

# Progress with transfusion safety in hospitals: a continuing journey

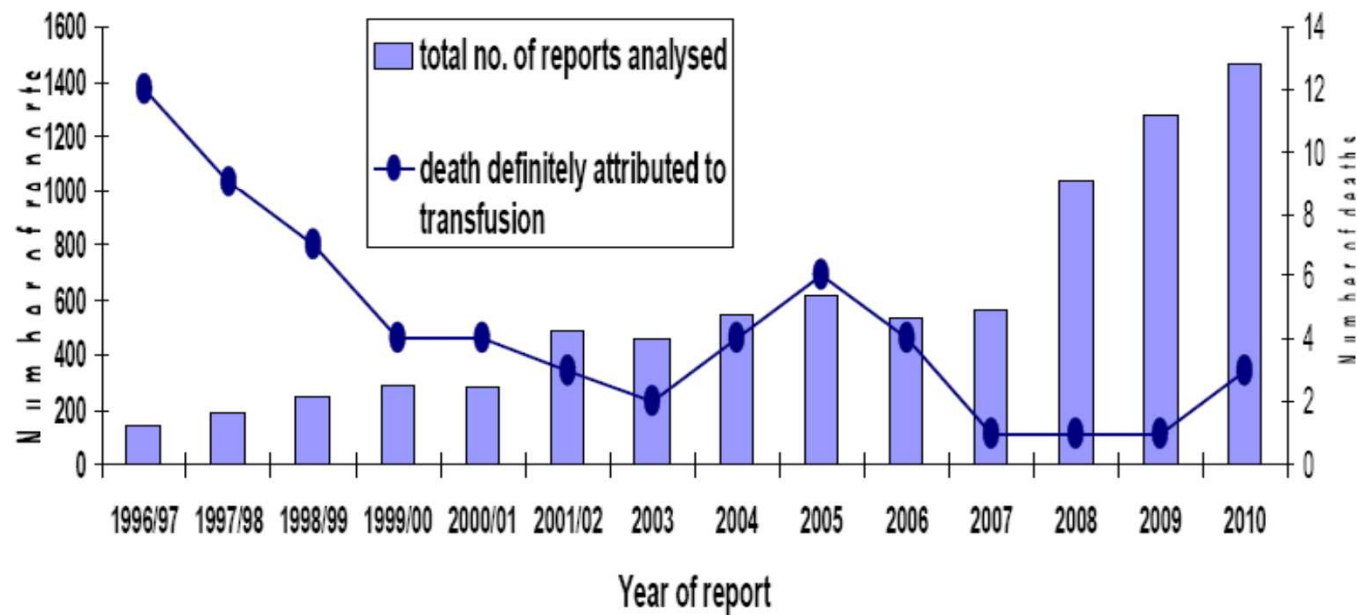
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# Hospital blood transfusion

- **High activity** (2.2 million units of red cells to 500,000 patients/year in the UK; 25,000 units of red cells/year in Oxford)
- **High cost** (£300+ million/year for the cost of blood in England; £4.5 million/year in Oxford; unknown costs for the transfusion process)
- **High risk** (159 deaths due to transfusion in the last 15 years in the UK; 27 deaths and 120 cases of major morbidity due to 'wrong' transfusions)



# Deaths definitely attributed to transfusion 1996/97 - 2010



## **Risks of mortality and major morbidity per 1,000,000 blood components issued in 2011**

**Total mortality                      2.7**

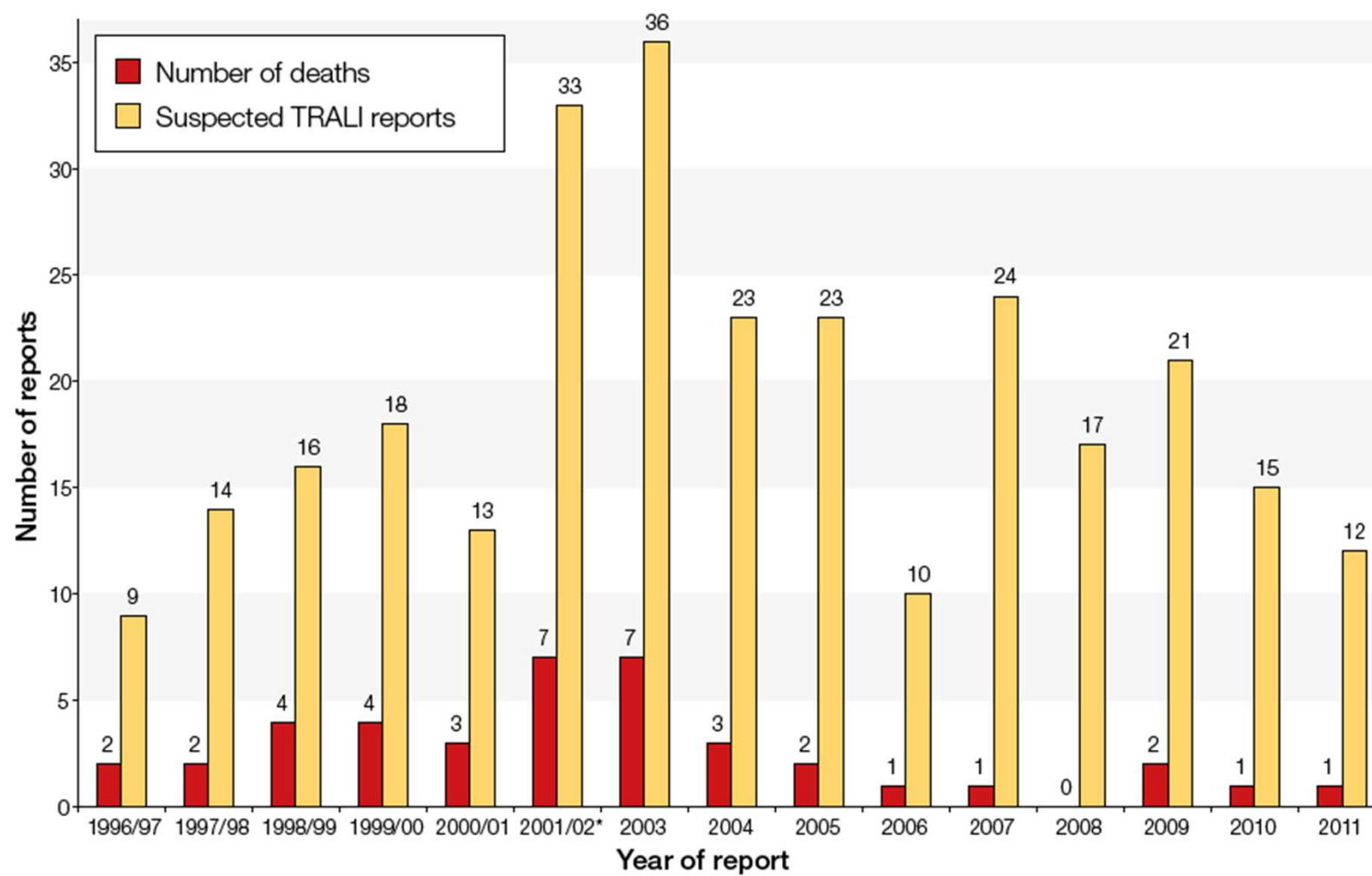
**Total major morbidity              39.6**

Approximately 3,000,000 blood components  
issued annually by UK blood services

## Major Morbidity and Mortality per 1,000,000 components issued in 2011

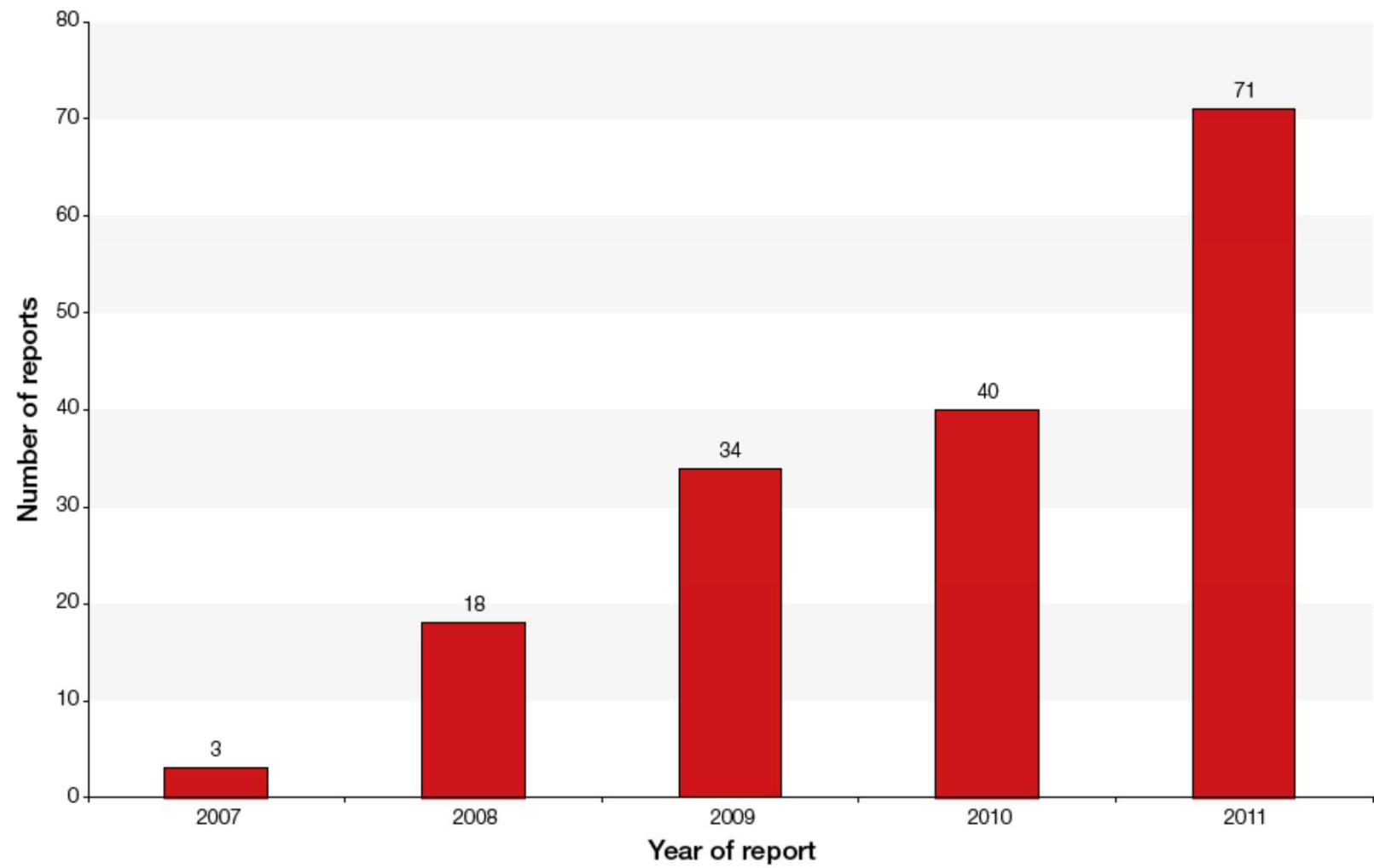
|                           | Mortality  | Major morbidity |
|---------------------------|------------|-----------------|
| Total                     | 2.7        | 39.6            |
| <i>All errors</i>         | <i>0.7</i> | <i>5.4</i>      |
| Acute transfusion reacns. | 0.7        | 17.9            |
| Haemolytic trans. reacns. | 0.0        | 3.7             |
| TRALI                     | 0.3        | 2.7             |
| TACO                      | 0.7        | 8.1             |
| Trans-assoc. dyspnoea     | 0.0        | 1.0             |
| Post-trans. purpura       | 0.0        | 0.3             |
| Paediatric cases          | 0.3        | 5.1             |

Number of suspected TRALI cases and deaths at least possibly related to TRALI by year of report



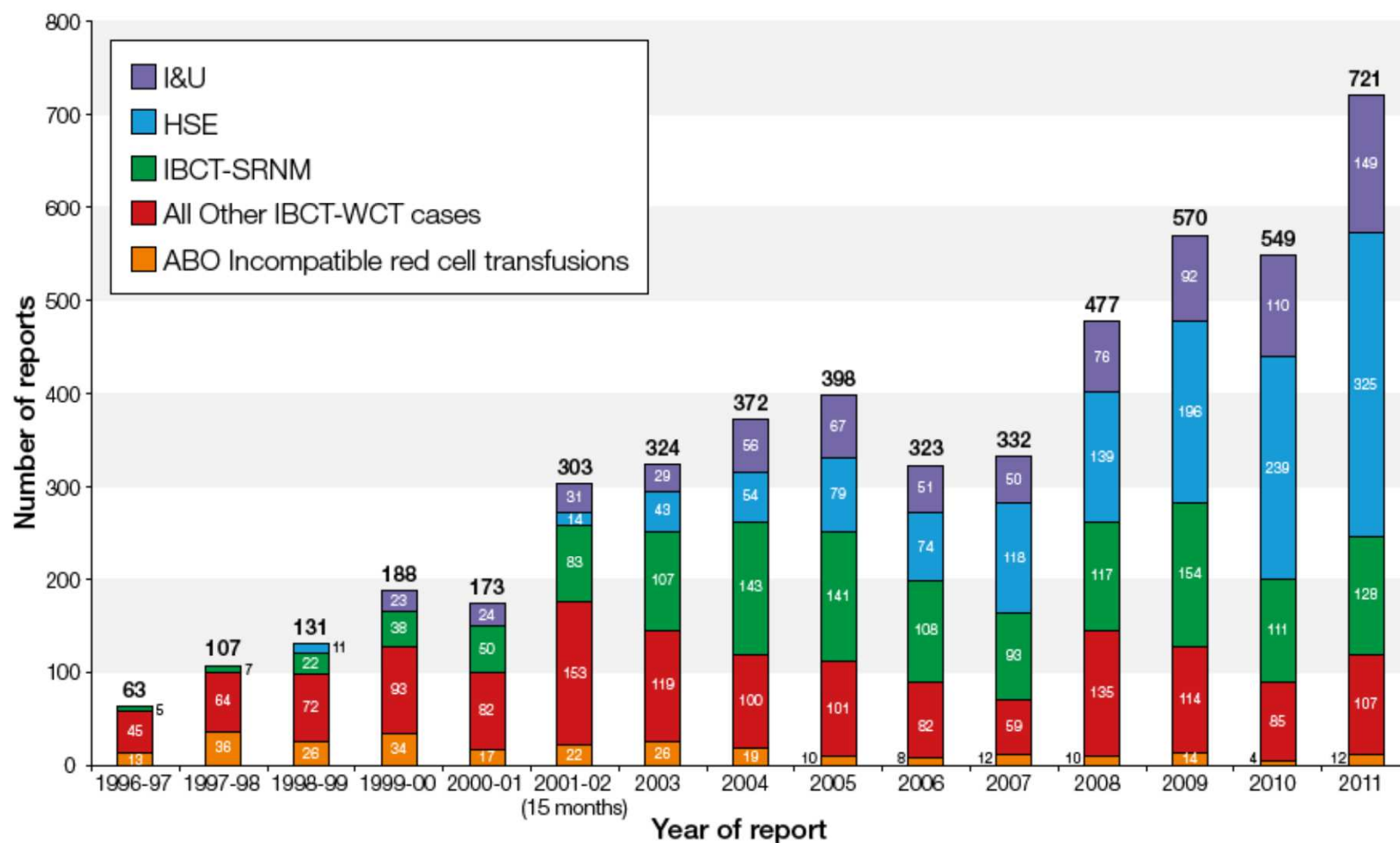


Number of cases of TACO reported to SHOT each year





Incorrect blood components transfused (IBCT) either due to wrong component (WCT) or where special requirements were not met (SRNM), handling and storage errors (HSE), showing the number that resulted in ABO-incompatible transfusions



## Participation in SHOT

| 1996/97                        | 2010                               | 2011                                |
|--------------------------------|------------------------------------|-------------------------------------|
| 94/424<br>organisations<br>22% | 208<br>organisations<br>95%        | 225<br>organisations<br>98.4%       |
| 141 reports                    | 1464 reports<br>863 near<br>misses | 1815 reports<br>1080 near<br>misses |

## Near Miss – sample errors & WBIT

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- Near miss reports are about 30% of the total reports
- Sample errors are about 50% of the near misses
- Wrong blood in tube (WBIT) are >90% of the sample errors

|                             | 2010 | 2011 |
|-----------------------------|------|------|
| Total SHOT reports analysed | 2464 | 3038 |
| Near misses                 | 863  | 1080 |
| Sample errors               | 409  | 508  |
| Wrong blood in tube (WBIT)  | 386  | 469  |

## How do wrong sample errors occur?

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| Practices leading to WBIT                  | Number of cases | Percentage of cases |
|--|-----------------|---------------------|
| Patient not identified correctly           | 174             | 37.1%               |
| Sample not labelled at bedside             | 174             | 37.1%               |
| Sample not labelled by person taking blood | 23              | 4.9%                |
| Pre-labelled sample tube used              | 10              | 2.1%                |
| Other/Unknown                              | 88              | 18.8%               |
| <b>Total</b>                               | <b>469</b>      | <b>100.0%</b>       |