

FAIR SaBTO report- Appendices

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1. FAIR steering group membership September 2020

Naim Akhtar	Donor consultant: Equality & Diversity group clinical lead, NHS Blood and Transplant
Su Brailsford Chair	Interim Associate Medical Director: Manufacturing and Microbiology, NHS Blood and Transplant
Katy Davison Deputy Chair	Senior scientist (Epidemiology) for the NHSBT/PHE Epidemiology Unit.
Eamonn Ferguson	Professor of Psychology at Nottingham University.
Luke Foster	Head of Centre Birmingham, Senior Clinical Scientist in H&I, and Chair of the LGBT+ Network for NHSBT.
Claire Reynolds	Epidemiology scientist for the NHSBT/PHE Epidemiology Unit.
Joe Flannagan Secretariat.	Epidemiology scientist for the NHSBT/PHE Epidemiology Unit.
Stuart Blackmore	Consultant in Donor Medicine for Welsh Blood Service.
Angus Wells	Representative of the Standing Advisory Committee on the Care and Selection of Donors (SACCSD).
Josh Bradlow	Policy Officer for Stonewall.
Dan Costen	Head of Media and PR for Freedom to Donate.
Gareth Humphreys	Head of Insight, Strategy, and Innovation for NHS Blood and Transplant
Kat Davies	Regional Matron and Head of Care Quality for Blood Donation NHSBT

Stephen Bailey	Corporate communications manager NHS Blood and Transplant
Heli Harvala	Consultant Medical Virologist for NHS Blood and Transplant
Kat Smithson (previously Natasha Dhumma)	Director of Policy and Communications for NAT (National AIDS Trust).
Paul Harvey	Donor representative.
Gemma Room	Patient representative.
Roanna Maharaj	Patient representative UK Thalassaemia Society
Michael Brady	Medical Director Terrence Higgins Trust
Deborah McNaughton	Head of Nursing and Donor services Scottish National Blood Transfusion Service
Kathryn Maguire	Consultant Transfusion Medicine Northern Ireland Blood Transfusion service

2. Markers routinely tested for by UK blood service in 2020

2020 blood services tested for:	HBsAg	HBV DNA	Anti-HCV	HCV RNA	HEV RNA	Anti-HIV	HIV Ag	HIV RNA	Anti-HTLV	Anti-treponeme
England	✓	pools (24)	✓	pools (24)	pools (24)	✓	✓	pools (24)	New only	✓
Northern Ireland	✓	pools (24)	✓	pools (24)	pools (16)	✓	✓	pools (24)	✓	✓
Scotland	✓	pools (24)	✓	pools (24)	pools (16)	✓	✓	pools (24)	✓	✓
Wales	✓	pools (24)	✓	pools (24)	pools (16)	✓	✓	pools (24)	✓	✓
Republic of Ireland	✓	singleton	✓	singleton	singleton	✓	✓	singleton	✓	✓
Guernsey	✓	x	✓	x	x	✓	✓	x	✓	✓
Jersey*	✓	x	✓	x	x	✓	x	x	✓	✓
Isle of Man**	✓	x	✓	x	x	✓	x	x	✓	✓

* Jersey outsourced their donation testing in 2018 due to laboratory refurbishment

** Isle of man screening includes HCV antigen testing

3. Transfusion transmitted infection incidents, UK

Number of confirmed TTI incidents, by year of transfusion

Year of transfusion*	Number of incidents (recipients) by infection											Implicated component				
	Bacteria	HAV	HBV	HCV	HEV	HIV	HTLV I	Parvovirus (B19)	Malaria	vCJD/ prion	Total	RBC	Pooled platelet	Apheresis platelet	FFP	Cryo
Pre 1996	-	-	1 (1)	-	-	-	2 (2)	-	-	-	3 (3)	3				
1996	-	1(1)	1 (1)	1 (1)	-	1 (3)	-	-	-	1 (1)	5 (7)	5	1		1	
1997	3 (3)	-	1 (1)	1 (1)	-	-	-	-	1 (1)	2 (2)	8 (8)	6	1	1		
1998	4 (4)	-	1 (1)	-	-	-	-	-	-	-	5 (5)	2	1	2		
1999	4 (4)	-	2 (3)	-	-	-	-	-	-	‡ (1)	6 (8)	5	3			
2000	7 (7)	1 (1)	1 (1)	-	-	-	-	-	-	-	9 (9)	1	5	3		
2001	5 (5)	-	-	-	-	-	-	-	-	-	5 (5)		4	1		
2002	1 (1)	-	1 (1)	-	-	1 (1) [†]	-	-	-	-	3 (3)	2	1			
2003	3 (3)	-	1 (1)	-	-	-	-	-	1 (1)	-	5 (5)	1	1	3		
2004	††	-	-	-	1 (1)	-	-	-	-	-	1 (1)	1				
2005	2 (2)	1 (1)	1 (1)	-	-	-	-	-	-	-	4 (4)	1	3			
2006	2 (2)	-	-	-	-	-	-	-	-	-	2 (2)		1	1		
2007	3 (3)	-	-	-	-	-	-	-	-	-	3 (3)	2	1			
2008	4 (6)	-	-	-	-	-	-	-	-	-	4 (6)		2	4		
2009	2 (3)	-	-	-	-	-	-	-	-	-	2 (3)	1		2		
2010	-	-	-	-	-	-	-	-	-	-	-					
2011	-	-	1 (2)	-	1 (2)	-	-	-	-	-	2 (4)	2			2	
2012	-	-	1 (1)	-	1 (1)	-	-	1(1)	-	-	3 (3)	2			1	
2013	-	-	-	-	-	-	-	-	-	-	-					
2014	-	-	-	-	2 (3)	-	-	-	-	-	2(3)	1			2	
2015	1(1)	-	-	-	4 (5)	-	-	-	-	-	5(6)		3	1	1	1
2016	-	-	-	-	1 (1)	-	-	-	-	-	1(1)	1				
2017	-	1(1)	-	-	-	-	-	-	-	-	1(1)			1		
2018	-	-	-	-	1 (1)	-	-	-	-	-	1(1)			1		
2019	-	-	-	-	1 (2)	-	-	-	-	-	1(2)			2		
Number of Incidents	41	4	12	2	12	2	2	1	2	3	81					
Number of Infected Recipients	44	4	14	2	16	4	2	1	2	4	93	36	27	22	7	1
Death due to, or contributed to, by TTI	11	0	0	0	3	0	0	0	1	3	18					
Major morbidity	29	3	14	2	9	4	2	1	1	1§	66					
Minor morbidity	4	1	0	0	4	0	0	0	0	0	9					
Implicated Component																
RBC	7	1	11	2	4	2	2	1	2	4	36					
Pooled platelet	21	2	1		2	1					27					
Apheresis platelet	16	1	1		4						22					
FFP			1		5	1					7					
Cryoprecipitate					1						1					

Notes for the table: Numbers in brackets refer to recipients, and probable incidents are excluded

Please note: No screening was in place for vCJD, human T cell lymphotropic virus (HTLV), hepatitis A virus (HAV), HEV or parvovirus B19 at the time of the documented transmissions. In both malaria transmissions, malaria antibody testing was not applicable at the time according to information supplied at donation

Please note: HCV investigations where the transfusion was prior to screening are not included in the above figure

* Year of transfusion may be prior to year of report to SHOT due to delay in recognition of chronic infection

† The 2 HIV incidents were associated with window period donations (anti-HIV negative/HIV RNA positive) before HIV NAT screening was in place. A third window period donation in 2002 was transfused to an elderly patient, who died soon after surgery. The recipient's HIV status was therefore not determined and not included

†† In 2004 there was an incident involving contamination of a pooled platelet pack with *Staphylococcus epidermidis*, which did not meet the TTI definition because transmission to the recipient was not confirmed, but it would seem likely. This case was classified as 'not transfusion-transmitted'

‡ Same blood donor as one of the 1997 transmissions so counted as the same incident; note: counted as two separate incidents in previous reports

§ A further prion case died but transfusion was not implicated as the cause of death. The outcome was assigned to major morbidity instead because although there was post-mortem evidence of abnormal prion proteins in the spleen the patient had died of a condition unrelated to vCJD and had shown no symptoms of vCJD prior to death.

4. UK blood donors with markers of infection 2015-2019

4.1. Assessing infections acquired abroad in blood donors

Most recent infections in blood donors are sexually acquired. Sex abroad comprised 12% of all the recent sexually acquired infections, all in males, majority reporting sex with women.

Only one of these was due to a self-reported new partner abroad within the 3 months timeframe but importantly, this was an HBV NAT pick up in a male repeat donor.

In the UK between 2015 to 2019, out of 9,794,763 donations screened, 920 confirmed positive donors were identified, 157 with recently acquired infection within 12 months. 362 donors had an infection probably acquired via sexual contact, 24% (76/311) abroad where country known, with the highest percentage in new male donors aged 35 years and over (40%, 27/67) (Table A 4.1). Nearly half of these or 140 donors had a recent infection probably acquired via sexual contact accounting, where known, for 99% (140/141) of all recently acquired infections in donors. Where country known, 12% (15/129) were acquired abroad, all in male donors, 7 were repeat donors aged 35 years and over and 12/15 reported sex with women. (Table A4.1)

4.1. Assessing recently acquired infections acquired abroad in blood donors

40% (4/10) of donors with recent sexually acquired HBV infections had acquired their infection abroad, 3 were in males reporting sex with women and 2 were NAT pick-ups. (Table A4.2)

25% (3/12) of donors with recent sexually acquired HIV infection had acquired their infection abroad, 2 in males reporting sex with women. (Table A4.2)

8% (6/76) of donors with IgM+ syphilis had acquired their infection abroad, 5 in males reporting sex with women. (Table A4.2)

60% (9/15) of the recent infections acquired abroad were acquired in Europe, no single country accounting for more than 1 or 2 cases. (Table A4.3)

26% (4/15) of the recent infections acquired via sex abroad were acquired in Thailand. (Table A4.3)

None of the recent infections acquired abroad were acquired in Africa, perhaps because of the HRP SSA rule. (Table A 4.3)

Table A4.1: Blood donors with sexually acquired infection, UK 2015-2019

Donor Type	Sex	Age	All infection				Recent infection			
			Sex abroad	Sex UK	Nk	% sex abroad	Sex abroad	Sex UK	Nk	% sex abroad
New	Male	<35	11	42	9	20.8	2	12	1	14.3
	Male	35plus	27	40	11	40.3	3	9	0	25.0
	Female	<35	6	17	9	26.1	0	8	3	0.0
	Female	35plus	13	38	13	25.5	0	7	0	0.0
Repeat	Male	<35	6	25	1	19.4	3	20	1	13.0
	Male	35plus	12	43	6	21.8	7	36	4	16.3
	Female	<35	1	12	2	7.7	0	9	2	0.0
	Female	35plus	0	18	0	0.0	0	13	0	0.0
TOTAL			76	235	51	24.4	15	114	11	11.6
MSM			9	53	6	14.5	3	23	1	11.5
HET SEX			67	182	45	26.9	12	91	10	11.7

Table A4.2: Infections in donors with sexually acquired infection, UK 2015-2019

	All infections			Recent infection (TP)		
	Sex abroad	Sex UK	Nk	Sex abroad	Sex UK	Nk
HBV	11	9	2	4	6	0
HCV	3	8	5	0	0	0
HIV	11	28	4	3	9	0
HTLV	1	7	0	0	0	0
TP	51	186	41	6	70	9
TOTAL	77	238	52	13	85	9

Includes 5 dual HIV/TP: 3 recent HIV, 1 TP acute (1 recent HIV/TP acquired via sex abroad)

Table A4.3: Areas where donors acquired infection via sexual contact, UK 2015-2019

Region	All infections	Recent infections
Europe (Excl. UK)	40	9
Africa	5	0
Asia	22	5
North America	1	0
South/Central America & Caribbean	6	1
Australasia	2	0
Abroad total	76	15
UK	235	114
Country not known	51	11

Top 3 countries in Europe were Romania (10), Portugal (6) and Poland (5) but no single country in Europe where recent infection acquired. 4/5 of the recent infections acquired in Asia were acquired in Thailand.

5. Literature review: risk of acquiring HIV/STIs associated with eight sexual behaviours

Exclusion criteria were applied to search results:

- Co-infected populations
- PrEP users
- Studies in non-western countries
- Only abstracts currently available (e.g. conference abstracts)
- Not relevant to the research question
- Less than 50 participants in the study
- Injected drug user population
- HIV positive included in the study population
- No comparison group
- Risk behaviours not specified (no composite variables)
- Results not available (e.g. methods papers)
- Prevalence/incidence studies (of STIs or behaviours)
- Prisoner population
- Literature review incorporating a study already included
- Lacking enough details of study population to fully apply exclusion criteria

6. Questions from the BEST survey of donors, 2019

Questions from BEST used to estimate the number of donors deferred for options A and B of proposed FAIR questions (responses not relevant to this are greyed out).

Have you been diagnosed with or received treatment for Gonorrhoea, Chlamydia or Syphilis in the last...

	Yes	No	Prefer not to say
3 months			
6 months			
12 months			

Respondents can only tick one box per row

Did you take any drugs (excluding Viagra and cannabis) before or during sex to improve your sexual experience in the last...

	Yes	No	I did not have sex	Prefer not to say
3 months				
6 months				
12 months				

Respondents can only tick one box per row.

How many different sexual partners have you had in the last...

	0	1	2	3	More than 3	Prefer not to say
3 months						
6 months						
12 months						

Respondents can only tick one box per row

Have you had a NEW sexual partner in the last...

	Yes	No	I did not have sex	Prefer not to say
3 months				
6 months				
12 months				

Respondents can only tick one box per row.

Have you had ANAL sex with anyone in the last...

(please feel free to select more than one answer per row if applicable)

	Yes with men	Yes with women	Yes with non-binary or other	I did not have anal sex	Prefer not to say
3 months					
6 months					
12 months					

Respondents can tick multiple boxes per row

Did you use condoms every time you had sex (this includes oral sex) in the last...

	Yes	No	I did not have sex	Prefer not to say
3 months				
6 months				
12 months				

Respondents can only tick one box per row

Did you use condoms every time you had ANAL sex in the last...

	Yes	No	I did not have anal sex	Prefer not to say
3 months				
6 months				
12 months				

Respondents can only tick one box per row