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'JUST ANOTHER VIAL...': A QUALITATIVE STUDY TO EXPLORE THE ACCEPTABILITY AND FEASIBILITY OF ROUTINE BLOOD-BORNE VIRUS TESTING IN AN EMERGENCY DEPARTMENT SETTING

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8 6 **'JUST ANOTHER VIAL...': A QUALITATIVE STUDY TO EXPLORE THE ACCEPTABILITY AND FEASIBILITY OF**
9 7 **ROUTINE BLOOD-BORNE VIRUS TESTING IN AN EMERGENCY DEPARTMENT SETTING**

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12 10
13 11
14 12 **AUTHORS**

15 13 Lucy Cullen 1,5; Pippa Grenfell 1,5; Alison Rodger 2,5; Chloe Orkin 3; Sema Mandal 4,5; Tim Rhodes 1,5,6

16 14
17 15
18 16 **INSTITUTIONAL AFFILIATIONS**

- 19 17 1. Department of Public Health, Environments and Society, London School of Hygiene and Tropical Medicine,
20 18 London, UK
21 19 2. Institute for Global Health, University College London, London, UK
22 20 3. HIV Medicine, Barts Health NHS Trust, London, UK
23 21 4. Immunisation, Hepatitis, Blood Safety and Countermeasures Response, Public Health England, London, UK
24 22 5. National Institute for Health Research Health Protection Research Unit (NIHR HPRU)
25 23 6. National Centre for Social Research on Health, University of New South Wales, Sydney, Australia

26 24
27 25
28 26
29 27 **CORRESPONDING AUTHOR**

30 28 Lucy Cullen, lucy.cullen@lshtm.ac.uk
31 29 15-17 Tavistock Place, Kings Cross, London WC1H 9SH

32 30
33 31
34 32 **EMAIL ADDRESSES**

35 33 Lucy Cullen: lucy.cullen@lshtm.ac.uk
36 34 Pippa Grenfell: pippa.grenfell@lshtm.ac.uk
37 35 Dr Alison Rodger: alison.rodger@ucl.ac.uk
38 36 Professor Chloe Orkin: Chloe.Orkin@bartshealth.nhs.uk
39 37 Dr Sema Mandal: sema.mandal@phe.gov.uk
40 38 Professor Tim Rhodes: tim.rhodes@lshtm.ac.uk

41 39
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43 41
44 42 **ARTICLE RUNNING HEAD**

45 43 Routine blood-borne virus testing in the ED setting

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3 47 **ABSTRACT**
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5 49 **Objectives:** Increased test-uptake for HIV and viral hepatitis is fast becoming a health priority at both the
6 50 national and global level. Late diagnosis of these infections remains a critical public health concern within the
7 51 UK. Recommendations have been issued to expand blood-borne virus (BBV) testing in alternative settings.
8
9 52 Emergency Departments (ED) offer a potentially important point of testing. This paper presents findings from a
10 53 qualitative study conducted to explore the acceptability and feasibility of a routine opt-out combined blood-
11 54 borne virus testing intervention implemented at an inner London ED.
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14
15 56 **Methods:** We conducted 22 semi-structured interviews with ED patients (n=18) and ED service providers (n=4)
16 57 over a four month period during the intervention pilot. A grounded analytical approach was employed to
17 58 conduct thematic analysis of qualitative study data.
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19 59

20
21 60 **Results:** Core interrelating thematic areas identified and analytically developed in relation to test-intervention
22 61 implementation and experience included (i) the remaking of routine test-procedure; (ii) notions of
23 62 responsibility in relation to status knowledge and test-engagement; (iii) the opportunity and constraints of the
24 63 emergency department as a site for testing; and (iv) the renegotiation of testing cultures within and beyond
25 64 the space of the clinic.
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29 66 **Conclusion:** Interview narratives demonstrate how relational and spatial dynamics specific to the ED site shape
30 67 constructions of test-meaning and engagement. We observe test-acceptability to be articulated through
31 68 narratives of situated responsibility, with test-value offset by perceptions of need and the felt legitimacy of the
32 69 test expense. We find that accounts speak to a productive potential of the test-disruption while at the same
33 70 time revealing limits to the interventions' normalising effect. We point toward the need to attend to the local
34 71 particularities of intervention implementation if the opportunities of the test-initiative are to be fully realised.
35 72 We also highlight the need for further evaluation of post-test dimensions of intervention practice and
36 73 experience.
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40 75 **KEYWORDS:** HIV; Viral Hepatitis; Emergency Department; Testing; Qualitative
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3 76 **Strengths and limitations of this study**
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- 5 78 ▪ Employing qualitative research methods we draw from twenty-two semi-structured interviews to
6 79 examine the acceptability and feasibility of a novel three-combined blood-borne virus (HIV, HCV, HBV)
7 80 routine test-intervention implemented in an emergency department (ED) setting in the UK.
8 81
9 82 ▪ An enriched understanding of ED patient and provider perspectives and experiences of the test
10 83 intervention offers to inform and facilitate a more effective implementation of intervention practice
11 84 beyond the pilot.
12 85
13 86 ▪ A key limitation to the study was speaking only with participants at point of clinic contact, and thus
14 87 not being able to explore critical dimensions of the post-test experience, and more particularly the
15 88 perceptions and experiences of those diagnosed through routine ED test-procedure.
16 89
17 90 ▪ We are aware that the small sample size does not include individuals who felt themselves to be at risk
18 91 of returning a positive result, that could likely affect test-engagement and intervention experience.
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20 93 ▪ We acknowledge that qualitative data as produced within and through the particularities of study
21 94 context may limit the generalisability of study findings beyond the primary setting.
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3 98 **'JUST ANOTHER VIAL...': A QUALITATIVE STUDY TO EXPLORE THE ACCEPTABILITY AND FEASIBILITY**
4 99 **OF ROUTINE BLOOD-BORNE VIRUS TESTING IN AN EMERGENCY DEPARTMENT SETTING**
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9 102 **INTRODUCTION**
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11 104 Recent years have seen the continuing development of more effective and tolerable treatments for viral
12 105 hepatitis and HIV. Yet the late diagnosis of these infections, associated with poorer individual health outcomes
13 106 and increased population transmission, remains a prominent health concern at both the state,[1-4] and
14 107 global,[5-8] level. Delayed access to HIV treatment increases the risk of severe health complications and
15 108 premature mortality,[9-12] as well as onward transmission.[13-15] Global estimates indicate hepatitis B (HBV)
16 109 and hepatitis C (HCV) infection to account for 47% and 48% respectively of the annual 1.4 million deaths from
17 110 hepatitis-related liver cirrhosis and cancer.[6] Estimates further indicate HBV and HCV diagnosis to be critically
18 111 low at 9% (HBV) and 20% (HCV).[7] Care cascade models demonstrate low testing rates a principal limitation to
19 112 the 'success' of public health targets of treated viral hepatitis and HIV viral suppression. With blood-borne
20 113 virus (BBV) testing and case-diagnosis sub-optimal, increased test-uptake remains a critical national and global
21 114 priority for treatment benefits to be fully realised. [10,16,6]
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23 116 Within the UK, of the estimated 101,200 people living with HIV in 2015 as many as 13,500 were unaware of
24 117 their status.[17] While the first UNADIS 90% target (ninety percent of people living with HIV being aware of
25 118 their status) was reached in London in 2016, nationwide figures fell short at 88%.[2] Of that year, 42% of HIV
26 119 diagnosis were made during later stages of infection.[4] Late diagnosis and low treatment rates for hepatitis B
27 120 (HBV) and HCV are reflected in UK hospital admissions and mortality from HCV-related end-stage liver disease
28 121 and HCV or HBV-related liver cancer.[3,18,19] Undiagnosed HCV cases among people who inject drugs, the
29 122 major risk group for HCV infection in the UK, are estimated to be high.[20] The British HIV Association and
30 123 National Institute for Health and Care Excellence Guidelines (2008 and 2013 respectively) have issued
31 124 recommendations to increase uptake for BBV testing in alternative settings.[21-22] Ongoing efforts to reduce
32 125 late HIV diagnosis (here, defined as a CD4 count of less than 350 mm),[23] alongside shifts in policy toward HIV
33 126 prevention, have sought to expand HIV-testing initiatives both within and beyond the clinic environment.[24-
34 127 29] This has included opt-out testing procedures where individuals are informed that a test will be conducted
35 128 unless they indicate they do not want to be tested.
36 129

37 130 Emergency Departments (hereafter referred to as ED) offer a potentially important point of testing [30]. It has
38 131 been estimated that around one in four of the population in the UK and Republic of Ireland attend EDs in any
39 132 one year.[31] For individuals not registered with GPs, including migrant populations disproportionately
40 133 affected by HIV and chronic hepatitis B and C infection,[17,32] EDs can present as a primary point of health-
41 134 service contact. Routine opt-out testing in the ED setting may also offer case-finding potential for individuals
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3 135 no longer identified as 'at risk' – such as former injecting drug users – who remain undiagnosed through GP or
4 136 other health service contact until an advanced disease stage.[33-34]
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6 137
7 138 Much of the global literature on routine HIV testing in emergency departments has emerged from the US in
8 139 response to the 2006 Centre for Disease Control and Prevention (CDC) guideline revisions.[35] International
9 140 evaluation of service provider perspectives on routine HIV testing in ED settings has identified resource-cost
11 141 and the efficacy of routine-test approaches a critical point of concern.[36-38] While conscious of the potential
12 142 public health benefits, some view routine HIV testing to sit beyond the remit of emergency medical
13 143 practice.[39-40] US-based examinations of patient perceptions and experiences have revealed levels of
14 144 confusion around opt-out testing procedures.[41] Yet studies have also identified an acceptability to ED-based
15 145 routine test-practices grounded in status curiosity and routes of reassurance, alongside the convenience of the
16 146 test-opportunity while accessing clinic services.[42-43] Patient concerns about routine-testing procedures have
17 147 centred on issues of confidentiality and the social implications of a positive result,[42] calling attention to how
18 148 HIV test-practice and engagement remains both an individually and socially negotiated process.[44-45]
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20 150 Aspirations that the introduction of routine BBV testing in more generalised clinic environments could help
21 151 normalise HIV test practices and lessen illness-related stigma speaks to the enduring concern that negative
22 152 attitudes around HIV continue to impede test uptake and diagnosis across high-income settings. Despite
23 153 improved medical realities of hepatitis cure,[3] and near-normal life expectancy for those diagnosed early and
24 154 able to access HIV treatment,[9] the social meaning of an illness condition and related test-practices are less
25 155 easily reconfigured. Test engagement, while speaking to a health need, is a situated act embedded in socio-
26 156 cultural systems of meaning that may also confer risk-association.[46] Continued misconceptions of hepatitis
27 157 infection and transmission alongside the stigmatisation of associated risk-behaviours negatively impact
28 158 hepatitis case identification and diagnosis across the UK.[33,34,46] While shifts in HIV testing norms have
29 159 been detected among some communities within the UK, perceptions of the social risk attached to both test-
30 160 engagement and a potential positive result continue to encroach on testing practices and frequency.[44-45]
31 161 Debate concerning the value of non-targeted vs targeted test-approaches in the HIV field remains
32 162 ongoing.[38,48,49] Some have argued targeted HIV-test approaches that centre on risk-assessment are
33 163 necessary to ensure the protection of patient interest and ethics of practice in the context of the ED
34 164 setting.[49] Others have in contrast voiced concerns that continued medical segregation and targeted test-
35 165 practices perpetuate an HIV exceptionalism, illness stigma, and subsequent test anxiety.[38-39] How test-
36 166 meaning is configured and negotiated through a routine practice in the ED setting, and the implication this
37 167 extends to test-engagement and uptake, constitutes an important dimension to intervention potential.
38 168
39 169 Critical also to the evaluation of emergent test-technologies across the clinical, community – and more
40 170 recently domestic – spheres, is the play of responsabilisation discourses in shaping health-seeking norms and
41 171 practices. Concepts of biological citizenship that speak to an individualised responsibility to act in keeping with
42 172 both a private and collective health,[50-52] can see test-technologies and practice function as enactments of

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3 173 responsabilised health citizenship.[53,44] The dynamics of social, political and biomedical expectation as
4 174 emergent test-technologies are encountered and negotiated in relation to normative test-practices and clinical
5 175 procedure, warrants critical reflection. Attending to the 'behavioural domain' and psychosocial complexity of
6 176 test-practice and engagement amidst broader 'normalisation' processes,[54-55] remains critical in evaluating
7 177 the efficacy and value of an intervening test-technology.
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11 179 UK-based qualitative research specific to opt-out BBV testing in the ED setting remains limited. To our
12 180 knowledge there has been no patient-focused analysis of opt-out HIV testing in UK emergency departments to
13 181 date, nor any qualitative inquiry of ED-based routine opt-out testing for HCV and HBV. This study thus sought
14 182 to explore the acceptability and feasibility of a combined HIV, HCV and HBV routine opt-out testing initiative
15 183 delivered to adult patients receiving routine bloods as part of their emergency care, from the perspectives of
16 184 both emergency department patients and staff. The study looks at both the immediate responses to the
17 185 intervention components and test event, but also at how these experiences are shaped by, and potentially
18 186 renegotiate, broader social norms and forms of test practice and engagement.
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25 189 **METHODS**

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27 191 This paper draws on findings from a pilot qualitative study conducted to explore patient and provider
28 192 responses to a combined BBV testing intervention implemented at an inner London ED.[56] Twenty-two semi-
29 193 structured interviews were conducted with ED patients (n = 18) and service providers (n = 4) between May-
30 194 August 2016.
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37 196 Under the BBV-test initiative, all ED patients over the age of 18 who have blood samples taken as part of their
38 197 emergency care are routinely tested for HIV, HCV and HBV unless they specifically opt-out of the test. Health
39 198 professionals taking the blood sample verbally explain to ED attendees that all patients are being routinely
40 199 tested for the three viruses unless they indicate they do not want to be. Tests are offered to all adult patients
41 200 having bloods taken, except those individuals who do not have the capacity to consent (for example on
42 201 account of a psychotic illness or cognitive impairment) and those where the test offer cannot be verbally
43 202 communicated and agreed to (for example across language barriers). Where tests are accepted, an extra vial
44 203 of blood is drawn. Information relating to the testing intervention was made available through leaflets in the
45 204 department (English language only), with posters displayed within ED waiting areas and assessment cubicles
46 205 where bloods are taken. Test results operated on a 'no news is good news' policy. Those patients returning a
47 206 positive serological result for any of the tested viruses were contacted within fourteen days and specialist
48 207 consultation arranged.
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3 209 We sought to recruit both ED patients and staff participants so as to explore the multiple dimensions of test
4 210 expectation and experience that frame the medical encounter and intervention practice. Patient participants
5 211 were sampled from individuals accessing ED services who had bloods taken as part of their emergency care
6 212 and included individuals who were offered and accepted the BBV test (n = 10); individuals offered the test but
7 213 who opted-out (n = 1); and also individuals who did not recall being offered the intervention, assumed not-
8 214 tested (n = 7). Insofar as was possible we sought to include patients across a range of ages, gender and ethnic
9 215 backgrounds to capture the diversity of the ED population. We spoke with nine male and nine female ED
10 216 patients, between 23 and 82 years in age, of varying ethnicities (see Table 1 for information relating to patient
11 217 participants). Patient and staff participants were recruited across different times of the day/evening, both
12 218 during the week and at weekends to reflect variances of patient populations and department workloads.
13 219 Health professionals were sampled from staff members directly involved in taking bloods and implementing
14 220 the test-intervention. Staff participants included both male and female members of different staff grades,
15 221 having worked at the department for between three and eight years.

16 222
17 223 Interview discussions were semi-structured, shaped by a topic guide developed across members of the
18 224 research team, while also guided by participant response. Interviews commenced following participants' giving
19 225 written informed consent and, with their permission, were audio-recorded. While interpretation services had
20 226 been identified for use if required, all interviews were conducted in English. Data was collected by LC who was
21 227 not known to participants prior to the study, with all interviews conducted on the clinic site. Interviews lasted
22 228 between 20 and 50 minutes, as determined by patient and staff availability. Interviews were immediately
23 229 stopped in the event of the patient receiving further medical care. While interviews were resumed wherever
24 230 possible, in cases where patient participants were transferred to other hospital departments or discharged,
25 231 interviews could not always be concluded. Interview discussion areas sought to explore: views and (where
26 232 applicable) direct experiences of the test intervention; previous test experiences and current test practices;
27 233 knowledge and awareness of HIV, HCV and HBV viruses, transmission-risks and treatments; felt and perceived
28 234 barriers and facilitators to BBV testing; and the felt appropriateness of the emergency department as a site for
29 235 testing.

30 236
31 237 All interview data were transcribed verbatim, with personal identifying details removed. In keeping with a
32 238 grounded analytical approach to inform thematic development,[57-58] preliminary data coding and analysis
33 239 commenced early in data collection, informing later interviews and allowing for emerging themes to be further
34 240 explored across patient and staff accounts. Initial coding examined both a priori interests as well as inductive
35 241 codes grounded in the study data. Secondary-level thematic coding was later conducted across the full dataset
36 242 to further fracture the data and allow for the development of conceptually-driven categories. Points of tension
37 243 and convergence in relation to emerging thematic areas were explored both between attendee accounts and
38 244 across attendee and provider responses. Core thematic areas to emerge included: the renegotiating of routine
39 245 procedure; felt and perceived testing responsibilities; the opportunity and limitations of the ED as a site for

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3 246 testing; the interplay of testing cultures within and beyond the clinic. All names used in the analysis are
4 247 pseudonyms.
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6 248
7 249 This study was undertaken as part of the National Institute for Health Research Health Protection Research
8 250 Unit (NIHR HPRU) in Blood Borne and Sexually Transmitted Infections at University College London in
9
10 251 partnership with Public Health England and in collaboration with the London School of Hygiene and Tropical
11 252 Medicine. The study was granted ethical approval from the West Midlands–South Birmingham Research Ethics
12 253 Committee, and the London School of Hygiene and Tropical Medicine Ethics Committee.
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14 254
15 255 *Patient and Public Involvement:* Pre-study consultations were conducted with community organisation
16 256 representatives working in the HIV, HCV and HBV fields to inform the design of the study. ED patients were not
17 257 involved in the study design phase of the research. All study outputs and publications will be disseminated to
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20 258 those study participants who opted to give contact details for this purpose.
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261 **Table 1: Patient participant information**

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264 **Pseudonym Gender Age Region of origin BBV test-intervention response**

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266 *Ryan* Male 18-29 US BBV test offer declined267 *Sofiya* Female 30-49 Eastern Europe BBV test offer not recalled, assumed not tested268 *Carlotta* Female 18-29 Western Europe BBV test offer accepted269 *Malcom* Male 30-49 UK BBV test offer not recalled, assumed not tested270 *Karen* Female (30-49*) UK BBV test offer accepted271 *Ramisa* Female (30-49*) Southern Asia BBV test offer accepted272 *Phil* Male 30-49 UK BBV test offer accepted273 *Ehsan* Male (50+*) Middle East BBV test offer not recalled, assumed not tested274 *Sten* Male 30-49 Scandinavia BBV test offer not recalled, assumed not tested275 *Dennis* Male 50+ UK BBV test offer accepted276 *Hana* Female 18-29 Southeast Europe BBV test offer not recalled, assumed not tested277 *Julia* Female (18-29*) Western Europe BBV test offer not recalled, assumed not tested278 *Matas* Male 30-49 Eastern Europe BBV test offer not recalled, assumed not tested279 *Dan* Male 30-49 UK BBV test offer accepted280 *Imogen* Female 50+ UK BBV test offer accepted281 *Ishani* Female 30-49 UK BBV test offer accepted282 *Lena* Female 18-29 Eastern Europe BBV test offer accepted283 *Khaled* Male (30-49*) Middle East BBV test offer not recalled, assumed not tested

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- 288 • A number of patient interviews were interrupted due to patient care pathways. In cases where interviews were not able to be resumed (for example where patients were transferred/discharged), patient information has insofar as is possible been extracted from interview data. Where patient ages were not available, an age-range estimate has been given based on biographical information given by patients during the interview.

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RESULTS

Our study findings report on the perceptions and experiences of ED patients and service providers in response to the implementation of routine blood-borne virus test-intervention in a UK ED setting. While not all patient-participants were offered the intervention, in being eligible for intervention-practice they contributed valuable insight in to the acceptability, feasibility and limitations of the ED as a site for routine BBV testing. Intervention potential and practical negotiation is explored in four interrelating thematic areas: the remaking of routine test-procedure; notions of responsibility in relation to status knowledge and test-engagement; the opportunity and constraints of the hospital emergency department as a site for testing; and the renegotiation of testing cultures within and beyond the space of the clinic.

A remaking of routine

Processes of integrating an additional test in to standard ED practice were shaped by staff and patient interactions with, and responses to, the various intervention components. A number of patient participants described themselves as having been too preoccupied and distracted to register the intervention posters – a ‘background’ not properly taken in. Yet staff in contrast depicted the posters as an aid to intervention procedure; a visual reminder and point of reference in the assessment cubicle where blood samples are taken. Both patient and staff participants stressed the importance of how the verbal explanation was delivered; ‘the way you say it’, keeping it simple. Patient accounts make positive reference to the ‘straightforward’, ‘low-key’, ‘casual’ and non-intrusive communication that presented the test as just another part of routine procedure; no fuss.

the guy yesterday when he took it, he was so laid back about the one sentence that he made, that you almost didn't want to say no. It wasn't a big deal, do you see what I mean? Like, there was no negativity attached to the way he was talking (Ishani)

Adapting the test procedure to one in keeping with the demands of an ED workflow appears to support a more neutral and accessible practice where the *less* of the event helps bypass the potential ‘negativity’ of the test idea. Staff indicated the presence of friends and relatives during blood procedures to be common, but that the test-communication did not, for the most part, feel to sit apart from the ‘normal history-taking’ and established confidentiality of the room. While the intervention would at times be conducted in the presence of others, it was avoided in situations where those others were translating. The ‘no news is good news’ results system, while not infringing on patient decisions to test, was seen as less acceptable. The majority of patient participants indicated a preference to receive the test result, aware that ‘mistakes happen’. The ‘no news’ window could potentially be anxiety provoking, particularly if status was a point of concern – a ‘what if’ that would benefit from a more definite confirmation: ‘it would be nice to *know* so, you know’ (Phil).

For some ED staff the extra vial has, over time, become habit. Increasingly ‘more of a reflex action’ the test-

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3 331 offer was less something remembered or forgotten but rather just done, affording staff the opportunity to see
4 332 how the test-practice both could and does fit with existing procedures:

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6
7 334 *I think it's just, kind of like, there was an, "Oh, for goodness sake, yet another thing for us to do in our*
8 335 *assessment cubicle," and then actually like, "Oh, no, this is, this is easy, this is not a problem."*

9 336 (clinic staff)

10 337

11
12 338 Yet complex clinic situations can render intervention procedure more difficult to navigate. Ascertaining the
13 339 extent to which the test had been effectively communicated across language barriers was a widely discussed
14 340 concern. Staff also spoke of the difficulties of assessing capacity to consent of patients in more critical health
15 341 conditions and particularly under the pressure of meeting immediate treatment demands.

16 342

17 343 *... it [conducting intervention] just depends on the sickness, I guess, how sick the patient is and how*
18 344 *focused you are at trying to get all the treatment for the patient right in, done, and gauging are they*
19 345 *actually understanding what you're saying at this point...* (clinic staff)

20 346

21 347 Accounts indicated efforts to integrate the test into routine practice would often require a judgement call –
22 348 individual assessments on whether or not the intervention should be offered, and then how well it had been
23 349 understood and consented to. Ambiguities of intervention procedure exposed through complex, pressurised
24 350 clinic situations can give rise to divergences of test practice where the appropriateness of the test offer and
25 351 delivery, and critically processes of patient consent, can become less apparent and potentially less acceptable
26 352 to both staff and patients. Intervention implementation also meets ongoing resistance in the ED 'working
27 353 environment', with high patient volume, intense workloads and rapid staff turnover impeding attempts to
28 354 'remember' the still 'extra' blood vial. The volume of patients that presents both the opportunity and
29 355 advantage of testing in the ED setting is the same 'mass volume' that makes an altered routine more difficult
30 356 to establish. In the context of a department 'struggling to do the basic things' while attending large numbers of
31 357 acutely ill patients, the extra vial is still felt to be an 'extra element' (clinic staff).

32 358

33 359

34 360 **A responsibility to know**

35 361 A prominent feature of participant accounts was the view that 'it's better to know'. Described as a 'good' and
36 362 'important' thing to do, patient accounts indicate a generalised expectation not only to test, but to want to
37 363 test – a route to 'feel[ing] healthier' and 'clean'.

38 364

39 365 *If these things are curable, then fine, they've heard something that they need to know. If they're not,*
40 366 *then it gives them time to get themselves in order. I think it's always better to know than not know. Do*
41 367 *I believe that? Yes, I do, yeah.* (Imogen)

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3 369 Expectations to test are further reinforced through the known availability of treatment. For Ehsan the
4 370 'treatability' of HIV renders the phobia of testing for the virus less legitimate, a fear that should not still be
5 371 there. Matas' deferral of the primary option of interferon treatment when diagnosed with hepatitis C four
6 372 years previously, waiting to see if 'science comes up with anything better', contends the assumed linearity
7 373 premised in a 'test and treat' ethic. Yet managing the knowledge of a health condition was implied by Matas
8 374 and others as something that just has to be done; 'a bit unexpected but you know what can you do? It is like it
9 375 is' (Matas); '... it's not going to be easy to take, you know, but that's, that's life' (Malcom).

10 376
11 377 Patient accounts also voice a public responsibility to know. This was positioned in relation to population health
12 378 – to ensure against onward transmission – but also direct to the state. For Imogen, expectations of state
13 379 support are reciprocated in expectations of individual health monitoring and management:

14 380
15 381 *we're adults, we're responsible for our actions [...] we need to check these things [...] that's, kind of,*
16 382 *part of my psyche, you look after yourself and you do not expect the health service to look after you.*
17 383 *Well, you do, but you have to have played your part.... (Imogen)*

18 384
19 385 Engaging with the 'free opportunity' of the test is implied to constitute an act of health-citizenship; a
20 386 demonstration of meeting expectations, being responsible, playing one's part. For the majority of participants
21 387 the right of the patient to choose was critical. Yet a small number felt the test should be 'obligatory'. Insofar as
22 388 infection poses a risk beyond the individual, the 'safeguard' of the test should be engaged with 'for the good of
23 389 society' (Ehsan). For Ehsan the right to choose is a privilege of 'out there' that changes when you enter the
24 390 'here' of the ED clinic space. The act of service access denotes a responsibility to the clinic network – the
25 391 people, place and resources that you have sought help from – that forgoes the right to decline.

26 392
27 393 All patient participants, irrespective of whether the test had been offered, indicated confidence in a negative
28 394 result. Those who accepted the test engaged with the practice either as a form of opportunistic assurance – a
29 395 'might as well' – or indifference – 'I'm not concerned about any of those things'. Tests actively sought in the
30 396 past were linked either to changes in relationship status or increased sense of risk. While participants indicated
31 397 they would initiate a test if they felt cause to do so, few said it would be something they would consider
32 398 otherwise. Without an explicit need test-engagement remains predominantly passive; 'it's on my to do list' –
33 399 thought about, but not a priority. In the absence of status anxiety acceding to new routine procedures is easily
34 400 done. How the test offer and practice would be received by those who feel more at risk is less apparent. A
35 401 potential reluctance to test was speculated in 'others' who might be more anxious about a positive result: 'the
36 402 thought of having something wrong with you, some people would rather not know' (Karen). Felt
37 403 responsibilities to know sit relative to an anticipated reality of knowing, and the irreversible knowledge-
38 404 process enacted through the test event; 'once you know that's it, you know, you've got it' (Dan).

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3 407 **A Time and place**

4 408 The appropriateness of the ED as a site for testing was questioned by a small number of patient participants.
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6 409 Ryan, though supportive of the offer, did not feel he had the mental capacity for it that day: 'I don't really want
7 410 to pile on the bad news [...] I don't want a double-whammy – that would be an unpleasant day' (Ryan). For
8 411 Khaled the test conflicts with the principal tenet of the 'emergency' remit:

9 412
10 413 *emergency services is always full with emergencies so they have to deal with priorities [...] But that*
11 414 *one is not that kind of priority because if you have it you have it, you cannot cure it by emergency*
12 415 *services, you have to take a long term treatment (Khaled)*
13 416

14 417 Unless directly 'applicable' to a patient's differential diagnosis the test should be conducted at some other
15 418 time and some other place; 'emergency is for emergency' (Khaled). In tension with the overriding acceptability
16 419 of the intervention was the less articulated counter narrative of *this isn't the time*.

17 420
18 421 Yet the more dominant narrative was one of presented opportunity. Participants who accepted the
19 422 intervention commonly constructed the test offer as a well-situated add-on; 'they're taking bloods anyway'.
20 423 The ease and convenience of an extra vial was thought to encourage people to test who otherwise would not
21 424 have sought to do so.

22 425
23 426 *a person won't just go out there to have a HIV test, like on an ordinary day, they wouldn't even think*
24 427 *about it [...] just imagine you spend your day and would I just go, "I'm going to go and have a HIV test*
25 428 *today," they wouldn't ... because you think, 'Oh, I haven't got it, you know, I don't need to,' you*
26 429 *wouldn't do it in a million years. (Ramisa)*
27 430

28 431 Despite taking time to integrate into pre-established blood-routines, staff indicated the drawing of another vial
29 432 from someone already having bloods taken was both minimal, but also practical: '... we are already putting a
30 433 needle into somebody's vein, we are already taking blood' (clinic staff). The ED site offers a point of contact
31 434 with individuals who, in the absence of felt risk, are neither testing nor thinking about testing. Opportunities of
32 435 re-contact also present with individuals who have – as in the case of Matas – disengaged from care services.
33 436 Unregistered with a GP Matas has had minimal service contact beyond intermittent visits to emergency care,
34 437 remaining unaware of recent advances in HCV treatment options.

35 438
36 439 The emergency care setting also offers an alternative point of contact for HIV testing with individuals less able,
37 440 or willing, to access sexual health services. For some participants the anonymity of a sexual health clinic
38 441 afforded a heightened sense of privacy – 'there are no questions, no nothing' (Sten). Yet for others, the
39 442 visibility of the sexual health clinic presented complications, with service access potentially compromised in
40 443 light of what being seen in the clinic might imply:

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3 445 *I will take an example of Muslim people like me. You will see loads of girls wearing scarf but doing*
4 446 *things that you're not supposed to do, then in the end case she thinks she has something, how she will*
5 447 *go to sexual health clinic? Just example of people who are like me (Hana)*
6
7 448

8 449 For Ehsan the sexual health clinic constitutes a space of heightened anxiety and concern; a difficult space to
9 450 enter that concedes both to the self and others not only that there is a problem, but that it is *this* type of
10 451 problem.
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12 452

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14 453 *if you enter that building I think it's this... Not phobia, it's [...] it's that there is something seriously*
15 454 *wrong with you [...] it takes you to totally different atmosphere and you can feel it when you see*
16 455 *people sitting down [...] there is a stigma attached to that building ... (Ehsan)*
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18 456

19
20 457 In contrast to the known specificity of the clinic, Ehsan positions the ED setting as a place where you do not
21 458 feel that difference, there are 'too many different types of illnesses'. The ED supports a protective anonymity
22 459 and neutrality of space; accessed by all, where everyone has something going on but no one knows what
23 460 exactly.
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27 463 **Cultivating a 'culture of testing'**

28 464 Processes of test-implementation are simultaneously enabling and demanding a renegotiated 'culture of
29 465 testing' within the clinic setting. Intervention efforts point toward a standardising of both staff practice and
30 466 patient expectation that would see 'testing everyone' – and thus getting tested – made the norm. The test-all
31 467 precedent was seen to alleviate the sense of an implied, or felt, target:
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33 468

34 469 *... and the fact that it's on the wall and it's saying that it's a, you know, 'we're asking everybody if you*
35 470 *want to be tested' then it's kind of 'oh OK, you know, you probably asked the guy that was in before,*
36 471 *I'm no different'... (Phil)*
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38 472

39 473 Helping dispel initial anxieties of *why are you testing me?*, the routinizing of the test practice was seen to
40 474 improve the test experience. The test 'standard', both easier to deliver and more readily received, sits in
41 475 contrast to a differential test that 'puts the fear of god into that one person, that we're testing you for it...'
42 476 (clinic staff). Staff observations of the intervention in practice suggest that the standardised test-approach not
43 477 only opens up greater diagnostic opportunity, but also helps diffuse still existing preconceptions of those
44 478 'affected', both within and beyond the clinic environment.
45
46 479

47 480 *I think we're missing out on a massive group of people by, by targeting it and I think here we're kind of*
48 481 *getting people from every spectrum, every walk of life and [...] there are people who are having*
49 482 *positive results that you kind of don't, [...] it's not someone that, and this is going to sound awful but*
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3 483 *it's not someone that you expect to have had a positive test. I think there's still, even for us [clinic*
4 484 *staff] there's still kind of like a little bit of stigma around it and you attach it to certain groups of*
5 485 *people. (clinic staff)*
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8 487 As reiterated across ED patient accounts, while public misconceptions relating to HIV were described as
9 488 'changing', they were still felt to be both present and problematic.

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12 490 Yet perceptions of test value and expectation are shaped also by the felt legitimacy of the claim on clinic time
13 491 and resources. The efficacy of the intervention – how efficient and who's going to pay – was a question often
14 492 posited by patient participants: '...if the benefits of doing it cannot be justified by the resource cost that would
15 493 be needed to do it then clearly it can't be done [...] It's a no-brainer' (Malcom). Patient anxieties of 'wasting
16 494 time' betray a reluctance to access primary care until a specific health-need can be clearly evidenced. Efforts
17 495 to reconfigure testing norms and expectation can thus sit in tension with perceptions of systemic constraints
18 496 that do not encourage or support people to 'just check':
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24 498 *... It has to be like a society, society's mentality to just check, you know take care of your body and, you*
25 499 *know, make sure everything is okay and not only when you're, you know, dying, or something is*
26 500 *seriously wrong because many times it's too late when that happens, you know. (Lena)*
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30 502 Current testing cultures orientate around *having reason*; legitimised through an identifiable symptom or risk.
31 503 Efforts to routinise the test-practice remain situated within, and shaped by, broader norms of service deferral;
32 504 an *ethic of waiting* until need is established, where public responsibilities to monitor one's health sit relative to
33 505 the cost of doing so.
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37 506
38 507 Renegotiating testing cultures meets further resistance in the limited knowledge and talk of the tested viruses.
39 508 While not infringing on decisions to test in the context of this study, illness stigma and related anxieties were
40 509 commonly offered as a reason why 'others' may prove reluctant. Interview discussions orientated heavily
41 510 around HIV, with hepatitis B and C both less understood and less spoken about. While degrees of HIV talk
42 511 differed in relation to cultural norms and across generations, there was consensus that conversations would
43 512 only ever go so far. Critical boundaries were identified between talk *about* HIV and *having* HIV: '...people talk
44 513 about it [HIV] just as a, distant thing...' (Lena). The condition was predominantly depicted as an abstraction,
45 514 remotely experienced through forms of news and media coverage. Rarely discussed in the private sphere,
46 515 knowledge limits were accounted for in not *needing* to know.
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51 517 *... to be honest, the truth is I feel like it's something that doesn't affect or concern me. I know that*
52 518 *sounds ignorant and stupid, but I'm just being honest with you ...And I think that's how a lot of people*
53 519 *feel (Ishani)*
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3 521 Both staff and patient responses call attention to the need for concurrent change in public norms, perception
4 522 and talk beyond the intervention if the routinizing of the test practice is to be understood and accepted, and a
5 523 broader culture of testing supported.
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12 528 **DISCUSSION**

14 529 Findings from this qualitative study indicate routine opt-out BBV testing in the ED setting to be viewed as an
15 530 acceptable and valuable practice by the majority of patient and staff participants. Consistent with qualitative
16 531 findings exploring HIV-testing acceptance in emergency departments in the US, test-receptivity of study
17 532 participants pivots around the narrative thread of it's better to know;^[43] a 'better' widely underscored by
18 533 participants' reference to the perceived availability and efficacy of HIV treatment. Knowledge of the hepatitis
19 534 virus and respective treatments was notably limited. Problems of test-implementation were primarily linked to
20 535 broader systemic constraints,^[38] where unrelenting pressures of the ED working environment were felt to
21 536 impede the process of integrating the test into routine practice. Service providers spoke of the difficulties of
22 537 navigating the *change* of the intervention, rather than reservations around the intervention itself. Yet clinic
23 538 staff also anticipated that once embedded into department procedure, and in time patient expectation, the
24 539 feasibility of the intervention would align more closely with the observed acceptability of the test practice.
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31 541 **Narratives of Responsibility:** Findings suggest intervention acceptability to be shaped in part by negotiations
32 542 of competing responsibilities. Prevalent across participant responses was the dominant narrative of a
33 543 *responsibility to know*. Responsibilities of knowing were articulated in relation to both a private well-being of
34 544 self, but also a public responsibility – to know your status, more specifically a positive status, to ensure against
35 545 onward transmission. Resonating with broader neoliberal discourses of citizen expectation and biological
36 546 responsibility, participant accounts would often position test-uptake as an enactment of health citizenship – a
37 547 perceived patient-citizen role.^[50-51] Yet scripts of responsibility were at the same time countered by an
38 548 absence of need and the positioning of the self as one not 'affected'. Test-histories of patient participants
39 549 demonstrate, for the most part, norms of passive test-engagement made active in response to an altered
40 550 sense of risk. Transitions from an assumed-negative to a potential-positive – where felt expectations to know
41 551 converge with an overt need – witness a more proactive, albeit temporary, test-engagement called to effect.
42 552 Underscoring participant narratives is the dual expectation of *having need* that would ensure the legitimacy of
43 553 the test-claim on clinic time and resources. Patients' heightened awareness of service-rationing sees a
44 554 questioned appropriateness pull against the dominant script of intervention-acceptability. Responsibilities of
45 555 knowing thus sit in tension with perceived personal and state responsibilities to ensure that increasingly
46 556 limited clinic resources are efficiently deployed. This likewise speaks to a situated ethics of a test-for-all
47 557 approach,^[39] with the value of the test positioned relative to the cost of its delivery and anticipated rate of
48 558 return. In the absence of explicit risk and subsequent need the test-expense is less clearly supportable.
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560 **A Productive Disruption:** The extent to which the test-practice can be made routine and move beyond the
561 initial disruption of its implementation – the point at which the extra vial ceases to be an 'extra' – though
562 envisioned, remains uncertain. While staff spoke of the test-practice becoming more instinctive over time, the
563 'struggle' to make the intervention a routine procedure remains evident. Amidst the pressures of ED
564 workflows the intervention still posits a point of disruption. Yet efforts to standardise the test-practice at the
565 same time allow for a more productive disturbance. Firstly, the situated implementation of the intervention
566 engenders a neutralising potential as test-practice and meaning are reconstituted within and through the
567 particularities of the emergency clinic environment.[59] The 'struggle' to integrate the test into department
568 procedure amidst uncompromising clinic demands not only enables but necessitates and makes visible the
569 'standardisation' of test-practice; the test is rendered less of an event because it has to be. Given the high
570 patient traffic, close proximity and discernible numbers of others tested, the routine of the procedure is
571 likewise more immediately evident. Second, the tentative displacement of the test-target in a generalised
572 clinic environment potentiates a disruption to 'at-risk' identities felt to be conferred through test-practice and
573 engagement. The routine of the test points to a test-need, expectation and responsibility that extends beyond
574 existing risk parameters. This suggests a potential of the spatial dynamics of the ED setting to challenge socially
575 embedded risk-associations. Obscuring 'affected' binaries stands to lessen the social risk of being seen to be
576 tested. The routine of the procedure thus affords a form of public protection that likewise lends the test-
577 intervention a social value beyond the quantifiable efficacy of intervention uptake and case-return.

578

579 **Situated Intervention Potential:** Yet study findings also call attention to the limits to the test-intervention's
580 'normalising' effect. The extent to which risk-associations of testing technologies *can* be reconfigured through
581 generalised test-setting and procedure remains questionable. As demonstrated in the study findings, while the
582 non-target approach was positively received among study participants, test-uptake remained framed by
583 narratives of test-ambivalence. 'At risk' distinctions, though momentarily disrupted, were then refashioned
584 through retrospective accounts of test-engagement (or would-be engagement) grounded in a continued
585 positioning of the self as one not affected. Such narrative devices, though peripheral, call attention to ongoing
586 social constraints impeding efforts to renegotiate tacit risk-identities inferred through acts of test-
587 engagement. The expectation that a standardisation of clinic practice could translate into a 'normalisation' of
588 test-experience is a formidable aspiration, but one that faces resistance and local negotiation. As we have
589 observed, prior knowledge and experience of the viruses to be tested; the dynamics of the clinic space and
590 therapeutic pathways; perceived health responsibilities; socially embedded test-associations; and the
591 anticipated reading of test-engagement by others at once shape and are shaped by the routinising of the test
592 procedure. Our findings thus indicate embryonic intervention effect to be constituted through and contingent
593 on the processes of the interventions' local implementation, with test-meaning and value recursively produced
594 as altered norms of practice are variously encountered and negotiated within and beyond the test event.[59-
595 60]

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3 597 **Policy Implications and Study Limitations:** Our qualitative analysis offers a critical sociological contribution to
4 598 intervention evaluation that will enrich statistical appraisal of BBV test-uptake, diagnosis rates and cost-
5 599 effectiveness.[54] An improved understanding of participant perspectives and intervention experience as
6 600 supported through the study analysis will likely contribute to the success and efficacy of intervention scale-up
7 601 beyond the pilot. Study findings highlight the need to attend to the local particularities of intervention
8 602 implementation if the benefits of the test-initiative are to be fully realised. Considerations of expanded
9 603 practice in the UK must take seriously the intensity of ED workflows and the implications of increasing
10 604 demands on already over-stretched emergency care resources. Intervention-reach and test-uptake among
11 605 migrant populations – as pertinent to those disproportionately affected by HIV and viral hepatitis in the
12 606 UK,[2,3,32,46] – will likely remain restricted while language barriers continue to preclude test-offer and
13 607 delivery among this patient sub-group. Yet findings at the same time call attention to a demonstrated
14 608 potential of intervention practice to extend an alternative route of contact with individuals at risk of falling
15 609 through the gaps,[33] or positioned beyond targeted test strategies. Significant also is the extent to which
16 610 hepatitis B and C were not only less discussed but, for the most part, much less understood. Limited public
17 611 knowledge of these conditions calls to question the ethical implications of introducing an opt-out test
18 612 procedure among individuals who have little if any understanding of what a positive result might mean.
19 613
20 614 Interpretation of our qualitative findings must also attend to a number of study limitations. First, study
21 615 findings draw from a small, site-specific population. Second, our sample does not include patients who felt
22 616 themselves to be potentially at risk of a positive result. As identified through explorative research of
23 617 alternative HIV test-interventions,[44] test practices and the acceptability of intervention procedure will
24 618 invariably take on different meanings for those negotiating a potential positive, and demands further enquiry.
25 619 Likewise in speaking with individuals at the point of clinic contact the study was not able to explore the views
26 620 and experiences of those diagnosed through ED test procedure, and thus the onward dimensions of the test
27 621 intervention that are integral to the intervention process. Exploration of post-test experience and the
28 622 implications this extend to test-acceptability and engagement is needed for a more comprehensive
29 623 understanding and evaluation of intervention experience and value.
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3 625 **Declarations**

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12 634 Rosenberg.

13 635

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15 637 and LC. Data generation was completed by LC. Primary data analysis was carried out by LC, with input from PG.
16 638 The original manuscript was prepared by LC. All authors reviewed and provided critical input to manuscript
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18 640

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24 646

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28 650 conflicts of interest in relation to this work and its submission. The paper has not been previously published
29 651 and neither is it being considered for publication elsewhere.

30 652

31 653 *Ethics Approval and consent to participate:* The study was granted ethical approval from the West Midlands–
32 654 South Birmingham Research Ethics Committee (ref 16/WM/0033), and the London School of Hygiene and
33 655 Tropical Medicine Observational Research Ethics Committee (ref 10469). All study participants provided
34 656 informed written consent prior to the start of the study interview.

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36 658 *Availability of data and materials:* No additional data are available.

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CONSOLIDATED CRITERIA FOR REPORTING QUALITATIVE STUDIES (COREQ): 32-ITEM CHECKLIST FOR INTERVIEWS AND FOCUS GROUPS

NUMBER	ITEM	GUIDE/QUESTION/DESCRIPTION	RESPONSE	PAGE
Domain 1: Research team and reflexivity				
Personal Characteristics				
1	Interviewer	Which author/s conducted the interview or focus group?	Lucy Cullen	7
2	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i>	MSc, PhD Candidate	
3	Occupation	What was their occupation at the time of the study?	Social Science Researcher	
4	Gender	Was the researcher male or female?	Female	
5	Experience and training	What experience or training did the researcher have?	Qualitative Research Methods Training; 3+ years qualitative health research/analysis experience	
Relationship with participants				
6	Relationship established	Was a relationship established prior to study commencement?	No	7
7	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i>	As informed during consent process	7
8	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i>	As informed during consent process	7
Domain 2: study design				
Theoretical framework				
9	Methodological orientation and	What methodological orientation was stated to	Grounded approach to qualitative	7

	Theory	underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i>	thematic analysis	
	Participant selection			
10	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball</i>	purposive	7
11	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i>	Face-to-face	7
12	Sample size	How many participants were in the study?	22	6
13	Non-participation	How many people refused to participate or dropped out? Reasons?	None dropped out	
	Setting			
14	Setting of data collection	Where was the data collected? <i>e.g. home, clinic, workplace</i>	clinic	7
15	Presence of non-participants	Was anyone else present besides the participants and researchers?	no	7
16	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i>	Sex; age; ethnicity; test response	7/9
	Data collection			
17	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Guided areas of discussion but not prescribed questions	7
18	Repeat Interviews	Were repeat interviews carried out? If yes, how many?	No	
19	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Yes	7
20	Field notes	Were field notes made during and/or after the interview or focus group?	Yes	
21	Duration	What was the duration of the interviews or focus group?	20-50 minutes (depending on availability)	7

22	Data saturation	Was data saturation discussed?	No (limits to sample size discussed)	
23	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No	
Domain 3: analysis and findings				
Data analysis				
24	Number of data coders	How many data coders coded the data?	Coding developed concurrently with data generation; reviewed and developed with second researcher	
25	Description of the coding tree	Did authors provide a description of the coding tree?	No	
26	Derivation of themes	Were themes identified in advance or derived from the data?	Primarily derived from data though some a priori areas explored	7
27	Software	What software, if applicable, was used to manage the data?	None	
28	Participant checking	Did participants provide feedback on the findings?	No	
Reporting				
29	Questions presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. <i>participant number</i>	Yes; Yes	10-15
30	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes	10-15
31	Clarity of major themes	Were major themes clearly presented in the findings?	Yes	10-15
32	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes	10-15

BMJ Open

'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

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10 7 **blood-borne virus testing in an emergency department setting in the UK**
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16 12 AUTHORS

17 13 Lucy Cullen 1,5; Pippa Grenfell 1,5; Alison Rodger 2,5; Chloe Orkin 3; Sema Mandal 4,5; Tim Rhodes 1,5,6
18 14
19 15

20 16 INSTITUTIONAL AFFILIATIONS

- 21 17 1. Department of Public Health, Environments and Society, London School of Hygiene and Tropical Medicine,
22 18 London, UK
23 19 2. Institute for Global Health, University College London, London, UK
24 20 3. HIV Medicine, Barts Health NHS Trust, London, UK
25 21 4. Immunisation, Hepatitis, Blood Safety and Countermeasures Response, Public Health England, London, UK
26 22 5. National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Blood Borne and
27 23 Sexually Transmitted Infections
28 24 6. National Centre for Social Research on Health, University of New South Wales, Sydney, Australia
29 25
30 26
31 27

32 28 CORRESPONDING AUTHOR

33 29 Pippa Grenfell pippa.grenfell@lshtm.ac.uk
34 30 15-17 Tavistock Place, Kings Cross, London WC1H 9SH
35 31
36 32

37 33 EMAIL ADDRESSES

38 34 Lucy Cullen: lucy.cullen@lshtm.ac.uk
39 35 Dr Pippa Grenfell: pippa.grenfell@lshtm.ac.uk
40 36 Professor Alison Rodger: alison.rodger@ucl.ac.uk
41 37 Professor Chloe Orkin: Chloe.Orkin@bartshealth.nhs.uk
42 38 Dr Sema Mandal: sema.mandal@phe.gov.uk
43 39 Professor Tim Rhodes: tim.rhodes@lshtm.ac.uk
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3 48 **ABSTRACT**
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6 50 **Objectives:** Increased test-uptake for HIV and viral hepatitis is fast becoming a health priority at both the
7 51 national and global level. Late diagnosis of these infections remains a critical public health concern within the
8 52 UK. Recommendations have been issued to expand blood-borne virus (BBV) testing in alternative settings.
9 53 Emergency Departments (ED) offer a potentially important point of testing. This paper presents findings from a
10 54 qualitative study which aimed to explore the acceptability and feasibility of a routine opt-out combined blood-
11 55 borne virus testing intervention implemented at an inner London ED.
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17 57 **Methods:** We conducted 22 semi-structured interviews with ED patients and service providers over a four
18 58 month period during the intervention pilot. A grounded analytical approach was employed to conduct
19 59 thematic analysis of qualitative study data.
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23 61 **Results:** Core interrelating thematic areas identified and analytically developed in relation to test-intervention
24 62 implementation and experience included: the remaking of routine test-procedure; notions of responsibility in
25 63 relation to status knowledge and test-engagement; the opportunity and constraints of the emergency
26 64 department as a site for testing; and the renegotiation of testing cultures within and beyond the clinic space.
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30 66 **Conclusion:** Study findings demonstrate how relational and spatial dynamics specific to the ED setting shape
31 67 test-meaning and engagement. We found acceptability of the test practice was articulated through narratives
32 68 of situated responsibility, with the value of the test offset by perceptions of health-need and justification of
33 69 the test expense. Participant accounts indicate the non-targeted approach of the test to afford a productive
34 70 disruption to 'at risk' identities, yet also reveal limits to the test-interventions' 'normalising' effect. Evaluation
35 71 of the intervention must attend to the situated dynamics of the test practice if opportunities of an opt-out BBV
36 72 test procedure are to be fully realised. Findings also highlight the critical need and to further evaluate post-test
37 73 intervention practices and experiences.
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44 75 **KEYWORDS:** HIV; Viral Hepatitis; Emergency Department; Testing; Qualitative
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Strengths and limitations of this study

- Employing qualitative research methods we draw from twenty-two semi-structured interviews to examine the acceptability and feasibility of a novel three-combined blood-borne virus routine test-intervention implemented in an emergency department (ED) setting in the UK.
- The study offers an enriched understanding of ED patient and provider perspectives and experiences of the intervention that may inform and facilitate improved implementation of the initiative should the pilot be expanded.
- A key limitation to the study was interviewing participants at point of clinic contact only, and thus not being able to explore critical dimensions of the post-test experience, and more particularly the perceptions and experiences of those diagnosed through routine ED BBV testing.
- We are aware that the small sample size does not include individuals who felt themselves to be at risk of a positive result, which would likely affect test-engagement and intervention experience.
- We acknowledge that qualitative data produced within and through this particular study context limits the generalisability of study findings beyond the primary setting.

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3 98 **'Just another vial...': a qualitative study to explore the acceptability and feasibility of routine**
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5 99 **blood-borne virus testing in an emergency department setting in the UK**
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9 102 **INTRODUCTION**
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11 104 Recent years have seen the continuing development of more effective and tolerable treatments for viral
12 105 hepatitis and HIV. Yet the late diagnosis of these infections, associated with poorer individual health outcomes
13 106 and increased population transmission, remains a prominent health concern at both the state,[1-4] and
14 107 global,[5-8] level. Delayed access to HIV treatment increases the risk of severe health complications and
15 108 premature mortality,[9-12] as well as onward transmission.[13-15] Global estimates indicate that hepatitis B
16 109 (HBV) and hepatitis C (HCV) infection account for 47% and 48%, respectively, of the annual 1.4 million deaths
17 110 from hepatitis-related liver cirrhosis and cancer.[6] Estimates further indicate HBV and HCV diagnosis to be
18 111 critically low at 9% (HBV) and 20% (HCV).[7] Care cascade models demonstrate that low testing rates are a
19 112 principal limitation to the 'success' of public health targets of treated viral hepatitis and HIV viral suppression.
20 113 With blood-borne virus (BBV) testing and case-diagnosis sub-optimal, increased test-uptake remains a critical
21 114 national and global priority for treatment benefits to be fully realised. [10,16,6]
22 115

23 116 Within the UK, of the estimated 101,200 people living with HIV in 2015, as many as 13,500 were unaware of
24 117 their status.[17] While the first UNAIDS 90-90-90 target (ninety percent of people living with HIV being aware
25 118 of their status) was reached in London in 2016, nationwide figures fell short at 88%.[2] In that year, 42% of HIV
26 119 diagnosis were made during later stages of infection.[4] Late diagnosis and low treatment rates for hepatitis B
27 120 (HBV) and HCV are reflected in UK hospital admissions and mortality from HCV-related end-stage liver disease,
28 121 and HCV or HBV-related liver cancer.[3,18,19] Undiagnosed HCV cases among people who inject drugs, the
29 122 major risk group for HCV infection in the UK, are estimated to be high.[20] The British HIV Association and
30 123 National Institute for Health and Care Excellence (2008 and 2013 respectively) have issued recommendations
31 124 to increase uptake for BBV testing in alternative settings.[21-22] Ongoing efforts to reduce late HIV diagnosis
32 125 (defined as a CD4 count of less than 350 mm),[23] alongside shifts in policy toward HIV prevention, have
33 126 sought to expand HIV-testing initiatives both within and beyond the clinic environment.[24-29] This has
34 127 included opt-out testing procedures where individuals are informed that a test will be conducted unless they
35 128 indicate they do not want to be tested.
36 129

37 130 Emergency Departments (hereafter referred to as ED) offer a potentially important point of testing [30]. It has
38 131 been estimated that around one in four of the population in the UK and Republic of Ireland attend EDs in any
39 132 one year.[31] For individuals not registered with GPs, including migrant populations disproportionately
40 133 affected by HIV and chronic hepatitis B and C infection,[17,32] EDs can present a primary point of health-
41 134 service contact. Routine opt-out testing in the ED setting may also offer case-finding potential for individuals
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3 135 no longer identified as 'at risk' – such as people who used to inject drugs – who remain undiagnosed through
4 136 GP or other health service contact until an advanced disease stage.[33-34]

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8 138 Much of the global literature on routine HIV testing in EDs has emerged from the US in response to the 2006
9 139 Centre for Disease Control and Prevention (CDC) guideline revisions.[35] International evaluation of service
10 140 provider perspectives has identified resource-cost and the efficacy of routine-test approaches a critical
11 141 concern.[36-38] While conscious of the potential public health benefits, some view routine HIV testing to sit
12 142 beyond the remit of emergency medical practice.[39-40] US-based examinations of patient perceptions and
13 143 experiences have revealed levels of confusion around opt-out testing procedures.[41] Yet studies have also
14 144 identified an acceptability of ED-based routine testing grounded in status curiosity and routes of reassurance,
15 145 alongside the convenience of the test-opportunity while accessing clinic services.[42-43] Patient concerns
16 146 about routine-testing procedures have centred on issues of confidentiality and the social implications of a
17 147 positive result. [42] HIV test-practice and engagement thus remains both an individually and socially
18 148 negotiated process.[44-45]

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20 150 Aspirations that routine BBV testing in more generalised clinic environments could help normalise HIV test
21 151 practices, and lessen illness-related stigma, speak to the enduring concern that negative attitudes around HIV
22 152 continue to impede test uptake and diagnosis across high-income settings. Despite improved medical realities
23 153 of hepatitis cure,[3] and near-normal life expectancy for those diagnosed early and able to access HIV
24 154 treatment,[9] the social meaning of an illness and related test-practices are less easily reconfigured. Test
25 155 practices and engagement, situated in socio-cultural systems of meaning, may also confer risk-
26 156 association.[46] Continued misconceptions of hepatitis infection and transmission, alongside the
27 157 stigmatisation of associated risk-behaviours negatively impact hepatitis case identification and diagnosis
28 158 across the UK.[33,34,47] While shifts in HIV testing norms have been witnessed among some communities
29 159 within the UK, perceptions of the social risk attached to both test-engagement and a potential positive result
30 160 continue to limit test-uptake and frequency of testing.[44-45] Debate concerning the value of non-targeted vs
31 161 targeted test-approaches in the HIV field remains ongoing.[38,48,49] Some have argued that targeted HIV-
32 162 testing centring on risk-assessment is necessary in the ED setting to ensure that patient interests and ethics of
33 163 practice are protected in .[49] Others have voiced concerns that continued medical segregation and targeted
34 164 test-practices perpetuate an HIV exceptionalism, illness stigma, and subsequent test anxiety.[38-39] How test-
35 165 meaning is configured and negotiated through a routine practice in the ED setting, and the implication for test-
36 166 engagement and uptake, is an important dimension of intervention potential.

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38 168 Critical also to the evaluation of emergent test-technologies across the clinical, community – and more
39 169 recently domestic – spheres, is an understanding of how 'responsibilisation' discourses shape health-seeking
40 170 norms and practices. The concept of 'biological citizenship', which conveys an individualised responsibility to
41 171 act in keeping with both private and collective health,[50-52] can be used to how test-technologies and
42 172 practice function as enactments of health citizenship.[53,44] The dynamics of social, political and biomedical

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3 173 expectation that emerge - as novel test-technologies are encountered and negotiated relative to existing test-
4 174 practices and clinical procedures, warrants critical reflection. Attending to the 'behavioural domain' and
5 175 psychosocial complexity of test-practice and engagement amidst broader 'normalisation' processes,[54-55]
6 176 remains critical in evaluating the efficacy and value of an intervening test-technology.
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10 178 UK-based qualitative research specific to opt-out BBV testing in the ED setting remains limited. To our
11 179 knowledge, there has been no patient-focused analysis of opt-out HIV testing in UK emergency departments to
12 180 date, nor any qualitative inquiry of ED-based routine opt-out testing for HCV and HBV. This study aimed to
13 181 explore the acceptability and feasibility of a combined HIV, HCV and HBV routine opt-out testing initiative
14 182 delivered to adult patients receiving routine bloods as part of their emergency care, from the perspectives of
15 183 emergency department patients and staff. The work offers a theoretically driven examination of intervention
16 184 practice and experience alongside an applied value to inform in any potential expansion of the test initiative.
17 185 The study looks at both the immediate responses to the intervention components and test event, but also at
18 186 how these experiences are shaped by, and potentially renegotiate, broader social norms and forms of test
19 187 practice and engagement.
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23 190 **METHODS**

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25 192 This paper draws on findings from a pilot qualitative study conducted to explore patient and provider
26 193 responses to a combined BBV testing intervention implemented at an inner London ED.[56] Twenty-two semi-
27 194 structured interviews were conducted with ED patients (n = 18) and service providers (n = 4) between May-
28 195 August 2016.
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31 197 Under the BBV-test initiative, all ED patients over the age of 18 who have blood samples taken as part of their
32 198 emergency care are routinely tested for HIV, HCV and HBV, unless they specifically opt-out of the test. Health
33 199 professionals taking the blood sample verbally explain to ED attendees that all patients are being routinely
34 200 tested for the three viruses, unless they indicate they do not want to be. Tests are offered to all adult patients
35 201 having bloods taken, except those individuals who do not have the capacity to consent (for example on
36 202 account of a psychotic illness or cognitive impairment) and those where the test offer cannot be verbally
37 203 communicated and agreed to (for example across language barriers). Where tests are accepted, an extra vial
38 204 of blood is drawn. Information relating to the testing intervention was made available through leaflets in the
39 205 department (English language only), with posters displayed within ED waiting areas and assessment cubicles
40 206 where bloods are taken. Test results operated on a 'no news is good news' policy. Those patients returning a
41 207 positive serological result for any of the tested viruses were contacted within fourteen days and specialist
42 208 consultation arranged.
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3 210 We sought to recruit both ED patients and staff participants, so as to explore the multiple dimensions of test
4 211 expectation and experience that frame the intervention. Patient participants were sampled from individuals
5 212 accessing ED services who had bloods taken as part of their emergency care and included individuals who were
6 213 offered and accepted the BBV test (n = 10); individuals offered the test but who opted-out (n = 1); and
7 214 individuals who did not recall being offered the intervention, assumed not-tested (n = 7). Insofar as was
8 215 possible, we sought to include patients across a range of ages, genders and ethnic backgrounds to capture the
9 216 diversity of the ED population. We spoke with nine female and nine male ED patients, between 23 and 82
10 217 years in age, of varying ethnicities (see Table 1 for information relating to patient participants). Patient and
11 218 staff participants were recruited across different times of the day/evening, both during the week and at
12 219 weekends to reflect variations in patient populations and department workloads. Health professionals were
13 220 sampled from staff members directly involved in taking bloods and implementing the test-intervention. Staff
14 221 participants included both women and men of different staff grades, who had worked at the department for
15 222 between three and eight years.

16 223
17 224 Interview discussions were semi-structured, shaped by a topic guide developed by the research team but also
18 225 guided by participants' responses. Interviews commenced after participants gave written informed consent
19 226 and, with their permission, were audio-recorded. While interpretation services had been identified if required,
20 227 all interviews were conducted in English. Data was collected by LC who was not known to participants prior to
21 228 the study, with all interviews conducted on the ED site. Interviews lasted between 20 and 50 minutes, as
22 229 determined by patient and staff availability. Interviews were immediately stopped in the event of the patient
23 230 receiving further medical care. While interviews were resumed wherever possible, in cases where patient
24 231 participants were transferred to other hospital departments or discharged, interviews could not always be
25 232 concluded. Interview participants were asked about their: views and (where applicable) direct experiences of
26 233 the test intervention; previous test experiences and current test practices; knowledge and awareness of HIV,
27 234 HCV and HBV viruses, transmission-risks and treatments; felt and perceived barriers and facilitators to BBV
28 235 testing; and the felt appropriateness of the emergency department as a site for testing.

29 236
30 237 All interview data were transcribed verbatim, with personal identifying details removed. In keeping with a
31 238 grounded analytical approach to inform thematic development,[57-58] preliminary data coding and analysis
32 239 commenced early in data collection, informing later interviews and allowing for emerging themes to be further
33 240 explored across patient and staff accounts. Initial coding examined both a priori interests as well as inductive
34 241 codes grounded in the study data. Secondary-level thematic coding was later conducted across the full dataset
35 242 to further fracture the data and allow for the development of conceptually-driven categories, drawing on
36 243 relevant theoretical literature, particularly in relation to responsabilisation and biological/health citizenship
37 244 [50-53]. Points of tension and convergence in relation to emerging thematic areas were explored both
38 245 between attendee accounts and across attendee and provider responses. Core thematic areas to emerge
39 246 included: the renegotiating of routine procedure; felt and perceived testing responsibilities; the opportunity

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3 247 and limitations of the ED as a site for testing; the interplay of testing cultures within and beyond the clinic. All
4 248 names used in the analysis are pseudonyms.

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8 250 This study was undertaken as part of the National Institute for Health Research Health Protection Research
9 251 Unit (NIHR HPRU) in Blood Borne and Sexually Transmitted Infections at University College London in
10 252 partnership with Public Health England and in collaboration with the London School of Hygiene and Tropical
11 253 Medicine. The study was granted ethical approval form the West Midlands–South Birmingham Research Ethics
12 254 Committee, and the London School of Hygiene and Tropical Medicine Ethics Committee.

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15 255
16 256 *Patient and Public Involvement:* Pre-study consultations were conducted with community organisation
17 257 representatives working in the HIV, HCV and HBV fields to inform the design of the study. ED patients were not
18 258 involved in the study design phase of the research. All study outputs and publications will be disseminated to
19 259 those study participants who opted to give contact details for this purpose.

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262 **Table 1: Patient participant information**

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265 **Pseudonym** **Gender** **Age** **Region of origin** **BBV test-intervention response**

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267 *Ryan* Male 18-29 North America BBV test offer declined268 *Sofiya* Female 30-49 East Europe BBV test offer not recalled, assumed not tested269 *Carlotta* Female 18-29 West Europe (excl UK) BBV test offer accepted270 *Malcom* Male 30-49 UK BBV test offer not recalled, assumed not tested271 *Karen* Female (30-49*) UK BBV test offer accepted272 *Ramisa* Female (30-49*) South Asia BBV test offer accepted273 *Phil* Male 30-49 UK BBV test offer accepted274 *Ehsan* Male (50+*) Middle East BBV test offer not recalled, assumed not tested275 *Sten* Male 30-49 West Europe BBV test offer not recalled, assumed not tested276 *Dennis* Male 50+ UK BBV test offer accepted277 *Hana* Female 18-29 South Europe BBV test offer not recalled, assumed not tested278 *Julia* Female (18-29*) West Europe BBV test offer not recalled, assumed not tested279 *Matas* Male 30-49 East Europe BBV test offer not recalled, assumed not tested280 *Dan* Male 30-49 UK BBV test offer accepted281 *Imogen* Female 50+ UK BBV test offer accepted282 *Ishani* Female 30-49 UK BBV test offer accepted283 *Lena* Female 18-29 East Europe BBV test offer accepted284 *Khaled* Male (30-49*) Middle East BBV test offer not recalled, assumed not tested

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- 289 • A number of patient interviews were interrupted due to patient care pathways. In cases where interviews were not able to be resumed (for example where patients were transferred/discharged), patient information has insofar as is possible been extracted from interview data. Where patient ages were not available, an age-range estimate has been given based on biographical information given by patients during the interview.

293

294 RESULTS

295 Our study findings report on the perceptions and experiences of ED patients and service providers in response
296 to the implementation of routine blood-borne virus test-intervention in a UK ED setting. While not all patient-
297 participants were offered the intervention, in being eligible for intervention-practice they contributed valuable
298 insight into the acceptability, feasibility and limitations of the ED as a site for routine BBV testing. Our analysis
299 explores the intervention's potential and practical negotiation through four interrelating thematic areas: the
300 remaking of routine test-procedure; notions of responsibility in relation to status knowledge and test-
301 engagement; the opportunity and constraints of the ED as a site for testing; and the renegotiation of testing
302 cultures within and beyond the space of the clinic.

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304

305 A remaking of routine

306 Processes of integrating an additional test into standard ED practice were shaped by staff and patient
307 interactions with, and responses to, the various intervention components. A number of patient participants
308 described themselves as having been too preoccupied and distracted to register the intervention posters – a
309 'background' not properly taken in. Staff, in contrast, depicted the posters as an aid to intervention procedure;
310 a visual reminder and point of reference in the assessment cubicle where blood samples are taken. Both
311 patient and staff participants stressed the importance of how the verbal explanation was delivered; 'the way
312 you say it', keeping it simple. Patient accounts make positive reference to the 'straightforward', 'low-key',
313 'casual' and non-intrusive communication that presented the test as just another part of routine procedure; no
314 fuss.

315

316 *the guy yesterday when he took it, he was so laid back about the one sentence that he made, that you*
317 *almost didn't want to say no. It wasn't a big deal, do you see what I mean? Like, there was no*
318 *negativity attached to the way he was talking (Ishani)*

319

320 Adapting the test procedure to the demands of an ED workflow appears to support a more neutral and
321 accessible practice, where the *less* of the event helps bypass the potential 'negativity' of the test idea. Staff
322 indicated that the presence of friends and relatives during blood procedures was common, but that
323 communication surrounding the test did not typically sit apart from 'normal history-taking' and the established
324 confidentiality of the room. While the intervention would at times be conducted in the presence of others, it
325 was avoided in situations where those others were translating. The 'no news is good news' results system,
326 while not infringing on patient decisions to test, was seen as less acceptable. The majority of patient
327 participants indicated a preference to receive the test result, aware that 'mistakes happen'. The 'no news'
328 window could potentially be anxiety provoking, particularly if status was a point of concern – a 'what if' that
329 would benefit from a more definite confirmation: 'it would be nice to *know* so, you know' (Phil).

330

331 For some ED staff the extra vial has, over time, become habit. Increasingly 'more of a reflex action', the test-

332 offer was less something remembered or forgotten but rather just done, affording staff the opportunity to see
333 how the test-practice both could and does fit with existing procedures:

334

335 *I think it's just, kind of like, there was an, "Oh, for goodness sake, yet another thing for us to do in our*
336 *assessment cubicle," and then actually like, "Oh, no, this is, this is easy, this is not a problem."*

337 (clinic staff)

338

339 Yet complex clinic situations can render the intervention procedure more difficult to navigate. Ascertaining the
340 extent to which the test had been effectively communicated across language barriers was a widely discussed
341 concern. Staff also spoke of the difficulties of assessing capacity to consent for patients in more critical health
342 conditions and particularly under the pressure of meeting immediate treatment demands.

343

344 *... it [conducting intervention] just depends on the sickness, I guess, how sick the patient is and how*
345 *focused you are at trying to get all the treatment for the patient right in, done, and gauging are they*
346 *actually understanding what you're saying at this point...* (clinic staff)

347

348 Staff accounts indicated that efforts to integrate the test into routine practice would often require a
349 judgement call – individual assessments on whether or not the intervention should be offered, and then how
350 well it had been understood and consented to. Ambiguities of intervention procedure exposed through
351 complex, pressurised clinic situations – for example, whether to take blood samples from trauma patients in
352 critical conditions and the extent to which other family members may become involved in this process – can
353 give rise to divergent test practices with broader ethical implications, where the appropriateness of the test
354 offer and delivery, and critically processes of patient consent, may become less apparent and acceptable to
355 both staff and patients. Intervention implementation also meets ongoing resistance in the ED 'working
356 environment', with high patient volume, intense workloads and rapid staff turnover impeding attempts to
357 'remember' the still 'extra' blood vial. The volume of patients that underscores both the opportunity and
358 advantage of ED-based testing is the same 'mass volume' that makes an altered routine more difficult to
359 establish. In the context of a department 'struggling to do the basic things' while attending large numbers of
360 acutely-ill patients, the extra vial is still felt to be an 'extra element' (clinic staff).

361

362

363 **A responsibility to know**

364 A prominent feature of participant accounts was the view that 'it's better to know'. Described as a 'good' and
365 'important' thing to do, patient accounts indicate a generalised expectation not only to test, but to want to
366 test – a route to 'feel[ing] healthier' and 'clean'.

367

368 *If these things are curable, then fine, they've heard something that they need to know. If they're not,*
369 *then it gives them time to get themselves in order. I think it's always better to know than not know. Do*

1
2
3 370 *I believe that? Yes, I do, yeah. (Imogen)*
4
5 371

6 372 Expectations to test are further reinforced when treatment is known to be available. For Ehsan, the
7
8 373 'treatability' of HIV renders the phobia of testing less legitimate, a fear that should not still be there. Matas'
9
10 374 deferral of interferon treatment when diagnosed with hepatitis C four years previously, waiting to see if
11
12 375 'science comes up with anything better', contends the assumed linearity of a 'test and treat' ethic. Yet
13
14 376 managing the knowledge of a health condition was implied by Matas and others as something that just has to
15
16 377 be done; 'a bit unexpected but you know what can you do? It is like it is' (Matas); '... it's not going to be easy to
17
18 378 take, you know, but that's, that's life' (Malcom).

19 379
20 380 Patient participants also voiced a public responsibility to know. This was positioned in relation to population
21
22 381 health – to ensure against onward transmission – but also direct to the state. For Imogen, expectations of state
23
24 382 support are reciprocated in expectations of individual health monitoring and management:
25
26 383

27 384 *we're adults, we're responsible for our actions [...] we need to check these things [...] that's, kind of,*
28
29 385 *part of my psyche, you look after yourself and you do not expect the health service to look after you.*
30
31 386 *Well, you do, but you have to have played your part.... (Imogen)*
32
33 387

34 388 Engaging with the 'free opportunity' of the test is implied to constitute an act of health-citizenship; a
35
36 389 demonstration of meeting expectations, being responsible, playing one's part. For the majority of participants
37
38 390 the right of the patient to choose was critical. Yet a small number felt the test should be 'obligatory'. Insofar as
39
40 391 infection poses a risk beyond the individual, the 'safeguard' of the test should be engaged with 'for the good of
41
42 392 society' (Ehsan). For Ehsan, the right to choose is a privilege of 'out there' that changes when you enter the
43
44 393 'here' of the ED clinic space. The act of accessing the service denotes a responsibility to the clinic network –
45
46 394 the people, place and resources that you have sought help from – that forgoes the right to decline.
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48 395

49 396 All patient participants, irrespective of whether the test had been offered, indicated confidence in a negative
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51 397 result. Those who accepted the test engaged with the practice either as a form of opportunistic assurance – a
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53 398 'might as well' – or indifference – 'I'm not concerned about any of those things'. Tests actively sought in the
54
55 399 past were linked either to changes in relationship status or increased sense of risk. While participants indicated
56
57 400 they would initiate a test if they felt cause to do so, few said it would be something they would consider
58
59 401 otherwise. Without an explicit need test-engagement remains predominantly passive; 'it's on my to do list' –
60
61 402 thought about, but not a priority. In the absence of status anxiety acceding to new routine procedures is easily
62
63 403 done. How the test offer and practice would be received by those who feel more at risk is less apparent. A
64
65 404 potential reluctance to test was speculated in 'others' who might be more anxious about a positive result: 'the
66
67 405 thought of having something wrong with you, some people would rather not know' (Karen). Felt
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69 406 responsibilities to know therefore sit relative to an anticipated reality of knowing, and the irreversible
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71 407 knowledge-process enacted through the test event; 'once you know that's it, you know, you've got it' (Dan).

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A Time and place

The appropriateness of the ED as a site for testing was questioned by a small number of patient participants. Ryan, though supportive of the offer, did not feel he had the mental capacity for it that day: 'I don't really want to pile on the bad news [...] I don't want a double-whammy – that would be an unpleasant day' (Ryan). For Khaled, the test conflicts with the principal tenet of the 'emergency' remit:

emergency services is always full with emergencies so they have to deal with priorities [...] But that one is not that kind of priority because if you have it you have it, you cannot cure it by emergency services, you have to take a long term treatment (Khaled)

Unless directly 'applicable' to a patient's differential diagnosis, the test should be conducted at some other time and some other place; 'emergency is for emergency' (Khaled). In tension with the overriding acceptability of the intervention was the less articulated counter narrative of *this isn't the time*.

Yet the more dominant narrative was one of presented opportunity. Participants who accepted the intervention commonly constructed the test offer as a well-situated add-on; 'they're taking bloods anyway'. The ease and convenience of an extra vial was thought to encourage people to test who otherwise would not have sought to do so.

a person won't just go out there to have a HIV test, like on an ordinary day, they wouldn't even think about it [...] just imagine you spend your day and would I just go, "I'm going to go and have a HIV test today," they wouldn't ... because you think, 'Oh, I haven't got it, you know, I don't need to,' you wouldn't do it in a million years. (Ramisa)

Despite taking time to integrate into pre-established blood-routines, staff indicated that the drawing of another vial from someone already having bloods taken was both minimal, but also practical: '... we are already putting a needle into somebody's vein, we are already taking blood' (clinic staff). The ED site offers a point of contact with individuals who, in the absence of felt risk, are neither testing nor thinking about testing. Opportunities of re-contact also present with individuals who have – as in the case of Matas – disengaged from care services. Unregistered with a GP Matas has had minimal service contact beyond intermittent visits to emergency care, remaining unaware of recent advances in HCV treatment options.

The ED setting also offers an alternative point of contact for HIV testing with individuals less able, or willing, to access sexual health services. For some participants the anonymity of a sexual health clinic afforded a heightened sense of privacy – 'there are no questions, no nothing' (Sten). For others, the visibility of the sexual health clinic presented complications, with service access potentially compromised in light of what being seen

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3 446 in the clinic might imply:
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6 448 *I will take an example of Muslim people like me. You will see loads of girls wearing scarf but doing*
7
8 449 *things that you're not supposed to do, then in the end case she thinks she has something, how she will*
9 450 *go to sexual health clinic? Just example of people who are like me (Hana)*
10
11 451

12 452 For Ehsan, the sexual health clinic constitutes a space of heightened anxiety and concern; a difficult space to
13
14 453 enter that concedes both to the self and others not only that there is a problem, but that it is *this* type of
15 454 problem.
16
17 455

18 456 *if you enter that building I think it's this... Not phobia, it's [...] it's that there is something seriously*
19
20 457 *wrong with you [...] it takes you to totally different atmosphere and you can feel it when you see*
21 458 *people sitting down [...] there is a stigma attached to that building ... (Ehsan)*
22
23 459

24 460 In contrast to the known specificity of the sexual health clinic, Ehsan positions the ED setting as a place where
25
26 461 you do not feel that difference, there are 'too many different types of illnesses'. The ED supports a protective
27
28 462 anonymity and neutrality of space; accessed by all, where everyone has something going on but no one knows
29 463 what exactly.
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31 464

32 465

33 466 **Cultivating a 'culture of testing'**

34 467 Processes of test-implementation simultaneously enable and demand a renegotiated 'culture of testing' within
35
36 468 the ED setting. Intervention efforts point toward a standardising of staff practice and patient expectation – one
37
38 469 that would see 'testing everyone', and thus getting tested, made the norm. The test-all precedent was seen to
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40 470 alleviate the sense of an implied, or felt, target:
41
42 471

43 472 *... and the fact that it's on the wall and it's saying that it's a, you know, 'we're asking everybody if you*
44 473 *want to be tested' then it's kind of 'oh OK, you know, you probably asked the guy that was in before,*
45 474 *I'm no different'... (Phil)*
46
47 475

48
49 476 Helping dispel initial anxieties of *why are you testing me?*, the routinising of the test practice was seen to
50
51 477 improve the test experience. The test 'standard', easier to deliver and more readily received, contrasts with a
52
53 478 differential test that 'puts the fear of god into that one person, that we're testing you for it...' (clinic staff). Staff
54
55 479 participants' reflections on the intervention in practice suggest that a standardised test-approach both
56
57 480 facilitates greater diagnostic opportunity and helps diffuse prevailing preconceptions of those 'affected',
58 481 within and beyond the clinic environment.
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60 482

60 483 *I think we're missing out on a massive group of people by, by targeting it and I think here we're kind of*

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3 484 *getting people from every spectrum, every walk of life and [...] there are people who are having*
4 485 *positive results that you kind of don't, [...] it's not someone that, and this is going to sound awful but*
5 486 *it's not someone that you expect to have had a positive test. I think there's still, even for us [clinic*
6 487 *staff] there's still kind of like a little bit of stigma around it and you attach it to certain groups of*
7 488 *people. (clinic staff)*

8 489
9 490 As patients' accounts reiterated, public misconceptions relating to HIV – though 'changing' -- were still felt to
10 491 be present and problematic.

11 492
12 493 Yet perceptions of test value and expectation are also shaped by how legitimate patients considered their (and
13 494 others') claims to clinic time and resources. The efficacy of the intervention – how efficient it is and who's
14 495 going to pay – was a question often posited by patient participants: '...if the benefits of doing it cannot be
15 496 justified by the resource cost that would be needed to do it then clearly it can't be done [...] It's a no-brainer'
16 497 (Malcom). Patient anxieties of 'wasting time' betray a reluctance to access primary care until a specific health-
17 498 need can be clearly evidenced. Efforts to reconfigure testing norms and expectations can thus sit in tension
18 499 with perceptions of systemic constraints that do not encourage or support people to 'just check':

19 500
20 501 *... It has to be like a society, society's mentality to just check, you know take care of your body and, you*
21 502 *know, make sure everything is okay and not only when you're, you know, dying, or something is*
22 503 *seriously wrong because many times it's too late when that happens, you know. (Lena)*

23 504
24 505 Current testing cultures orientate around *having reason*; legitimised through an identifiable symptom or risk.
25 506 Efforts to routinise the test-practice remain situated within, and shaped by, broader norms of service deferral;
26 507 an *ethic of waiting* until need is established, where public responsibilities to monitor one's health sit relative to
27 508 the cost of doing so.

28 509
29 510 Renegotiating testing cultures meets further resistance in the limited knowledge and talk of the tested viruses.
30 511 Although they did not infringe on participants' decisions to test in this study, illness stigma and related
31 512 anxieties were commonly offered as a reason why 'others' may prove reluctant. Interview discussions
32 513 orientated heavily around HIV, with hepatitis B and C both less understood and spoken about. While degrees
33 514 of HIV talk differed in relation to cultural norms and across generations, there was consensus that
34 515 conversations would only ever go so far. Critical boundaries were identified between talking *about* HIV and
35 516 *having* HIV: '...people talk about it [HIV] just as a, distant thing...' (Lena). The condition was predominantly
36 517 depicted as an abstraction, remotely experienced through news and media coverage. Rarely discussed in the
37 518 private sphere, limits to knowledge were accounted for in not *needing* to know.

38 519
39 520 *... to be honest, the truth is I feel like it's something that doesn't affect or concern me. I know that*
40 521 *sounds ignorant and stupid, but I'm just being honest with you ...And I think that's how a lot of people*

1
2
3 522 *feel* (Ishani)

4
5 523

6 524 Both staff and patient responses highlight the need for concurrent change in public norms, perceptions and
7
8 525 talk surrounding HIV and hepatitis beyond the intervention, if routine opt-out BBV testing is to be understood
9
10 526 and accepted, and a broader culture of testing supported.
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16
17 531 **DISCUSSION**

18 532 Our findings indicate that routine opt-out BBV testing in the ED setting is viewed as an acceptable and valuable
19
20 533 practice by the majority of patient and staff participants. Consistent with qualitative findings exploring HIV-
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22 534 testing acceptance in EDs in the US, participants' receptivity to testing pivots around the narrative that it's
23
24 535 better to know;^[43] - a 'better' widely underscored by the perceived availability and efficacy of HIV treatment.
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26 536 Knowledge of hepatitis viruses and respective treatments was notably limited. Problems of test-
27
28 537 implementation were primarily linked to broader systemic constraints,^[38] where unrelenting pressures of the
29
30 538 ED working environment impeded the process of integrating the test into routine practice. Service providers
31
32 539 spoke of the difficulties of navigating the *change* of the intervention, rather than reservations around the
33
34 540 intervention itself. Yet clinic staff also anticipated that once embedded into department procedure, and in
35
36 541 time patients' expectations, the feasibility of the intervention would align more closely with the observed
37
38 542 acceptability of the test practice.
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41
42 544 **Narratives of Responsibility:** Findings suggest that the acceptability of the intervention is shaped in part by
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44 545 negotiations of competing responsibilities. A dominant narrative across participant responses was the
45
46 546 *responsibility to know*. Responsibilities of knowing were articulated in relation to both a private well-being of
47
48 547 the individual, but also a public responsibility – to know your status, more specifically a positive status, to
49
50 548 ensure against onward transmission. Resonating with broader neoliberal discourses of citizen expectation and
51
52 549 biological responsibility, participant accounts would often position test-uptake as an enactment of health
53
54 550 citizenship – the perceived role of a patient-citizen.^[50-51] Yet narratives of responsibility were at once
55
56 551 countered by an absence of need and the positioning of the self as not 'affected'. Patient participants' test-
57
58 552 histories demonstrate, for the most part, norms of passive test-engagement made active in response to an
59
60 553 altered sense of risk. Transitions from an assumed-negative to a potential-positive – where felt expectations to
554
555 know converged with an overt health need – occasioned a more proactive, albeit temporary, test-engagement.
556
557 Expectations of *having need* that underscore participant narratives work to ensure the legitimacy of the test-
558
559 claim on clinic time and resources. With patients' heightened awareness of service-rationing, a questioned
560
561 appropriateness pulls against the dominant script of intervention-acceptability. Responsibilities of knowing
562
563 thus sit in tension with perceived personal and state responsibilities to ensure that increasingly limited clinic
564
565 resources are efficiently deployed. This likewise speaks to a situated ethics of a test-for-all approach,^[39]

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3 560 wherein the value of the test is positioned relative to the cost of its delivery and anticipated rate of return. In
4 561 the absence of explicit risk and subsequent need, the test-expense is less clearly supportable.
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6 562
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8 563 **A Productive Disruption:** The extent to which the test-practice can be made routine and move beyond the
9 564 initial disruption of its implementation – the point at which the extra vial ceases to be an 'extra' – though
10 565 envisioned, remains uncertain. While staff spoke of the test-practice becoming more instinctive over time, the
11 566 'struggle' to make the intervention a routine procedure remains evident. Amidst the pressures of ED
12 567 workflows the intervention still posits a point of disruption. Yet efforts to standardise the test-practice also
13 568 allow for a more productive disturbance. First is the interventions' neutralising potential as test-practice and
14 569 meaning are reconstituted within and through the particularities of the emergency clinic environment.[59] The
15 570 'struggle' to integrate the test into department procedure amidst uncompromising clinic demands enables,
16 571 necessitates and makes visible the 'standardisation' of test-practice; the test is rendered less of an event
17 572 because it *has* to be. The high patient traffic, close proximity and discernible numbers of others tested makes
18 573 the routine of the procedure more evident. Second, the tentative displacement of the test-target in a
19 574 generalised clinic environment disrupts 'at-risk' boundaries felt to be conferred through targeted test-
20 575 practices and engagement. The routine practice of the test points to a test-need, expectation and
21 576 responsibility that extends beyond existing risk parameters. This suggests a potential of the spatial dynamics of
22 577 the ED setting to challenge socially embedded risk-associations. Obscuring 'affected/unaffected' binaries
23 578 stands to lessen the social risk of being seen to be tested. The routine of the procedure thus affords a form of
24 579 public protection that, in turn, lends the intervention a social value beyond the quantifiable efficacy of
25 580 intervention uptake and diagnostic case-return.

26 581
27
28 582 **Situated Intervention Potential:** Yet our study findings also call attention to the limits of the test-
29 583 intervention's 'normalising' effect. The extent to which risk-associations of testing technologies *can* be
30 584 reconfigured through generalised test-settings and procedures remains questionable. As demonstrated in our
31 585 findings, while the non-target approach was positively received among study participants, test-uptake was
32 586 framed by narratives of test-ambivalence. Distinctions between those who were and were not 'at risk', though
33 587 momentarily disrupted, were then refashioned through retrospective accounts of test-engagement (or would-
34 588 be engagement) that continued to position the self as one not affected. Such narrative devices, though
35 589 peripheral, call attention to embedded social constraints that continue to impede patients' efforts to
36 590 renegotiate tacit risk-identities conferred through test practices and engagement. Expectations that a
37 591 standardisation of clinic practice could translate into a 'normalisation' of test-experience is a formidable
38 592 aspiration, but one that faces resistance and local negotiation. As we have observed, the routinising of the test
39 593 procedure at once shapes and is shaped by: prior knowledge and experience of the viruses to be tested; the
40 594 dynamics of the clinic space and therapeutic pathways; perceived health responsibilities; socially embedded
41 595 test-associations; and the anticipated reading of test-engagement by others. Our findings indicate that the
42 596 intervention's embryonic effect is constituted through, and contingent on, the processes of its local

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2
3 597 implementation. Test-meaning and value are recursively produced as altered norms of practice are variously
4 598 encountered and negotiated within and beyond the test event.[59-60]

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8 600 **Policy Implications and Study Limitations:** Our qualitative analysis offers a critical sociological contribution to
9 601 intervention evaluation that will enrich statistical appraisal of BBV test-uptake, diagnosis rates and cost-
10 602 effectiveness.[56] An improved understanding of participant perspectives and intervention experience, as
11 603 supported by this study's analysis, will likely contribute to the success and efficacy of intervention scale-up
12 604 beyond the pilot. Study findings highlight the need to attend to the local particularities of intervention
13 605 implementation if the benefits of the test-initiative are to be fully realised. Considerations of expanded
14 606 practice in the UK must take seriously the intensity of ED workflows and the implications of increasing
15 607 demands on already over-stretched emergency care resources. Intervention-reach and test-uptake among
16 608 migrant populations – as pertinent to those disproportionately affected by HIV and viral hepatitis in the UK
17 609 [2,3,32,47] – will likely remain restricted while language barriers continue to preclude test-offer and delivery
18 610 to this patient sub-group. Yet our findings also demonstrate the intervention's potential to extend an
19 611 alternative route of contact with individuals at risk of falling through the gaps,[33] or positioned beyond
20 612 targeted test strategies. Significant also is the extent to which hepatitis B and C, relative to HIV, were not only
21 613 less discussed but, for the most part, much less understood. Limited public knowledge of these conditions calls
22 614 to question the ethical implications of introducing an opt-out test procedure among individuals who have little
23 615 if any understanding of what a positive result might mean.

24 616

25 617 Interpretation of our qualitative findings must also attend to a number of study limitations. First, study
26 618 findings draw from a small, site-specific population. Second, our sample does not include patients who felt
27 619 themselves to be potentially at risk of a positive result. As identified through explorative research of
28 620 alternative HIV test-interventions,[44] test practices and the acceptability of intervention procedure will
29 621 invariably take on different meanings for those negotiating a potential positive, and demands further enquiry.
30 622 Likewise, in interviewing individuals at the point of clinic contact, the study was not able to explore the views
31 623 and experiences of those diagnosed through the ED test procedure, and thus the onward dimensions of the
32 624 test intervention that are integral to the intervention process. Exploration of post-test experience and its
33 625 implications for test-acceptability and engagement is needed for a more comprehensive understanding and
34 626 evaluation of intervention experience and value.

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3 **628 Declarations**

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5 630
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11 636 *Blood Borne and Sexually Transmitted Infections Steering Committee:* Caroline Sabin (Director), Anthony
12 637 Nardone (PHE Lead), Catherine Mercer, Gwenda Hughes, Jackie Cassell, Greta Rait, Samreen Ijaz, Tim Rhodes,
13 638 Kholoud Porter, Sema Mandal and William Rosenberg.

14 639
15 640 *Author's contributions:* Conceptualisation and critical direction for the study was provided by TR, SM, PG, AR,
16 641 CO and LC. Data generation was completed by LC. Primary data analysis was carried out by LC, with input from
17 642 PG. The original manuscript was prepared by LC. All authors reviewed and provided critical input to manuscript
18 643 drafts, and provided final approval.

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23 648 Medicine. The views expressed in this publication are those of the author(s) and not necessarily those of the
24 649 National Institute for Health Research or Public Health England.

25 650
26 651 *Conflict of interest:* CO has received research grants, lecture fees, travel grants and honoraria toward advisory
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29 654 conflicts of interest in relation to this work and its submission. The paper has not been previously published
30 655 and neither is it being considered for publication elsewhere.

31 656
32 657 *Ethics Approval and consent to participate:* The study was granted ethical approval form the West Midlands–
33 658 South Birmingham Research Ethics Committee (ref 16/WM/0033), and the London School of Hygiene and
34 659 Tropical Medicine Observational Research Ethics Committee (ref 10469). All study participants provided
35 660 informed written consent prior to the start of the study interview.

36 661
37 662 *Availability of data and materials:* No additional data are available.
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CONSOLIDATED CRITERIA FOR REPORTING QUALITATIVE STUDIES (COREQ): 32-ITEM CHECKLIST FOR INTERVIEWS AND FOCUS GROUPS

NUMBER	ITEM	GUIDE/QUESTION/DESCRIPTION	RESPONSE	PAGE
Domain 1: Research team and reflexivity				
Personal Characteristics				
1	Interviewer	Which author/s conducted the interview or focus group?	Lucy Cullen	7
2	Credentials	What were the researcher's credentials? <i>E.g. PhD, MD</i>	MSc, PhD Candidate	
3	Occupation	What was their occupation at the time of the study?	Social Science Researcher	
4	Gender	Was the researcher male or female?	Female	
5	Experience and training	What experience or training did the researcher have?	Qualitative Research Methods Training; 3+ years qualitative health research/analysis experience	
Relationship with participants				
6	Relationship established	Was a relationship established prior to study commencement?	No	7
7	Participant knowledge of the interviewer	What did the participants know about the researcher? <i>e.g. personal goals, reasons for doing the research</i>	As informed during consent process	7
8	Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? <i>e.g. Bias, assumptions, reasons and interests in the research topic</i>	As informed during consent process	7
Domain 2: study design				
Theoretical framework				
9	Methodological orientation and	What methodological orientation was stated to	Grounded approach to qualitative	7

	Theory	underpin the study? <i>e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis</i>	thematic analysis	
	Participant selection			
10	Sampling	How were participants selected? <i>e.g. purposive, convenience, consecutive, snowball</i>	purposive	7
11	Method of approach	How were participants approached? <i>e.g. face-to-face, telephone, mail, email</i>	Face-to-face	7
12	Sample size	How many participants were in the study?	22	6
13	Non-participation	How many people refused to participate or dropped out? Reasons?	None dropped out	
	Setting			
14	Setting of data collection	Where was the data collected? <i>e.g. home, clinic, workplace</i>	clinic	7
15	Presence of non-participants	Was anyone else present besides the participants and researchers?	no	7
16	Description of sample	What are the important characteristics of the sample? <i>e.g. demographic data, date</i>	Sex; age; ethnicity; test response	7/9
	Data collection			
17	Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	Guided areas of discussion but not prescribed questions	7
18	Repeat Interviews	Were repeat interviews carried out? If yes, how many?	No	
19	Audio/visual recording	Did the research use audio or visual recording to collect the data?	Yes	7
20	Field notes	Were field notes made during and/or after the interview or focus group?	Yes	
21	Duration	What was the duration of the interviews or focus group?	20-50 minutes (depending on availability)	7

22	Data saturation	Was data saturation discussed?	No (limits to sample size discussed)	
23	Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No	
Domain 3: analysis and findings				
Data analysis				
24	Number of data coders	How many data coders coded the data?	Coding developed concurrently with data generation; reviewed and developed with second researcher	
25	Description of the coding tree	Did authors provide a description of the coding tree?	No	
26	Derivation of themes	Were themes identified in advance or derived from the data?	Primarily derived from data though some a priori areas explored	7
27	Software	What software, if applicable, was used to manage the data?	None	
28	Participant checking	Did participants provide feedback on the findings?	No	
Reporting				
29	Questions presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.g. <i>participant number</i>	Yes; Yes	10-15
30	Data and findings consistent	Was there consistency between the data presented and the findings?	Yes	10-15
31	Clarity of major themes	Were major themes clearly presented in the findings?	Yes	10-15
32	Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Yes	10-15