Transfusion-Transmitted Infections (TTI) n=2

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Definition:

Include as a TTI if, following investigation, the 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.

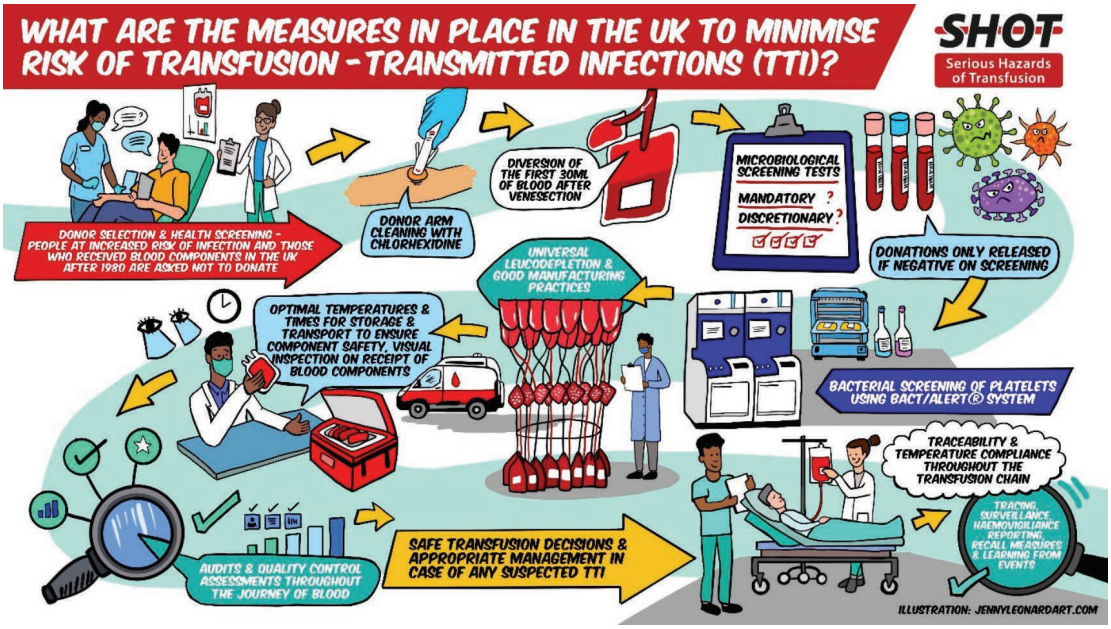
AND

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.

These may be identified because of infection in the recipient where transfusion is the suspected source, and a post-transfusion infection reported to the Blood Services. Alternatively, an infection in a recipient may be identified from lookback investigations which are initiated when a donation from a repeat donor is identified as having markers of infection. Archive samples are retrieved for retrospective testing, which may find a previous donation to also be positive but with markers of infection below the detection level of routine screening. In this case further work will be carried out to identify recipients.

Note that for the purposes of the European Union legislation, serious adverse reactions (SAR) are defined as any reactions in patients that are 'life-threatening, disabling or incapacitating, or which result in, or prolongs, hospitalisation or morbidity'. These must be reported to the Medicines and Healthcare products Regulatory Agency (a legal requirement). This includes all confirmed transfusion-transmitted infections.



Abbreviations used in this chapter

ALT	Alanine transaminase
BSH	British Society for Haematology
CMV	Cytomegalovirus
DNA	Deoxyribonucleic acid
EIAR	Emerging infectious agents report
EU	European Union
FAIR	For the assessment of individualised risk
FDA	Food and Drug Administration
FFP	Fresh frozen plasma
HAV	Hepatitis A virus
HBV	Hepatitis B virus
HCV	Hepatitis C virus
HEV	Hepatitis E virus
HIV	Human immunodeficiency virus
HTLV	Human T cell lymphotropic virus
JPAC	Joint UKBTS Professional Advisory Committee
MHRA	Medicines and Healthcare products Regulatory Agency
NAT	Nucleic acid testing
IVIg	Intravenous immunoglobulin
NHSBT	National Health Service Blood and Transplant
NIBTS	Northern Ireland Blood Transfusion Service
OBI	Occult hepatitis B virus (HBV) infection
PTR	Post-transfusion reactions
RNA	Ribonucleic acid
SaBTO	Advisory Committee on the Safety of Blood, Tissues and Organs
SACTTI	Standing Advisory Committee on Transfusion Transmitted Infection
SAR	Serious adverse reaction
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2
SNBTS	Scottish National Blood Transfusion Service
TTI	Transfusion-transmitted infections
UK	United Kingdom
vCJD	Variant Creutzfeld Jakob Disease
WBS	Welsh Blood Service
UKHSA	United Kingdom Health Security Agency

Key SHOT messages

- Suspected TTI should be discussed with infectious disease and/or virology colleagues to confirm the diagnosis and reported to the appropriate UK Blood Service as soon as possible for it to be fully investigated
- The UK Blood Services store a sample from every blood donation for at least three years. Testing can be done on these samples during this time if a TTI is suspected
- It is important that all healthcare professionals consenting patients for blood transfusion have up-to-date knowledge of blood donation testing, and the extremely small but potential risk of routine testing not detecting an infection in a donor that may enter the blood supply. For HBV, HCV and HIV this has been estimated to be less than 1 in 1 million donations tested

Introduction

This chapter describes suspected TTI incidents investigated by the UK Blood Services and reported to the NHSBT/UKHSA Epidemiology Unit's surveillance scheme in 2022. Additionally, we report on investigations where the UK Blood Services identify infection in a repeat donor and lookback to their previous donation(s) for evidence of transmissions to recipients.

A full description of the findings from the Epidemiology Unit surveillance schemes are available here: https://hospital.blood.co.uk/diagnostic-services/microbiology-services/epidemiology/ Epidemiology - Hospitals and Science - NHSBT (blood.co.uk)

Summary of reports in 2022

During 2022, UK Blood Services investigated 115 suspected bacterial incidents, 1 suspected parasitic incident and 8 suspected viral incidents. The outcomes are given in Figure 20.1.

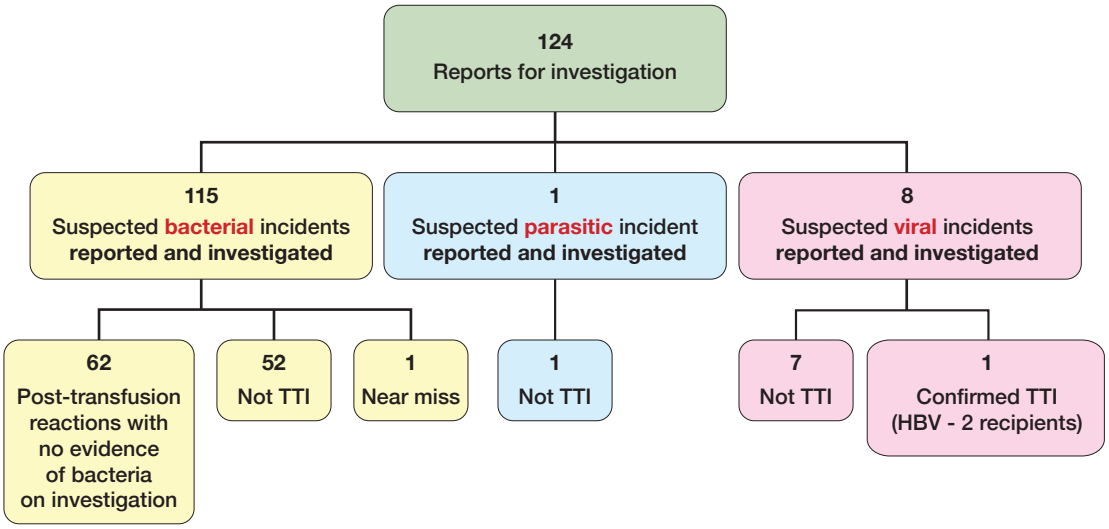


Figure 20.1: Outcome of suspected TTI investigated by the Blood Services in England, Northern Ireland, Scotland and Wales reported to the NHSBT/UKHSA Epidemiology Unit by the end of 2022

TTI=transfusion-transmitted infection; HBV=hepatitis B virus

Please note:

- A PTR occurs when a recipient develops a reaction and bacteria were suspected. However, no bacteria were cultured in the recipient, units or donor(s); i.e. no evidence of any bacterial contamination
- A confirmed TTI is as above with evidence that the virus/bacterium is indistinguishable on molecular typing between patient and donor/donation
- A probable TTI is as above, but where molecular typing cannot be carried out to confirm this
- Not a TTI is defined as an investigation that concluded the infection in the recipient was NOT caused by transfusion, either as no infected donors identified (after all donors traced) or bacteria/virus identified in the recipient, but all units cleared (no bacteria/virus in the unit and/or implicated donors)
- A near miss is defined as either an infection was identified in the unit due to be transfused however the unit was NOT used in transfusion (e.g. bacterial growth seen in unit and returned to the bacteriology laboratory prior to transfusion for investigation) or an infected donor calls post donation, and the unit is recalled and infection found in unit before it is transfused

Deaths related to transfusion n=0

None of the patients with confirmed TTI were reported to have died after being transfused, following investigations in 2022.

Major morbidity n=2

The recipient involved in the confirmed HBV TTI from an OBI donor had progressive kidney disease and underwent HBV testing following a liver function screen which revealed an increased ALT. The patient had extensive immunosuppression and therefore started antiviral treatment. A second recipient was diagnosed with a chronic HBV infection following a lookback investigation. They had moderate to severe fibrosis of the liver, which was multifactorial in origin and were also started on antiviral medication.

Bacterial TTI reports 2022

In 2022, none of the reported suspected bacterial TTI investigations were concluded to be confirmed, probable or possible. One investigation was concluded to be a near miss and the organism identified to be *Staphylococcus aureus* (Figure 20.1).

The four UK Blood Services all use the BacT/ALERT system for bacterial screening which has been successful in reducing the risk of bacterial TTI (McDonald et al. 2017). The details of which are described in Table 20.1.

Case 20.1: Near miss bacterial TTI (*Staphylococcus aureus*)

An apheresis platelet pack was returned to the Blood Service before being transfused, following the observation of clumps within the pack by the hospital transfusion laboratory. On return, small white flakes could be seen in the pack. Routine bacterial screening was reported as negative. BacT/ALERT bottles were also returned for further culture and investigation. Samples from the pack itself were positive for Staphylococcus aureus in both anaerobic and aerobic bottles on two occasions. S. aureus was also isolated from a swab from the implicated donor. Molecular typing confirmed the donor and pack isolates were a single strain. The donor was informed and removed from the donor panel.

A recall was issued for the associated platelet pack, but it had already been transfused. The recipient showed no adverse reaction or signs of bacterial TTI. There were no issues noted with this pack and bacterial screening remained negative. Evidence of bacteria in an individual unit from an apheresis donation does not necessarily indicate that the other units produced from the same donor will also show evidence of bacteria.

Bacterial TTI 1996-2022

Screening of platelet components cannot guarantee the absence of bacterial contamination. Packs are released for issue as 'negative-to-date', which can be before bacteria have multiplied sufficiently to trigger detection on screening. There have been 11 such near misses, all but one in platelet components, reported between 2011 and 2022. Overall, out of a total of 44 bacterial transfusion-transmissions to individual recipients, 37 (34 incidents) have been caused by the transfusion of platelets, and 7 by red cells (Table 20.6) since reporting began in 1996.

Haemovigilance systems for bacterial TTI are passive, relying on clinical colleagues to suspect and report TTI. Current BSH guidance recommends that patients are advised to report any symptoms that occur within 24 hours of transfusion (BSH Tinegate et al. 2012) although patients with confirmed bacterial TTI generally become unwell very rapidly, often during transfusion.

Table 20.1: Bacterial screening methods used by the UK Blood Services

	Time of sampling (hour)	Volume sampled (mL)	Apheresis sample	Time at release (hour)	Length of screening
NHSBT	≥36	2 x 8	Post-split	6	Day 7
NIBTS	≥36	16	Pre-split	6	Day 7
SNBTS	≥36	2 x 8	Pre-split	6	Day 7
WBS	≥36	2 x 8	Post-split	12	Day 7

Viral TTI reports 2022

In 2022, one suspected viral TTI investigation was concluded to be a confirmed HBV transmission from an OBI donor. This led to the identification of a second confirmed HBV TTI through lookback.

The number of viral TTI investigated in 2022 includes 4 reports where a CMV non-tested blood component was used in a situation where CMV tested ones should have been used, hence retrospective CMV testing is completed. These investigations are not further examined in the text of this chapter due to them not fulfilling the definition of a TTI. They are instead described in Chapter 9, Incorrect Blood Component Transfused (IBCT).

Case 20.2: Confirmed HBV transmission from a donor with occult HBV infection - recipient 1

Recipient 1 (50-60 years) had progressive kidney disease. They were diagnosed with an acute asymptomatic HBV infection in early 2022, four months post transfusion. HBV testing was performed following a liver function screen which revealed an increased ALT.

Blood transfusion was considered the most likely source of infection. They had received 28 units of FFP over 2 months in 2021. Six of the 28 donors were non-returning donors and their implicated donations all tested negative for anti-HBc and HBV DNA. Of the returning donors, 21 of 22 tested

negative for anti-HBc, and one donor tested positive with HBV DNA detected in their implicated donation on retesting by individual donation NAT. Post-donation testing had returned negative by pooled NAT.

Based on these investigations, one returning donor was identified with an occult HBV infection characterised with a very low viral load in the absence of HBV surface antigen. The donor was aged >50 and of other white ethnicity. The donor reported an accident leading to a hospitalisation when at the time liver function was investigated due to a slow recovery, no other significant history was disclosed. Based on their history, they were eligible to donate but have now been permanently deferred.

Case 20.3: Confirmed HBV transmission from a donor with occult HBV infection - recipient 2

Subsequent lookback investigations into red cell components made from the donation in Case 20.2 identified a second HBV infected recipient. Recipient 2 (70-80 years) had severe fibrosis due to non-alcoholic fatty liver disease. Nine months post transfusion, the recipient was tested and found to be positive for HBsAg, HBeAg and anti-HBc. HBV DNA was also detected at a very high level. They had tested negative for HBsAg in May 2017, and no other source or risk factors for HBV were identified. Following their positive test, the patient was started on antiviral treatment.

Sequencing analysis showed high similarity between the virus obtained from the implicated donor and the two recipients, and confirmed transfusion as the source.

Viral TTI 1996-2022

The year of transfusion may be many years before the year in which the incident is investigated and reported to SHOT due to the chronic nature, and possible late recognition, of some viral infections. Since 1996, 43 confirmed transfusion-transmitted viral infections have been documented in the UK, involving 35 donors. Among these, HBV (n=15) and HEV (n=15) were the most reported proven viral TTI. For HBV, this is partly because the 'window period', where an infectious donation from a recently infected donor cannot be detected by the screening tests, is longer than for HCV or HIV, despite NAT screening of blood donations.

The first transmissions of OBI confirmed by DNA sequencing in the UK were identified in 2022. Previously, 5 reports had been made of an HBV infection in recipients who had received components from donors with OBI in England; in these cases, transmission could not be confirmed because of a lack of sequencing information. However, implementation of sample concentration techniques (i.e. ultracentrifugation of large volumes of plasma) has made it possible to obtain viral sequences from samples containing very small amounts of viral DNA.

All except 2 of the 15 HEV transmissions were reported before the HEV RNA screening was introduced in April 2017 in the UK (Harvala et al. 2022). The rate of HEV RNA detected among donors is greater than other viral infections because it is generally acquired through food, and there is no specific donor selection to minimise donations from those infected.

Lookback investigations

Lookback investigations are considered when the UK Blood Services identify markers of infection in a donation from a repeat donor. This may be due to seroconversion or the introduction of a new test. The archive sample of their most recent screen-negative donation is requested for retrospective re-testing and if identified as positive, a full clinical lookback will be instigated. This means the associated components are traced, recipients are identified, and advice is given regarding follow-up and testing. For lookbacks involving OBI donors, all previous donations available for retesting are considered regardless of the screening result. In NHSBT, samples of donations are stored for three years.

In England in 2022 there was 1 HEV, 4 syphilis and 3 OBI lookback investigations. The HEV lookback involved an apheresis platelet donation where two components were made. No transmission was identified and both recipients died of unrelated causes. The 4 syphilis lookbacks involved 7 donations and 12 components: 5 recipients had died, 6 tested negative and one wasn't transfused. The 3 OBI lookbacks involved 16 donations and 30 components. Three donations had positive archive tests, which

had 6 associated components. Five components were transfused; one has follow-up in progress. Three recipients have testing results outstanding, one had died and one tested positive, as described in Case 20.3. In Scotland there is one pending HBV lookback investigation.

A HEV lookback investigation in Wales followed a donation positive for HEV RNA. The donor's most recent donation, made 6 weeks prior to the index donation, was found to contain HEV RNA on retrospective testing. This donation was a double apheresis platelet donation and manufactured into 8 neonatal platelet components. Fortunately, all neonatal components were time expired and not transfused to any patients. This case could have potentially led to adverse effects for several recipients of the donated components and has resulted in the WBS commencing ID HEV NAT testing on all apheresis donations in November 2022.

Non-investigated reports

Some reports made to NHSBT are not investigated due to various biological and practical factors.

Examples include:

- If a recipient tests positive only for antibodies to infection, it is possible that passive transfer of antibodies occurred. The presence of antibodies can reflect past infection. To clarify this NHSBT finds out if they received IVIg or blood transfusion, and if so, repeat the testing 4-6 weeks after the transfusion date. If it is the passive transfer of antibodies, then reactivity should resolve within this time, and they no longer have any evidence of infection
- In cases where only IgM antibodies are detected, reactivity for RNA/DNA and seroconversion (e.g., IgG) would also need to be confirmed before investigations commenced. This is because IgM assays are often cross-reactive and non-specific, so isolated IgM reactivity is not usually diagnostic
- In cases with evidence of a chronic infection, previous negative results are desired. This is to evidence transfusion as being the most likely source of infection
- For older cases of possible TTI, year of transfusion should be provided for the implicated transfusions in addition to the unit numbers to enable effective investigation by the Blood Services

Residual risk of HBV, HCV, or HIV

The chance, or residual risk, of a potentially infectious HBV, HCV or HIV window period donation not being detected on testing in the UK is very low at less than 1 per million donations tested (Table 20.2) (JPAC 2021). The window period is the time very early in the course of infection when tests in use do not detect the virus but there may be a sufficient amount for transmission. The calculations are made annually, but for HBV only consider the risk of non-detection of acute infections and not the risk of non-detection of an OBI.

Table 20.2: The estimated residual risk (and 95% confidence interval) that a donation made in the HBV, HCV and HIV infectious window period related to acute infection is not detected on testing UK: 2019-2021

	HBV	HCV	HIV
Number per million donations	0.39	0.02	0.03
95% confidence interval	*(0.07-0.98)*	*(0.00-0.09)*	*(0.00-0.08)*
At 1.9 million donations per year, testing will miss a potentially infectious window period donation every:	1 year	35 years	18 years

Far fewer TTI are observed in practice than the estimated risks in Table 20.2 indicate, partly because the estimates have wide uncertainty and the model used to calculate risk is based on the risk in all donations tested. The model does not incorporate pack non-use, recipient susceptibility to infection, or under-ascertainment/under-reporting, for example due to recipients dying from an underlying medical condition before a chronic asymptomatic viral condition is identified, or, in the case of HBV, an asymptomatic acute infection.

Blood donation screening process

Every blood donation in the UK is screened for HBV, HCV, HEV, HIV and syphilis. Details on screening and surveillance methods can be found on the NHSBT website using the following link: https://nhsbtdbe.blob.core.windows.net/umbraco-assets-corp/27719/nhsbt-ukhsa-data-sources-and-methods-2021.pdf

In 2022, following a SaBTO review (SaBTO 2022a), hepatitis B core antibody testing was rolled out across the UK to supplement current HBV screening in blood donors with the aim to reduce the risk from occult hepatitis B infection where HBsAg is not detectable and DNA levels may fluctuate below the levels of pooled testing (Harvala et al. 2021). While lookback investigations involving the testing of archive samples from donors with OBI will continue in England, lookback investigations into the archive samples of hepatitis B core antibody-positive donors are planned to begin in the UK in 2023. The WBS changed to individual HEV NAT screening for apheresis donors during November 2022.

Testing and selection of donors

The HEV screening process is currently under review by SaBTO (SaBTO 2022a).

Since the implementation of FAIR (For the Assessment of Individualised Risk) in summer 2021, there has been no evidence that FAIR has impacted recent viral infections or blood safety. While syphilis in first-time donors has continued at a higher rate in 2022, this is not thought to be because of FAIR but reflects the sustained higher level among the general population.

Parasitic TTI

In 2022, there was one parasitic TTI investigation for toxoplasmosis. This was concluded to not be a TTI.

Emerging infections

The EIAR produced by the NHSBT/UKHSA Epidemiology Unit is distributed monthly. This is reviewed by the SACTTI Horizon Scanning Team and may lead to further risk assessment and changes to the donor selection guidelines, or other blood safety measures, where necessary. Please see the horizon scanning position statement on the JPAC website: https://www.transfusionguidelines.org/document-library/position-statements

In 2022, the monkey pox outbreak was monitored carefully to ensure that existing Blood Service safety measures were sufficient. Arbovirus outbreaks and spread, particularly within Europe, continued to be monitored carefully with a 28-day deferral implemented for donors visiting the areas in France affected by dengue outbreaks. There were no known cases of transfusion-transmitted SARS-CoV-2 infections reported to the Blood Services in 2022 and there is still no evidence that SARS-CoV-2 is a TTI.

Variant Creutzfeldt Jakob disease (vCJD) 2022

There were no vCJD investigations in 2022.

vCJD 1996-2022

Three vCJD incidents (Table 20.3) took place prior to the introduction of leucodepletion and other measures taken by the UK Blood Services to reduce the risk of vCJD transmission by blood, plasma and tissue products. All these measures have been reviewed and endorsed by SaBTO (SaBTO 2013).

One of these measures, the provision of imported plasma for individuals born on or after 1st January 1996, was withdrawn in September 2019. This followed a recommendation by SaBTO based on evaluation of the risk of transmission of vCJD. Other risk-reduction measures, such as leucodepletion, remain in place (SaBTO 2019).

Surveillance continues to look for any evidence that vCJD or CJD could still be transmitted via the blood supply with no case of vCJD being identified for investigation since 2016 and no evidence of sporadic CJD being transmitted by the blood supply (TMER 2021). In 2022 both the FDA in the United States and the Australian Red Cross Lifeblood announced the removal of their blood donor deferral for people who had spent time in the UK between 1980 and 1996 (AABB 2022) with the FDA also removing the deferral for people who have received a transfusion in the UK since 1980. Further review of CJD safety measures in the UK is planned (SaBTO 2022b).

Table 20.3: number of confirmed TTI incidents, by year of transfusion and infection in the UK, reported to SHOT between October 1996 and December 2022 (Scotland included from October 1998)

Year of transfusion	Bacteria	HAV	HBV	HCV	HEV	HIV	HTLV	Parvovirus (B19)	Malaria	vCJD or prion	Total
Pre 1996	0	0	1	0	0	0	2	0	0	0	3
1996	0	1	1	1	0	1(3)	0	0	0	1	5 (7)
1997	3	0	1	1	0	0	0	0	1	2	8
1998	4	0	1	0	0	0	0	0	0	0	5
1999	4	0	2 (3)	0	0	0	0	0	0	0 (1)	6 (8)
2000	7	1	1	0	0	0	0	0	0	0	9
2001	5	0	0	0	0	0	0	0	0	0	5
2002	1	0	1	0	0	1	0	0	0	0	3
2003	3	0	1	0	0	0	0	0	1	0	5
2004	0	0	0	0	1	0	0	0	0	0	1
2005	2	1	1	0	0	0	0	0	0	0	4
2006	2	0	0	0	0	0	0	0	0	0	2
2007	3	0	0	0	0	0	0	0	0	0	3
2008	4 (6)	0	0	0	0	0	0	0	0	0	4 (6)
2009	2 (3)	0	0	0	0	0	0	0	0	0	2 (3)
2010	0	0	0	0	0	0	0	0	0	0	0
2011	0	0	1 (2)	0	1 (2)	0	0	0	0	0	2 (4)
2012	0	0	0	0	2	0	0	1	0	0	3
2013	0	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	1 (2)	0	0	0	0	0	1 (2)
2015	1	0	0	0	5 (6)	0	0	0	0	0	6 (7)
2016	0	0	0	0	0	0	0	0	0	0	0
2017	0	1	0	0	0	0	0	0	0	0	1
2018	0	0	0	0	1	0	0	0	0	0	1
2019	0	0	0	0	1	0	0	0	0	0	1
2020	0	0	0	0	0	0	0	0	0	0	0
2021	0	0	1 (2)	0	0	0	0	0	0	0	1 (2)
2022	0	0	0	0	0	0	0	0	0	0	0
Total number of incidents (recipients)	**41 (44)**	**4**	**12 (15)**	**2**	**12 (15)**	**2 (4)**	**2**	**1**	**2**	**3 (4)**	**81 (93)**

Year of transfusion	Red blood cells	Pooled platelets	Apheresis platelet	Fresh frozen plasma	Cryoprecipitate	Total
Pre 1996	3	0	0	0	0	**3**
1996	5	1	0	1	0	**7**
1997	6	1	1	0	0	**8**
1998	2	1	2	0	0	**5**
1999	5	3	0	0	0	**8**
2000	1	5	3	0	0	**9**
2001	0	4	1	0	0	**5**
2002	2	1	0	0	0	**3**
2003	1	1	3	0	0	**5**
2004	1	0	0	0	0	**1**
2005	1	3	0	0	0	**4**
2006	0	1	1	0	0	**2**
2007	2	1	0	0	0	**3**
2008	0	2	4	0	0	**6**
2009	1	0	2	0	0	**3**
2010	0	0	0	0	0	**0**
2011	2	0	0	2	0	**4**
2012	1	0	0	2	0	**3**
2013	0	0	0	0	0	**0**
2014	1	0	0	1	0	**2**
2015	1	3	1	1	1	**7**
2016	0	0	0	0	0	**0**
2017	0	0	1	0	0	**1**
2018	0	0	1	0	0	**1**
2019	0	0	1	0	0	**1**
2020	0	0	0	0	0	**0**
2021	1	0	0	1	0	**2**
2022	0	0	0	0	0	**0**
Total number of recipients	**36**	**27**	**21**	**8**	**1**	**93**

Table 20.4: Number and type of implicated components from confirmed TTI recipients, by year of transfusion in the UK, reported to SHOT between October 1996 and December 2022 (Scotland included from October 1998)

	Bacteria	HAV	HBV	HCV	HEV	HIV	HTLV I	Parvovirus (B19)	Malaria	vCJD or prion	Total
Outcomes											
Death due to, or contributed to, by TTI	11	0	0	0	2	0	0	0	1	3	**17**
Major morbidity	29	3	15	2	9	4	2	1	1	1	**67**
Minor morbidity	4	1	0	0	4	0	0	0	0	0	**9**
Implicated component types											
Red blood cells	7	1	11	2	4	2	2	1	2	4	**36**
Pooled platelets	21	2	1	0	2	1	0	0	0	0	**27**
Apheresis platelets	16	1	1	0	3	0	0	0	0	0	**21**
Fresh frozen plasma	0	0	2	0	5	1	0	0	0	0	**8**
Cryoprecipitate	0	0	0	0	1	0	0	0	0	0	**1**

Table 20.5: Outcome of confirmed TTI incidents and implicated components by infection in the UK, reported to SHOT between October 1996 and December 2022 (Scotland included from October 1998)

Accompanying notes for Table 20.3, 20.4 and 20.5

- Where applicable, number of recipients are included in bracket
- No blood donation screening has been ever in place for vCJD, HAV or parvovirus B19
- HTLV screening began in 2002
- HEV RNA screening began in April 2017 in the UK and was not in place 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
- HCV investigations where the transfusion was prior to screening are not included in the above figure
- The 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'
- The vCJD case in 1999 was found to have the same blood donor as one of the 1997 transmissions and has therefore been counted as the same incident. Please note this was counted as two separate incidents in previous reports
- A further patient with prion disease 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

For further information or alternative breakdown of data please contact the National Coordinator for Transfusion Transmitted Infections via the NHSBT/UKHSA Epidemiology Unit at epidemiology@nhsbt.nhs.uk

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