



UK Health
Security
Agency



Blood and Transplant

Safe Supplies 2024: Collaborating for safety 2025 slide set

(Data to end of December 2024)

Slide set to accompany:

Safe supplies 2024: Collaborating for safety (Published October 2025)

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Data sources

Detailed information of the data used for the graphs is available in the Safe Supplies report with data tables available on request.

Data is reported for UK unless otherwise stated.

The annual report and infographic can be found here: [Annual review - Hospitals and Science – NHSBT](#)

The Methods and Sources for the data can be found here: [Methods and Sources - Hospitals and Science – NHSBT](#)

If you need further information or data please email the team at: epidemiology@nhsbt.nhs.uk

Feel free to use this information, cite as: Safe Supplies 2024: Collaborating for safety. Annual Review from the NHS Blood and Transplant and UK Health Security Agency Epidemiology Unit. London October 2025.

Blood donors confirmed positive for markers of infection by gender and age-group, UK 2020 to 2024

UK 2020 to 2024	HBV	HCV	HIV	HTLV	Syphilis	Whole Blood Donors
Gender* (n, %)						
Female	76 (21%)	60 (40%)	9 (20%)	31 (61%)	127 (18%)	507,251 (54%)
Male	278 (79%)	90 (60%)	35 (80%)	20 (39%)	576 (82%)	429,240 (46%)
Age group (n, %)						
17-24	22 (6%)	9 (6%)	3 (7%)	6 (12%)	53 (8%)	65,017 (7%)
25-34	115 (32%)	24 (16%)	17 (39%)	10 (20%)	212 (30%)	181,385 (19%)
35-44	123 (35%)	41 (27%)	10 (23%)	8 (16%)	192 (27%)	194,688 (21%)
45-54	62 (18%)	38 (25%)	9 (20%)	16 (31%)	145 (21%)	195,691 (21%)
55+	32 (9%)	38 (25%)	5 (11%)	11 (22%)	103 (15%)	299,709 (32%)

HBV shown are confirmed as chronic, acute or occult infection. HCV are confirmed for anti-HCV with or without HCV RNA or HCV RNA only. HIV are confirmed for anti-HIV with or without HIV RNA or HIV RNA only. HTLV are confirmed for anti-HTLV (type 1 or 2). Syphilis are confirmed for treponemal antibody (any stage, including treated).

* 2 donors with markers of syphilis were recorded as non-binary

Blood donors confirmed positive for markers of infection by ethnic background and area of birth, UK 2020 to 2024

UK 2020 to 2024	HBV	HCV	HIV	HTLV	Syphilis	Whole Blood Donors*
Ethnic background (n, %)						
Asian or Asian British	104 (29%)	30 (20%)	4 (9%)	5 (10%)	73 (10%)	36,854 (4%)
Black, African, Caribbean or Black British	111 (31%)	5 (3%)	2 (5%)	30 (59%)	62 (9%)	13,935 (1%)
Mixed or other	16 (5%)	5 (3%)	4 (9%)	7 (14%)	42 (6%)	23,757 (3%)
White	112 (32%)	106 (71%)	33 (75%)	9 (18%)	509 (72%)	845,896 (90%)
Not known	11 (3%)	4 (3%)	1 (2%)	0 (0%)	19 (3%)	16,049 (2%)
Area of birth (n, %)						
Africa	99 (28%)	3 (2%)	1 (2%)	4 (8%)	35 (5%)	N/A
Asia	101 (29%)	28 (19%)	4 (9%)	7 (14%)	55 (8%)	N/A
Europe	90 (25%)	46 (31%)	7 (16%)	4 (8%)	67 (10%)	N/A
UK	37 (10%)	47 (31%)	17 (39%)	25 (49%)	326 (46%)	N/A
Other	2 (1%)	0 (0%)	4 (9%)	6 (12%)	32 (5%)	N/A
Not known	25 (7%)	26 (17%)	11 (25%)	5 (10%)	190 (27%)	N/A

* Using England whole blood donors making a donation for ethnic background comparison

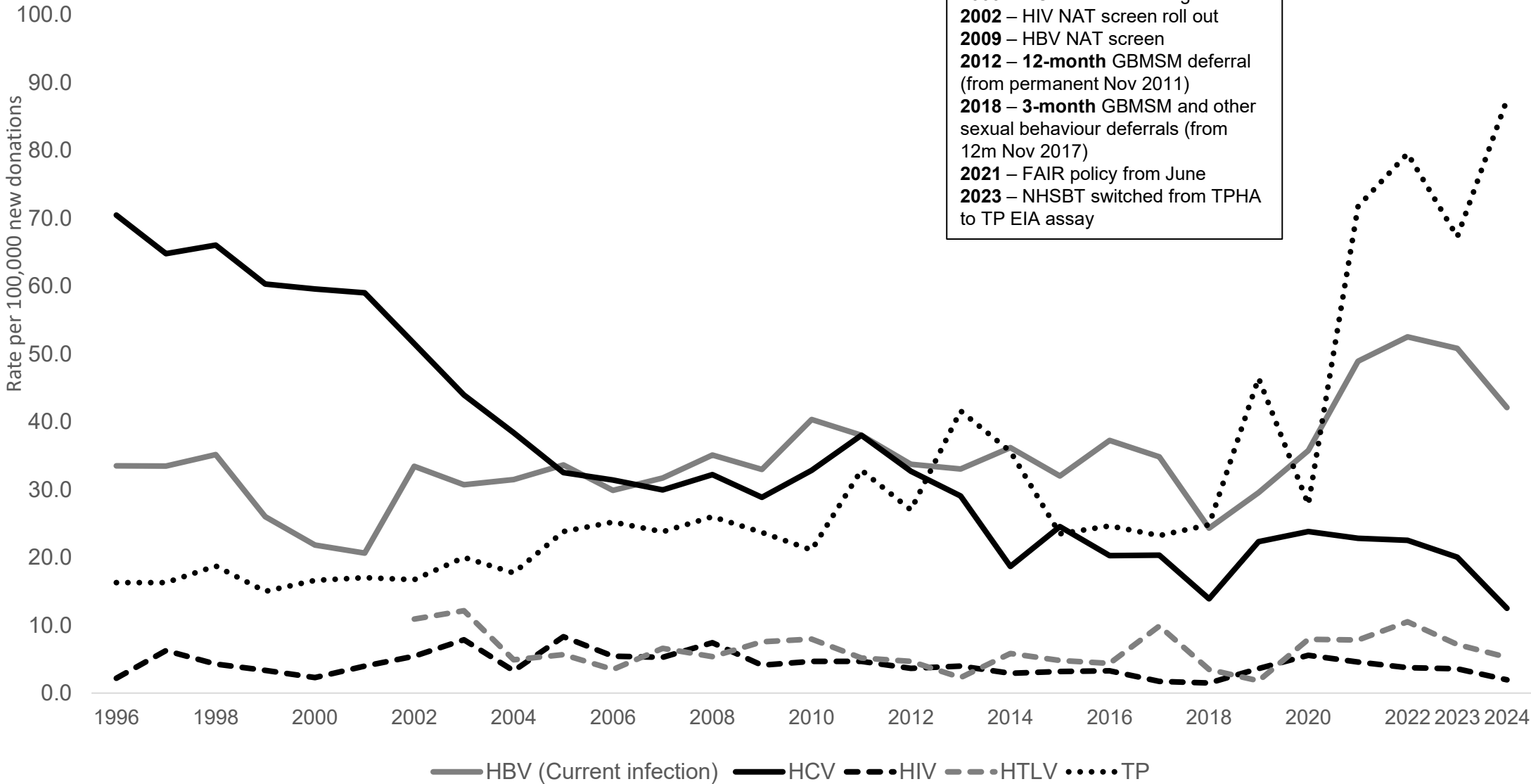
Blood donors confirmed positive for markers of infection by probable exposure, UK 2020 to 2024

UK 2020 to 2024	HBV	HCV	HIV	HTLV	Syphilis	Whole Blood Donors
Probable exposure (n, %)						
Injecting drug use	0 (0%)	18 (12%)	0 (0%)	0 (0%)	0 (0%)	N/A
Intranasal drug use	0 (0%)	11 (7%)	0 (0%)	0 (0%)	0 (0%)	N/A
Sex between men	4 (1%)	0 (0%)	17 (39%)	1 (2%)	251 (36%)	N/A
Sex between men and women	14 (4%)	12 (8%)	21 (48%)	6 (12%)	318 (45%)	N/A
Sex between women	1 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (0%)	N/A
Blood/tissue transfer, blood product treatment*	0 (0%)	5 (3%)	0 (0%)	0 (0%)	0 (0%)	N/A
Blood contact possible	12 (3%)	27 (18%)	2 (5%)	3 (6%)	0 (0%)	N/A
Infections associated with an endemic area	262 (74%)	30 (20%)	0 (0%)	32 (63%)	9 (1%)	N/A
No exposure identified	61 (17%)	47(31%)	4 (9%)	9 (18%)	124 (18%)	N/A

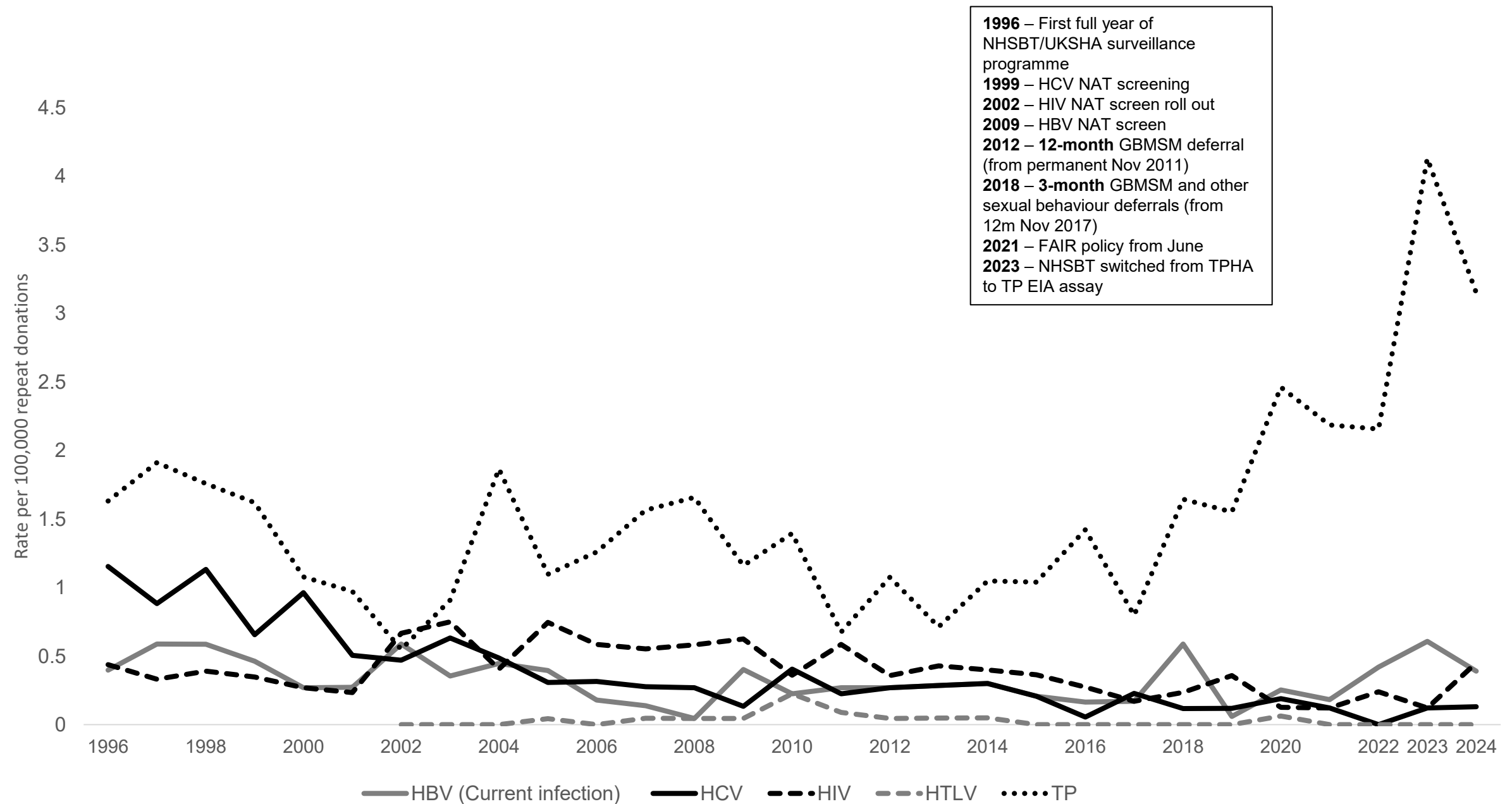
*Probable exposure either UK or abroad prior to HCV donation screening

Rate of markers of infection per 100,000 donations from first-time donors, UK 1996 to 2024

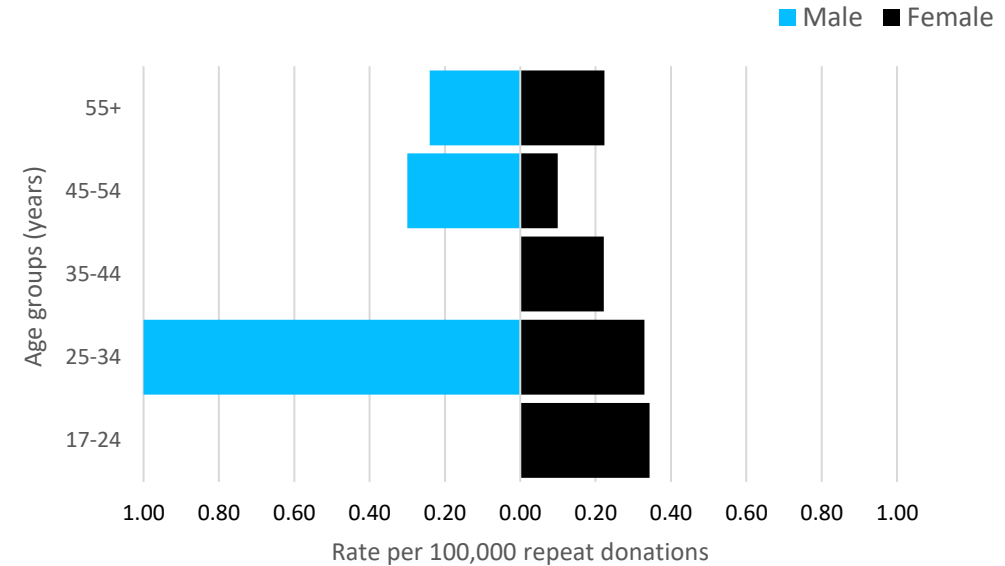
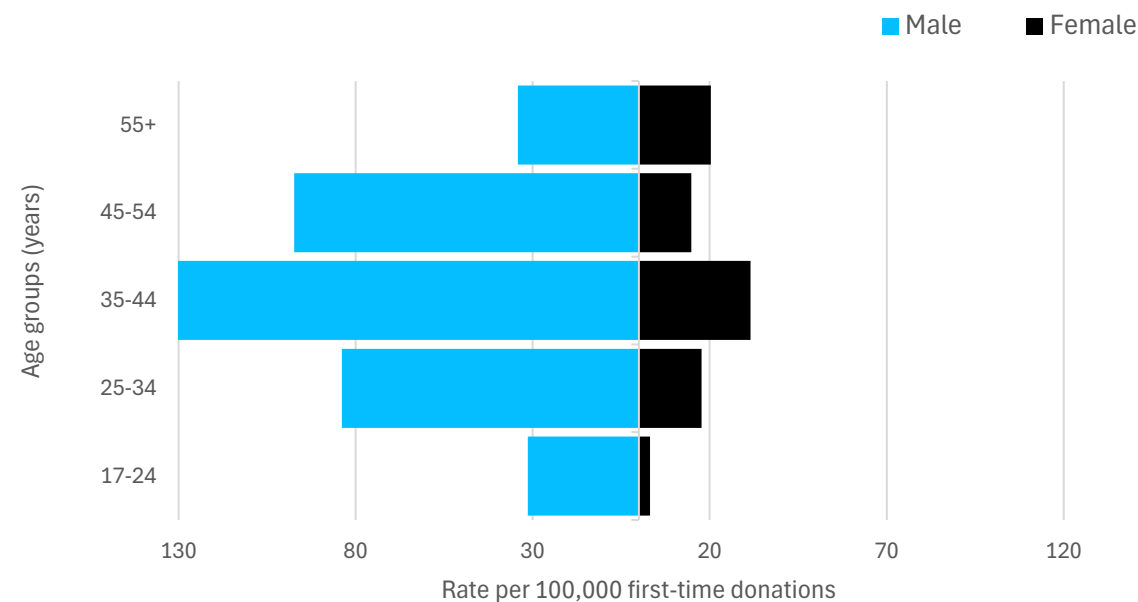
1996 – First full year of NHSBT/UKSHA surveillance programme
1999 – HCV NAT screening
2002 – HIV NAT screen roll out
2009 – HBV NAT screen
2012 – 12-month GBMSM deferral (from permanent Nov 2011)
2018 – 3-month GBMSM and other sexual behaviour deferrals (from 12m Nov 2017)
2021 – FAIR policy from June
2023 – NHSBT switched from TPHA to TP EIA assay



Rate of markers of infection per 100,000 donations from repeat donors, UK 1996 to 2024



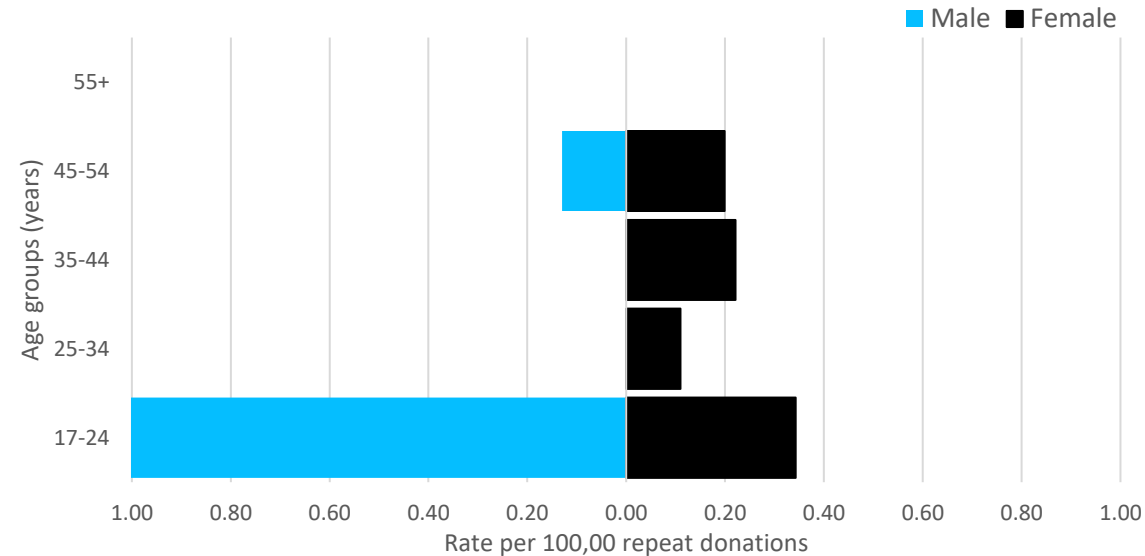
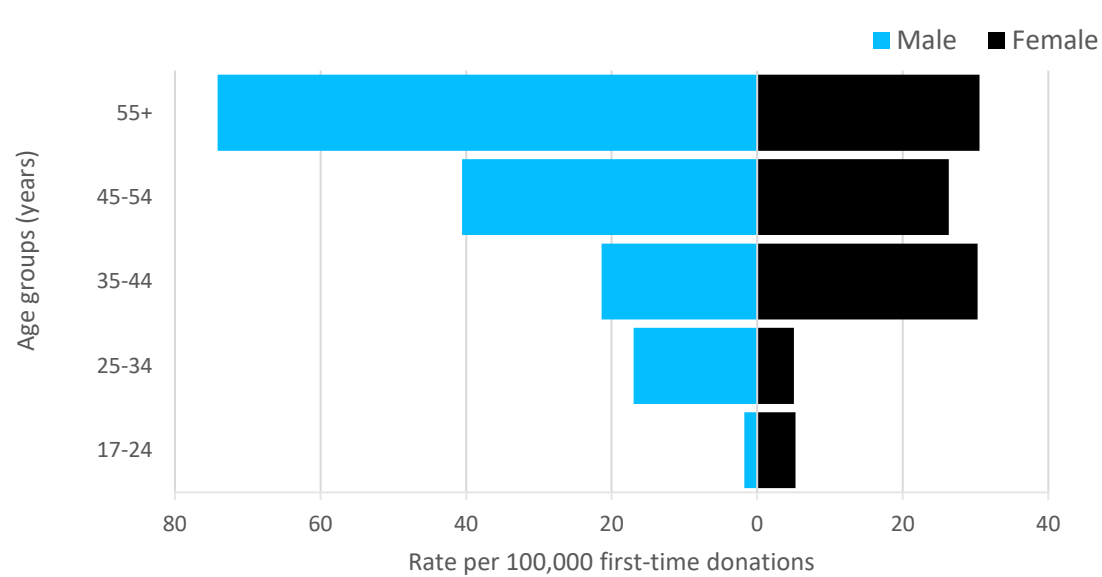
Age and gender distribution of donors with markers of current HBV (surface antigen) in first-time (n=324) and repeat donors (n=30), UK 2020 to 2024



Note lower scale

HBV shown are confirmed as chronic, acute or occult infection

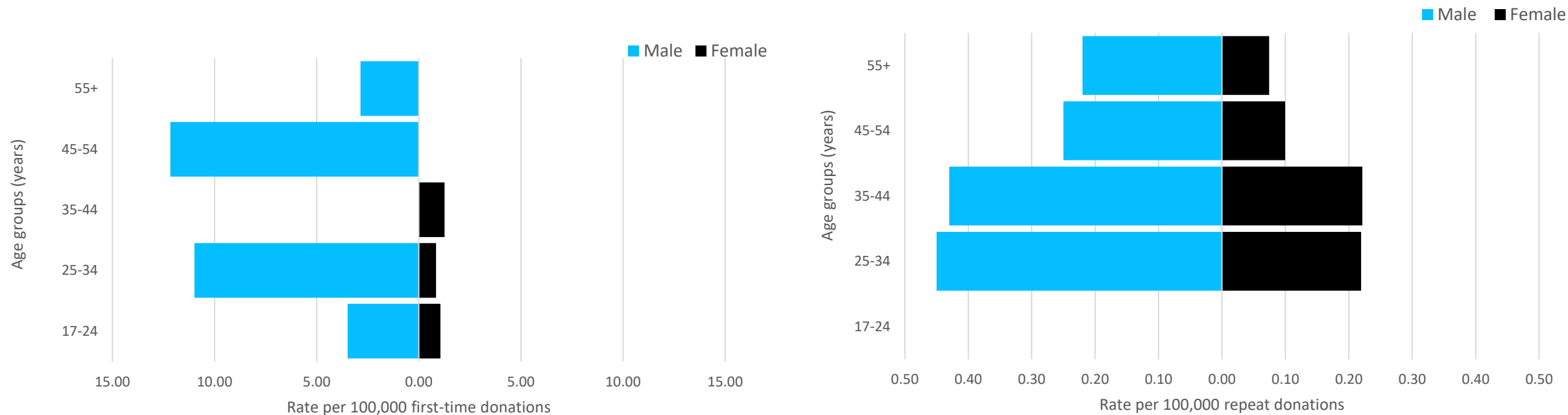
Age and gender distribution of donors with markers of HCV in first-time (n=141) and repeat donors (n=9), UK 2020 to 2024



Note lower scale

HCV are confirmed for anti-HCV with or without HCV RNA or HCV RNA only.

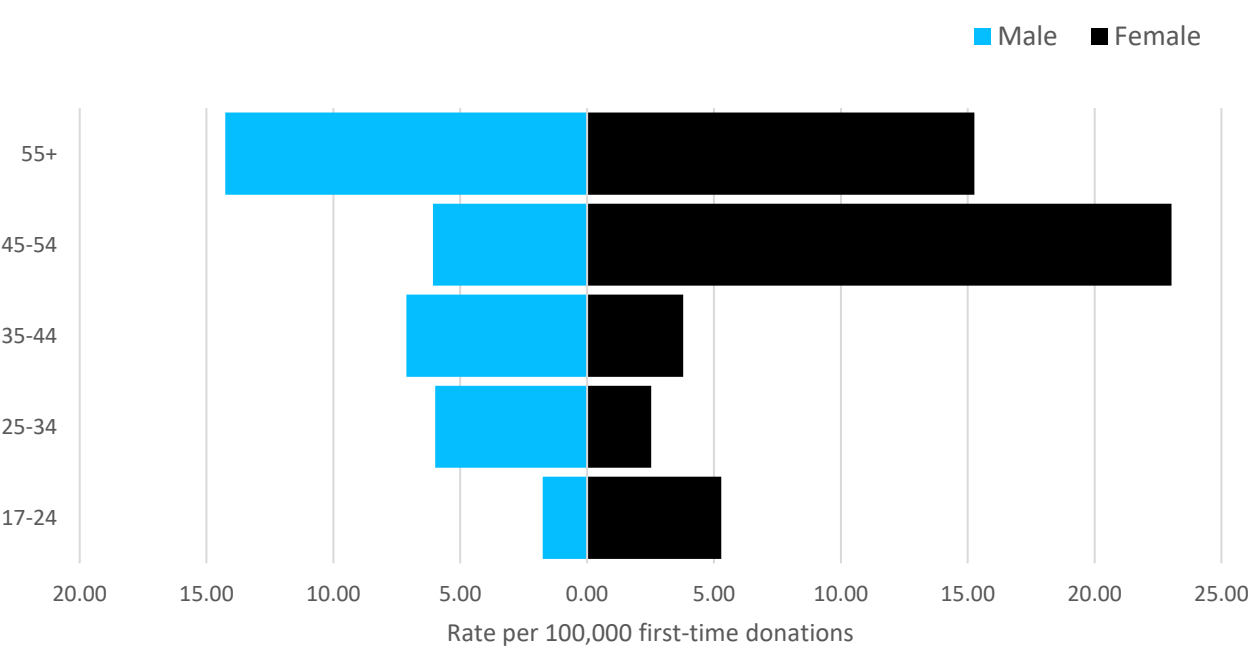
Age and gender distribution of donors with markers of HIV in first-time (n=27) and repeat donors (n=17), UK 2020 to 2024



Note lower scale

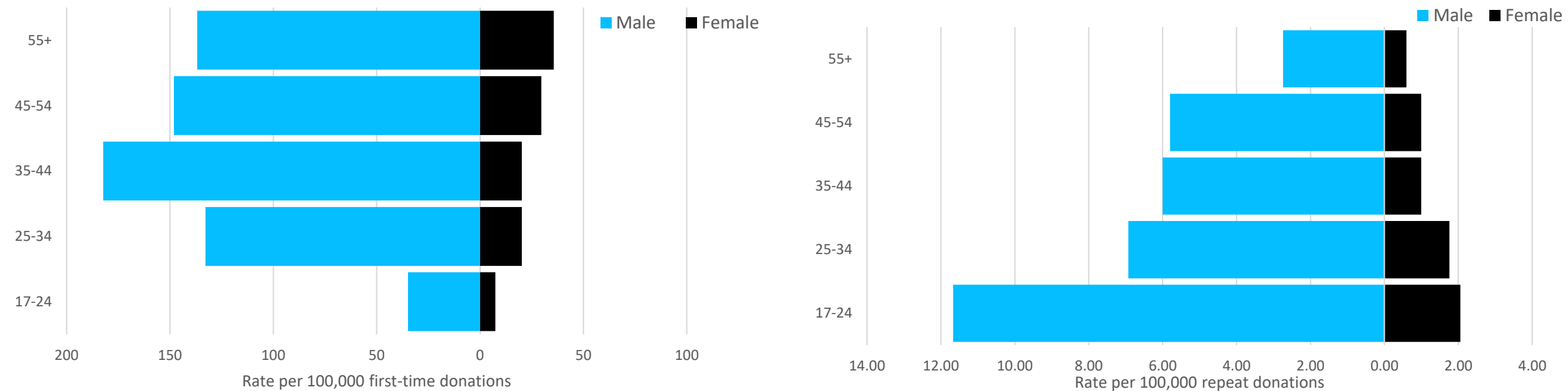
HIV are confirmed for anti-HIV with or without HIV RNA or HIV RNA only.

Age and gender distribution of donors with markers of HTLV in first-time donors (n=51), UK 2020 to 2024



HTLV are confirmed for anti-HTLV (type 1 or 2).

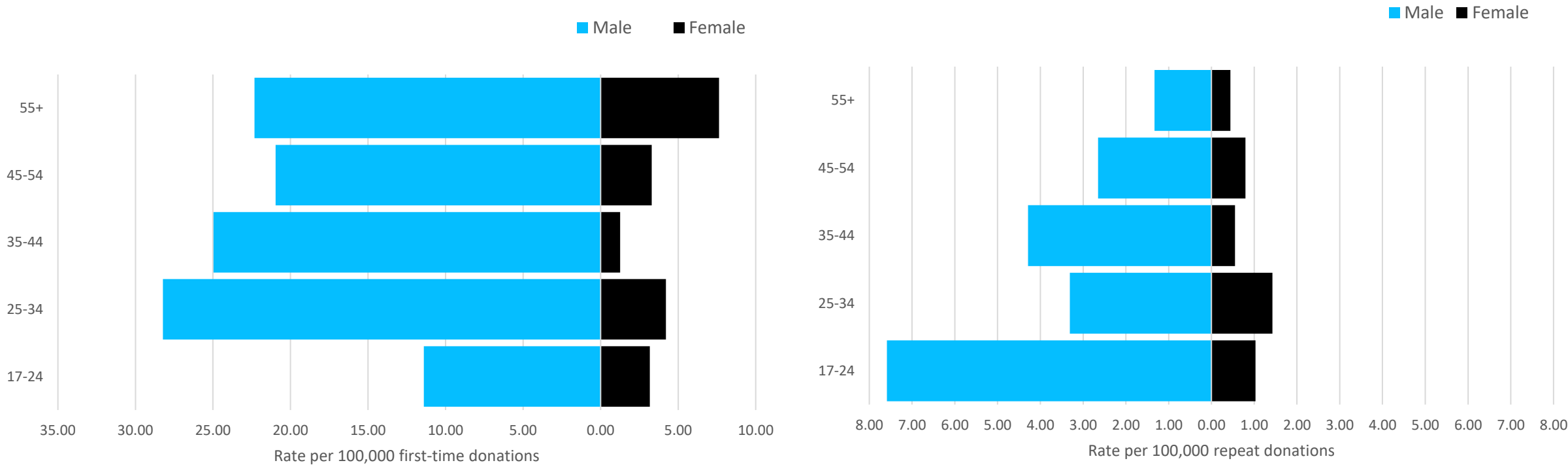
Age and gender distribution of donors with markers of syphilis in first-time (n=475) and repeat donors (n=230), UK 2020 to 2024



Note lower scale

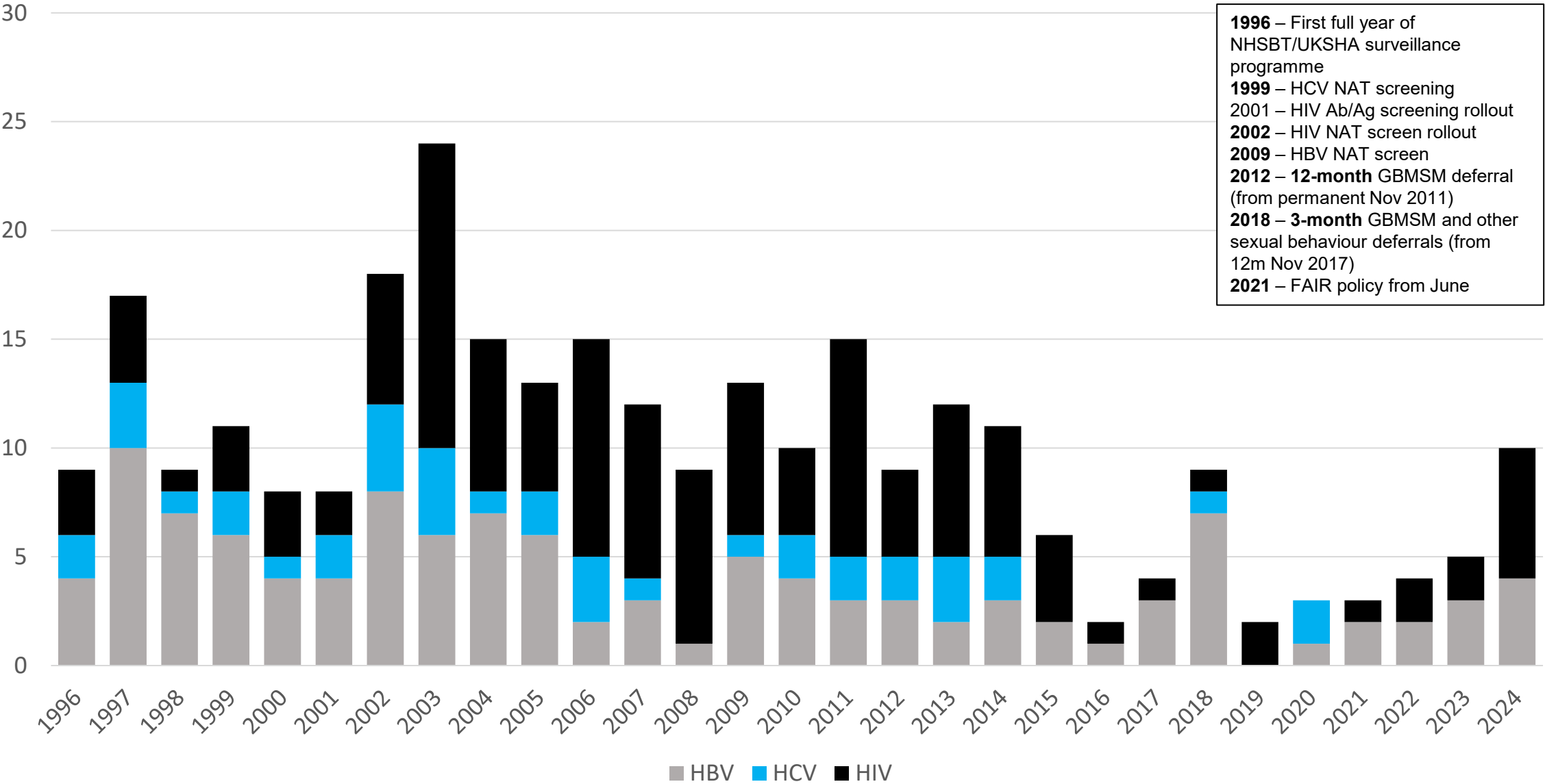
Syphilis are confirmed for treponemal antibody (any stage, including treated).

Age and gender distribution of donors with recent syphilis in first-time (n=83) and repeat donors (n=136), UK 2024 to 2024



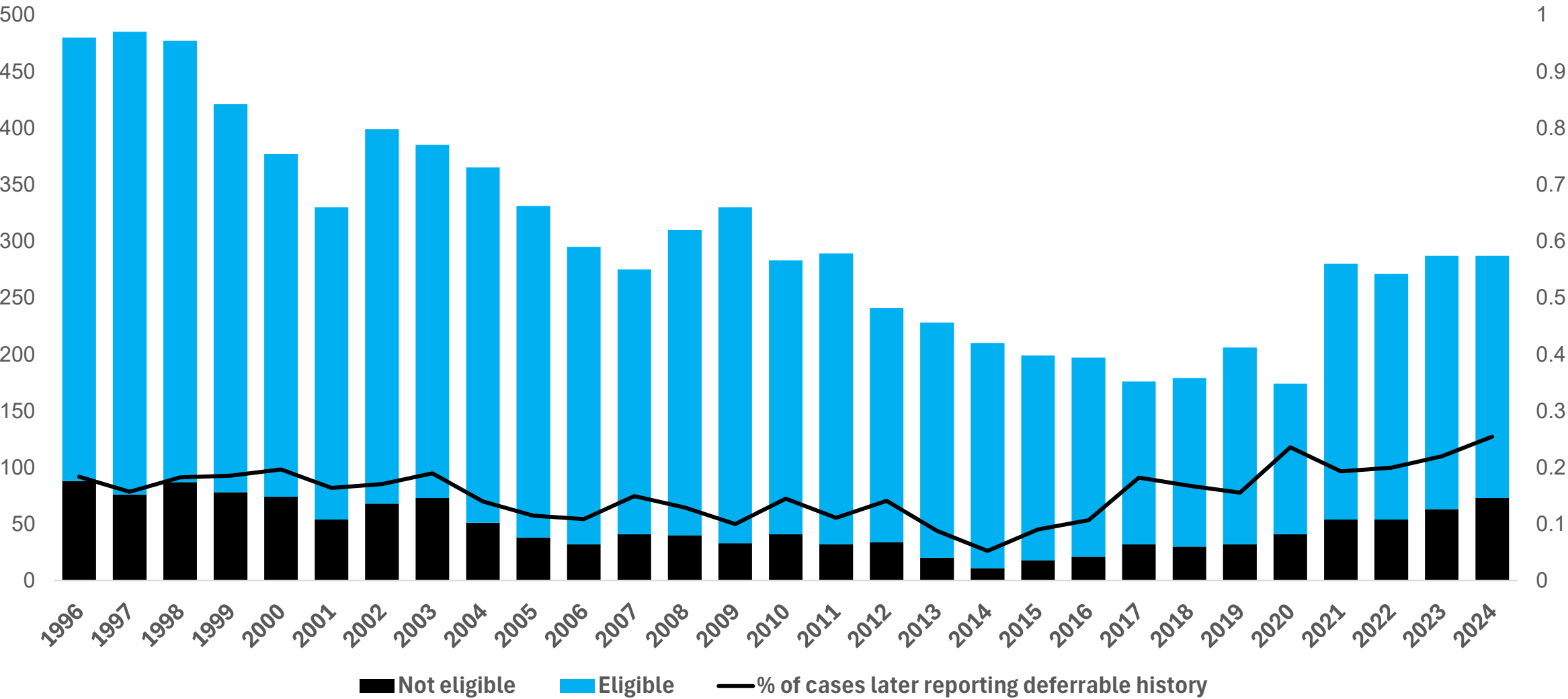
Recent syphilis assigned if confirmed as VDRL/IgM positive, or history of treatment or negative donation within 12 months.

The number of donors who seroconverted for HIV, HCV or HBV, UK 1996 to 2024



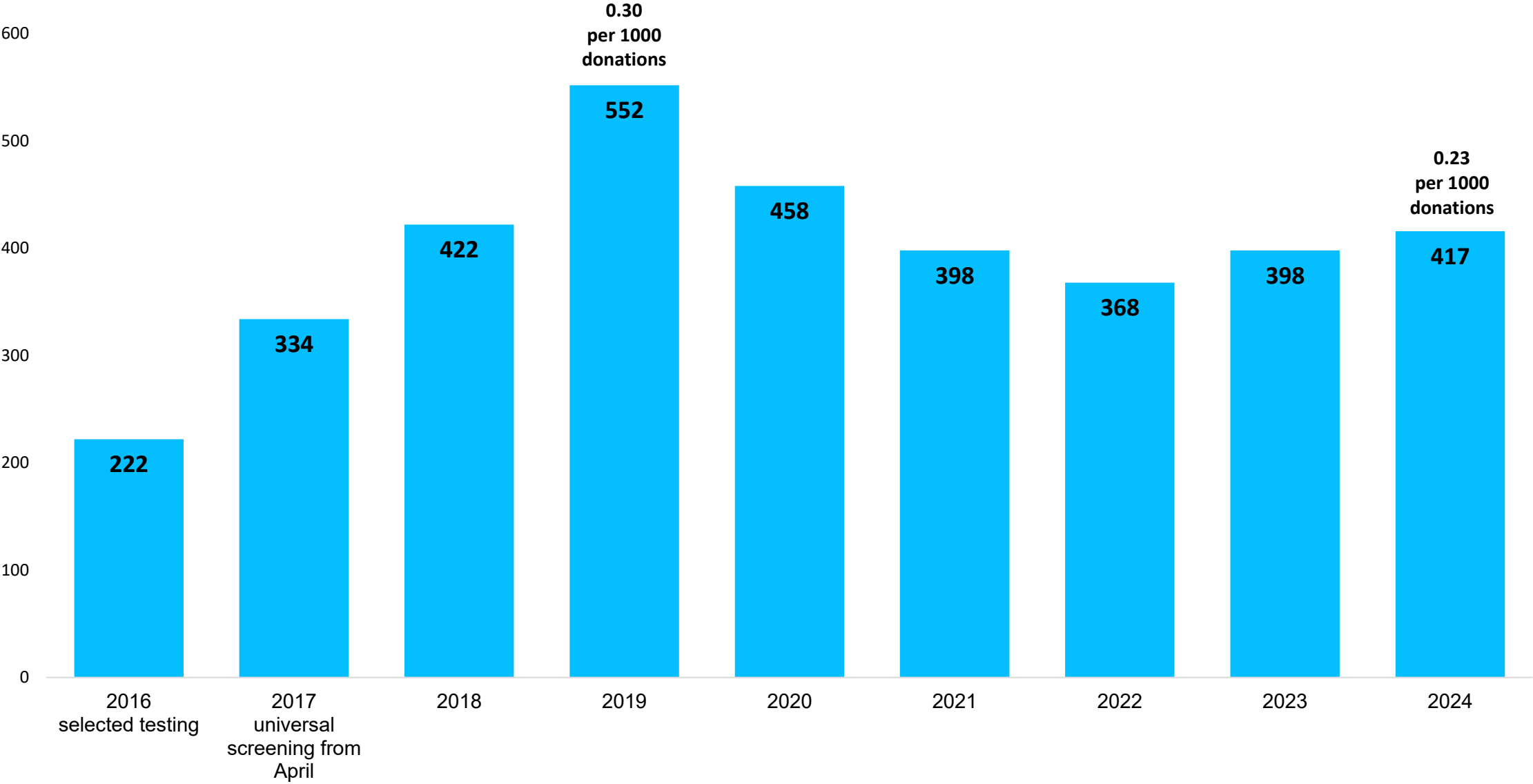
Seroconverter assigned if confirmed with a negative donation within 12 months or markers of recency (acute HBV, HIV NAT pick up or recency test, HCV NAT pick up) and negative donation within 3 years

Number of donors confirmed with markers of HBV (acute, chronic or occult), HCV, HIV, HTLV, or syphilis by eligibility, UK 1996 to 2024

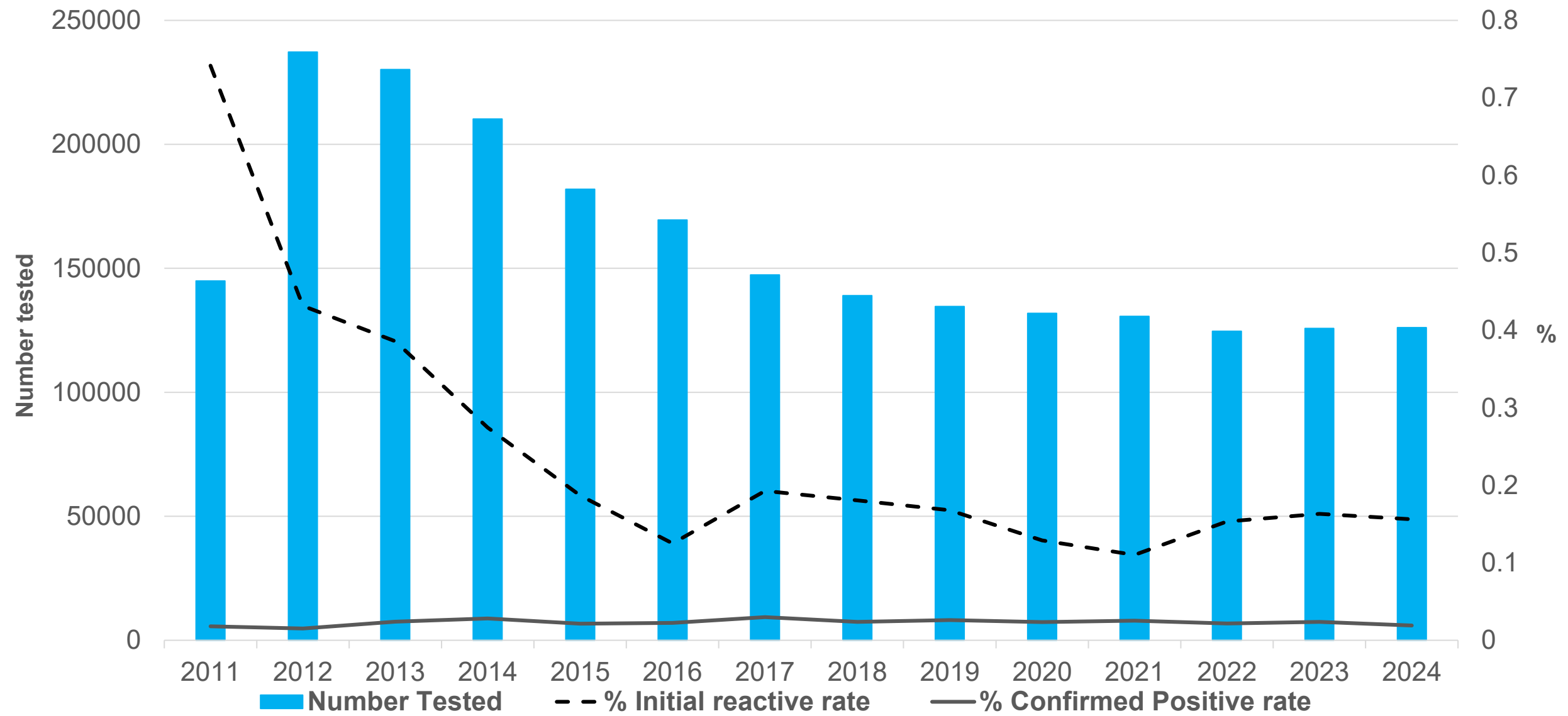


In 1996 most donors confirmed with markers of infection who were not eligible later reported injecting drug use (70/88) with 7 reporting sex between men. In 2024 most donors confirmed with markers of infection who were not eligible later reported a history of syphilis treatment (54/73) with 6 reporting anal sex with new or multiple partners and 3 reporting HIV prevention medication in the last 3 months.

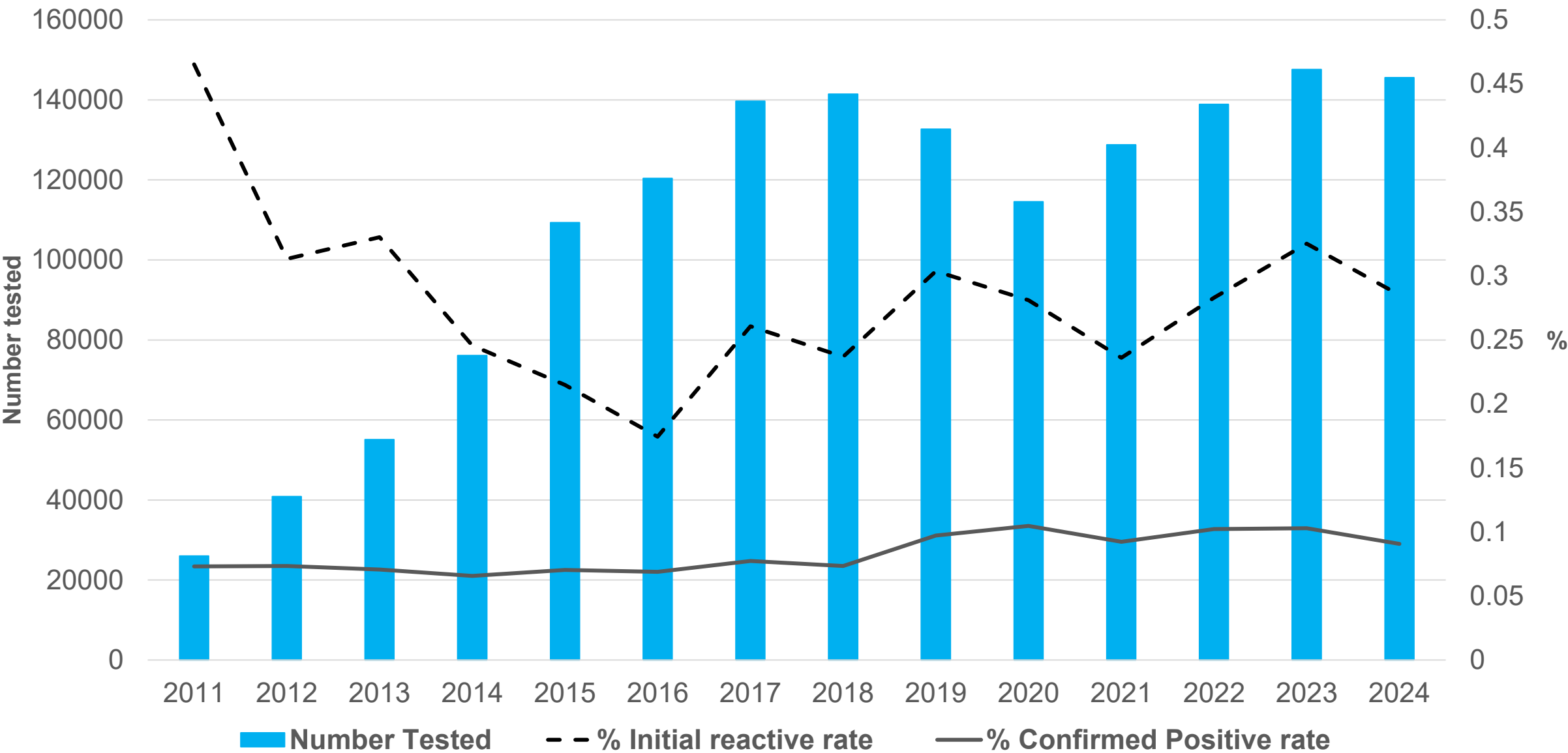
Whole blood and apheresis donations confirmed positive for HEV RNA, UK 2016 to 2024



Bacterial screening of apheresis platelets, England 2011 to 2024



Bacterial screening of pooled platelets, England 2011 to 2024



Bacterial screening of platelets, UK 2024 - using BacTALERT

Components tested and results of confirmatory investigations undertaken by NHSBT MSL Bacteriology	Number of components screened	Percentage components screened	Number screen reactive	Percentage screen reactive	Confirmed positive	Percentage confirmed positive	Indeterminate positive	Percentage indeterminate positive	Confirmed negative	Percentage confirmed negative	Indeterminate negative	Percentage indeterminate negative
Apheresis Platelets	126091	46.42%	197	0.16%	24	0.02%	75	0.06%	67	0.05%	31	0.02%
Pooled Platelets	145568	53.58%	415	0.29%	132	0.09%	131	0.09%	97	0.07%	55	0.04%
Total	271659		612	0.23%	156	0.06%	206	0.08%	164	0.06%	86	0.03%
Components tested and results of confirmatory investigations undertaken by NIBTS	Number of components screened ¹	Percentage components screened	Number screen reactive	Percentage screen reactive	Confirmed positive	Percentage confirmed positive	Confirmed Positive: Positivity in one or more tests and a speciation match in the index bottle and platelet pack (in one or more related apheresis packs). Indeterminate Positive: Positivity and organisms isolated from either the index bottle or pack but not both: In most cases the initially reactive bottle was positive, but the index pack was not available for culture because it had been transfused. Indeterminate Negative: The bottle is confirmed negative, but the index or associated packs are not available to confirm a negative result.					
Apheresis Platelets	3152	50.7%	7	0.22%	1	0.03%						
Pooled Platelets	3065	49.3%	10	0.33%	3	0.10%						
Total	6217		17	0.27%	4	0.06%						
Components tested and results of confirmatory investigations undertaken by SNBTS	Number of components screened	Percentage components screened	Number screen reactive	Percentage screen reactive	Confirmed positive	Percentage confirmed positive	Indeterminate positive	Percentage indeterminate positive				
Apheresis Platelets	5762	35.3%	6	0.10%	2	0.03%	4	0.07%				
Pooled Platelets	10553	64.7%	18	0.17%	5	0.05%	7	0.07%				
Total	16315		24	0.15%	7	0.04%	11	0.07%				
Components tested and results of confirmatory investigations undertaken by WBS	Number of components screened	Percentage components screened	Number screen reactive	Percentage screen reactive	Confirmed positive	Percentage confirmed positive						
Apheresis Platelets	4620	40.8%	3	0.06%	1	0.02%						
Pooled Platelets	6707	59.2%	21	0.31%	4	0.06%						
Total	11327		24	0.21%	5	0.04%						

Summary of likely source of organisms isolated on bacterial screening, 2024 (England only)

Speciation	Confirmed positive (apheresis)	Indeterminate positive (apheresis)	Confirmed positive (pooled)	Indeterminate positive (pooled)
Total Gram positive cocci skin flora	8	20	27	33
Total Gram positive rods skin flora	10	45	94	72
Total Gut flora	2	0	3	6
Total Oropharyngeal flora	3	7	6	5
Other bacteria	1	5	2	15
Other	0	0	0	2

Species data is available for bacterial screening on request.

TTI definition

- If, following investigation, a recipient had evidence of infection post transfusion, there was no evidence of infection prior to transfusion and no evidence of an alternative source of infection

AND

- **Either** at least one component received by the infected recipient was donated by a donor who had evidence of the same infection
- **Or** at least one component received by the infected recipient was shown to contain the agent of infection.

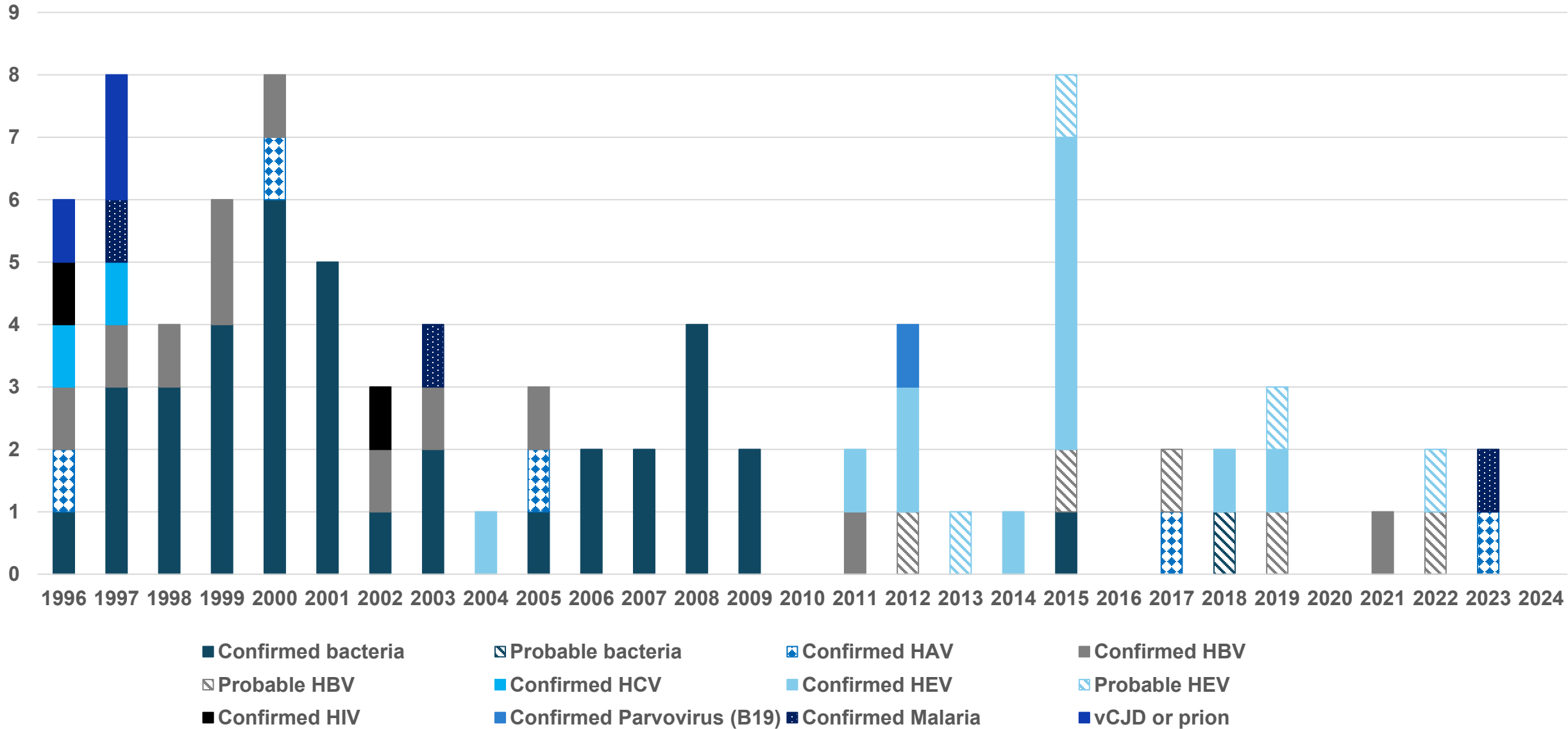
Confirmed TTI

- as per the definition, with evidence that the virus/bacterium is indistinguishable on molecular typing between patient and donor/donation

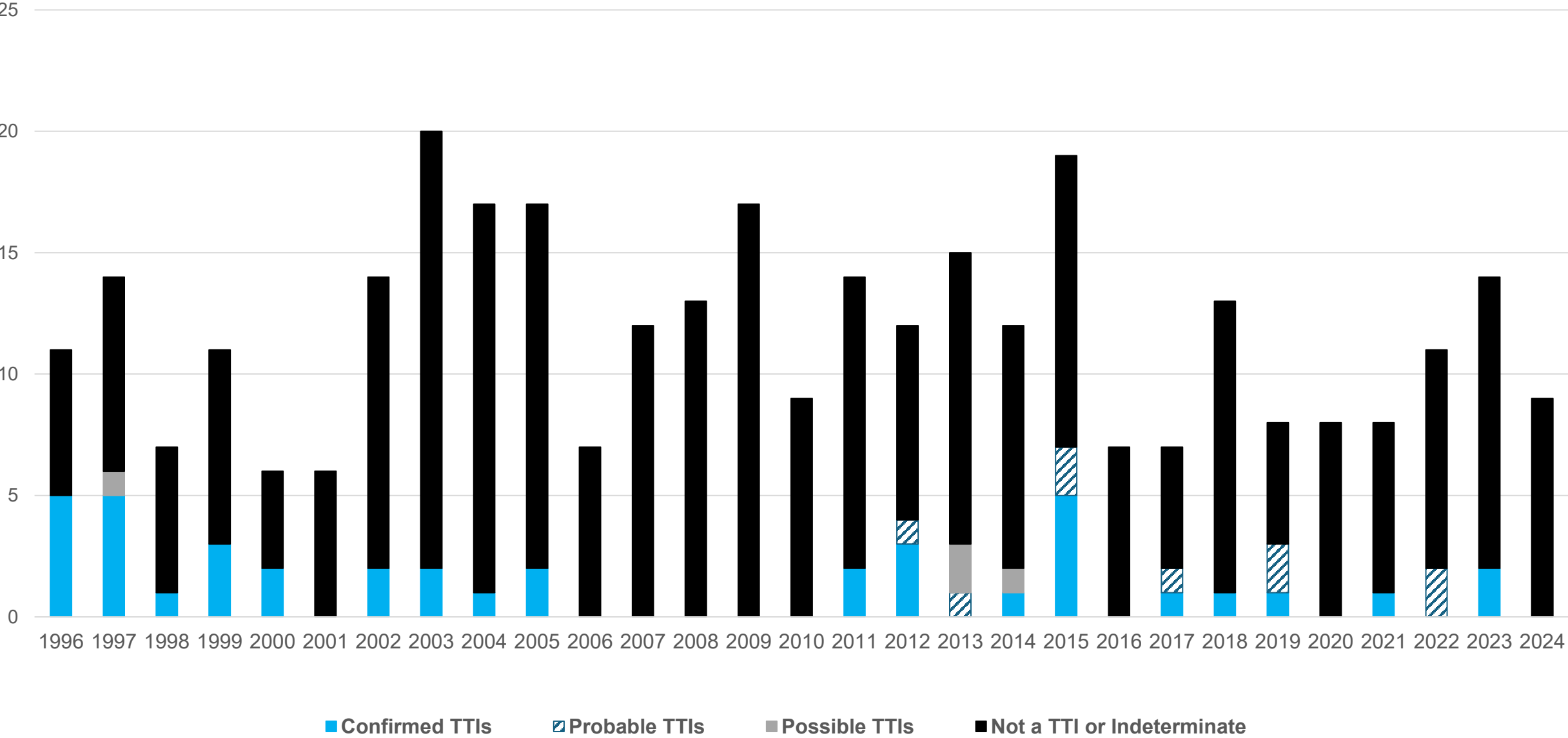
Probable TTI

- as per the definition but molecular typing cannot be carried out to confirm this

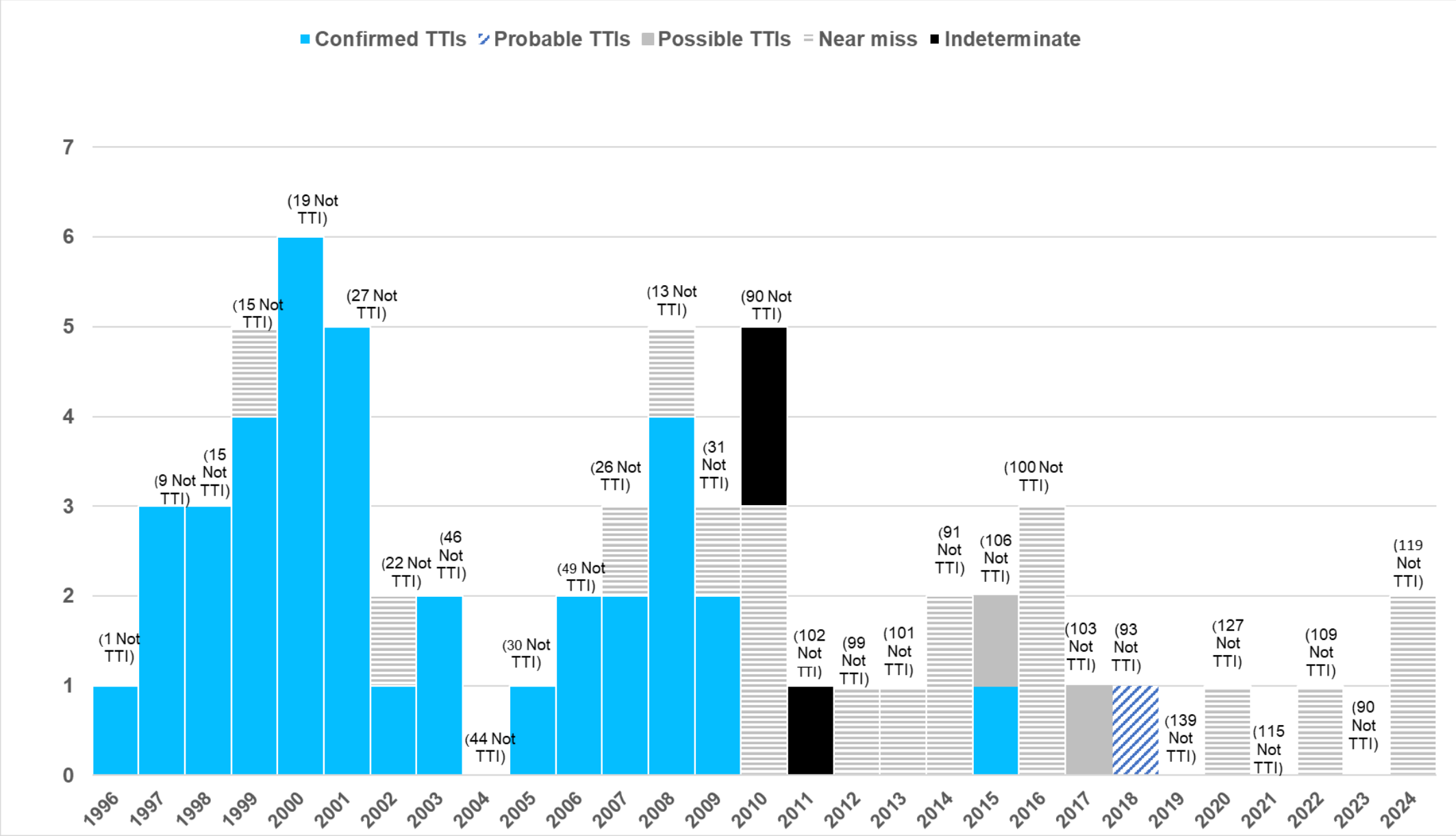
Confirmed and probable TTIs investigated by NHSBT / UKHSA Epidemiology Unit, by year of transfusion and pathogen, UK 1996 to 2024



Viral TTI investigations reported to NHSBT UKHSA Epidemiology Unit, by year of transfusion and investigation outcome, UK 1996 to 2024



Bacterial TTI investigations reported to NHSBT UKHSA Epidemiology Unit, by year of transfusion and investigation outcome, UK 1996 to 2024



Outcome of confirmed TTI incidents and implicated components by infection in the UK, reported to SHOT, with transfusions between October 1996 and December 2024 (Scotland included from October 1998)

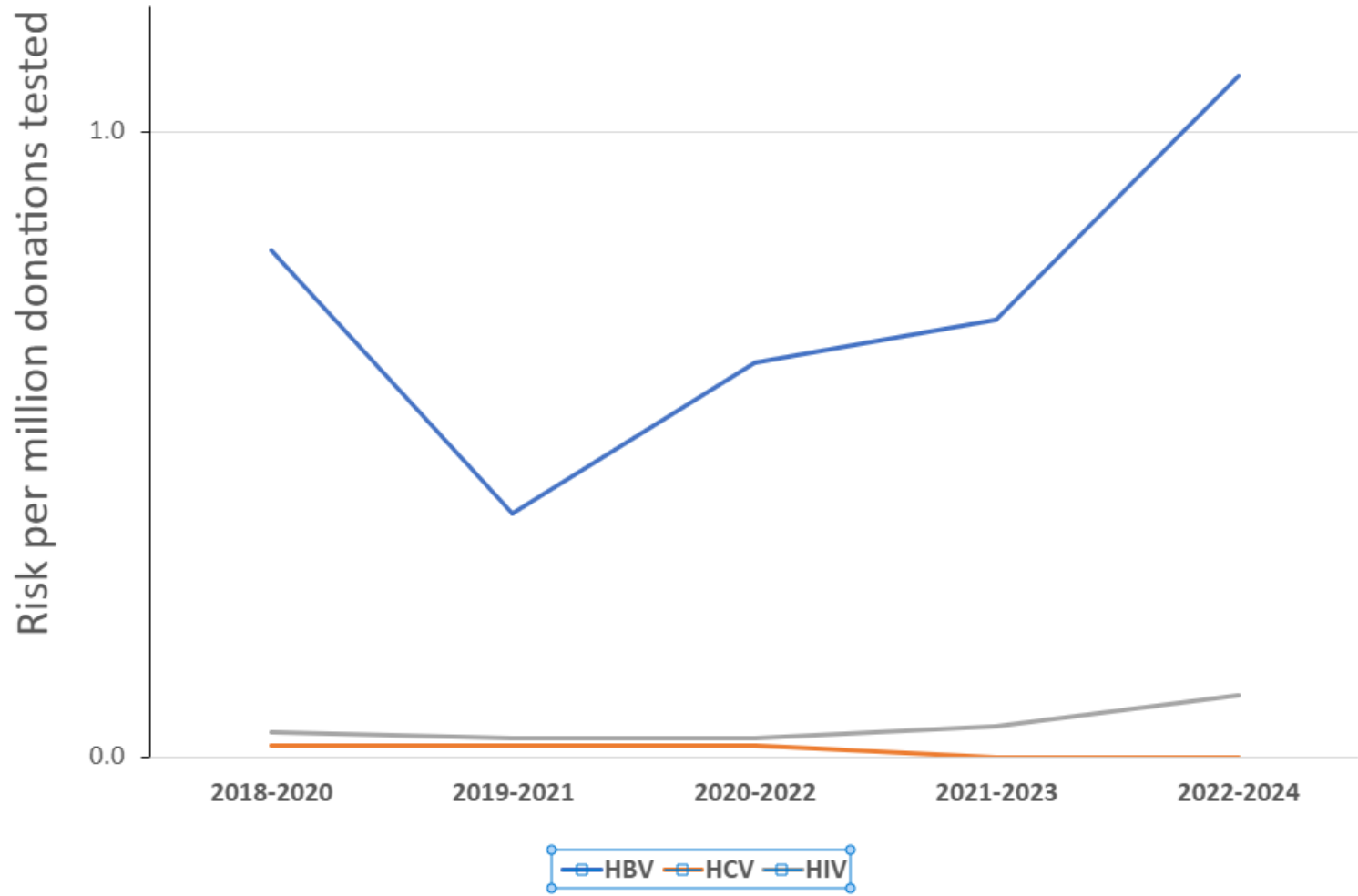
	Bacteria	HAV	HBV	HCV	HEV	HIV	Malaria	Parvovirus (B19)	vCJD or prion	Total
Death due to, or contributed to, by TTI	7	0	0	0	2	0	1	0	3	13
Major morbidity	5	2	5	0	8	2	2	1	0	25
Minor morbidity or not reported, or unknown	25	3	6	2	2	0	0	0	0	38
Cryoprecipitate	0	0	0	0	1	0	0	0	0	1
Fresh Frozen Plasma	0	0	2	0	5	0	0	0	0	7
Platelets	30	3	1	0	4	1	0	0	0	39
Red blood cells	7	2	8	2	2	1	3	1	3	29

Summary of lookback investigations, England 2024

	B19	HAV	HCV	HEV	HIV	OBI	Syphilis	Total
Donors with a previous donation identified as positive in retrospective testing	1	1	1	1	1	4	2	11
Archive samples available for testing	1	1	0	0	1	8	3	14
Donations by these donors considered here	1	1	1	1	1	9	2	16
Total components from these donations	0	1	2	3	2	17	4	29
cryoprecipitate	0	0	0	0	1	4	1	6
FFP	0	0	0	1	0	1	0	2
plasma for medicine	0	0	0	2	0	0	1	3
platelets	0	0	1	0	0	2	1	4
red cells	0	1	1	0	1	10	1	14
not known	0	0	0	0	0	0	0	0
Components reported as transfused (recipients transfused)	0	1	2	3	1	14	1	22
Recipient identified but deceased	0	0	1	2	1	10	1	15
recipient identified and alive	0	1	1	1	0	4	0	7
recipient status unknown	0	0	0	0	0	0	0	0
Recipients tested	0	1	1	1	0	4	0	7
recipient tested positive	0	0	0	0	0	0	0	0
recipients tested negative	0	1	0	0	0	3	0	4
recipient test pending	0	0	1	1	0	1	0	3

* The recipient was IgG positive, which was not unexpected given their age so evidence of past EBV but unlikely due to the transfusion

The estimated residual risk that a potentially infectious HBV, HCV and HIV window period donation is not detected on testing of whole blood donations (this is not equal to transmission risk), estimated for 3-year periods 2018-2020 to 2022-2024



HBV testing assumed all donations were tested for markers of HBsAg and HBV DNA using NAT with a WP of 30 days

Anti-HCV testing and HCV RNA testing with a WP of four days.

Combined HIV antigen/antibody testing and HIV NAT with a WP of nine days.

The estimated residual risk that a whole blood donation made in the infectious window period is not detected on testing: Risks specific for HBV, HCV and HIV, UK 2022 to 2024

	Donor type	HBV ¹	HCV ²	HIV ³
The number of potentially infectious window period donations NOT detected in 1 million whole blood donations tested. This is equal to risk x 1 million	All ⁴ (95% confidence interval)	1.09 (0.63-3.35)	<0.01	0.1 (0.04-0.28)
	First-time (95% confidence interval)	3.04 (2.14-11.93)	<0.10	0.11 (0.04-0.28)
	Repeat (95% confidence interval)	0.91 (0.53 -2.66)	<0.01	0.10 (0.04-0.17)
The number of millions of whole blood donations tested before a potentially infectious window period donation would NOT be detected. This is equal to 1/(risk x 1 million)	All ⁴	0.92	>100	10.25
	First-time	0.33	>10	9.01
	Repeat	1.10	>100	10.38
Approximate years to not detect 1 window period donation based on 1.7 million donations/year	All	0.5	More than 50	6

¹ HBsAg and HBV NAT with a WP of 30 days.

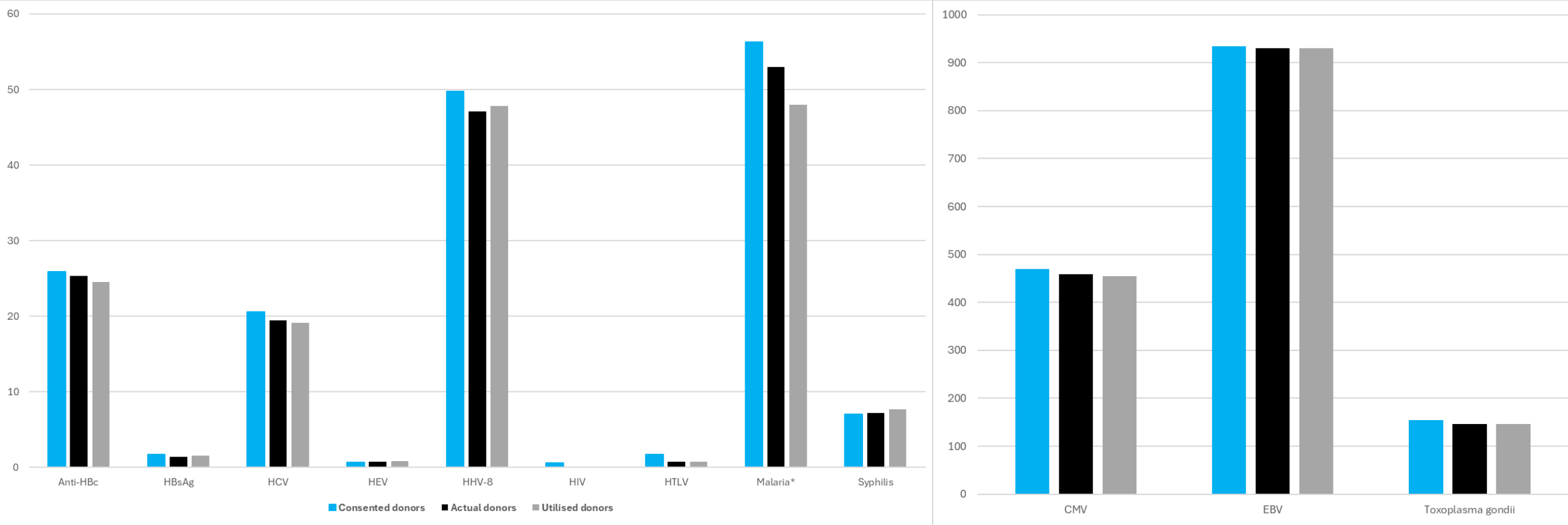
² Anti-HCV testing and HCV NAT with a WP of four days.

³ Combined HIV antigen/antibody testing and HIV NAT with a WP of nine days.

⁴ The risk due to WP amongst all donations was calculated as the weighted average of the risk amongst new and repeat donors, weighted according to the number of whole blood donations made from new and repeat donors.

All NAT screening was performed in pooled samples of 24 donations

Reactive marker rates per 1000 identified among all consented, actual organ donors and utilised organ donors who proceed to donation, UK 2024



* Discretionary marker

People consented to donate became actual donors when at least one organ was retrieved.

Actual donors became utilised donors when their organ(s) were transplanted.

Characteristics of utilised donors from whom at least one organ was transplanted and who were reactive for at least one marker, UK 2024

Gender	HBcAb	HBsAg	HCV	HEV	HHV8	HIV	HTLV	Malaria	Syphilis	CMV	EBV	<i>Toxoplasma gondii</i>
Total males	25	2	20	1	32	0	0	6	10	319	690	111
Total females	7	0	5	0	22	0	1	1	0	268	522	77
Age												
Range	21 - 72	49 - 57	23 - 75	NR	17 - 82	0	NR	21 -56	36 - 77	1 - 82	1 - 82	1 - 78
Ethnicity												
Asian or Asian British	1	NR	0	NR	2	0	NR	3	NR	25	28	5
Black or Black British	3	NR	0	NR	2	0	NR	0	NR	8	10	4
Chinese or Oriental	1	NR	0	NR	0	0	NR	0	NR	1	2	0
White	25	NR	24	NR	46	0	NR	4	9	536	1131	174
Other or Mixed	1	NR	0	NR	1	0	NR	0	NR	6	9	2
Unknown or not reported	1	NR	1	NR	3	0	NR	0	NR	11	32	3

Please note:
 *NR - not reported to minimise identification
 The reactive numbers listed are not confirmed
 Ethnicity definitions provided by NHSBT Statistics and Clinical Research

Living surgical bone, deceased tissue and cord blood donors positive for markers of infection, England 2024 and 2006 to 2024

UK 2024	Total number tested	HBV	HCV	HEV	HIV	HTLV	Syphilis	Total positive for infection	Total number tested for Malaria	Total number positive for Malaria	Total number tested for <i>T. cruzi</i>	Total number positive for <i>T. cruzi</i>
Cord blood	135	0	0	0	0	1	0	1	52	2	0	0
Deceased tissue	2,684	7	4	1	0	0	3	15	NA	NA	NA	NA
Living surgical bone	767	1	1	0	0	0	0	2	NA	NA	NA	NA
UK 2006 to 2024												
Cord blood	25596	4	13	0	0	12	12	41	7860	232	491	0
Deceased tissue	42,931	61	25	8	3	4	61	162	NA	NA	NA	NA
Living surgical bone	35,771	9	15	0	1	1	25	51	NA	NA	NA	NA

Rate of markers of infection per 100 000 donors tested in living surgical bone, deceased tissue donors and cord blood donors, England 2006 to 2024

