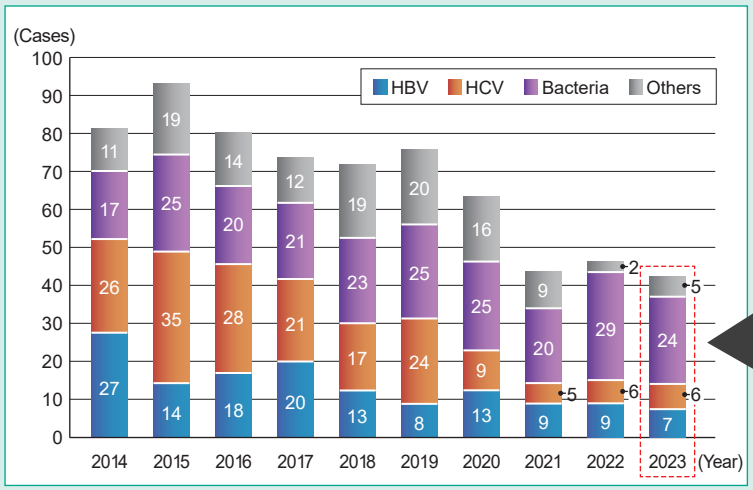
Infectious Cases That were Likely Related to Transfused Blood Components (2023)

JRCS analyzed and evaluated suspected transfusion-transmitted infections (TTIs) reported by medical institutions to JRC blood centers (voluntary reports), as well as cases subjected to post-donation information-based retrospective studies (lookback studies). In 2023, 2 HBV infection cases and 3 bacterial infection cases were confirmed through detection of viral nucleic acid and bacteria in repository samples of the implicated or subsequent blood donations.

Yearly number of cases reported to JRC blood centers as suspected transfusion-transmitted infections, and the breakdown and analysis results of the reported cases by pathogen in 2023.



Pathogen	No. of reported cases	No. of confirmed cases
HBV	7	2
HCV	6	0
Bacteria	24	3
HEV	1	0
CMV	3	0
VZV*	1	0
Total	42	5

*varicella zoster virus

Summary of case reports (cases confirmed to be TTIs based on detection of pathogens in relevant items such as repository samples of donated blood) (2023)

Bacteria

●Voluntary reports: Cases reported by medical institutions as suspected transfusion-transmitted bacterial infections

Case No.	Blood component (year and month of blood collection)	Primary disease	Age	Sex	Symptoms	Time to onset (from start of administration)	Results of post-transfusion blood culture		Patient outcome
							Blood component	Patient blood	
1	Ir-PC-HLA-LR (2023.2)	Myelodysplastic syndrome	60s	M	Chills, malaise, fever, hypotension, atrial fibrillation, depressed level of consciousness, oxygen desaturation	2 hours and 25 minutes	*Staphylococcus aureus*	*Staphylococcus aureus*	Death
2	Ir-PC-LR (2023.7)	Myelodysplastic syndrome	70s	F	Shivering, fever	About 5 hours	*Staphylococcus aureus*	*Staphylococcus aureus*	Recovered
3	Ir-PC-LR (2023.10)	Myelodysplastic syndrome	60s	M	Chills, shivering, fever, oxygen desaturation	About 2 hours and 40 minutes	*Streptococcus agalactiae*	*Streptococcus agalactiae*	Recovered

HBV

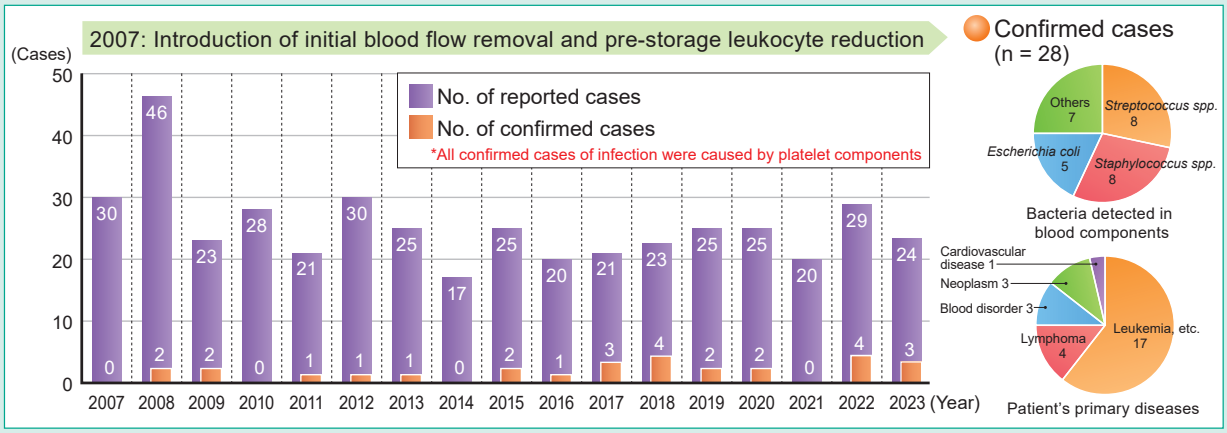
●Post-donation information: Cases identified through lookback studies conducted based on reported positive conversion in blood screening tests

Case No.	Blood component (year and month of blood collection)	Primary disease	Age	Sex	Pre-transfusion test		Post-transfusion test		ALT		Patient outcome
					Test items	Test results	Positive conversion items	Time from transfusion	Maximum (IU/L)	Time from transfusion	
1	Ir-RBC-LR* (2023.4)	Rectal cancer	70s	F	HBV-DNA, HBs-Ag, HBs-Ab, HBc-Ab	Neg.	HBV-DNA	8 wks	◆	◆	Unresolved
2	Ir-PC-LR (2023.8)	Acute myeloid leukemia	70s	M	HBV-DNA, HBs-Ag, HBs-Ab, HBc-Ab	Neg.	HBV-DNA HBs-Ag	14 wks	◆	◆	Unresolved

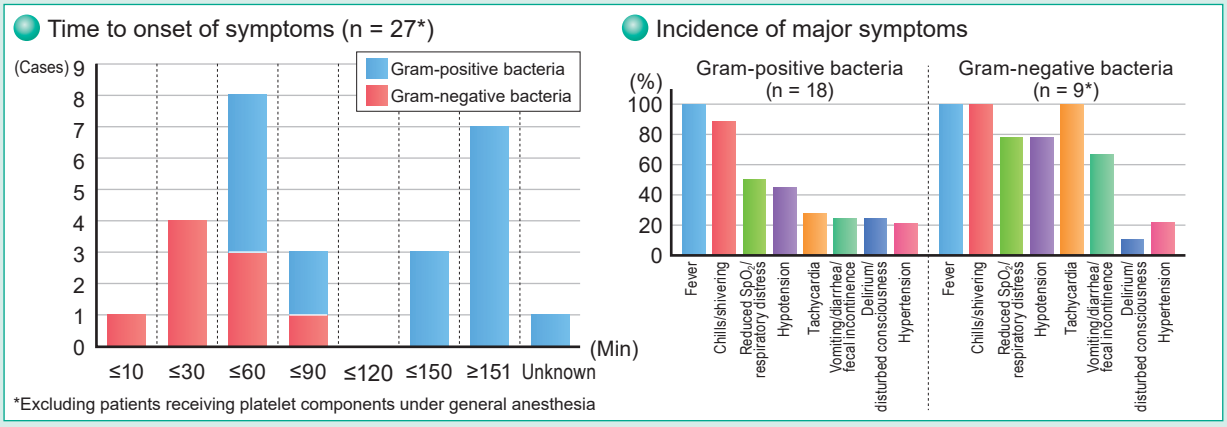
*First confirmed case of infection caused by a red blood cell component after introduction of individual donation NAT (ID-NAT) ◆ No available data

Suspected and confirmed cases of transfusion-transmitted bacterial infections (detected bacterial strains and primary diseases)

Although transfusion-transmitted bacterial infections caused by red blood cell components have not been confirmed since the introduction of initial blood flow removal and pre-storage leukocyte reduction, platelet component-related infections continue to be confirmed. There were 3 such cases in 2023.



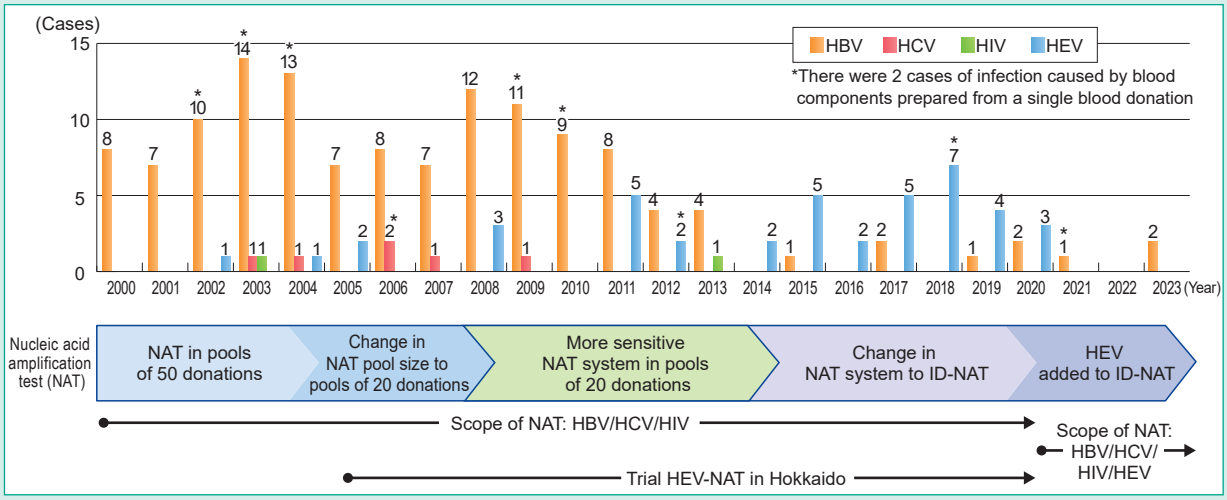
Symptoms of transfusion-transmitted bacterial infection



Number of blood donations that caused transfusion-transmitted HBV, HCV, HIV, and HEV infections by year of collection, and changes in safety measures

Since the introduction of individual donation NAT (ID-NAT), 10 cases of post-transfusion HBV infection have been confirmed, including 2 cases in 2023.

No post-transfusion HEV infections have been confirmed since the introduction of HEV-NAT in August 2020.



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