approval (as a service evaluation) by each organization's research department. ED HCWs in clinical roles were eligible to participate. The survey was publicized through EDs' established lines of communication including email chains, messaging systems and posters, with periodic reminders to support survey uptake. Consent to participate was obtained within the online survey form. Questions covered HCW role and seniority, 5-point Likert scales exploring acceptability of opt-out screening and the consent process, and an opportunity for free-text comments. How proactive HCWs were if patients opted out, such as discussing further or providing further information, was assessed (Supplementary **Table 1** - Survey, Q10). The main outcome measure was acceptability of opt-out testing, modified to a binary outcome. Unadjusted odds ratios (OR) with 95% confidence intervals (CI) were calculated for 7 predictive variables, such as HCW role. Stepwise multiple logistic regression was used for variables with $p<0.1$ to calculate adjusted ORs. This p value cutoff was selected to minimize omitted variable bias. Analysis was performed using Quest Graph™ Logistic Regression (Logit) Calculator (AAT Bioquest, Inc.) Thematic analysis was conducted for free-text responses. Initial codes were generated a, and themes and sub-themes were developed by EB, and were reviewed and defined by all authors (Supplementary **Table 2** and **3**).

Results

Across 19 sites responding, 610 ED HCWs members completed the survey between November 2023 and February 2024. 13 participating sites were in London and 6 outside London. Of the respondents 50.4% were nurses; 43.1% doctors and 6.5% other healthcare professionals; 40.5% were senior HCWs and 59.5% junior. All 19 sites were taking part in the initial pilot program of ED opt-out BBV testing across England. Around half of the EDs surveyed had initiated this program for HIV screening over the past 2 years, with 4 sites in London operating similar HIV screening programmes for at least 5 years. Most sites had added hepatitis B and C screening over the previous 12-18 months, however, 3 sites had not introduced hepatitis B screening.

Most (89.0%) HCWs reported being aware of opt-out BBV screening, and 90.2% agreed/strongly agreed it was worthwhile routinely to test for BBVs in ED if patients were already having blood-tests. When asked if the opt-out consent process for BBV tests was adequate and acceptable, 77.7% agreed/strongly agreed and 5.9% disagreed/strongly disagreed **(Fig 1A)**. The percentage of HCWs answering 'agree' or 'strongly agree' was high and varied from 73% to 100% by site **(Fig 1B)**. Most (74.6%) HCWs felt that posters and leaflets in ED were sufficient for opt-out consent, but 50.8% still felt patients should be verbally reminded of BBV screening at point of blood-draw which varied from 41% amongst doctors to 58% amongst nurses/other HCWs **(Fig 1C** and **1D)**. Most (86.2%) of HCWs reported patients ‘never/rarely’ ask about BBV screening and 78.36% of HCWs reported BBV testing not being possible due to difficulty in bleeding happens in less than 10% of patients.

In univariable analysis **(Table 1)**, nurses and other HCW were less likely than doctors to view opt-out testing as acceptable (OR 0.46, 95%CI, 0.22-0.96) and staff working outside London viewed it as less acceptable than those working in a London ED (OR 0.68, 95%CI 0.46-1.01 for non-London site). However, staff who were proactive when patients opt-out were more likely to view opt-out testing as acceptable (OR 2.59, 95%CI 1.09-5.81). After adjustment, only being a nurse/other HCW (OR 0.46, 95%CI, 0.22-0.94) remained significantly associated with non-acceptability and proactively challenging opting-out (OR 2.6, 95%CI 1.12-6.06) remained significantly associated with acceptability.

40.7% of staff reported never being asked about opt-out BBV screening by patients, and 45.6% were rarely asked. If asked to discuss BBV screening with patients 6.1% of HCWs were 'not confident', 37.7% 'somewhat confident' and 56.2% 'very confident' in doing so. HCWs preferred to provide further screening information verbally (61.1%), followed by directing patients to posters (27.9%) or providing written leaflets (13.6%), whereas 21.8% of HCWs would 'move on without further discussion' and 12.3% answered 'I don't discuss opt-out screening when I take blood'. When asked if tick-boxes to record when patients decline BBV screening might be useful, 82.7% of HCWs answered 'yes'. When asked if they would like more training in discussing BBV screening with patients 44.3% of HCWs answered yes.

Free-text thematic analysis

HCWs were invited to share feedback on the opt-out program though a free-text option (Supplementary **Table 1** - Q13). Ninety-one respondents provided responses. Themes included support of BBV opt-out screening, operational challenges, criticism of opt-out testing, patient awareness and HCWs training (comprehensive summary in supplementary **Tables 2** and **3**). Most HCWs supported opt-out screening, with one doctor describing it as a *'brilliant programme so vital to the health of our local populations'.* Specific benefits of opt-out screening perceived by HCWs included reducing stigma, improving screening uptake, reducing HCW anxiety regarding needlestick incidents as BBV status is already known for most patients and how screening can save lives and reduce transmission.

HCWs were concerned about repeated testing of frequent attenders and potential waste of resources. HCWs suggested system changes including automated testing and notifications or blocking of repeat testing. HCWs highlighted concerns over workload and emphasized that tick-boxes documenting patients opting-out should be integrated in *‘a simple way'. S*ome HCWs suggested a tick-box for ‘difficulty bleeding’ could be misused to avoid sampling.

Multiple HCWs viewed blood labels being printed before venipuncture (i.e. before patients can opt-out) as a barrier to accurate documentation*.* The requirement to draw an additional blood bottle was also identified as a drawback of screening. Criticism of opt-out screening included the opt-out consent process being described as *‘coercive and unnecessary’;* concerns over cost-effectiveness; and patients being aggressive towards staff after not being verbally informed of tests. Some HCWs suggested ways to increase patient awareness of opt-out testing. Suggestions included more posters/ leaflets, information in multiple languages, QR codes to link to further information and showing information videos in the ED waiting room. Some ED HCWs suggested further training include repeated teaching on opt-out testing in concise e-learning and video formats.

Discussion

Overall, there was substantial support for opt-out BBV testing amongst surveyed HCWs from EDs in England. Opt-out consent was acceptable to a large majority, but 50.8% were in favor of verbal reminders at the point of blood-draw. This indicates ongoing 'exceptionalism' of HIV testing where staff feel HIV, and possibly hepatitis B and C, testing still requires specific consent unlike other routine blood tests performed in the ED[3,13]. Our findings align with that of Crane *et al,* who found that although there was consensus amongst staff to treat HIV testing the same as other blood tests, 73% of practitioners still wanted to obtain verbal consent for HIV testing[8]. Whilst our study did not formally differentiate between attitudes to individual BBVs, within free-text responses some staff referred to 'HIV' rather than all three BBVs included in opt-out testing, including when discussing stigma. This could reflect the relative lack of knowledge around hepatitis and stigma compared to HIV [E].

While most HCWs felt that posters or leaflets in ED are sufficient for opt-out consent free-text analysis suggests some HCWs perceive patient awareness of opt-out BBV testing as lacking. Suggestions for improvement included increasing the number of posters and leaflets available, utilizing different media forms and providing information in different languages. Early evaluations of opt-out testing suggest information availability varies significantly across EDs[2]. Only 36% offered information in different languages, and no sites provided information for blind or partially sighted patients[2].

Our survey found that doctors were more likely to advocate for verbal reminders of BBV testing than nurses/other HCWs and Univariate and adjusted analyses found that being a doctor and taking proactive steps when patients opt-out of testing were significantly associated with greater opt-out testing acceptability.

Previous studies have found doctors to be more proactive in HIV testing than nursing counterparts[14,15]. Training tailored to support and reassure nurses may therefore be warranted. Furthermore, as stigma and a lack of awareness of BBV can reduce the likelihood of staff offering BBV tests, increasing staff BBV training could increase screening uptake[12]. Studies pre-roll-out suggested that ED testing for BBVs is highly likely to be cost-effective, particularly in high-prevalence areas(a, b). Despite this our survey identified substantial HCW concern over the cost of unnecessary duplicate testing. Good practice guidelines advise that repeat BBV testing should be automatically blocked for an agreed period, with a recommended 12-month timescale[2]. In a 2023 report 17 of 28 EDs surveyed reported blocking repeat testing, with timescales ranging from 3-12 months[2]. Our findings suggest that optimization of blocks on repeat testing could improve HCW confidence in the cost-effectiveness of screening. Moreover, evaluations of the cost-effectiveness of BBV screening post-roll-out are necessary to reassure staff and optimize screening. HCW suggestions to automatically add BBV tests onto blood sets support NHSEs findings that automated testing is not yet in place across all sites [2]. As testing rates are higher in sites with automated testing, it is important that automated testing be expanded[2]. In 2023 four units conducting opt-out screening used online systems to record individuals' decision to opt-out[2]. We found that although 82.7% of HCWs supported the introduction of a tick-box to document screening opt-out, HCWs emphasized tick-boxes must be easy to use, underscoring the importance of minimizing the extra workload associated with screening. Concerns over blood-labels being printed before venipuncture and potential misuse of tick-boxes (inappropriately ticking ‘difficult to bleed’) illustrate practical challenges to optimizing data collection accuracy.

Interest in training on opt-out testing was mixed. 44.3% of HCWs wanted further training on opt-out testing, and only 56.2% were ‘very confident’ in discussing BBV screening with patients. Free-text responses suggest an interest in more frequent training. Good practice guidance advises that sites should provide HCWs with formal training to support opt-out testing delivery, though in 2023 only 50% of 28 sites had implemented training[2]. The lack of confidence in discussing screening, combined with training variability across sites, supports the need to introduce regular training across EDs.

This study had several limitations. Despite the large total sample size, there were on average 36 responses per ED. It was not possible to establish the proportion of the eligible workforce who completed the survey. This introduces a risk of selection bias if HCWs who were more interested in or aware of BBV screening were more likely to complete the survey. Two survey questions elicited contradictory responses, where HCWs felt that opt-out consent was adequate and acceptable but also that verbal reminders were necessary at the point of blood-draw (survey question 7). Further qualitative research could gain a more nuanced understanding of this apparent contradiction.

In conclusion, opt-out BBV testing was highly acceptable amongst ED HCWs. Acceptability was significantly associated with being a doctor and how proactive HCWs were when patients opt-out. Key areas identified for improvement included changes to electronic ordering systems to prevent repeated testing (blocking), improving patient awareness of opt-out and additional staff training.

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Supplemental Content

Table 1 - Survey questions & responses

Table 2 – Concise free-text thematic analysis summary

Table 3 – Comprehensive free-text thematic analysis summary