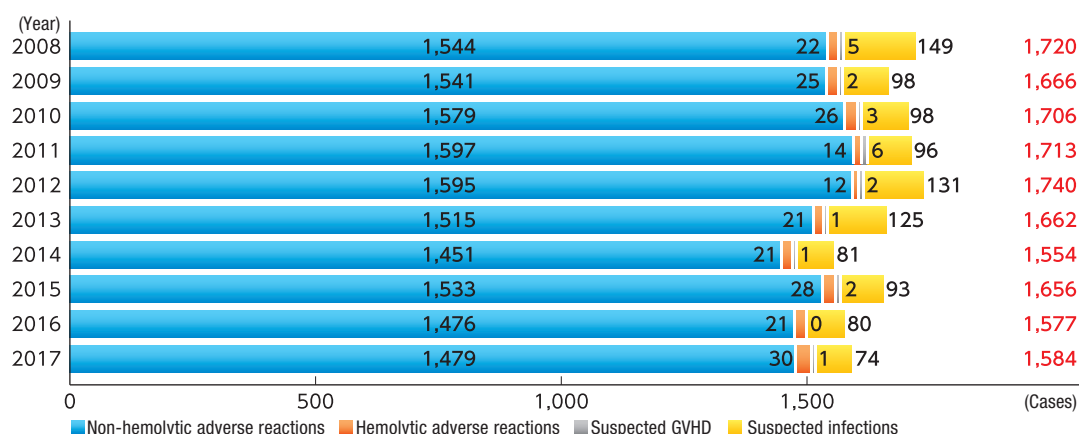


## Non-hemolytic Adverse Transfusion Reactions Reported to JRC Blood Centers (2017)

Suspected transfusion-associated adverse reactions and/or transfusion-transmitted infectious cases were reported by medical institutions to JRC blood centers. This issue of Transfusion Information shows the most frequently reported cases of non-hemolytic adverse transfusion reaction cases in 2017.

### Changes in the number of reported adverse reactions and infectious cases (including ones determined to have “no relevance to transfusion”)

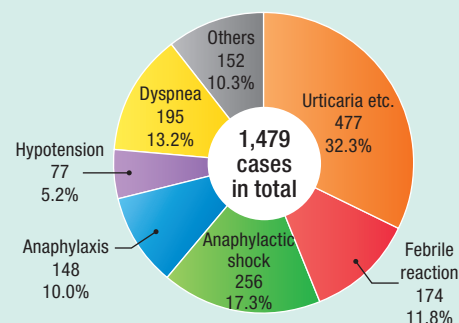


Total of 1,479 cases of non-hemolytic adverse transfusion reactions were reported in 2017. These accounted for 93.4% of the 1,584 cases reported as transfusion-related adverse reactions and infections.

### Non-hemolytic adverse transfusion reactions (2017)

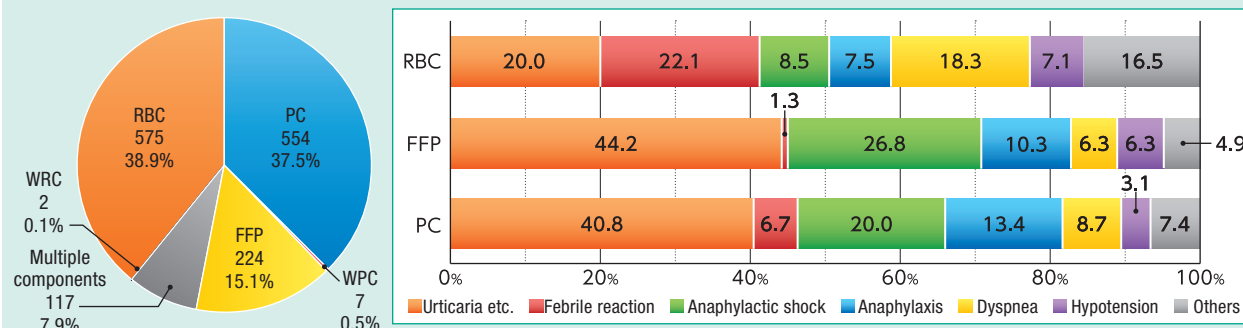
#### Breakdown of cases by symptoms

Adverse reaction cases are summarized by symptoms. Most of the severe cases are accompanied by the following symptoms: anaphylactic shock, anaphylaxis, hypotension and dyspnea. These cases account for 45.7% of the total. Note that the cases evaluated as transfusion-related acute lung injury (TRALI) and transfusion-associated circulatory overload (TACO) are all included in dyspnea.



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

Most of the non-hemolytic adverse reactions were caused by platelets or red blood cells. For plasma and platelets, the number of reported cases of urticaria and anaphylactic shock are relatively common.



<Notes>

[Hypotension]

Hypotension without symptoms such as skin manifestations and dyspnea

[Anaphylaxis]

Multiple general symptoms including generalized flushing, urticaria, angioedema (e.g. face edema, pharyngeal edema) and dyspnea

[Anaphylactic shock]

“Anaphylaxis” with hypotension

## ■ Number of reported cases and frequency by components and symptoms (frequency based on the total number of bags supplied) (2017)

Components	Platelets*	Red cells*	Plasma
Number of bags supplied	824,201	3,279,141	938,410
Urticaria etc.	226 cases (approx. 1/ 3,600)	115 cases (approx. 1/ 29,000)	99 cases (approx. 1/ 9,500)
Febrile reaction	37 cases (approx. 1/ 22,000)	127 cases (approx. 1/ 26,000)	3 cases (approx. 1/ 310,000)
Hypotension	17 cases (approx. 1/ 48,000)	41 cases (approx. 1/ 80,000)	14 cases (approx. 1/ 67,000)
Anaphylaxis	74 cases (approx. 1/ 11,000)	43 cases (approx. 1/ 76,000)	23 cases (approx. 1/ 41,000)
Anaphylactic shock	111 cases (approx. 1/ 7,400)	49 cases (approx. 1/ 67,000)	60 cases (approx. 1/ 16,000)
Dyspnea	38 cases (approx. 1/ 22,000)	73 cases (approx. 1/ 45,000)	10 cases (approx. 1/ 94,000)
TRALI	3 cases (approx. 1/270,000)	1 case (approx. 1/3,300,000)	No cases
TACO	7 cases (approx. 1/120,000)	31 cases (approx. 1/ 110,000)	4 cases (approx. 1/ 230,000)
Others	41 cases (approx. 1/ 20,000)	95 cases (approx. 1/ 35,000)	11 cases (approx. 1/ 85,000)
Total	554 cases (approx. 1/ 1,500)	575 cases (approx. 1/ 5,700)	224 cases (approx. 1/ 4,200)

The blood components in the table include components irradiated before supply and components irradiated at medical institutions. Cases given two or more types of blood components in combination were excluded.

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

## ■ Adverse reactions to washed platelets (2017)

Total of 8 cases were reported, suspected to be transfusion-associated adverse reactions to washed platelets, which have been supplied since September 2016 for the purpose of preventing adverse reactions caused by blood transfusion. There was 1 serious case among them.

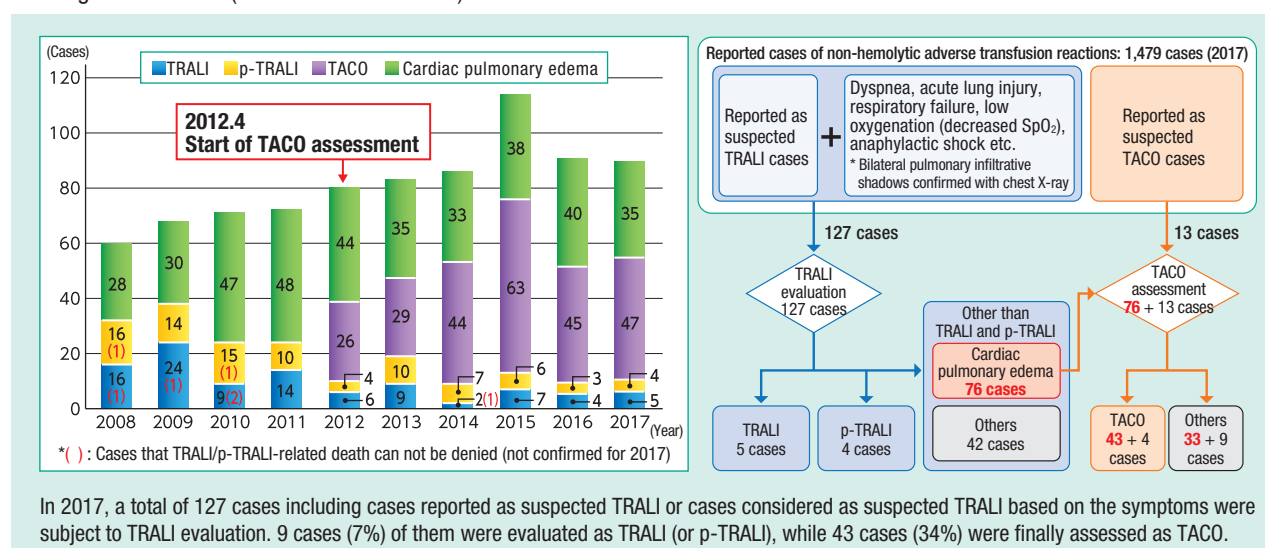
Adverse reactions	Severity	Onset time	Premedication	Age	Sex	Primary disease
Redness, itching	Non-severe	48 min	Yes	70s	M	AML
Urticaria	Non-severe	Unknown	Unknown	50s	M	Leukemia
Redness	Non-severe	80 min	Unknown	60s	M	MDS
Shivering, fever	Non-severe	15 min	Yes	70s	M	MDS
Urticaria <sup>*1</sup>	Non-severe	60 min	Yes	70s	M	MDS
Anaphylaxis <sup>*2</sup>	Severe	125 min	Yes	70s	F	MDS
Fever, chills, shivering	Non-severe	175 min	Yes	50s	F	MDS
Fever, chills	Non-severe	60 min	Unknown	60s	M	AML

\*1 Ir-RBC-LR was also reported as a suspected component.

\*2 The patient has a history of anaphylactic shock as adverse reaction to Ir-PC-LR. This time, she had a milder adverse reaction than last time, showing no hypotension. The patient received irradiated washed platelet transfusion even after the transfusion, but she showed no subsequent adverse reactions.

## ■ Number of TRALI and TACO cases by year (2008-2017)

Among adverse transfusion reactions presenting with dyspnea, suspected TRALI or TACO cases were assessed based on the diagnostic criteria (JRCS criteria for TACO).



**In case any of 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."**

Issued by:  
Medical Information Division, Technical Department,  
Blood Service Headquarters, Japanese Red Cross Society  
1-2-1 Shiba-Koen, Minato-ku, Tokyo 105-0011, Japan

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

For blood products and transfusion information  
Japanese Red Cross Society  
Haemovigilance Information English website

Japanese Red Cross Society Haemovigilance Information

