Summing-up and future perspectives

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Hemovigilance: is it making a difference to safety in the transfusion chain?

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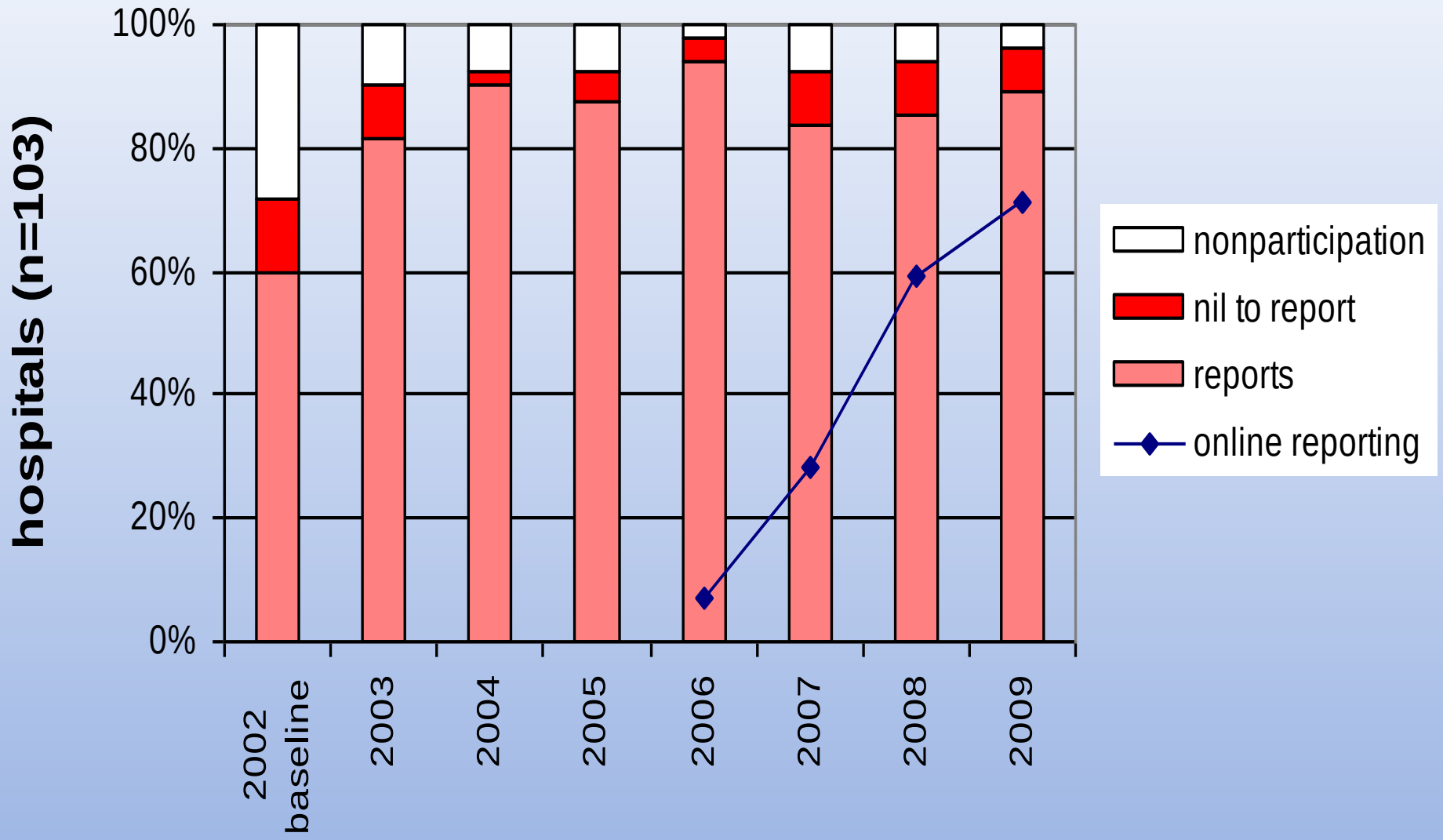
Yes and no

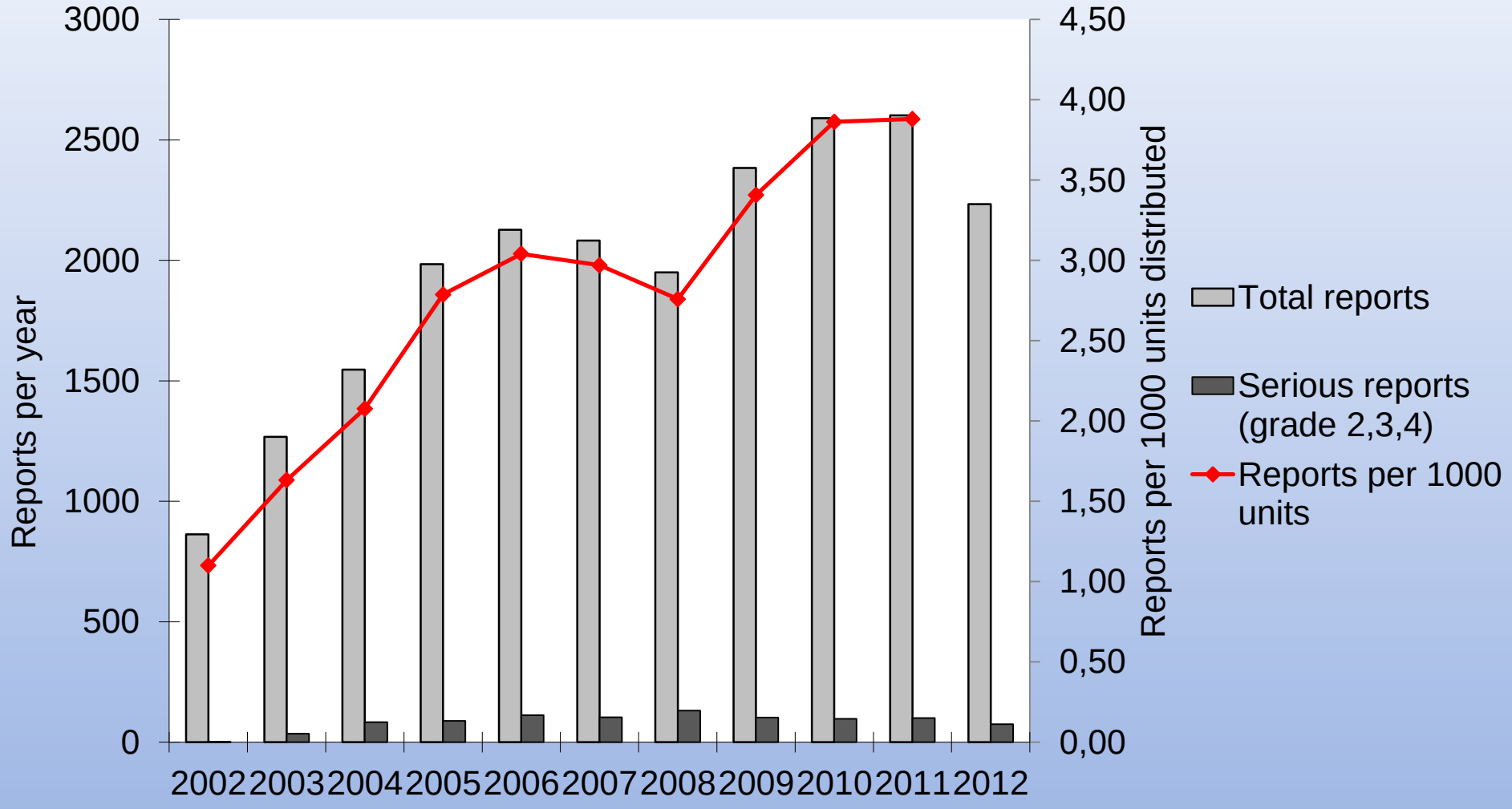
Critical Success Factors for hemovigilance

- Participation
- Clear and uniform definitions
- Relevant outcome measures
- Intervention tools for all area’s
- Resources: financial and personnel

Participation

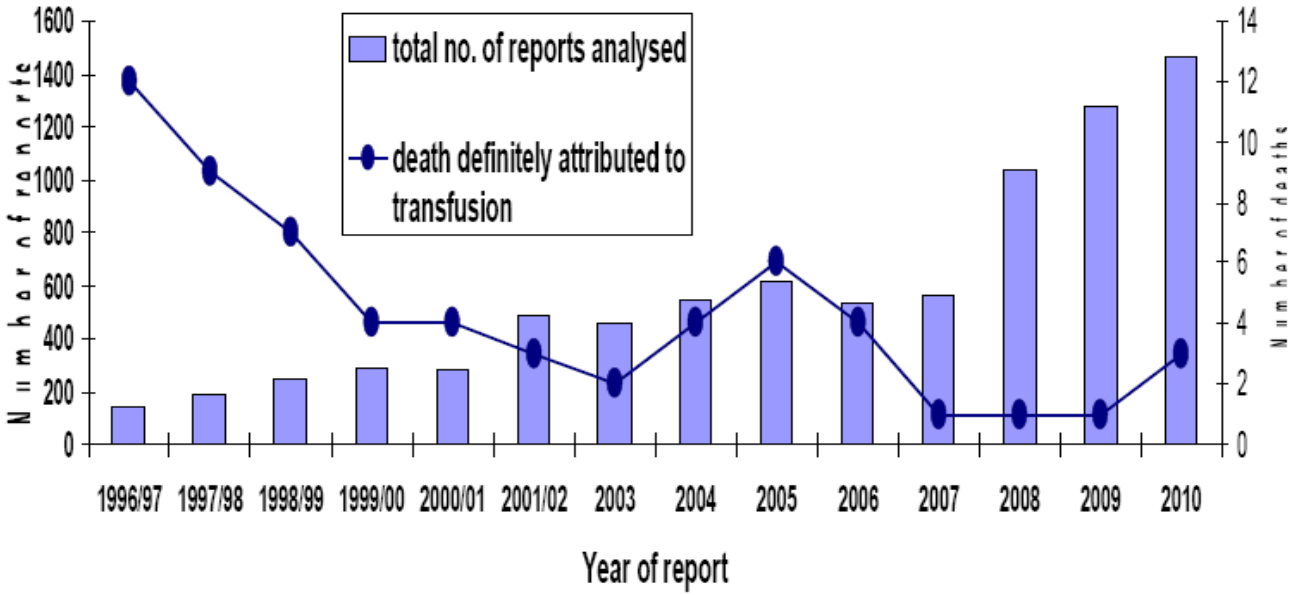


Number of reports



Relationship number of reports and number of deaths

Deaths definitely attributed to transfusion 1996/97 - 2010



Is a high reporting rate an indicator for outcome ?

- SHOT: YES if the outcome measure is death defenitely attributable to transfusion

AND

- TRIP: NO if outcome measure is IBCT

(Chapter 7 Thesis Jo Wiersum)

What does each system record?

Event	SHOT	France	Ireland	TRIP	EU
Hemolysis	serious	+	serious	+	serious
Anaphylaxis	serious	+	anaphylactoid	+	serious
TRALI	serious	+	serious	+	serious
Volume overload		+	serious	+	
PTP	serious	+	serious	+	serious
TA-GVHD	serious	+	serious	+	serious
Bacterial contamination	serious	+	serious	+	serious
Viral infection	serious	+	serious	+	serious
Other infection	serious	+	serious	+	serious
Other events	serious	+	serious	+	serious
New antibodies		immunological incompatibility		+	
NHTR		'unknown'		+	
Other allergic reaction		+		+	
Minor febrile reaction		+		optional	
Near accident	+	?		optional	

Is one system better than the other?

- Do we need all these reports?
- Do we need the reports of non-serious events?
- Is a voluntairy system better than a compulsury system?

- These issues are a matter of debate

Definitions

- National, ISBT and EU definitions all differ.
- Focus used to be on product safety and not on patient safety
- A safe product in the wrong patient can be extremely hazardous
- Future direction: international implementation of standardized definitions (ISBT/IHN)

TRALI cases

TRALI definition

- Clear definition
- Usually grade 2 or more
- International consensus
- Comparable data

Transfusion reaction reports

Transfusion reactions	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
AHTR	12	8	14	9	19	11	18	18	21	15
Anaphylactic	13	8	21	26	19	54	65	71	73	65
Other allergic	98	132	171	219	222	202	171	181	184	189
Hemosiderosis				4	5	3	5	2	4	2
Mild NHFR	247	326	341	375	363	328	275	360	363	362
NHTR	240	318	345	435	490	452	453	488	505	497
New allo-ab	117	244	428	571	607	601	610	756	814	826
Other reaction	48	54	64	67	61	55	101	136	164	215
Post-tf bacteremia (before 2008: bacterial contamination)	12	9	5	10	7	19	37	55	41	60
Post-tf other infection										1
PTP	1						1			2
Post-tf viral infection	1	5	7	8	7	7	7	4	1	5
TA-GVHD							1			
TRALI	**9**	**7**	**9**	**17**	**25**	**31**	**21**	**13**	**17**	**12**
Delayed HTR	21	19	14	12	14	11	18	8	7	9
TACO	1	7	6	27	34	31	39	42	47	38

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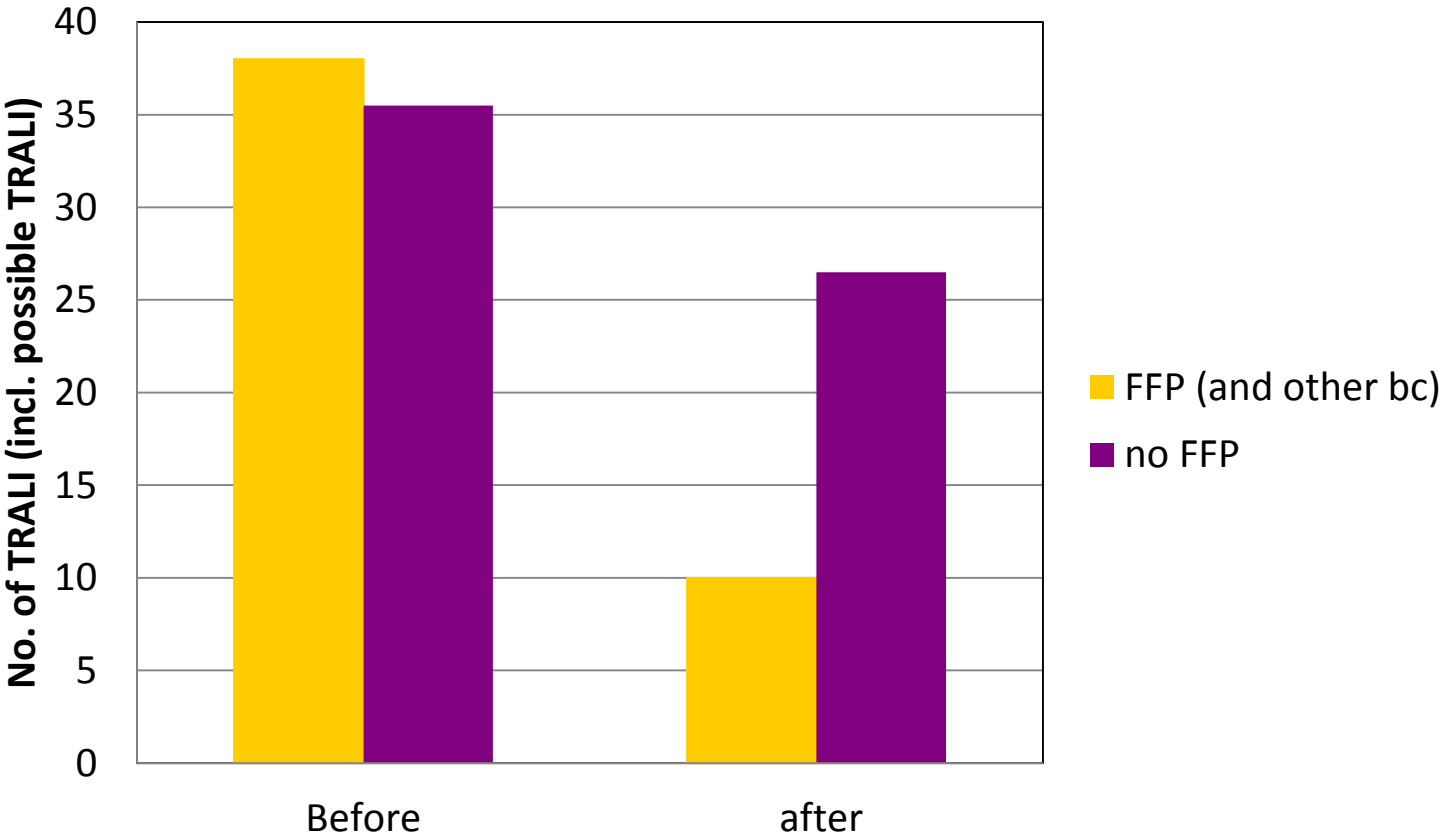
Male-only plasma supplied from mid 2007

Transfuson-related acute lung injury (TRALI): male-only plasma



Prior to change

P.A.R. 0.33 (95% CI 0.09 – 0.51)

TRANSFUSION 2011;51:1278-1283.

TRALI and hemovigilance

- Hemovigilance enabled the detection of TRALI
- Hemovigilance stimulated TRALI research
- Hemovigilance made it possible to detect the effect of the male-only plasma measure
- Future: prevention of non-immune TRALI

Patient outcomes

- Do we have relevant outcomes for transfused patients ?

- Mortality?
- Disease outcome with or without Tx?
- Hospitalization or lenght of stay?
- Immunomodulation?
- Infection?

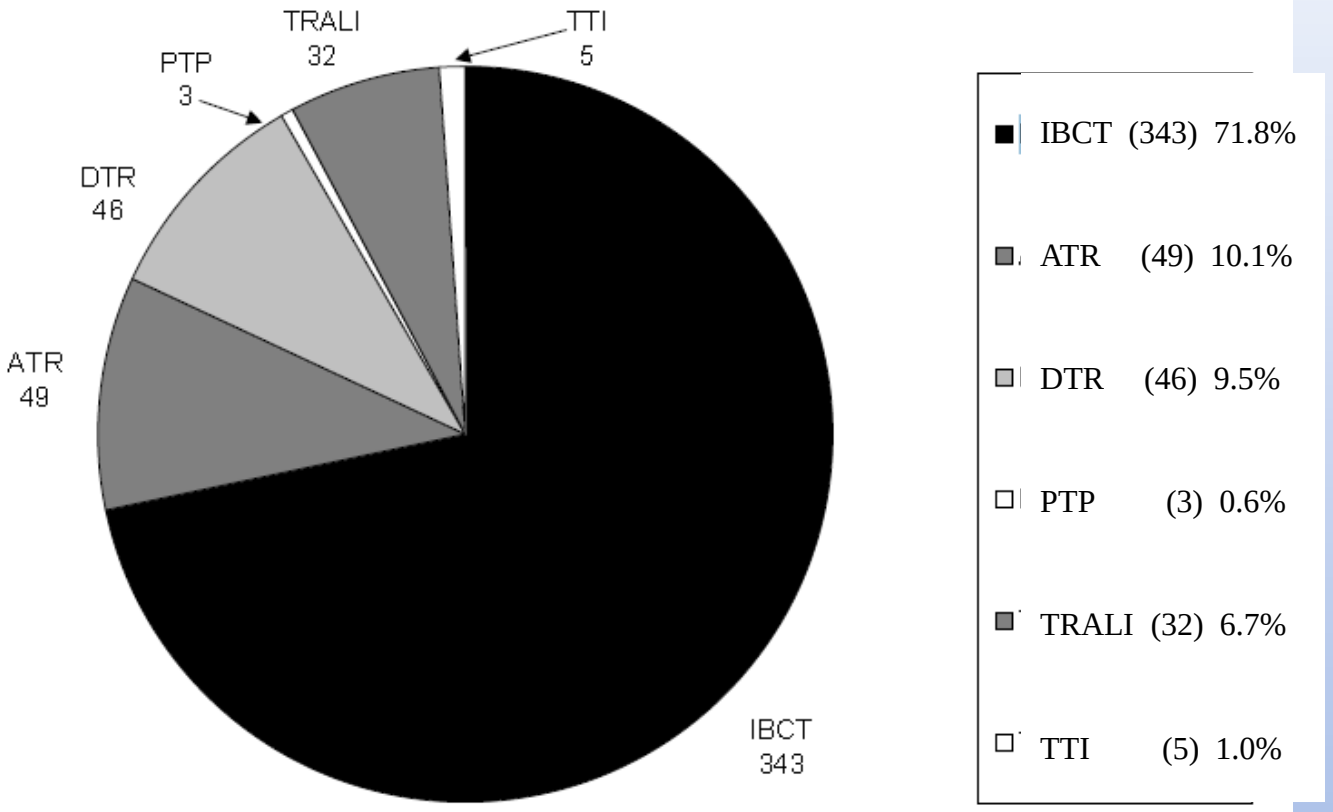
Safety in the hospitals

Is the correct patient transfused with a correct indication and a correct product ?

Simple question but difficult task !

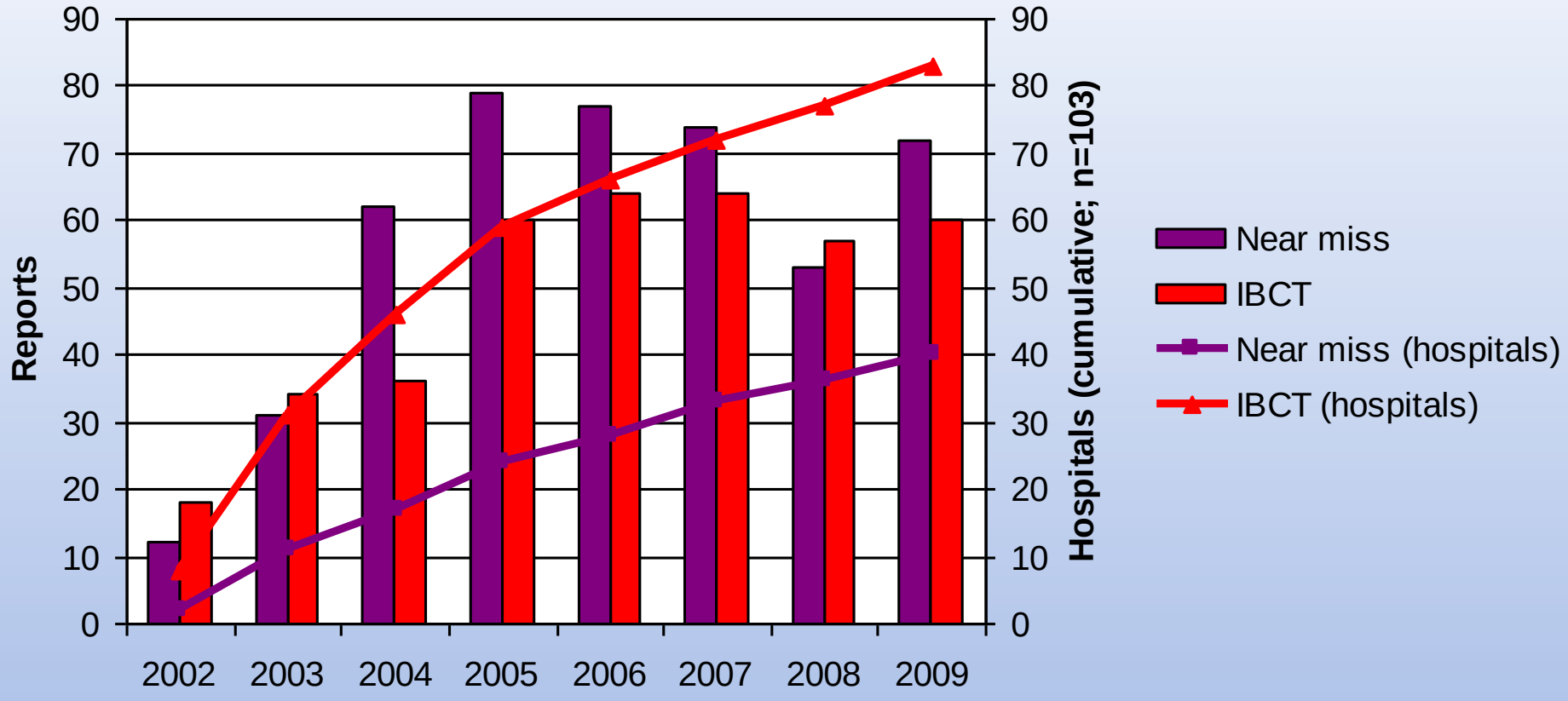
SHOT (Serious Hazards of Transfusion) report 2001-2

Figure 6
Overview of 478 cases for which initial reports were received over 15 months



Incorrect blood component transfused (IBCT)
72% of reports

Incident reports to TRIP



Reporting to TRIP is the professional standard. Near miss reporting encouraged.

Transfusion safety in hospitals: where are we now?

- Safety of hospital transfusion still an issue
- Poor education and training
- National, regional and local audits consistently show inappropriate use of 15-20% red cells and 20-30% platelets/plasma
- Low uptake of methods to avoid use of blood
- Evidence base getting stronger but more research needed
- Poor IT for blood safety and for providing data on blood usage

See NBTC Annual Reports

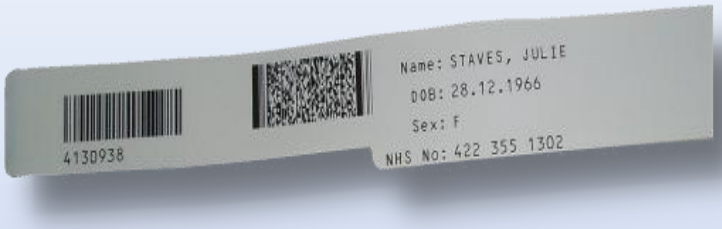
ttp://www.transfusionguidelines.org.uk/Index.aspx?Publication=NTC&Section=27&pageid=1075

Intervention Tools

- ICT
- Guidelines and education
- Audits

End-to-end electronic transfusion

Bar-coded patient ID on the wristband is used to label the sample and blood bag
Davies et al. *Transfusion* 2006; 46: 352-364



Patient safety ad the bedside