IMAD 2014 Local statistical Results

Introduction about coagulation

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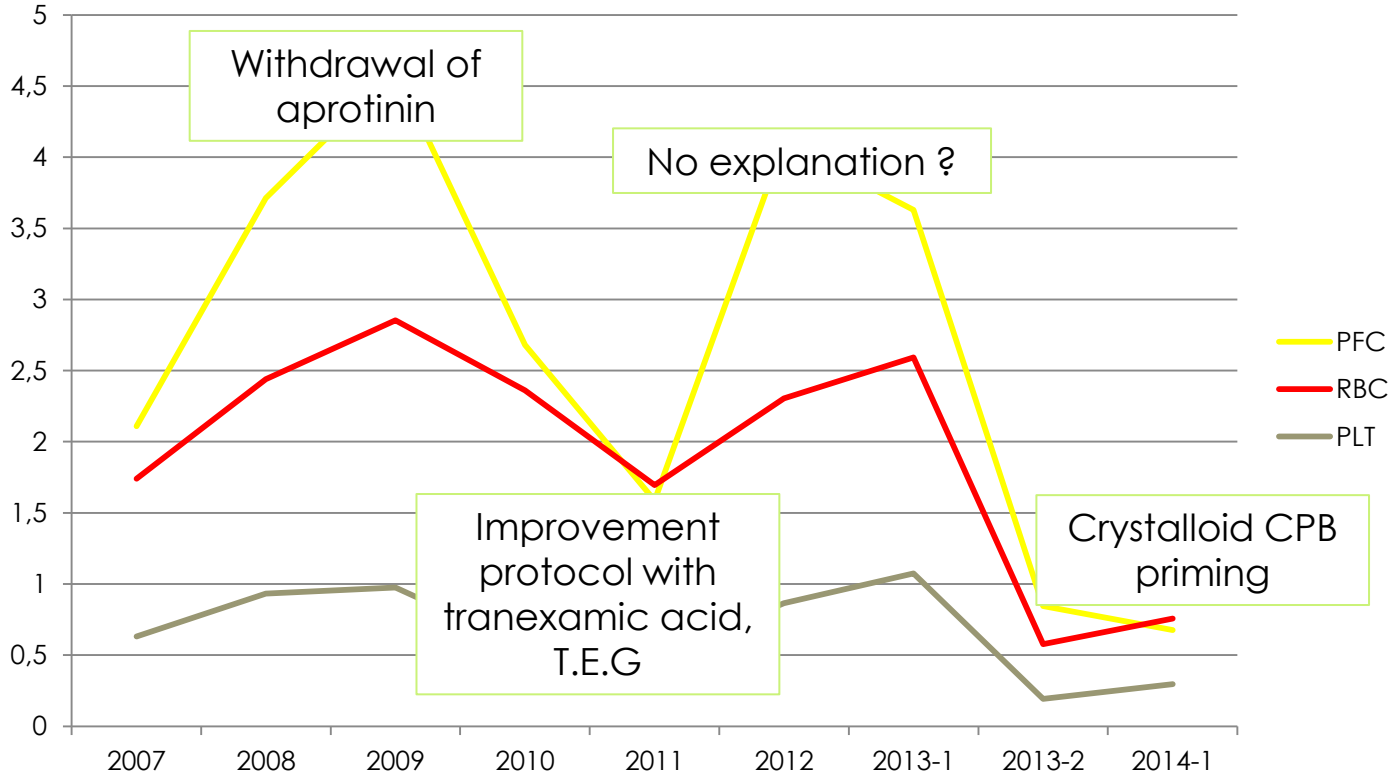
Year	All surgery procedures (100%)	Surgery on thoracic aorta (%)
2007	616	46 (7,47%)
2008	583	59 (10,1%)
2009	616	41 (6,66%)
2010	587	50 (8,52%)
2011	590	46 (7,80%)
2012	586	59 (10,1%)
2013	620	52 (8,39%)
2014 (till june)	340	37 (10,9%)

Data bases

- Operative and post-operative data
- Transfusion data
- Anaesthesia data

Operative and peri-operative(+72h)transfusion/patient/year.



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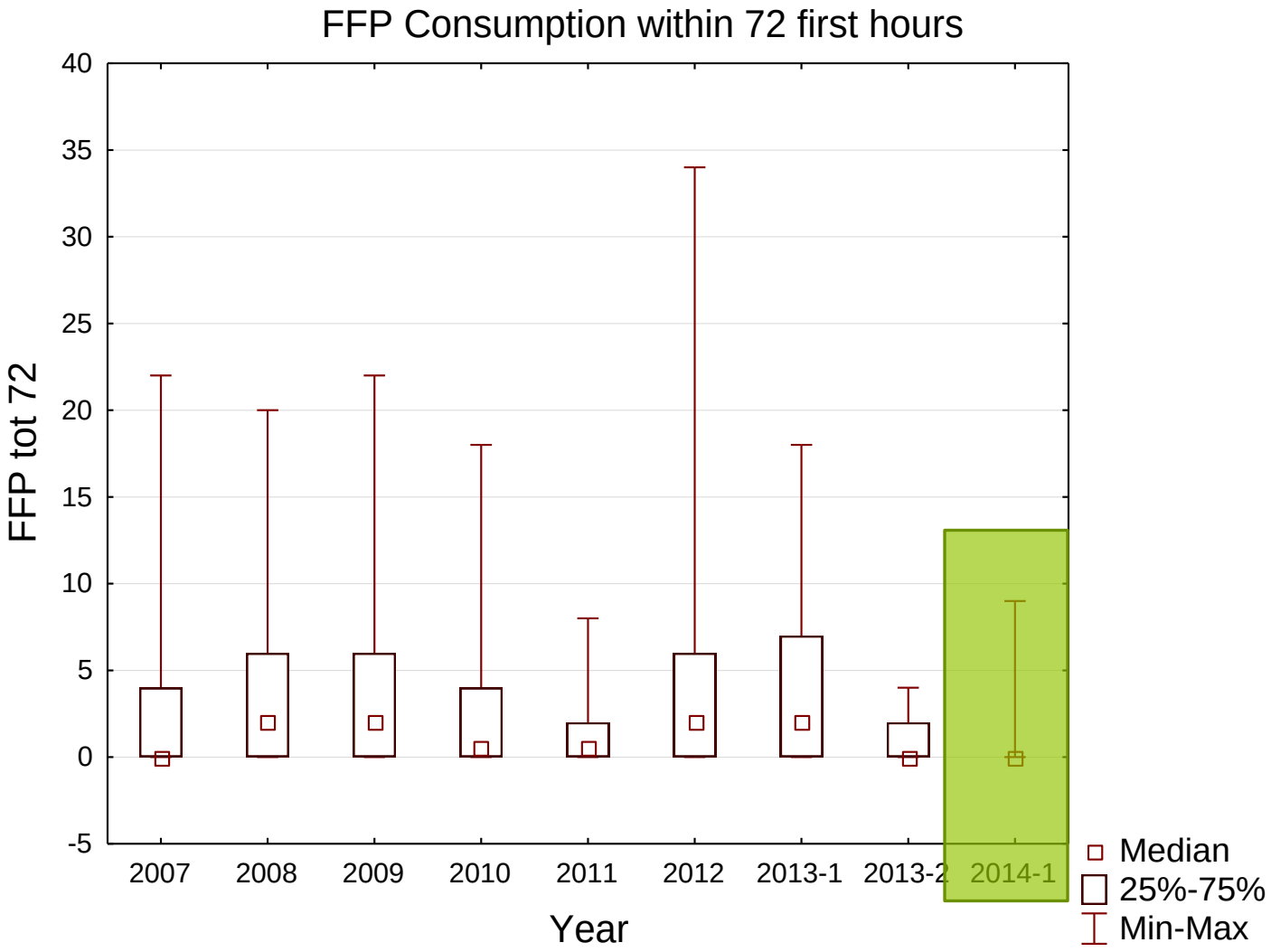

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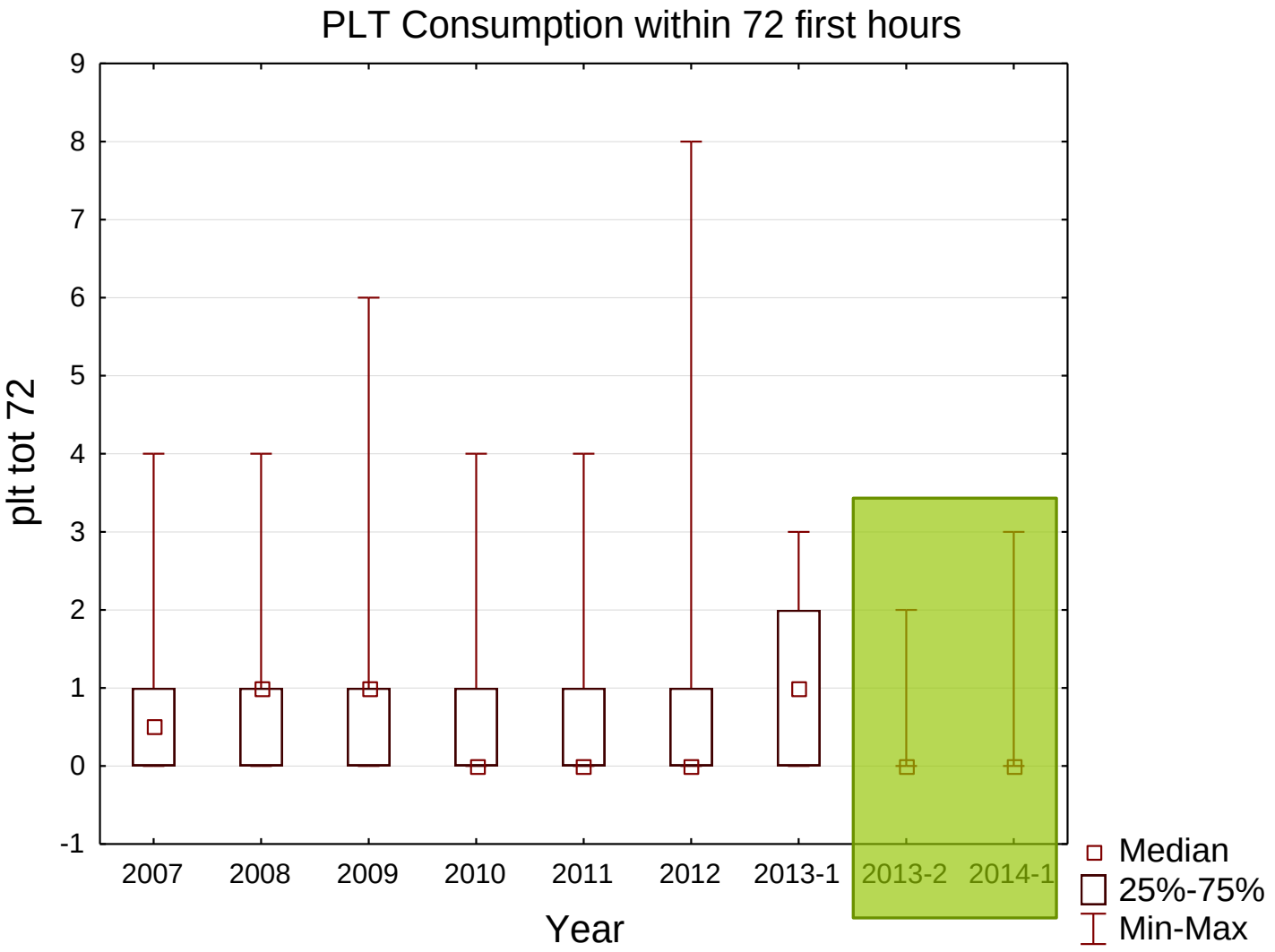

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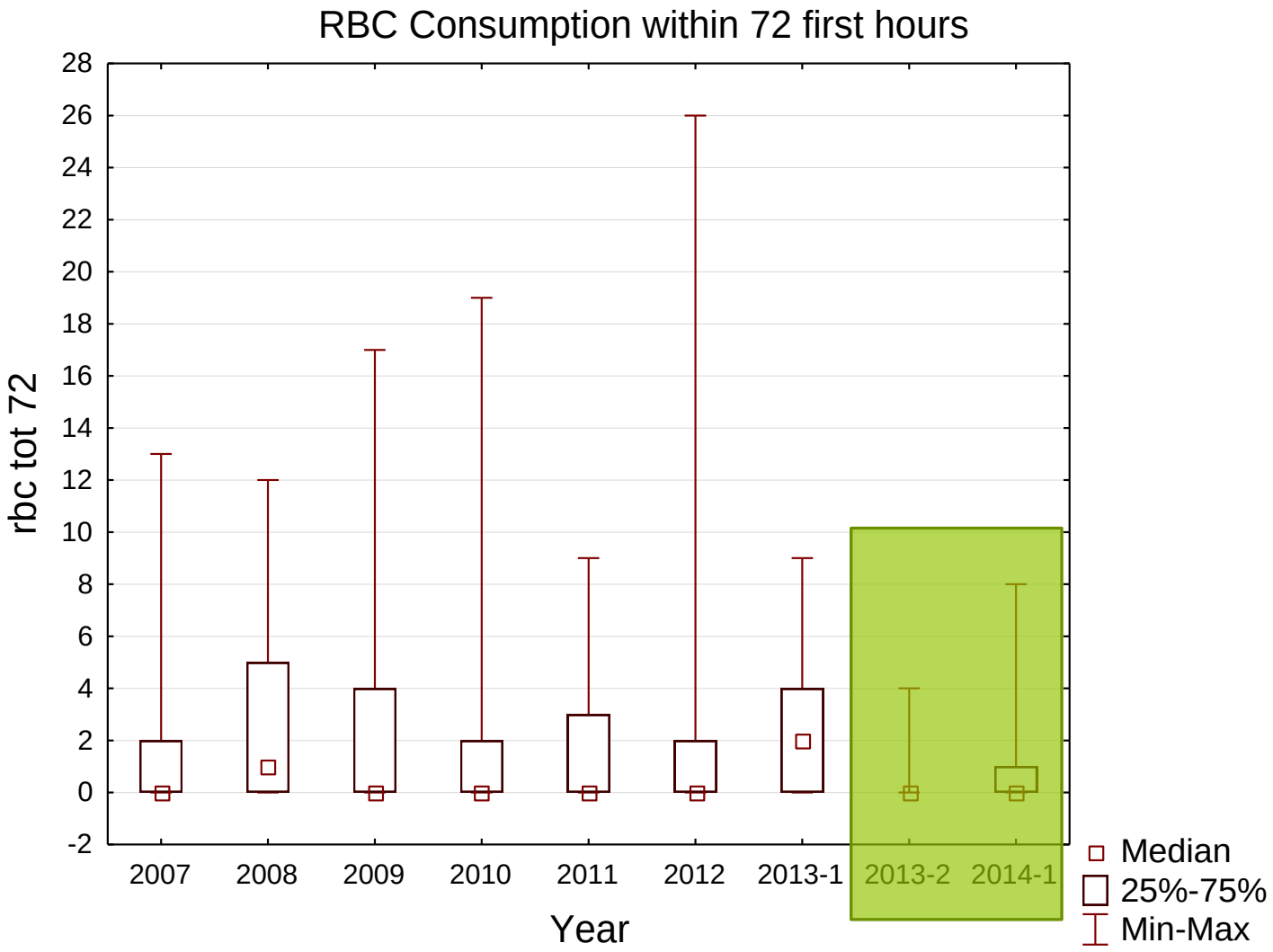

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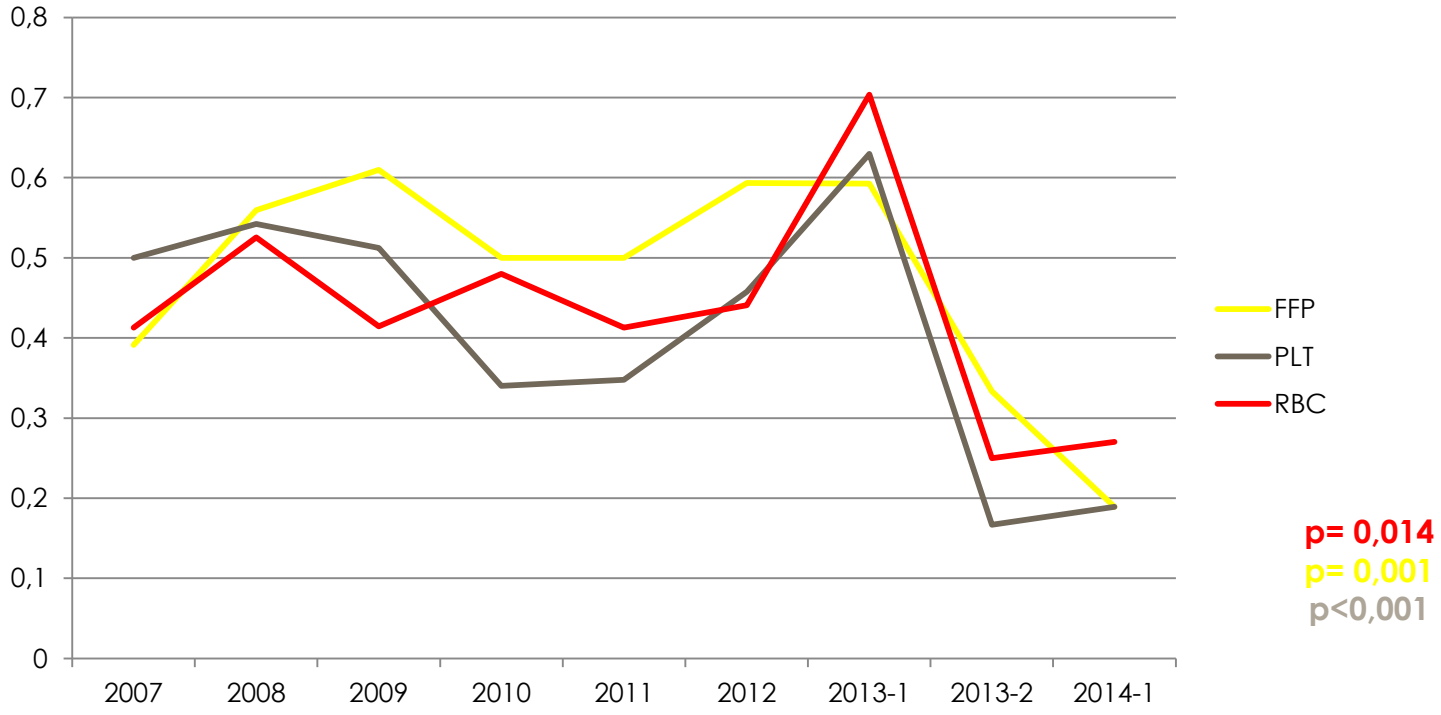
Percentage of transfused patient/year



p= 0,014
p= 0,001
p<0,001

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Population

- Age and sex
- Weight, length, body surface
- Preoperative haematocrit, nadir rectal temperature, pump and cross clamping time
- Dissection, elective-emergency and previous cardiac surgery.

But…

- CPB Priming volume decreased from 1,8L to 1,16L.
- Nadir Haematocrit CPB was higher in 2013-2 and in 2014.
- Acme ACT, nadir ACT and Total of Heparin® fluctuated but without correlation with blood product consumption.
- The urine output and fluid balance during CPB changed in 2013-2 and 2014

Cell- saving, predictive factor?

p=0,02	Amount of blood recovered (mL)
2007	1039,5 (731-1326)
2008	1019,5 (740-1433,5)
2009	1167 (650-1600)
2010	800 (688-1066)
2011	775 (670-1050)
2012	980 (650-1361)
2013-1	900 (529-1500)
2013-2	750 (548-1085)
2014-1	775 (605-1226,5)

Factors associated with transfusion

	RBC			FFP			PLT		
	OR	95%CI	p	OR	95%CI	p	OR	95%CI	p
Age	1,04	1,01-1,04	<0,01	1,03	1,01-1,06	0,01	1,05	1,02-1,08	<0,01
BSA	0,11	0,01-0,94	0,05			NS			NS
Pump Time	1,02	1,00-1,03	0,02			NS			NS
Cross clamp time	0,98	0,97-0,99	0,02			NS			NS
Nadir ACT	1,01	1,00-1,01	0,03			NS			NS
Previous HCT	0,81	0,74-0,88	<0,0001			NS			NS
Recovered Cell S.	1,00	1,00-1,00	<0,0001	1,00	1,00-1,00	<0,01	1,00	1,00-1,00	<0,0001
Redo			NS	9,15	1,81-46,1	0,01	5,00	1,11-22,4	0,04
Dissection			NS	3,84	1,72-8,57	<0,01	3,17	1,36-7,38	0,01
Min rectal temp			NS			NS	0,86		0,02
HES	3,15	1,02-9,74	0,05	6,76	2,10-21,7	<0,01	8,99	2,42-33,7	<0,01

*BSA: body surface area; ACT: activated clotting time; HCT: haematocrit; HES: hydroxy ethyl starch

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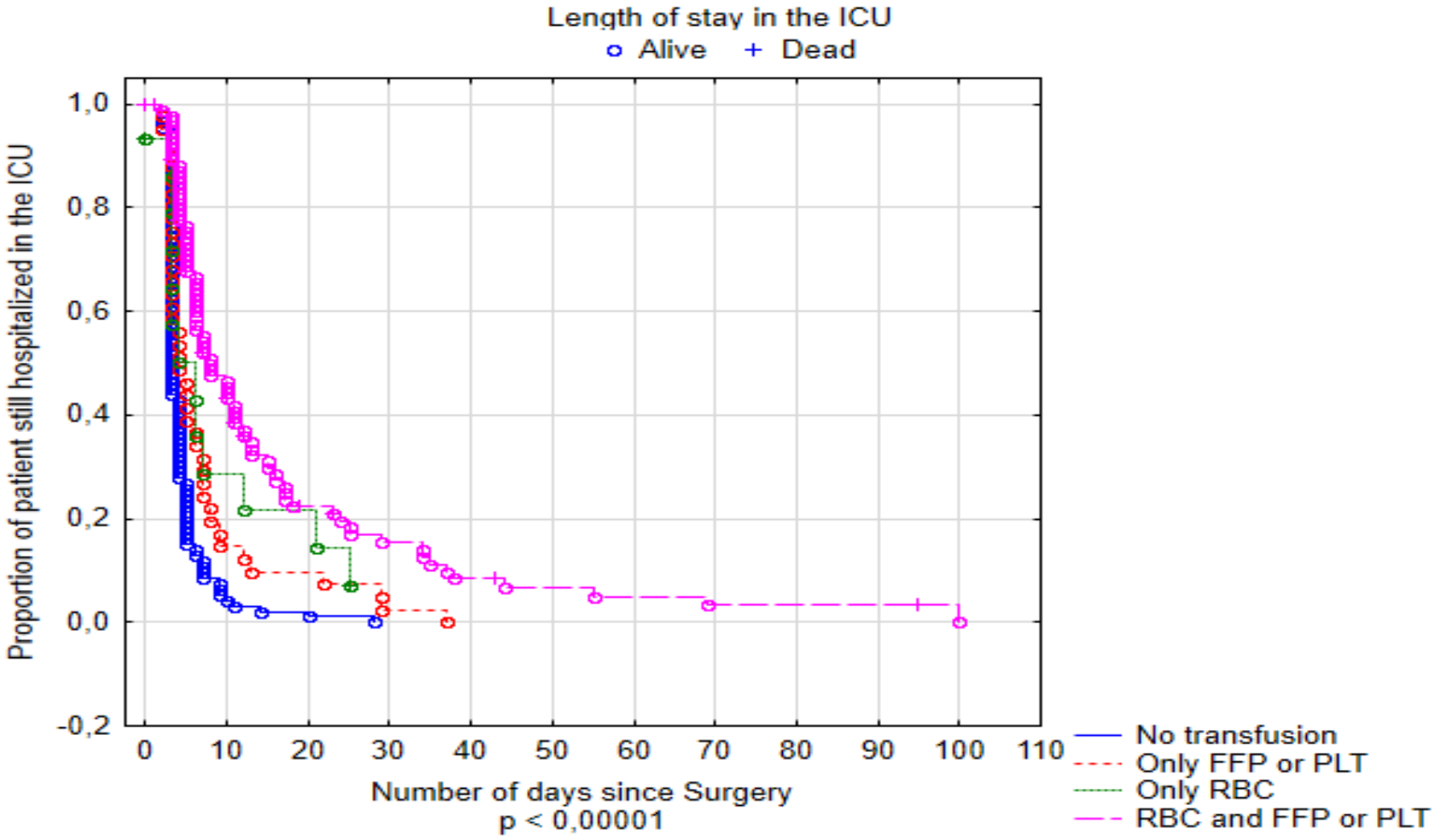
Reexploration

- 2007- april 2012: 9,7%
- June 2013 to june 2014: 6,3%

Why avoid bleeding complications which required transfusion?

	N	No transfusion	Only FFP / Plt	Only RBC	RBC and FFP or PLT	p-Value
Chest bleeding (ml/24 1stH)		270 (180-337,5)	350 (232,5-552,5)	222,5 (200-470)	600 (325-1060)	<0,001
Reexploration % (yes)	25	5,2	2,4	13,3	16,3	0,017
Septic shock % (yes)	20	0,0	5,0	25,0	16,1	0,0001
Acquired Infection % (yes)	47	6,9	22,0	21,4	30,9	<0,001

Why avoid bleeding complications which required transfusion?



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Conclusion

- For many years, we have all tried to improve the bleeding management strategy and it finally seems that hazard is a wizard…

  The use of crystalloid fluid for the priming of the cardiopulmonary bypass enhances haemostasis…

THANK YOU

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