

Heart transplantation in France since the introduction of the new allocation system

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Purpose

The new French allocation system based on the candidate risk score (CRS) takes into consideration donor-recipient matching and implements nationwide graft sharing (Figure 1).

In candidates for whom CRS did not accurately predict waitlist mortality – pediatric candidates and patients with long-term mechanical circulatory support complication or contra-indication – score exceptions might be granted (Figure 2).

This study aimed to describe graft allocation modalities, donor-recipient matching and post-transplant outcomes since the implementation of the new system on January 2018.

Population and methods

The study included all patients transplanted between January and December 2018 (n=450).

Recipient characteristics, modified CRS (0-40) and allocation score were determined according to allocation modalities.

Donor-recipient age matching, geographic allocation and post-transplant graft failure were analyzed.

Results

In 2018 compared to 2014-17, the proportion of recipients (median age:51y, males:68%, median modified CRS:25) on VA-ECMO and long-term MCS respectively increased ($p<0.01$) and tended to decrease ($p=0.1$) (Figure 4).

Adult and pediatric standard allocations accounted for 335 of 450 transplants (74%) (Figure 5).

Modified CRS and allocation scores varied according to allocation modality (Figure 6).

In 2018, no heart from donor younger than 30y was allocated to recipient older than 55y (Figure 7) and local allocation decreased (Figure 8). Three-month post transplant graft failure did not change (Figure 9).

Figure 1: Heart allocation system

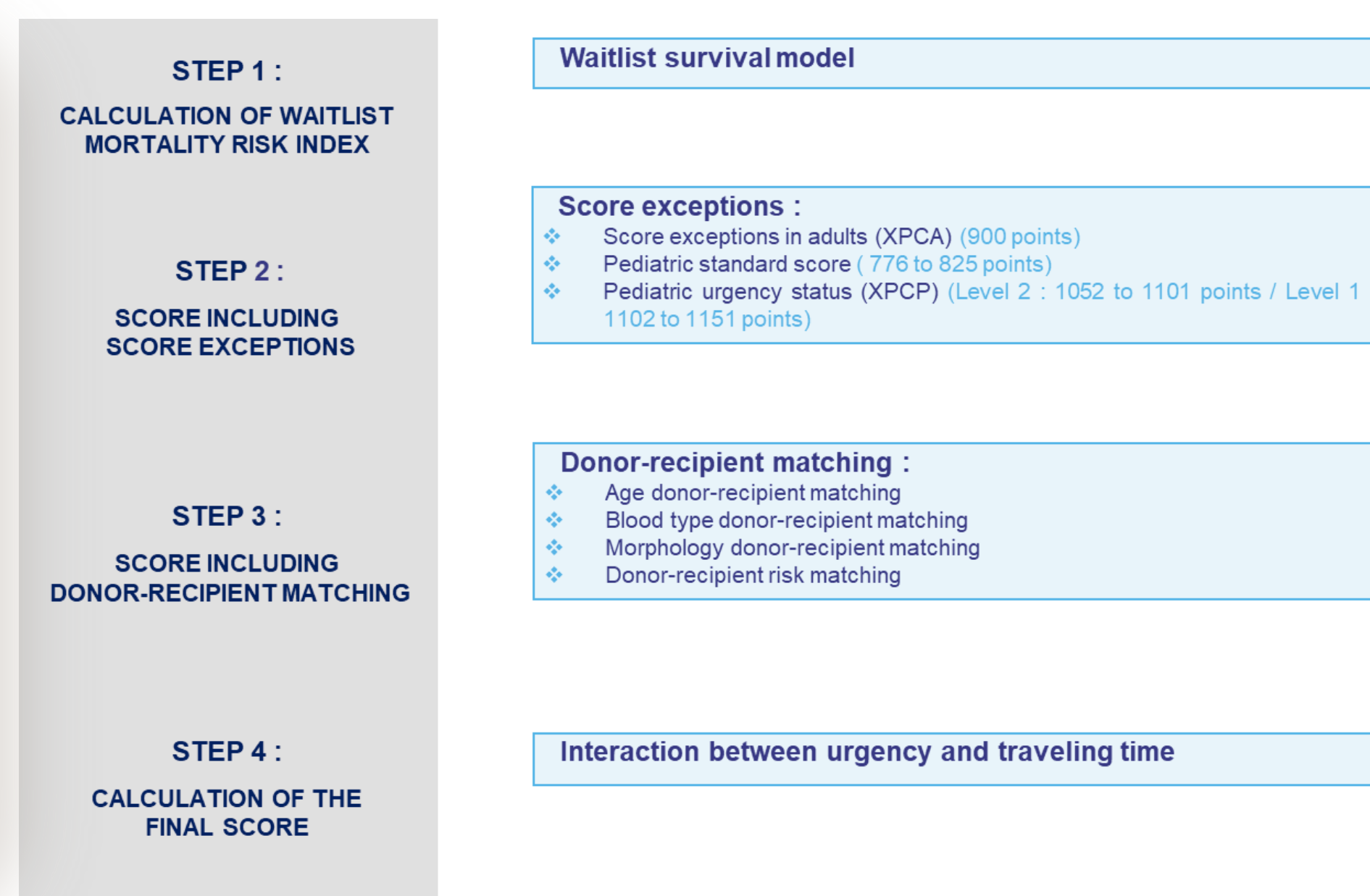


Figure 2: Score exceptions

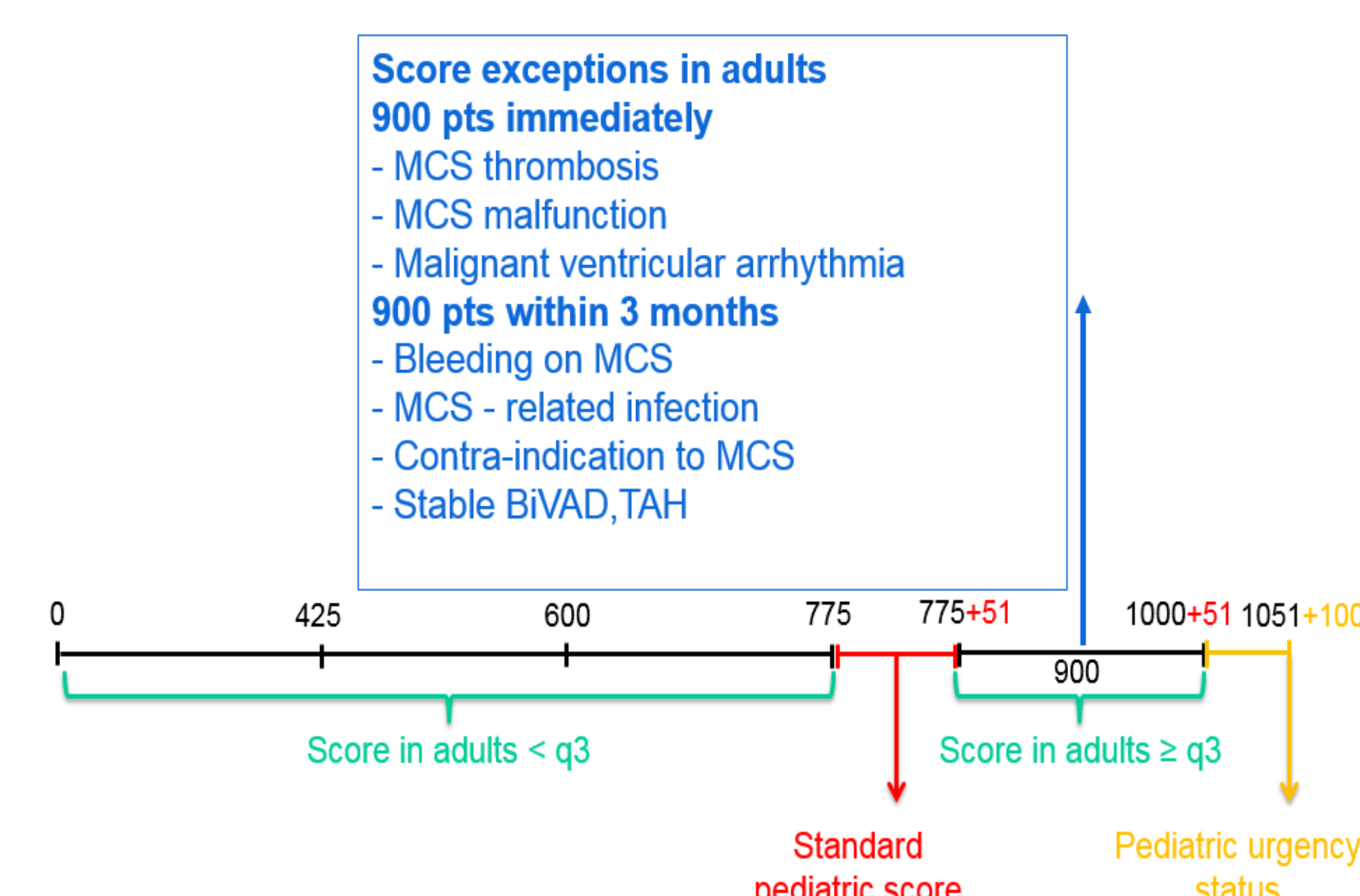


Figure 3: Recipient characteristics

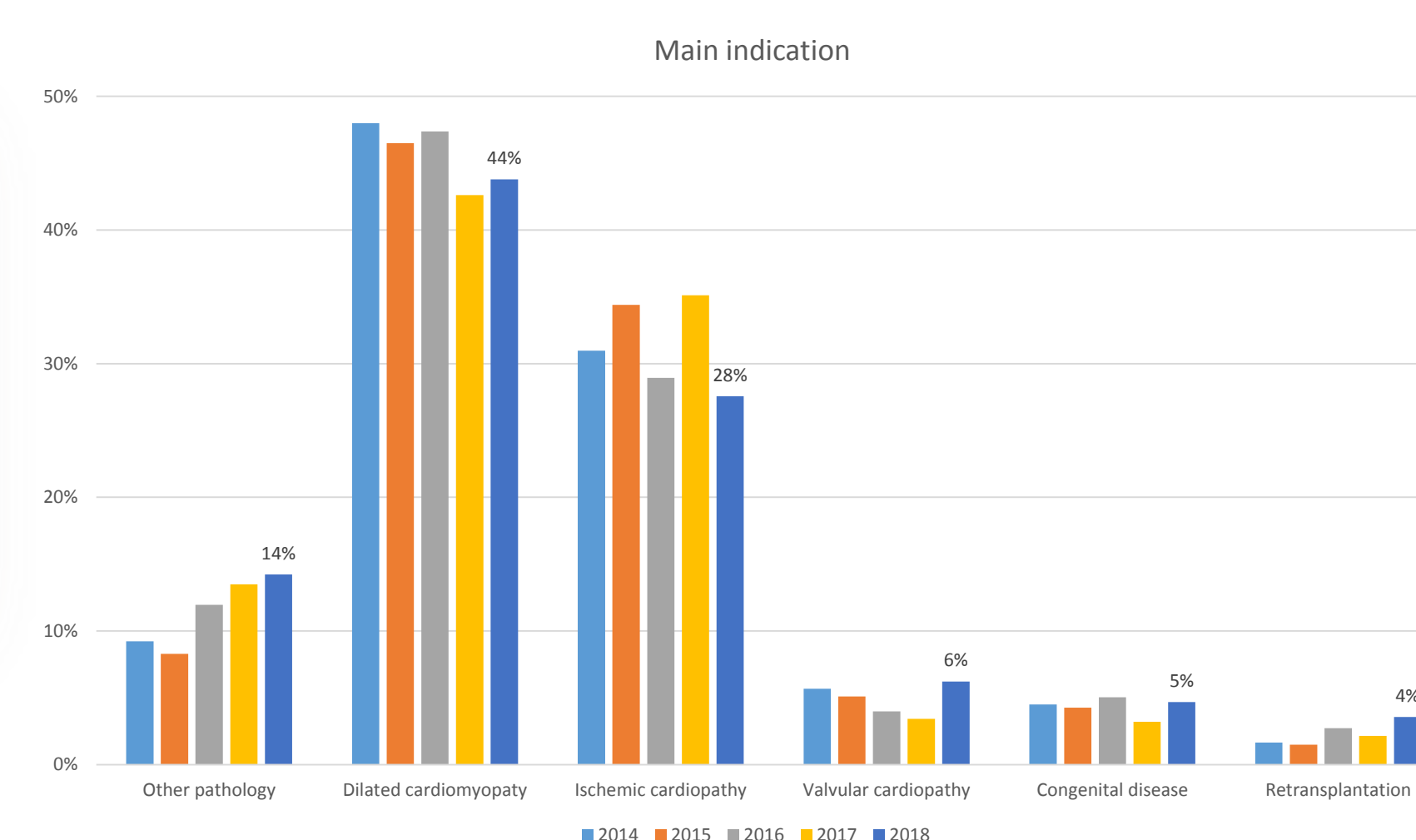


Figure 4: Recipient characteristics



Figure 5: Allocation modalities

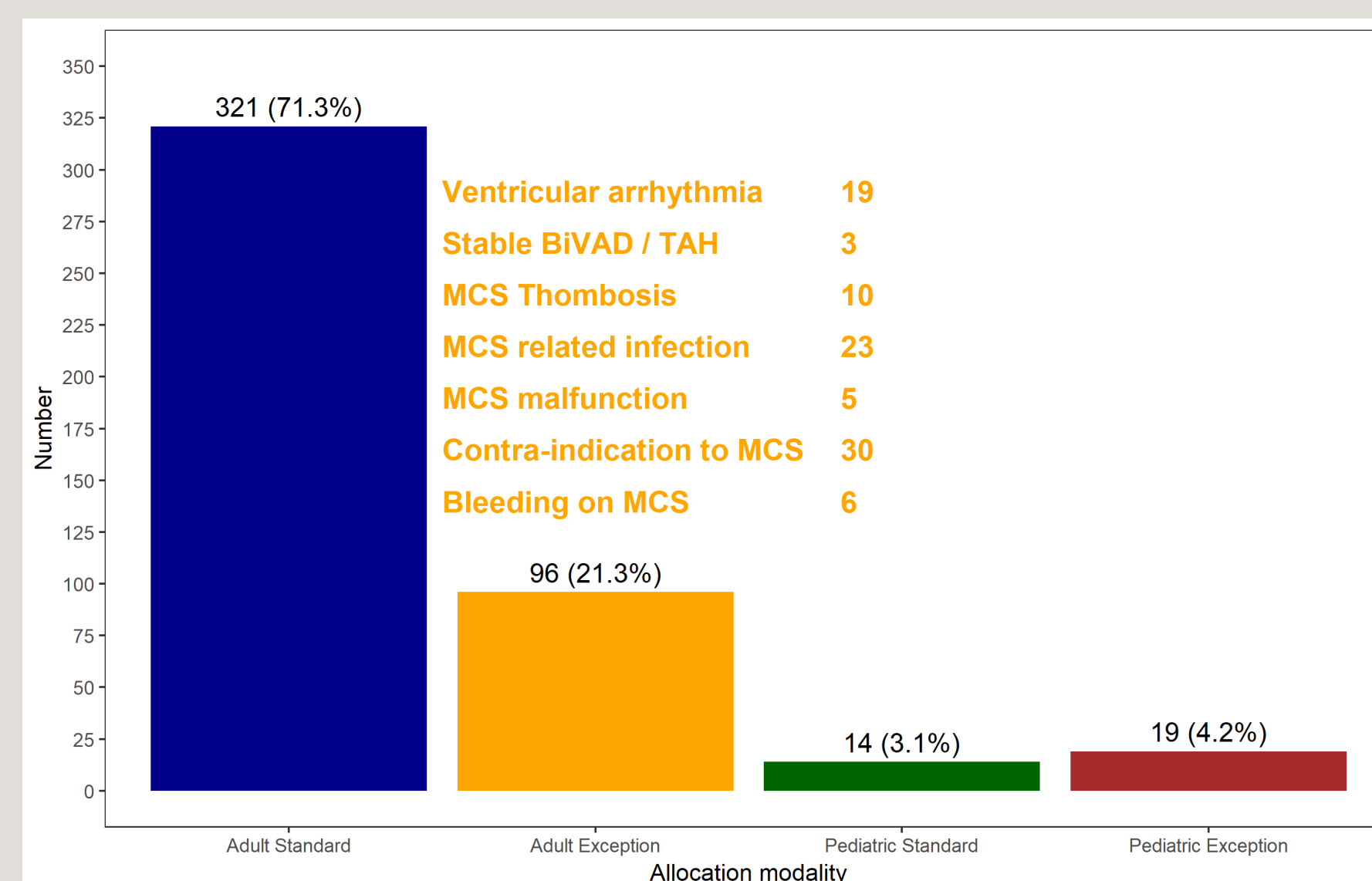


Figure 6: Recipient CRI and score according to allocation modality

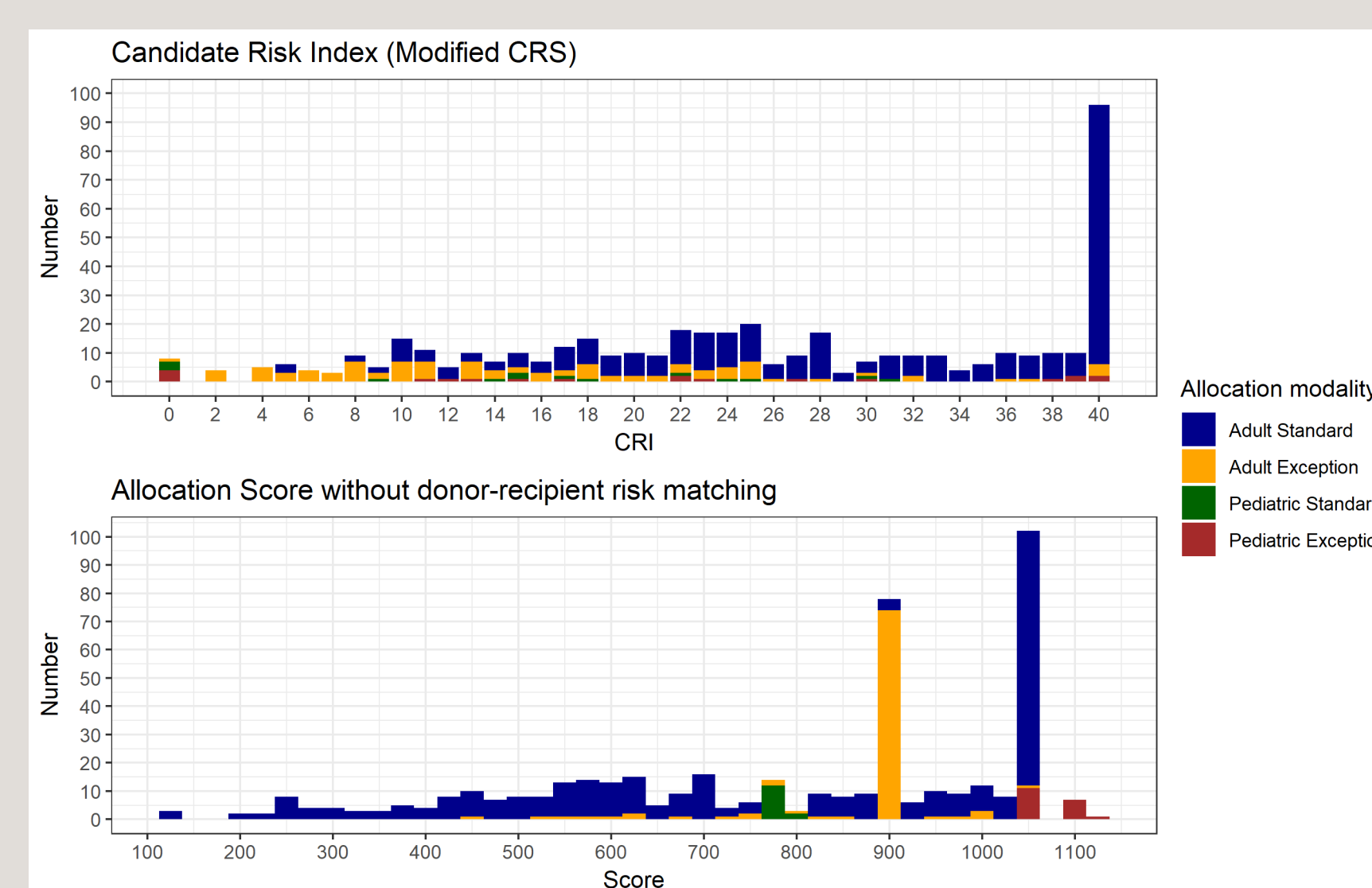


Figure 7: Donor-recipient age matching (2017 vs 2018)

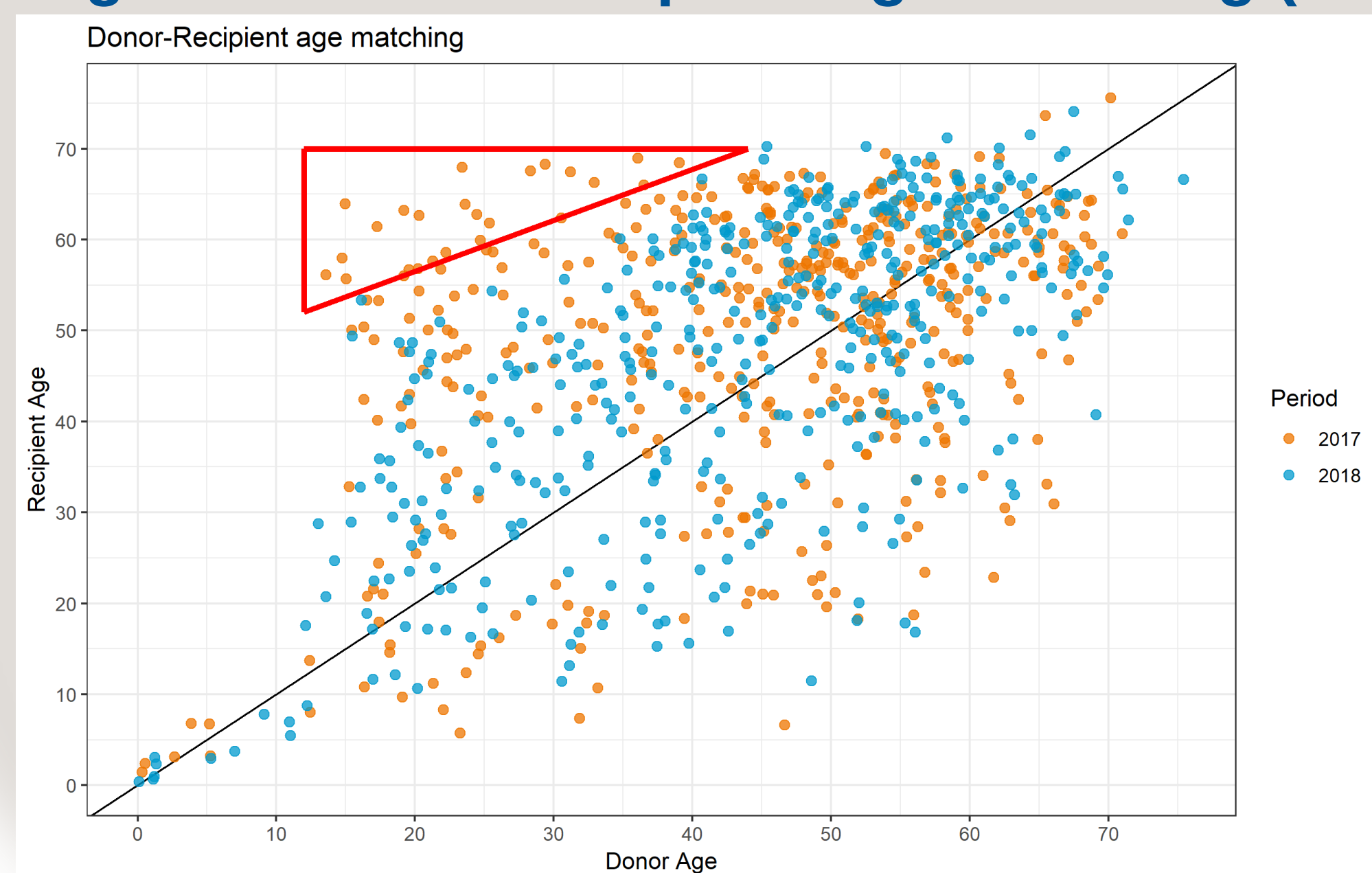


Figure 8: Graft travel time (2017 vs 2018)

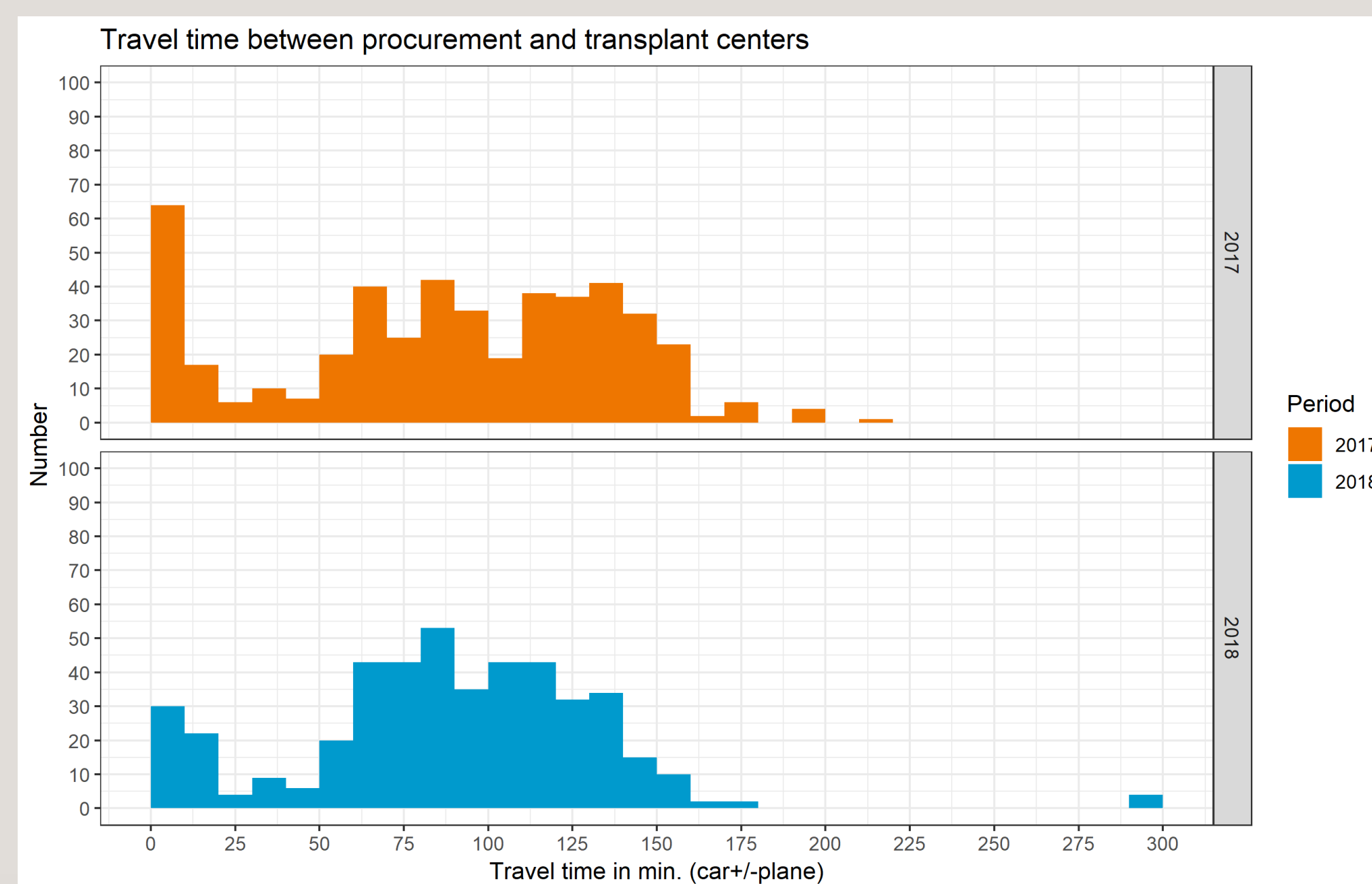
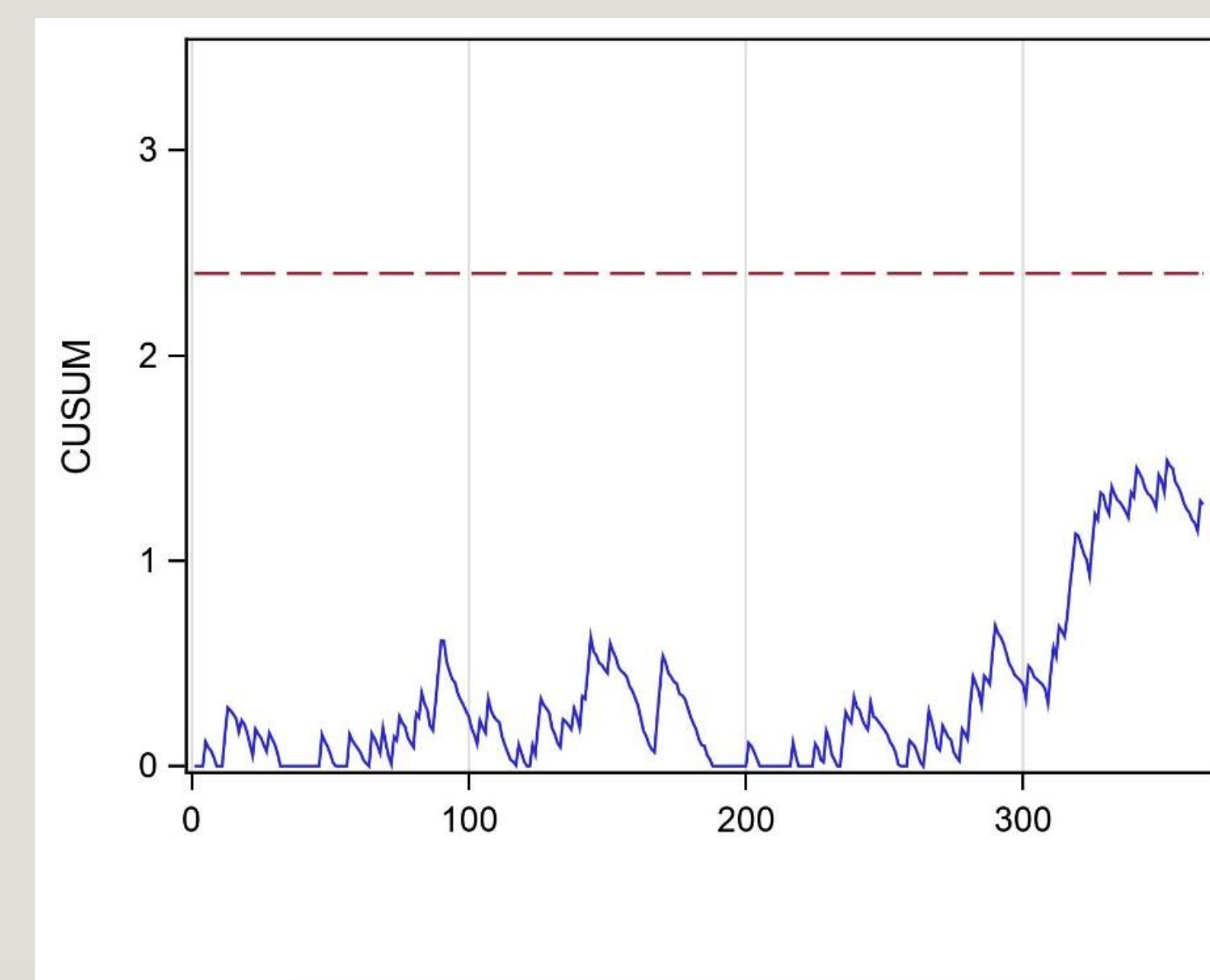


Figure 9: 3-month post-transplant graft failure in 2018 (CUSUM monitoring)



Conclusion

The implementation of the new allocation system led to a reduction in exceptional allocations with better donor-recipient age matching and a decrease in local allocation without an increase in 3-month post-transplant graft failure rate.