Making blood borne virus screening work for everyone

Opportunities to improve opt-out screening in two large London Emergency Departments

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Background:
- Early diagnosis of HIV, hepatitis B and hepatitis C enables access to life-saving treatments and holistic care. 6% of people living with HIV in the UK are undiagnosed; [1] an estimated 95600 people had undiagnosed Hepatitis C in 2013[2] and Hepatitis B is often diagnosed late.[3]
- With 16 million attendances per year nationally, Emergency departments [ED] are excellently placed to undertake testing. [4] ED is also particularly accessible for socially excluded populations, who may be at increased risk of BBV.[5]
- In 2022 NHSE[6] expanded opt-out BBV screening in the highest prevalence EDs supported by DHSC[7] and RCEM. [7] The Royal Free London NHS Foundation Trust has two EDs: The Royal Free (RF) and Barnet (BA). Both were included in this rollout. The Trust serves Camden, Islington & Harringay, which all experience high HIV incidence 10.5% for residents aged 15-50,[8] and also provides specialist HIV and viral hepatitis care.
- Effective screening programmes need to meet the needs of all service users, including higher risk demographic groups: for example a recent study found men, people of Black or Black/British ethnic origin and people aged 40 to 59 were more likely to receive a new diagnosis of a BBV through opt-out screening or require linkage to BBV care.[6]
- There are barriers to BBV screening: screening places additional workload on ED including blood drawing time and discussion with patients (despite opt-out programmes reducing the onus on frontline clinicians to offer and discuss BBV screening).[10] While opt-out approaches may help to normalise BBV screening, stigma, for instance linked to life expectancy, misconceptions about transmission routes or associating HIV with ‘irresponsible’ behaviours, remains a barrier to uptake. People may also incorrectly perceive themselves to be low risk for BBV. These beliefs may affect patient and staff attitudes towards screening.[11,12]
- This retrospective, mixed-methods study aimed to evaluate the rate of opt-out BBV screening uptake and identify patient, staff and process-related screening barriers; assess for demographic differences in uptake and identify strategies for improvement.

Methods:
- Those eligible for screening were defined as unique adults aged ≥16 receiving blood tests in ED were identified through Electronic Patient Records. The study period July-October 2022 was selected to allow settling time post-roll out (April 2022). Screening rates in pre-defined demographic groups were compared. Age was assessed as a continuous variable by unpaired t-test and additionally those aged ≥80 (admitted under geriatric teams in both Trusts) were compared to those aged <80. The impact of sex, ethnicity, attendance time and admission status were analysed though odds ratios. Verbally consented ED staff identified through stratified random selection underwent brief semi-structured interviews to understand their experience of screening.

References:

Results:
- There were 33388 opportunities for screening. At RF and BA respectively, 53.65% (9687/18193) and 63.87% (10808/17195) received screening for at least one BBV. 86% of HIV screens were positive, including 5 new HIV diagnoses. 136 hepatitis B screens were positive. 22 patients had detectable HIV RNA.

Likelihood of being screened for at least one BBV

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult</td>
<td>0.955 (9306/9804)</td>
<td>0.968 (8429/8747)</td>
</tr>
<tr>
<td>White</td>
<td>1.047 (3390/3256)</td>
<td>1.013 (3779/3712)</td>
</tr>
<tr>
<td>Black</td>
<td>0.903 (1055/994)</td>
<td>0.960 (980/1028)</td>
</tr>
<tr>
<td>Mixed</td>
<td>0.955 (9759/10020)</td>
<td>1.081 (8855/8244)</td>
</tr>
<tr>
<td>Chinese</td>
<td>0.915 (625/683)</td>
<td>1.080 (835/766)</td>
</tr>
<tr>
<td>Other/out not known</td>
<td>1.003 (894/897)</td>
<td>0.960 (832/867)</td>
</tr>
<tr>
<td>Admitted</td>
<td>0.808 (6399/8052)</td>
<td>0.955 (8399/8802)</td>
</tr>
<tr>
<td>Female</td>
<td>0.948 (8861/9033)</td>
<td>0.707 (747/851)</td>
</tr>
<tr>
<td>Age and over</td>
<td>0.848 (792/905)</td>
<td>1.019 (953/948)</td>
</tr>
</tbody>
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At the RF site people ≥80 were less likely to be tested than those ≤80 and there was a non-significant trend towards those untested being older than those tested (t Stat = 0.803, p=0.42). Conversely, at BA the likelihood of being tested increased with age (t Stat = 2.077/14, p0.007444), with no difference between age ≥80 or ≤80. Staff and patient perceptions of older age groups having a lower risk of BBV may be important: at the RF one staff member commented: “the elderly always say no...50 year old says ‘what’s the point?’”. Self-perceived HIV胶原蛋白 risk has been shown to decrease in older groups.[14] These perceptions exist despite 21 people aged ≥80 receiving positive BBV screens and a recent London study identifying people aged ≥65 with undiagnosed BBV.[9] Perceived difficulty in bleeding older patients may also contribute.

Data suggests HIV screens are omitted as a choice:
- Whether a patient declined or screening was omitted for procedural reasons is not yet recorded at the Trust. However, discrepancies in BBV screening suggest patients declining or staff choosing to omit may be a significant driver. 937 people received hepatitis B but not HIV screening because 82 people received HIV but not hepatitis screening. This suggests HIV screens are actively remedied by clinicians. The current high viral hepatitis prevalence is approximately twice as high as HIV in this population.[5] Known prior inpatient cohort study, lack of time and staff prioritisation are factors in this. They felt in principle confident to discuss further with patients who declined screening but had never conducted that conversation, and doctor made a similar comment. An EDA remarked that “it’s like fire-fighting out there”. Inability to discuss testing was a potential source of moral injury, with some staff members seeing lack of discussion as a failing. One in urgent care recently started discussing testing. “I was told, and I wasn’t told and then my test came back positive I’d be like ‘what?’” staff were confident in initial BBV screening discussion, but not further discussion in patients who declined:
- Some staff members included an EDA, nurse and doctor felt the discussion was straightforward. A doctor explained: “It’s not a difficult conversation – either they say yes or no.”. An EDA says to patients “it’s your choice. We offer it to everyone – it’s good for your health to know if you’ve had these viral infections or not”. A receptivitiy even reported approximately 10 patients per month requesting screening directly after seeing posters, however, as one nurse commented, there was a feeling that “patients either do or don’t want screening”. Staff nurses remarked “Some patients just don’t want to know” citing that “HIV is the last thing you want if you have it” as a reason for this. They felt in principle confident to discuss further with patients who declined screening but had never conducted that conversation, and doctor made a similar comment. An EDA remarked that “if they say no, I respect that” and another explained: “if they say no, I don’t want to push it”. Staff did feel more able to sign post patients to further written resources including a virtual leaflet, however.

ED staff experience of opt-out BBV screening:
- ED staff expressed a desire to discuss BBV screening but time pressures frequently acted as a barrier. One EDA in a discussion reported "we’re really trying to tell them, it’s low risk", and a doctor agreed, commenting “it’s like fire-fighting out there”. Inability to discuss testing was a potential source of moral injury, with some staff members seeing lack of discussion as a failing. One in urgent care recently started discussing testing. “...it was me, and I wasn’t told and then my test came back positive I’d be like ‘what?’”.

ED staff and patient perceptions of BBV screening:
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Conclusions:
- Screening was acceptable to patients and staff, with good uptake. Demographic variations represent important areas for further improvement. Systems to document a patient declining screening, rather than omission for another reason, may enable targeted interventions to improve uptake. Collaboration with laboratories to optimise sample volumes may improve performance.
- ED staff are motivated to discuss screening, and ED encounters have the potential to be an excellent opportunity to engage patients who might be initially hesitant to take up screening.
- Interventions to equip staff with time and confidence to have these discussions may improve uptake including in higher risk groups.