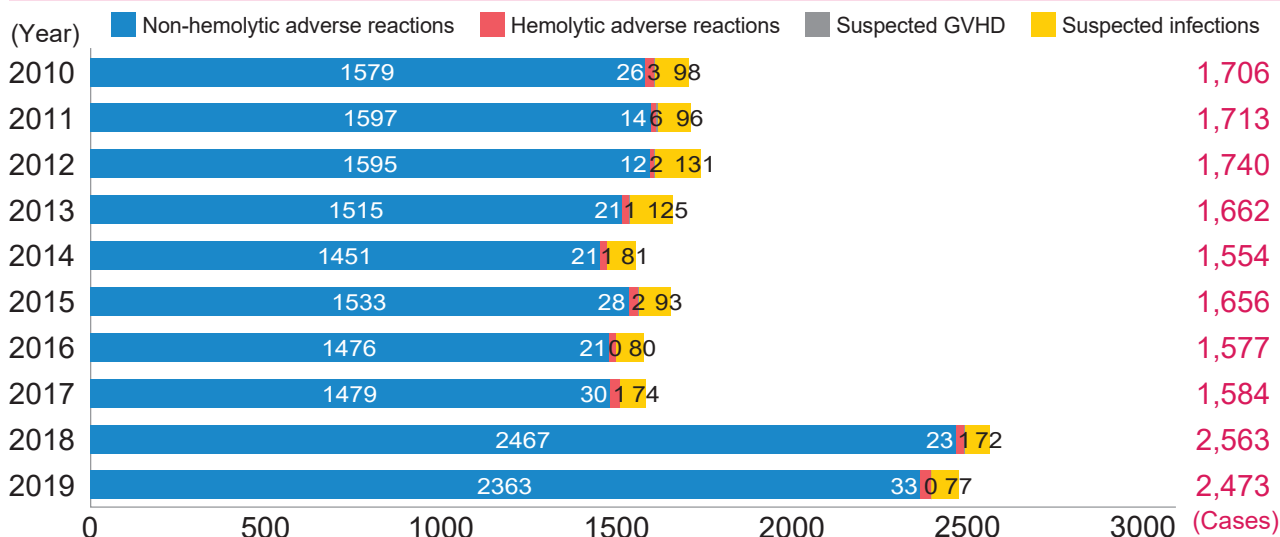


## Non-hemolytic Adverse Transfusion Reactions Reported to JRC Blood Centers (2019)

Suspected transfusion-related adverse reactions and/or transfusion-transmitted infectious cases were reported by medical institutions to JRC blood centers. This issue of Transfusion Information describes **non-hemolytic adverse transfusion reaction cases, the most commonly reported cases** in 2019.

### Yearly number of reported adverse reactions and infectious cases and types of adverse reactions (including ones assessed as “no cause of imputability to transfusion”)

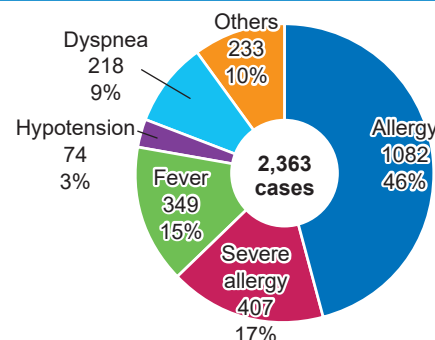


Total of 2,363 cases of non-hemolytic adverse transfusion reactions were reported in 2019. These accounted for 95.6% of the 2,473 cases reported as transfusion-related adverse reactions and infections. The number of reported cases increased due to changes in the investigation method of transfusion-related adverse reactions and infections introduced in January 2018.

## Non-hemolytic adverse transfusion reactions (2019)

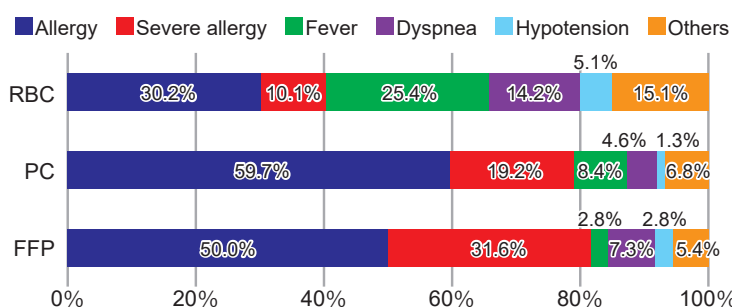
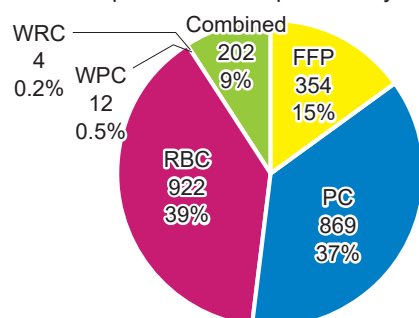
### Number of non-hemolytic adverse transfusion reactions reported

The most frequently reported reaction was allergy with 1082 cases (46%). Allergy including severe allergy accounted for about two-thirds of the reported adverse reactions.



### Types of transfused blood components and breakdown of adverse reactions (by symptom)

Most of the non-hemolytic adverse reactions were caused by platelets or red blood cells. Red blood cells caused a larger proportion of the cases of fever and dyspnea than other components. Plasma and platelets had a particularly large proportion of the cases of allergy and severe allergy.



## ■ Number of reported cases and frequency by component and symptom (frequency based on the total number of bags supplied) (2019)

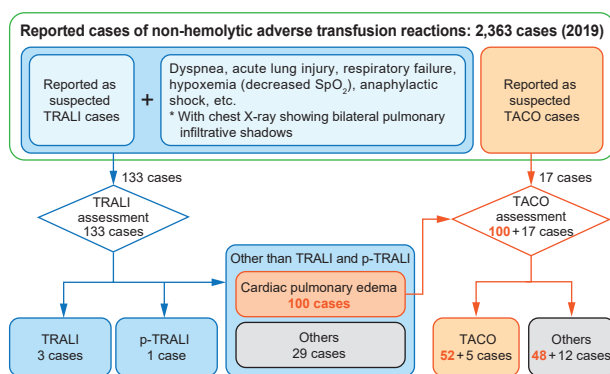
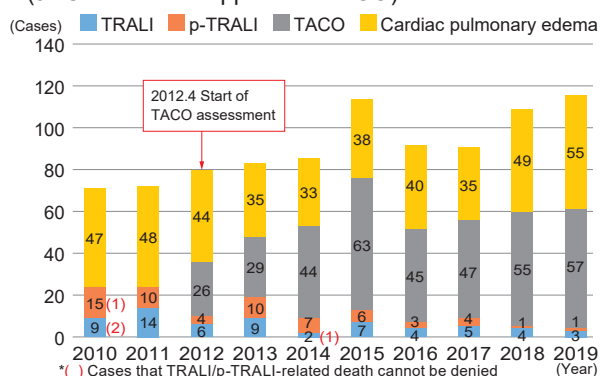
Components	Platelets*		Red cells*		Plasma	
Number of bags supplied	816,324		3,262,683		902,007	
Allergy	519 cases	(approx. 1/ 1,600)	279 cases	(approx. 1/ 12,000)	177 cases	(approx. 1/ 5,100)
Severe allergy	167 cases	(approx. 1/ 4,900)	93 cases	(approx. 1/ 35,000)	112 cases	(approx. 1/ 8,100)
Fever	73 cases	(approx. 1/ 11,000)	234 cases	(approx. 1/ 14,000)	10 cases	(approx. 1/ 90,000)
Hypotension	11 cases	(approx. 1/ 74,000)	46 cases	(approx. 1/ 71,000)	11 cases	(approx. 1/ 82,000)
Dyspnea	23 cases	(approx. 1/ 35,000)	63 cases	(approx. 1/ 52,000)	14 cases	(approx. 1/ 64,000)
Cardiac pulmonary edema	12 cases	(approx. 1/ 68,000)	37 cases	(approx. 1/ 88,000)	6 cases	(approx. 1/150,000)
TRALI	0 cases		2 cases	(approx. 1/1,600,000)	0 cases	
TACO	5 cases	(approx. 1/160,000)	29 cases	(approx. 1/ 110,000)	5 cases	(approx. 1/180,000)
Others	59 cases	(approx. 1/ 14,000)	139 cases	(approx. 1/ 23,000)	19 cases	(approx. 1/ 47,000)
Total	869 cases	(approx. 1/ 940)	922 cases	(approx. 1/ 3,500)	354 cases	(approx. 1/ 2,500)

The blood components in the table include both components irradiated and non-irradiated before supply. Cases transfused two or more types of blood components concurrently were excluded.

\*Washed red cells, frozen-thawed red cells, blood for exchange transfusion, and washed platelets (including HLA-compatible) were excluded.

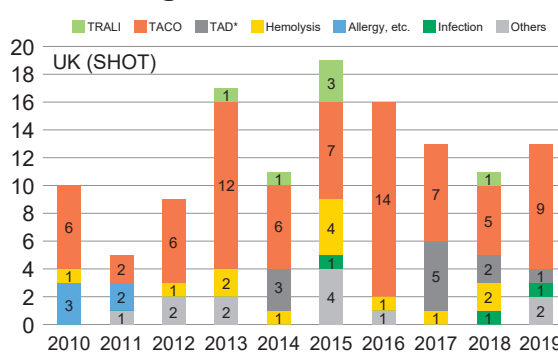
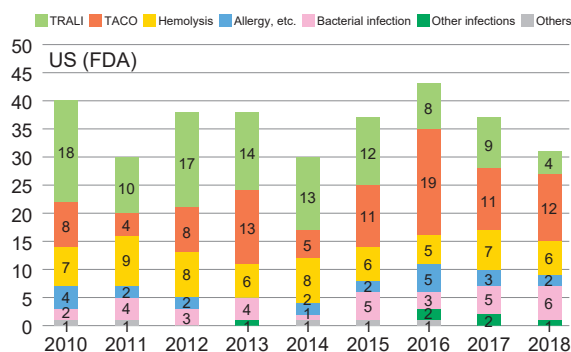
## ■ Numbers of TRALI and TACO cases by year (2010-2019)

Among adverse transfusion reactions presenting with dyspnea, suspected TRALI: Transfusion-Related Acute Lung Injury or TACO: Transfusion Associated Circulatory Overload cases were assessed based on the diagnostic criteria (JRCS criteria is applied for TACO).



In 2019, a total of 133 suspected TRALI cases reported or considered as such based on the symptoms were subject to TRALI assessment. Four (3.0%) of these cases were assessed as TRALI (or p-TRALI), while 52 cases (39.0%) were finally assessed as TACO.

## ■ Number of transfusion-related deaths by year in foreign countries



\*TAD: Transfusion-associated dyspnea

TAD is dyspnea that occurs within 24 hours following transfusion, does not meet diagnostic criteria for TRALI, TACO, or allergic reactions, and cannot be explained by the patient's underlying condition or known causes. Many TACO-related deaths have been reported both in the US and UK. If the patient is suspected of impaired cardiac or renal function before transfusion, attention should be paid to transfusion volume and rate with close observation during transfusion. If the patient develops such symptoms as dyspnea, discontinue the transfusion and provide oxygen, diuretics, or other treatment indicated for cardiac failure depending on the severity.

### References

- 1) Fatalities Reported to FDA Following Blood Collection and Transfusion: Annual Summary for the Fiscal Year (2010-2018)  
<https://www.fda.gov/vaccines-blood-biologics/report-problem-center-biologics-evaluation-research/transfusion-donation-fatalities>
- 2) Reproduced from Figure 3.3 of ANNUAL SHOT REPORT 2019 (Only adverse reaction data are extracted.)  
<https://www.shotuk.org/shot-reports/>

In case of any adverse reactions and/or infections related to transfusion of blood components, please notify the medical representatives of your local JRC blood center immediately. Please provide the residual products, the recipient pre- and post-transfusion samples, and any other related materials; it is helpful to investigate and/or identify the cause. For storage of residual products and the recipient samples, refer to the "Guidelines for lookback studies of blood products."

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\* For more information, please contact the medical representatives of your local JRC blood center.



### Japanese Red Cross Society Haemovigilance Information English website

For blood products and transfusion information

Japanese Red Cross Society  
Haemovigilance Information



The website is accessible  
on smartphones and tablets.

