



[2012-2017]

AABB DONOR HEMOVIGILANCE



KEY NOTES

Reaction rates and the reporting protocols vary among blood collection facilities, even collection sites within the same organization.

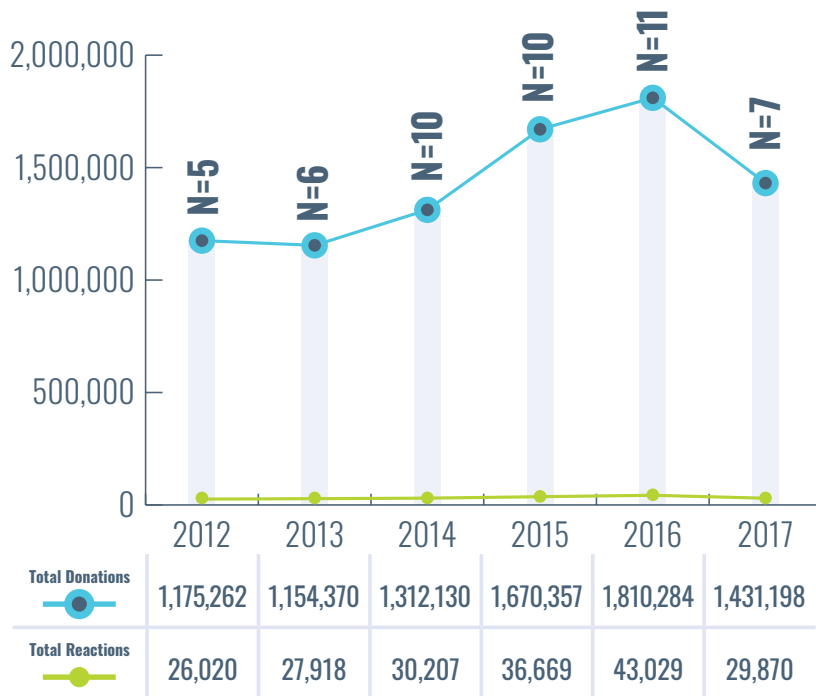
The overall donor reaction rates ranged from 20.8 to 24.3 per 1,000 donations.

The most common reaction was vasovagal reaction without loss of consciousness.

AABB Donor Hemovigilance data represented approximately one tenth of the US blood donations*.

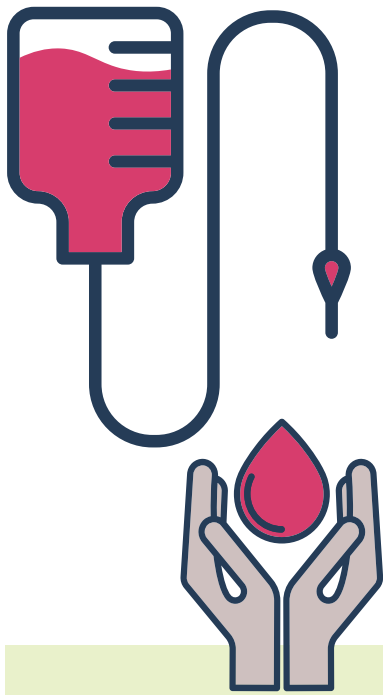
*National Blood Collection and Utilization Survey

Number of Donations and Reactions



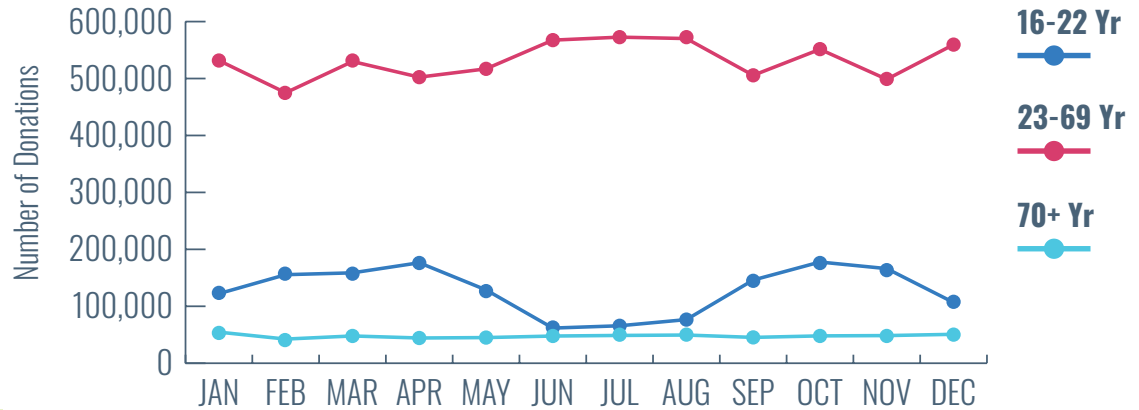
Reaction Rates per 1,000 Donations

| REACTION TYPE | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|--------------|--------------|--------------|--------------|-------------|-------------|
| Overall Reactions | 22.2 | 24.3 | 22.8 | 21.9 | 22.2 | 20.8 |
| VASOVAGAL | 15.9 | 17.4 | 16.3 | 14.8 | 14.4 | 13.2 |
| Loss of consciousness (LOC) | 2.3 | 2.5 | 2.3 | 2.6 | 2.4 | 2.3 |
| Pre faint, no LOC (uncomplicated or minor) | 13.6 | 14.9 | 14.0 | 12.2 | 12.1 | 10.8 |
| LOCAL INJURY RELATED TO NEEDLE | 3.0 | 3.3 | 3.1 | 3.5 | 4.5 | 3.7 |
| Nerve Irritation | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Hematoma / Bruise | 2.7 | 3.0 | 2.8 | 3.1 | 4.0 | 3.0 |
| Arterial Puncture | 0.03 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 |
| Painful Arm | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 |
| Delayed bleeding | — | — | — | — | 0.002 | 0.01 |
| Infection | — | — | — | 0.01 | 0.003 | 0.01 |
| Major Blood Vessel Injury | — | — | — | — | — | — |
| INJURY | 0.1 | 0.1 | 0.1 | 0.1 | 0.06 | 0.06 |
| Major Injury | 0.01 | 0.01 | 0.01 | 0.1 | 0.03 | 0.02 |
| Minor Injury | 0.1 | 0.1 | 0.1 | 0.02 | 0.03 | 0.04 |
| APHERESIS-RELATED | 2.8 | 3.1 | 2.9 | 3.3 | 3.0 | 3.8 |
| Citrate | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |
| Hemolysis | 0.004 | 0.005 | 0.004 | 0.005 | 0.006 | 0.001 |
| Air Embolus | 0.001 | 0.001 | 0.001 | — | 0.001 | — |
| Infiltration | 2.6 | 2.8 | 2.7 | 3.1 | 2.7 | 3.6 |
| ALLERGIC | 0.2 | 0.2 | 0.2 | 0.04 | 0.04 | 0.03 |
| Local | 0.2 | 0.2 | 0.2 | 0.03 | 0.03 | 0.03 |
| Systemic | 0.04 | 0.04 | 0.04 | 0.01 | 0.004 | 0.004 |
| Anaphylaxis | — | — | — | — | 0.001 | — |
| MAJOR CARDIOVASCULAR EVENT | 0.001 | 0.001 | 0.001 | 0.001 | — | — |
| Angina pectoris within 24 hours | 0.001 | 0.001 | 0.001 | — | — | — |
| Cardiac arrest | — | — | — | — | — | — |
| Cerebrovascular accident | — | — | — | 0.001 | — | — |
| Myocardial infarction within 24 hours | — | — | — | — | — | — |
| Transient Ischemic Attack (TIA) within 24 hours | — | — | — | — | — | — |
| OTHER | 0.2 | 0.3 | 0.2 | 0.2 | 0.2 | 0.02 |



AGE COMPARISON

Seasonal Donation Pattern



KEY NOTES

Fewer donations by young donors (age 16-22) during the summer months, were compensated by donation from adult donors (age 23-69).

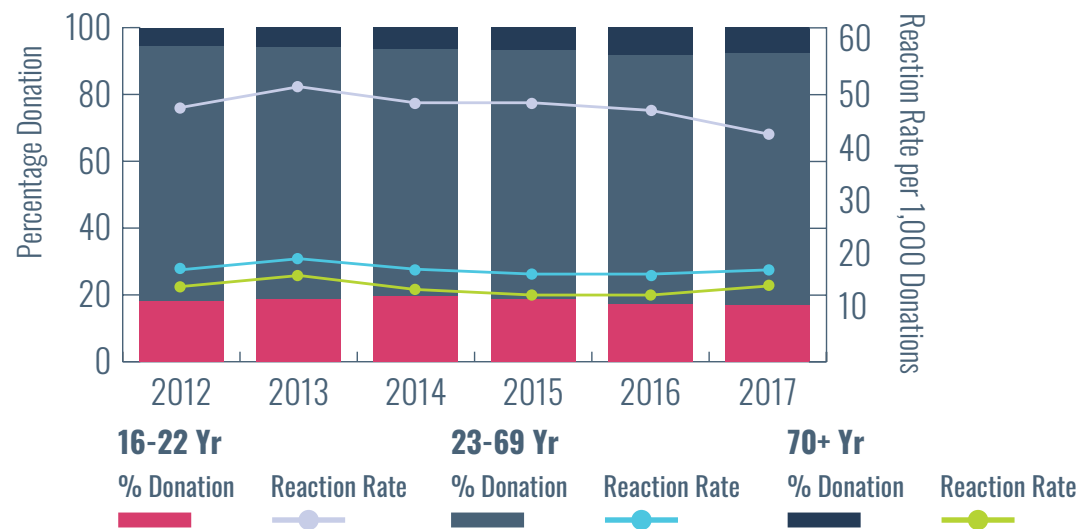
Younger donors were more likely to experience an adverse reaction to blood donation.

Younger donors (age 16-22) made 18% of the total donations, but accounted for higher reaction rates, ranging from 41.41 (2017) to 49.09 per 1,000 donations (2013).

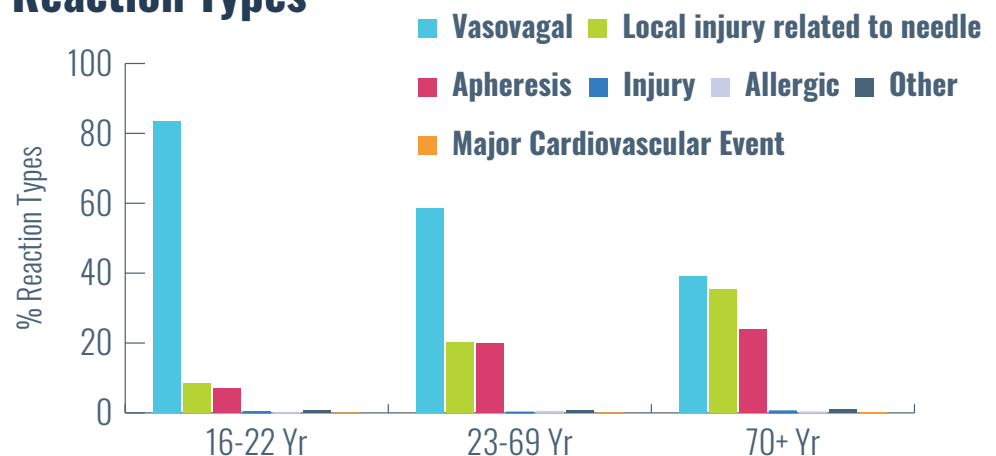
There was a downward trend of vasovagal reactions with increase in donor age.

The margin between vasovagal reactions and local injuries related to needle was narrowest among donors aged 70 years and older.

Donation and Reaction Rates



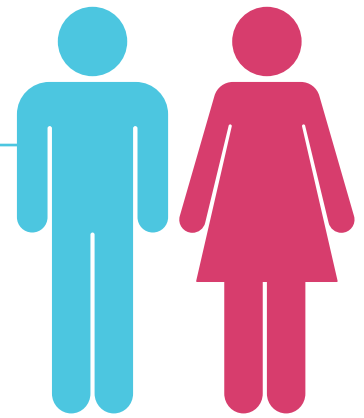
Reaction Types*



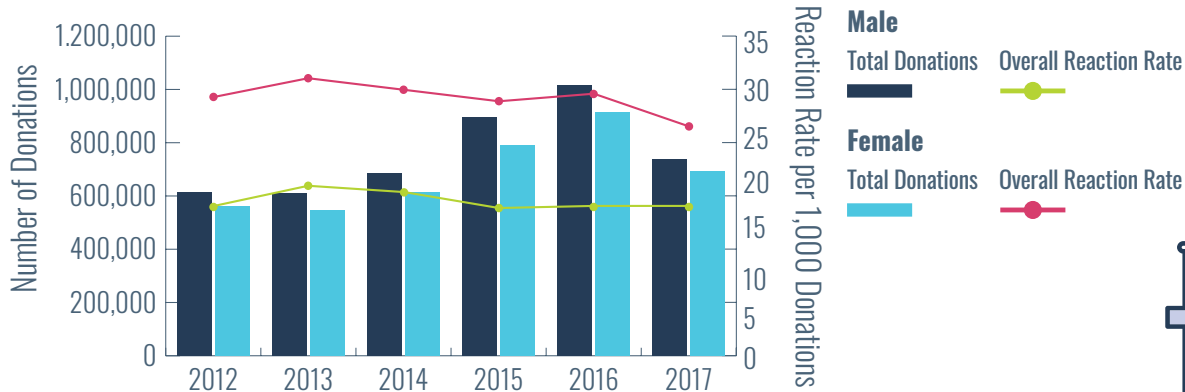
* Among reported reactions

Source: AABB Hemovigilance System - DonorHART™ | ©AABB 2019

GENDER COMPARISON



Donation and Reaction Rates



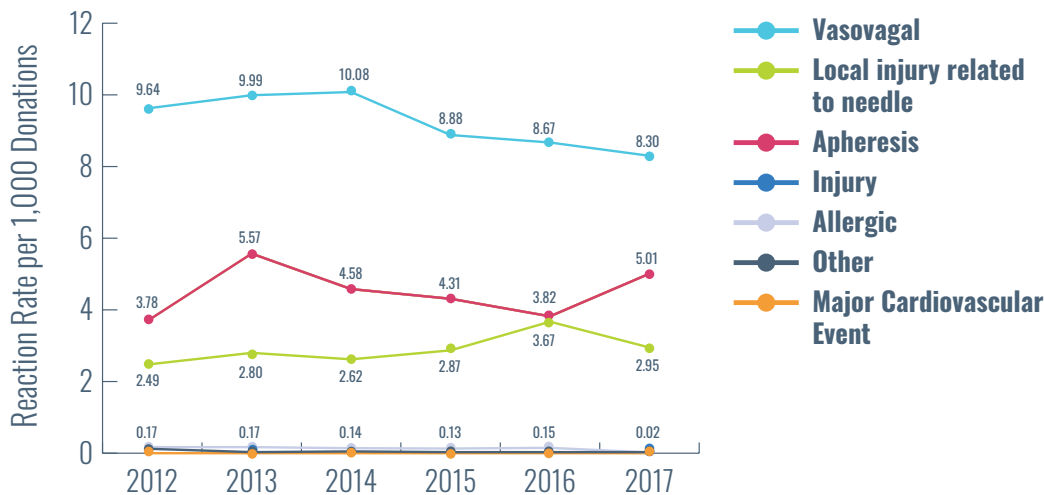
KEY NOTES

Although the number of donations by male donors were higher compared with female donors, female donors experienced higher adverse reaction rates, ranging from 25.64 (2017) to 30.40 per 1,000 donations (2013).

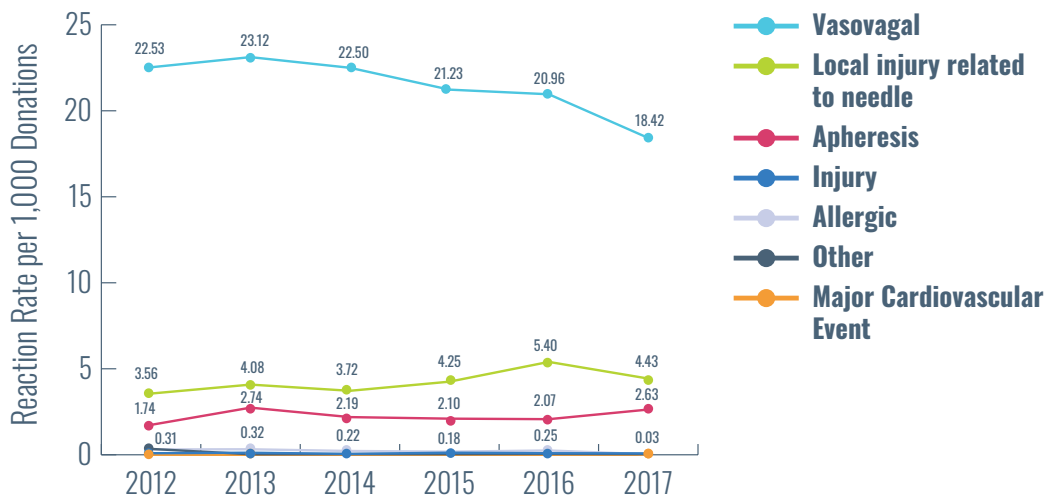
Male donors were twice as likely to experience apheresis reactions compared with female donors, making apheresis reactions the second-most common adverse reactions among this donor group.

Among female donors, local injuries related to needle were the second-most common adverse reactions.

Male Donors



Female Donors

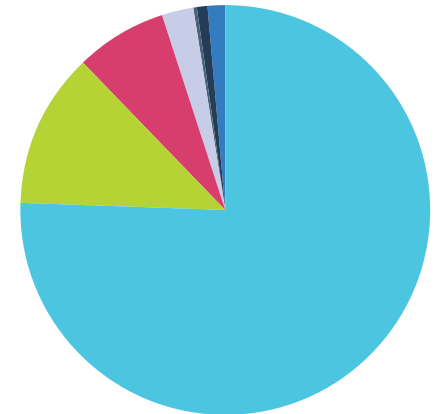
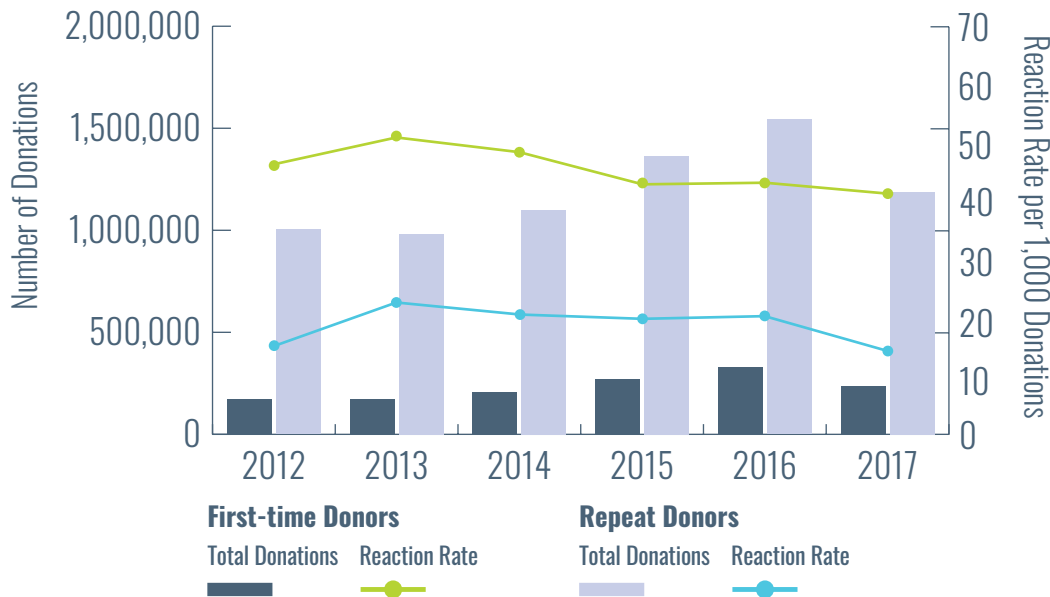


Source: AABB Hemovigilance System – DonorHART™ | ©AABB 2019

OTHER FINDINGS

Reported Reaction Location*

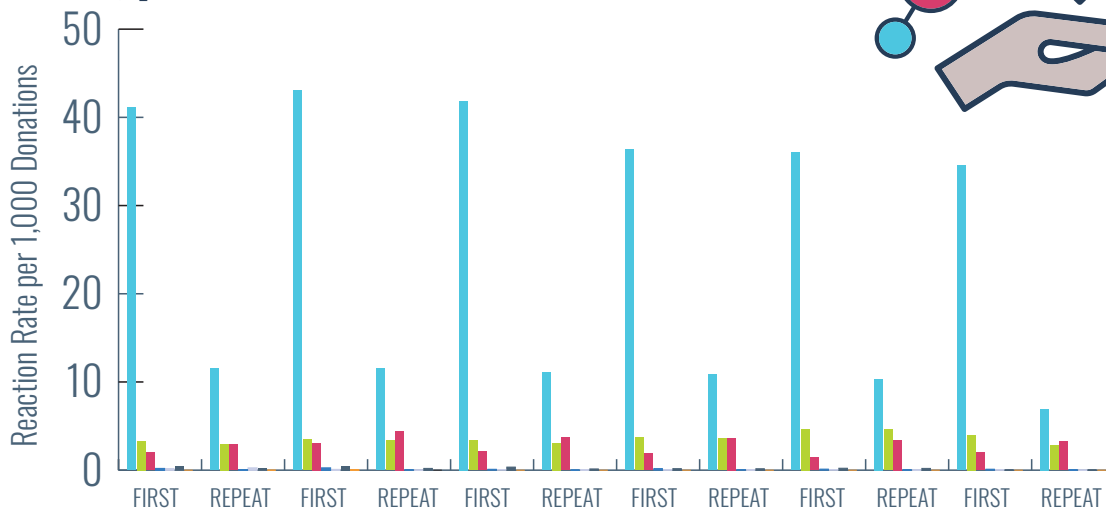
Donor History Comparison Donation and Reaction Rates



- Bed 75.81%
- Canteen 12.23%
- Off site 7.08%
- Other location on site 2.56%
- Registration 0.10%
- Screening 1.04%
- Transit to canteen 1.18%

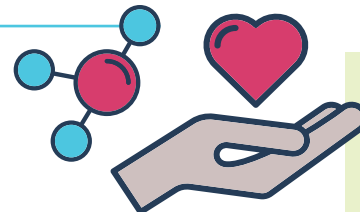
* Excluding 68.5% of the total reports without this information.

Reaction Types



| REACTION | 2012 | | 2013 | | 2014 | | 2015 | | 2016 | | 2017 | |
|--------------------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | FIRST | REPEAT | FIRST | REPEAT | FIRST | REPEAT | FIRST | REPEAT | FIRST | REPEAT | FIRST | REPEAT |
| Vasovagal | 41.14 | 11.50 | 43.08 | 11.50 | 41.86 | 11.04 | 36.32 | 10.86 | 36.00 | 10.34 | 34.52 | 6.93 |
| Local injury related to needle | 3.32 | 2.95 | 3.50 | 3.38 | 3.39 | 3.09 | 3.68 | 3.61 | 4.68 | 4.58 | 3.97 | 2.79 |
| Apheresis | 2.01 | 2.94 | 3.09 | 4.43 | 2.13 | 3.69 | 1.91 | 3.66 | 1.46 | 3.42 | 2.03 | 3.27 |
| Injury | 0.17 | 0.04 | 0.24 | 0.05 | 0.10 | 0.02 | 0.18 | 0.07 | 0.12 | 0.04 | 0.11 | 0.04 |
| Allergic | 0.15 | 0.24 | 0.06 | 0.02 | 0.07 | 0.04 | 0.05 | 0.04 | 0.06 | 0.03 | 0.05 | 0.02 |
| Other | 0.44 | 0.20 | 0.46 | 0.20 | 0.35 | 0.14 | 0.17 | 0.16 | 0.22 | 0.20 | 0.02 | 0.02 |
| Major Cardiovascular Event | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

■ Vasovagal ■ Local injury related to needle ■ Apheresis ■ Injury ■ Allergic ■ Other ■ Major Cardiovascular Event



KEY NOTES

Donor bed was the most common location where the reactions began.

First-time donors were more likely to experience an adverse reaction compared with repeat donors.

Apheresis reaction rates were higher among repeat donors compared with first-time donors.

Source: AABB Hemovigilance System – DonorHART™ | ©AABB 2019