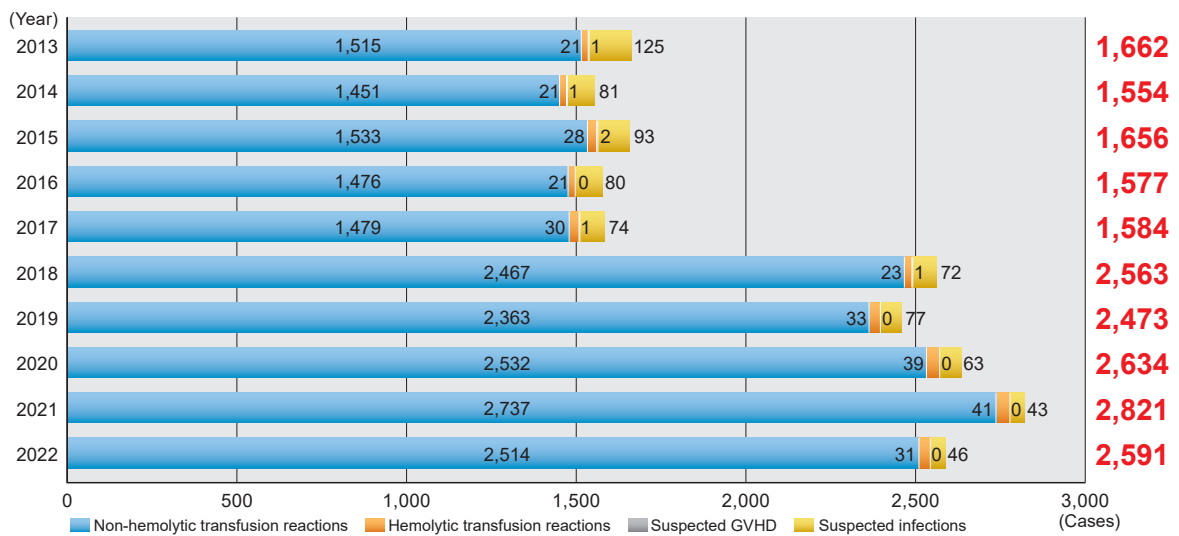


## Non-hemolytic Transfusion Reactions Reported to JRC Blood Centers (2022)

Among cases of suspected transfusion-related adverse reactions and infections reported by medical institutions to JRC during 2022, the following are the most frequently reported non-hemolytic transfusion reactions.

### Yearly number of reported adverse reactions and infections, and types of adverse reactions (including ones assessed as “unrelated to transfusion”)



A total of 2,514 cases of non-hemolytic transfusion reactions were reported in 2022. These accounted for 97% of the 2,591 cases reported as transfusion-related reactions and infections.

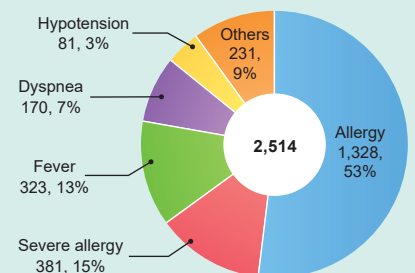
The number of reported cases increased due to changes in the investigation method for transfusion-related adverse reactions and infections that were introduced in January 2018.

### Non-hemolytic transfusion reactions (2022)

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

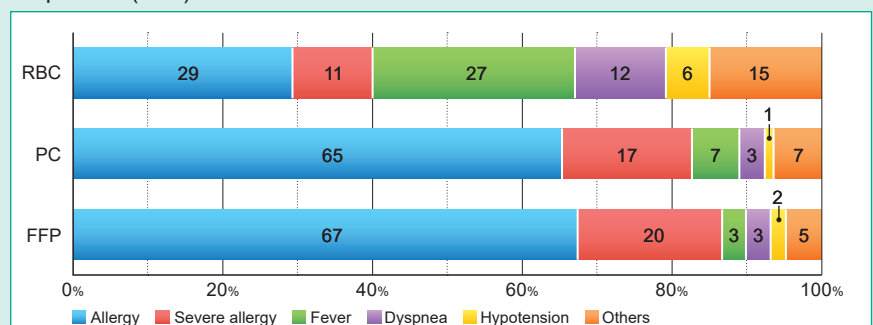
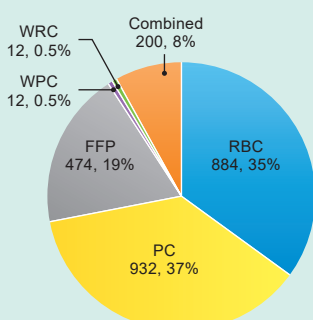
“Allergy” was reported most frequently, accounting for 1,328 cases (53%). Allergy including “Severe allergy” accounted for about two-thirds of the reported adverse reactions. Dyspnea includes TRALI and TACO.

TRALI: transfusion-related acute lung injury  
TACO: transfusion-associated circulatory overload



#### Breakdown of involved transfused blood components and reported blood component-respective adverse reactions (symptoms)

Many of the non-hemolytic transfusion reactions were caused by platelets (PC) or red blood cells (RBC). Fever and dyspnea accounted for a notably higher portion in RBC than in other components, as did allergy and severe allergy in fresh frozen plasma (FFP) and PC.



## Number of reported cases and frequency by component and symptom (frequency based on the total number of bags supplied) (2022)

Component	Platelets*	Red blood cells*	Fresh frozen plasma
Number of bags supplied	814,796	3,293,109	863,551
Allergy	606 cases (approx. 1/ 1,300)	257 cases (approx. 1/ 13,000)	318 cases (approx. 1/ 2,700)
Severe allergy	159 cases (approx. 1/ 5,100)	93 cases (approx. 1/ 35,000)	96 cases (approx. 1/ 9,000)
Fever	61 cases (approx. 1/ 13,000)	239 cases (approx. 1/ 14,000)	12 cases (approx. 1/ 72,000)
Dyspnea	18 cases (approx. 1/ 45,000)	48 cases (approx. 1/ 69,000)	5 cases (approx. 1/ 170,000)
Hypotension	12 cases (approx. 1/ 68,000)	56 cases (approx. 1/ 59,000)	11 cases (approx. 1/ 79,000)
TACO	10 cases (approx. 1/ 81,000)	54 cases (approx. 1/ 61,000)	5 cases (approx. 1/ 170,000)
TRALI	4 case (approx. 1/200,000)	2 cases (approx. 1/1,650,000)	3 cases (approx. 1/290,000)
Others	62 cases (approx. 1/ 13,000)	135 cases (approx. 1/ 24,000)	24 cases (approx. 1/ 36,000)
<b>Total</b>	<b>932 cases (approx. 1/ 900)</b>	<b>884 cases (approx. 1/ 3,700)</b>	<b>474 cases (approx. 1/ 1,800)</b>

The blood components in the table include components that are irradiated before supply and components that are not. Cases in which two or more types of blood components were transfused are excluded.

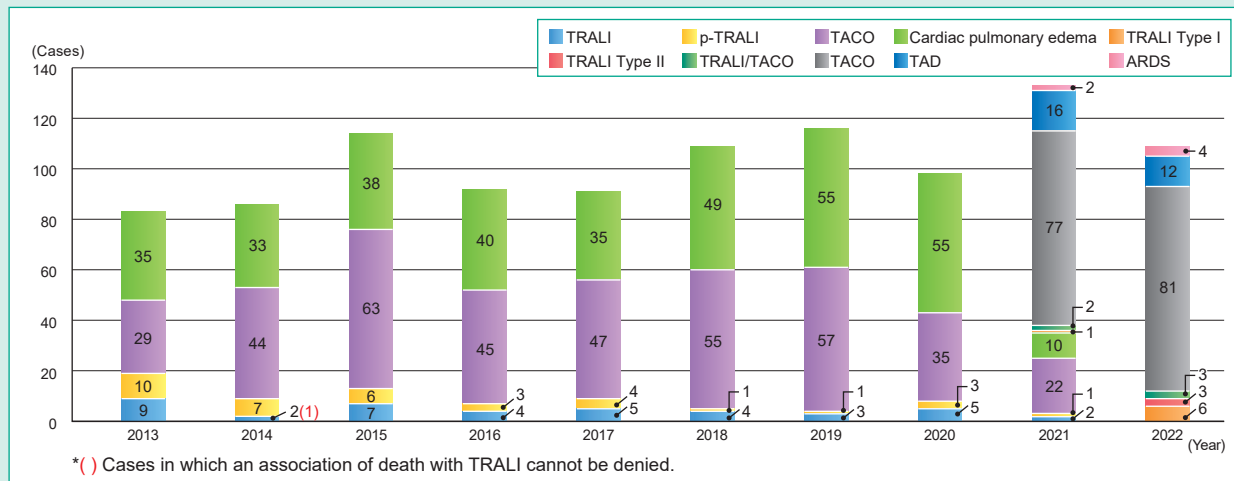
\*Washed red blood cells, frozen-thawed red blood cells, blood for exchange transfusion, and washed platelets (including HLA-compatible) are excluded.

## Trends in the number of TRALI and TACO cases

Among suspected transfusion reaction cases involving dyspnea, the following are the numbers of cases assessed as TRALI based on the 2004 Canadian Consensus Conference diagnostic criteria and cases assessed as TACO based on JRCS's diagnostic criteria. The criteria for TRALI and TACO have been changed from cases reported in April 2021.

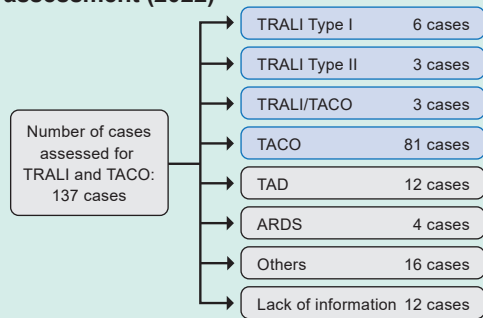
For more details of the criteria after the change, refer to "Notification of change of JRCS criteria for TRALI and TACO (March 2021)" ([https://www.jrc.or.jp/mr/product/information/pdf/info\\_202103.pdf](https://www.jrc.or.jp/mr/product/information/pdf/info_202103.pdf)).

### Trends in the number of TRALI and TACO cases (2013-2022)



\*( ) Cases in which an association of death with TRALI cannot be denied.

### Breakdown of TRALI and TACO assessment (2022)



In 2022, a total of 137 case reports were subjected to TRALI and TACO assessment. Among these cases, 6 cases (4.4%) were assessed as TRALI type I, 3 cases (2.2%) as TRALI type II and TRALI/TACO, respectively, and 81 cases (59.1%) as TACO.

Among the 137 cases subjected to the assessment, 12 cases (8.8%) could not be assessed due to lack of information.

#### Information necessary for TRALI and TACO assessment

- The following information during the period from 12 hours before the transfusion to post-onset improvement in dyspnea: course of adverse reactions, vital signs, blood cell count (including differential leukocyte count), respiratory status (blood gases, oxygen saturation, etc.)
- Chest images (X-ray, CT, etc.) before and after the onset of adverse reactions

In case of any suspected adverse reactions or infections related to transfusion of blood components, please notify medical representatives of your local JRC blood center immediately. You may be asked to provide items such as residual products and the recipient's samples for investigation of causes. For storage of residual products and the recipient samples, refer to the *Guidelines for Look-back Studies on Blood Products*.

### Transfusion Information 2308-181

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