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European Blood Inspection System
Initiated under the Public Health Programme of the EC
Directorate General SANCO - GA No. 2006202

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Network

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Serious Hazards of transfusion (SHOT) Annual report 2018

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Disclaimers

<https://www.shotuk.org/>

<https://www.bbts.org.uk/>

- The contents of the presentation are provided by SHOT together with my own slides
- I am presenting them as a long standing member of the steering committee
- Some of the comments are my own but have been approved by the new SHOT Medical Director, **Dr Shruthi Narayan**
- I also represent the British Blood Transfusion Society (president 2019 – 2021)
- I have no conflicts of interest



**British Blood
Transfusion Society**

TÜRK
KIZILAY



Report, Summary and Supplement 2018

SHOT Annual Report and Summary

The SHOT Annual Report 2018 below contains links to individual chapters on the Contents pages. This allows you to easily navigate to the chapter you require. There are also bookmarks on the left hand side of the pdf.

The electronic pdf below also contains the web only MHRA chapter. This does not appear in the printed version.



- Report
- Summary
- Supplement
- Resources



SHOT 2018

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Individual pdfs of each chapter can be viewed by clicking the link below:

2018 SHOT Annual Report – Individual Chapters

<https://www.shotuk.org/shot-reports/report-summary-and-supplement-2018/>



An introduction



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 **THN** International
Haemovigilance
Network

 **SHOT** Serious Hazards
of Transfusion

SHOT: The UK haemovigilance scheme (1996-)



•SHOT collects and analyses information on transfusion reactions and adverse events from all healthcare organisations in the UK that are involved in blood transfusion

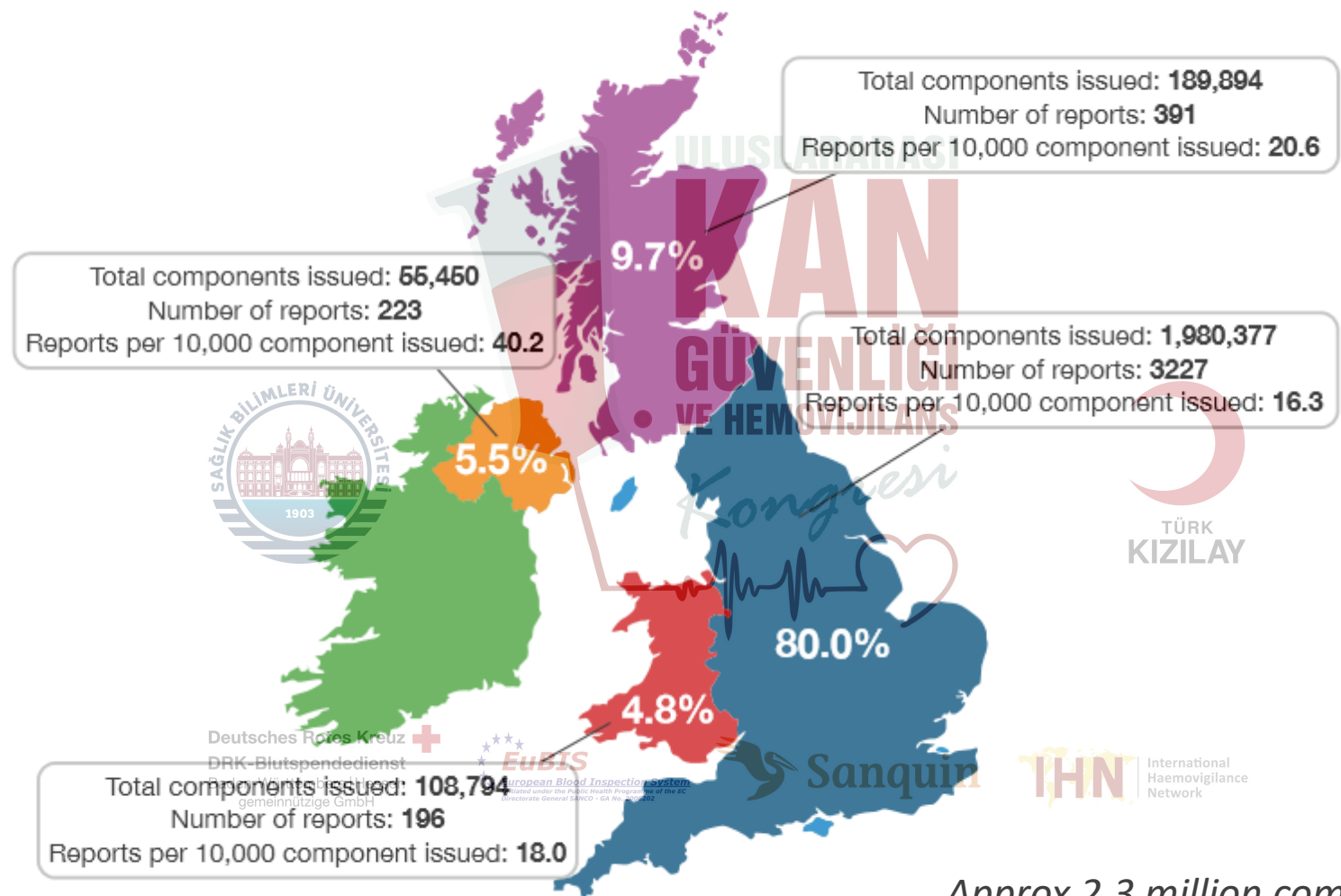


•This includes transfusion of red cells, plasma, cryoprecipitate and platelets. Additionally SHOT has been collecting errors related to Anti-D Ig administration, immune anti-D cases and errors related to prothrombin complex concentrates



SHOT is funded by the 4 UK Blood Services and is affiliated to the Royal College of Pathologists. Its activities are overseen by a steering group whose membership includes representatives from the Royal Colleges (medical and nursing) and other specialist societies

Blood components issued in UK and percentage of SHOT reports submitted by UK country



Approx 2.3 million components

Regulations mandating haemovigilance systems 2002 -

European
Blood
Directive
2002/98/EC



European
Blood
Directive
2005/61/EC

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 **MHRA**
Regulating Medicines and Medical Devices

Blood Safety
and Quality
(amendment)
Regulations
2006/2013

 **SHOT** Serious Hazards
of Transfusion

Haemovigilance in the UK



MHRA
Regulating Medicines and Medical Devices

SHOT

Serious Hazards
of Transfusion

'Competent Authority' for EU
Blood Safety and Quality
Regulations (BSQR 2005)

Confidential enquiry:
National Haemovigilance scheme
since 1996

Monitor quality management
systems (QMS) in Blood Service
and Hospital Labs

Serious adverse reactions and
events in both labs and clinical
environment (vein to vein)

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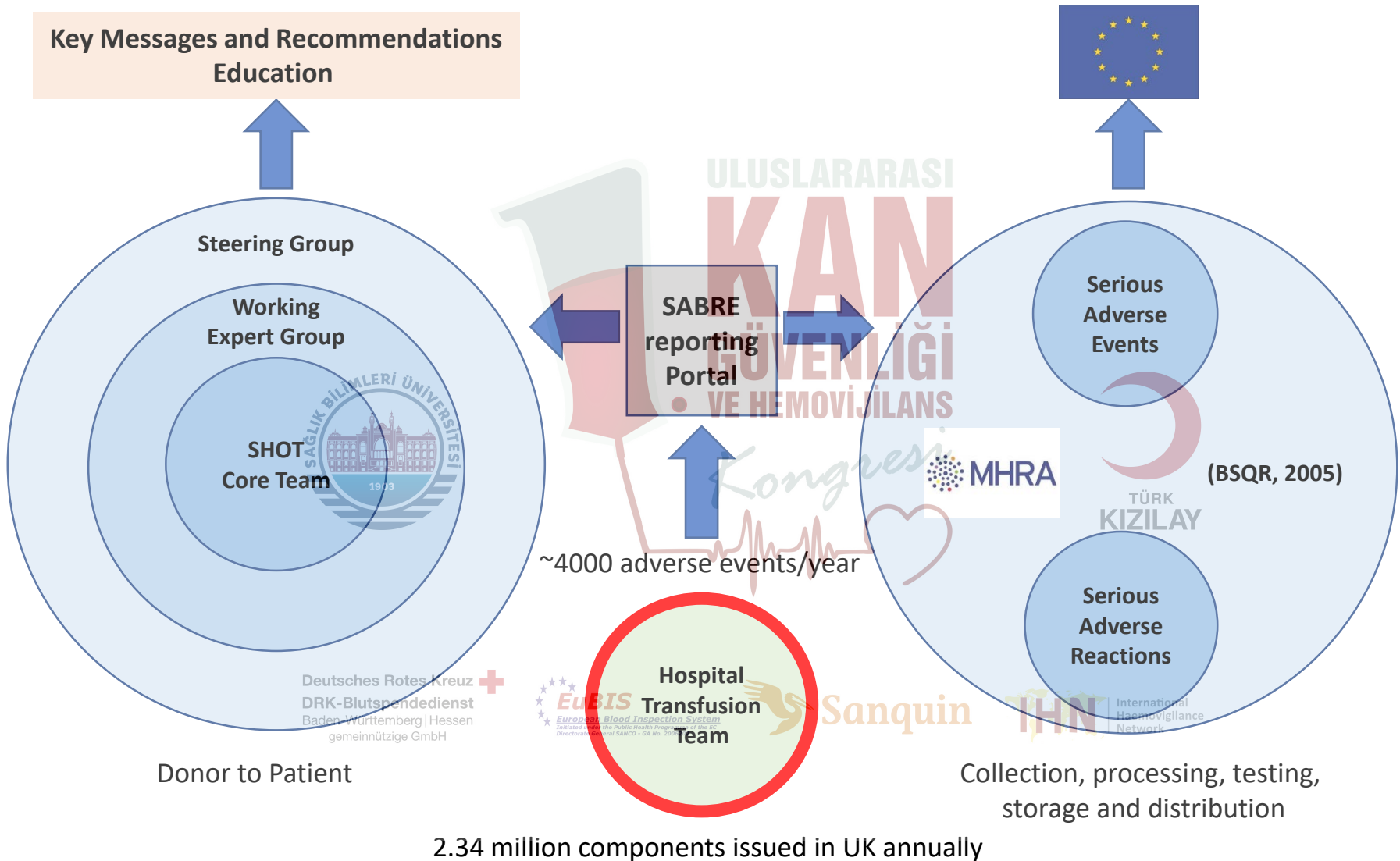
STATUTORY
reporting

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PROFESSIONALLY MANDATED
reporting

UK dual HV System- an overview

Slide courtesy- Sharran Grey





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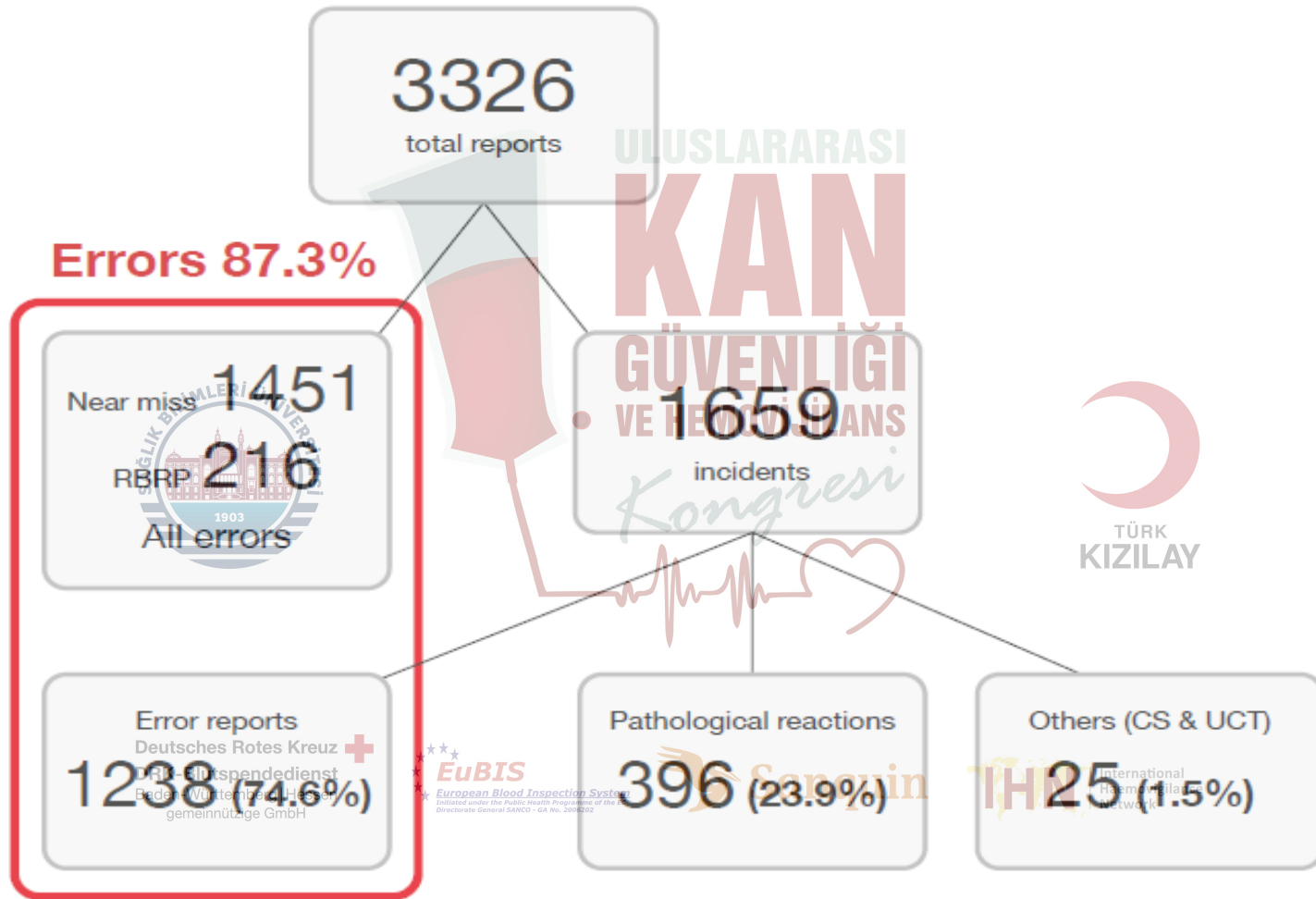


2018 Headline data

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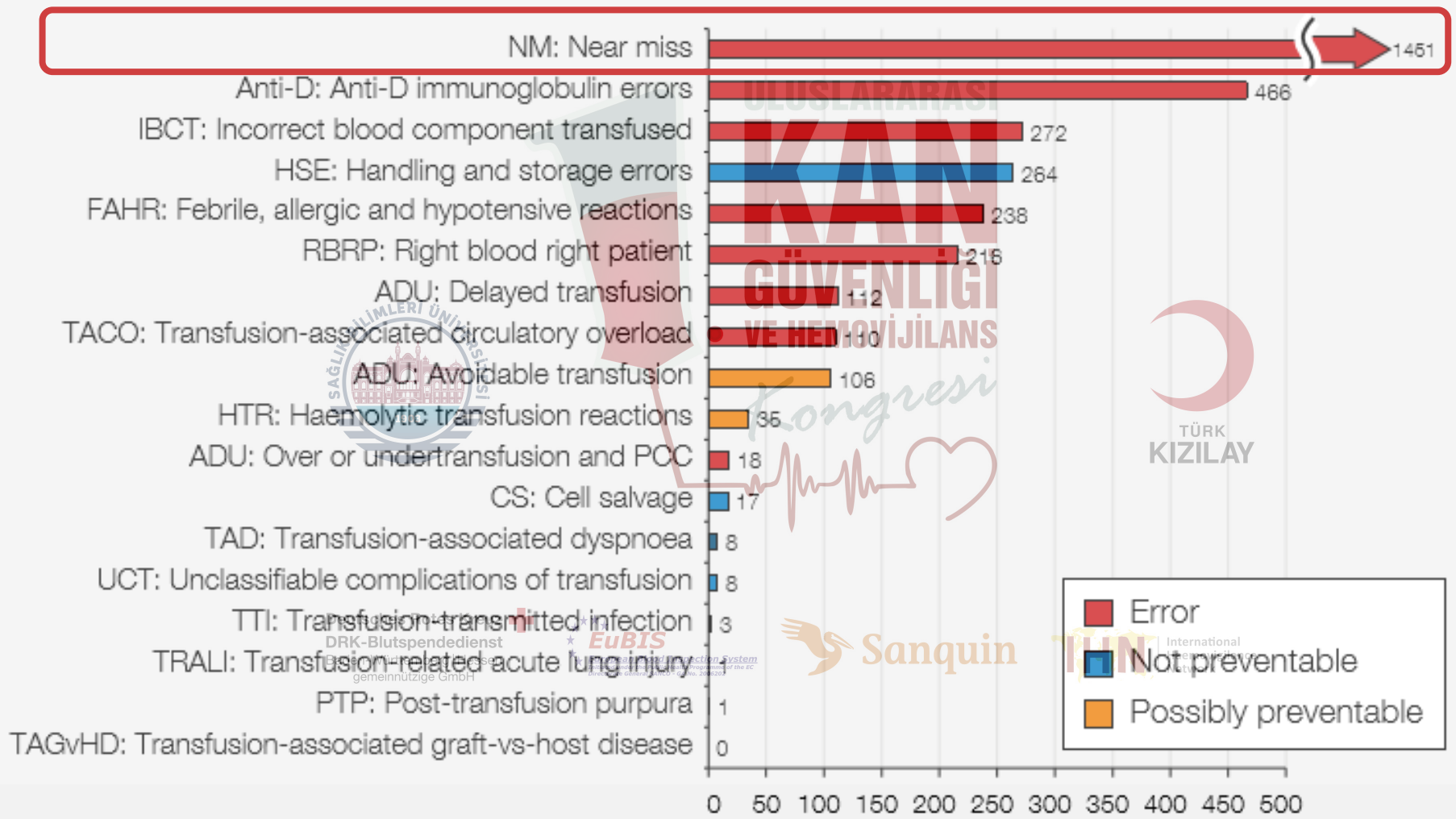


Categorisation of reports analysed in 2018



RBRP=right blood right patient; CS=cell salvage; UCT=unclassifiable complications of transfusion

Summary data for 2018 all categories n=3326 (ranked by number)



- Error
- Not preventable
- Possibly preventable

Mortality and major morbidity data by reporting category 2018

	Death definitely related	Death probably related	Death possibly related	Major morbidity
Delayed transfusion		2	6	
Overtransfusion			1	
FAHR				60
HTR		2		4
IBCT-WCT (clinical)				1
IBCT-WCT (laboratory)				2
IBCT-SRNM (laboratory)				1
UCT				3
TACO		2	3	36
TAD			2	1
TRALI		1		
TTI		1		1
Total	0	8	12	109



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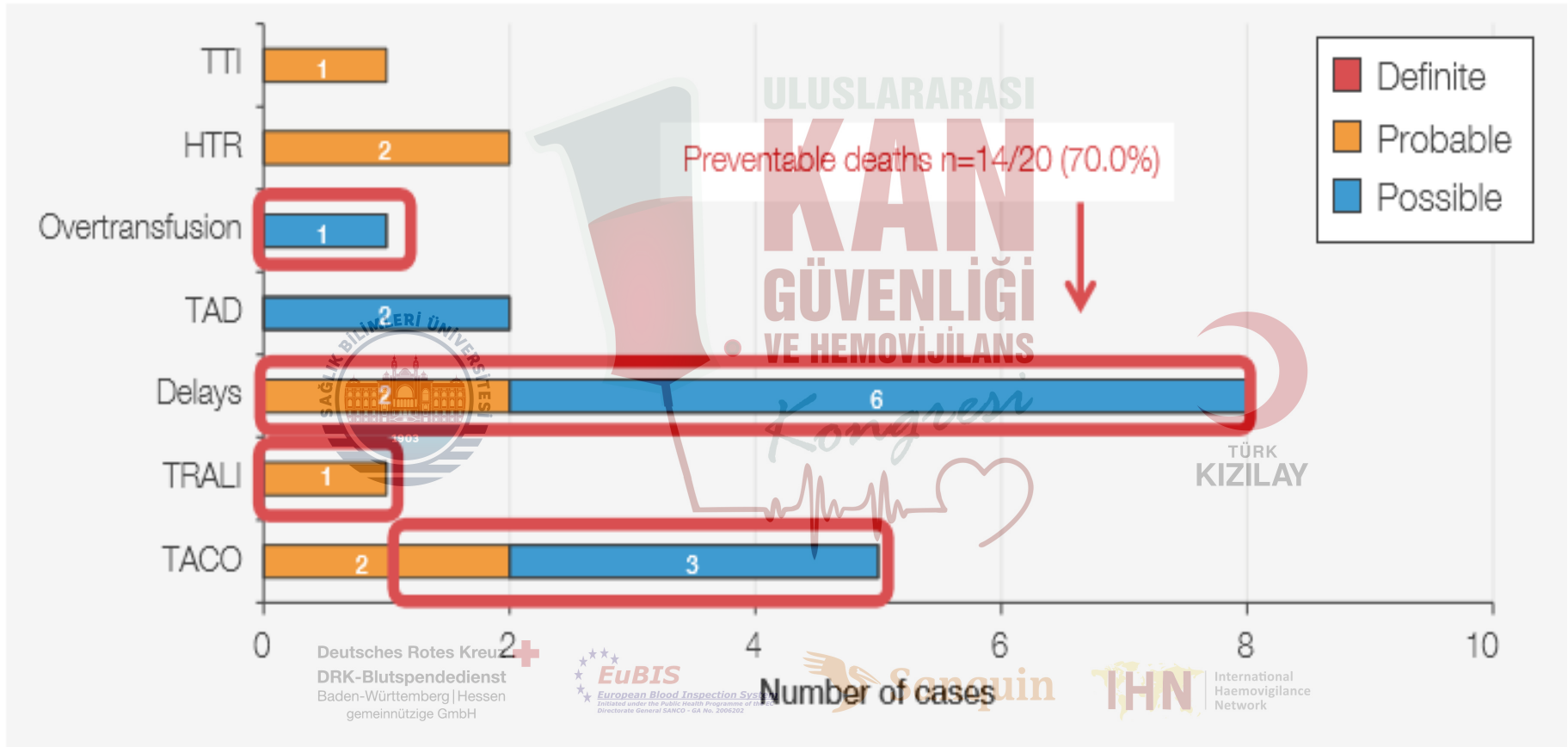
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Deaths related to transfusion (with imputability) reported in 2018 n=20



Transfusion-related deaths 2010-2018

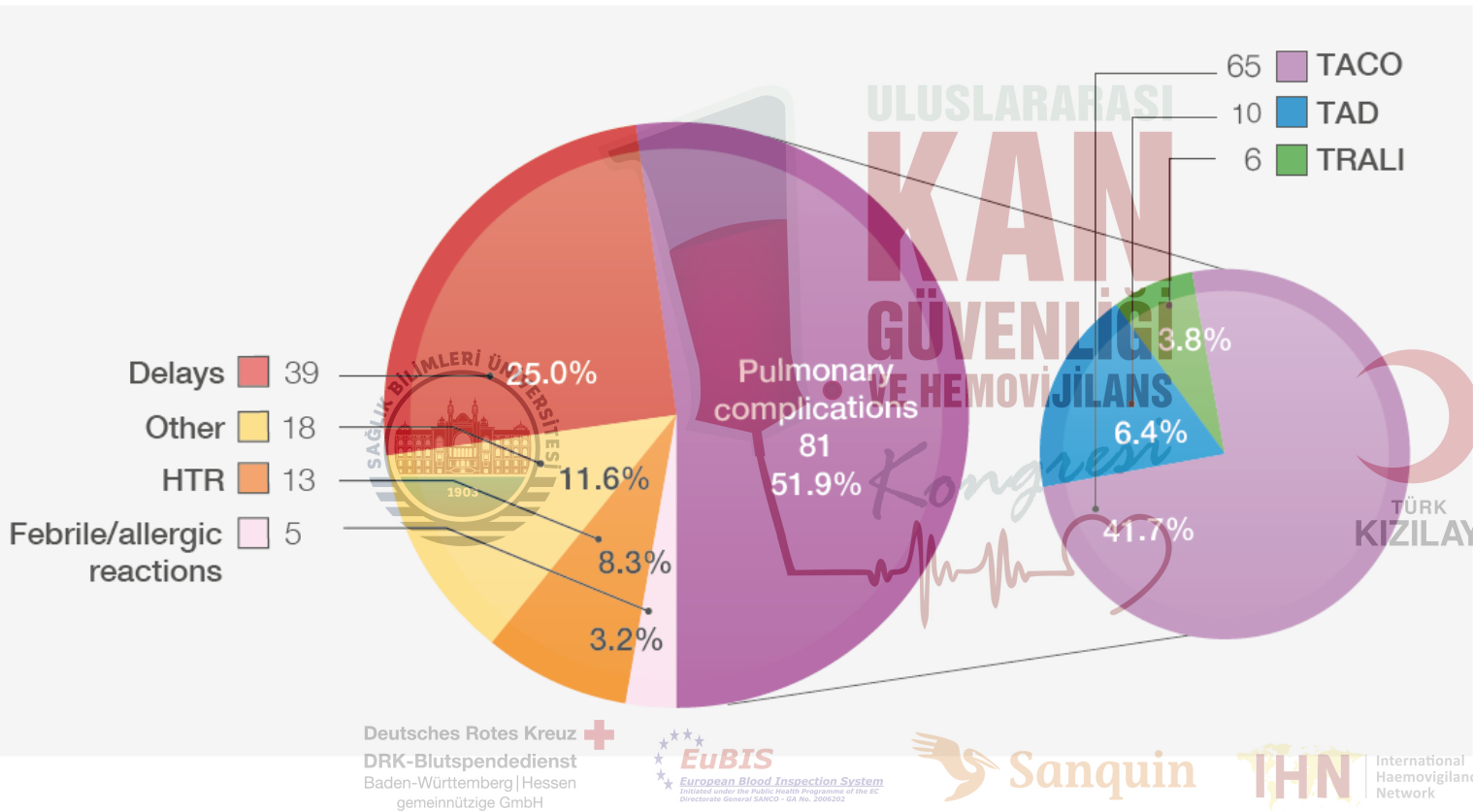





Figure 3.3:
Transfusion-related deaths
2010 to 2018 n=156

In the last 8 years – pulmonary complications have accounted for half of the transfusion related deaths reported

2018 Updated TACO pre-transfusion checklist and management

TACO Checklist	Red cell transfusion for non-bleeding patients	If 'yes' to any of these questions
	<p>Does the patient have a diagnosis of 'heart failure' congestive cardiac failure (CCF), severe aortic stenosis, or moderate to severe left ventricular dysfunction?</p> <p>Is the patient on a regular diuretic?</p> <p>Does the patient have severe anaemia?</p>	<p>1</p> <ul style="list-style-type: none"> Review the need for transfusion (do the benefits outweigh the risks)?
	<p>Is the patient known to have pulmonary oedema?</p> <p>Does the patient have respiratory symptoms of undiagnosed cause?</p>	<p>2</p> <ul style="list-style-type: none"> Can the transfusion be safely deferred until the issue can be investigated, treated or resolved?
	<p>Is the fluid balance clinically significantly positive?</p> <p>Is the patient on concomitant fluids (or has been in the past 24 hours)?</p> <p>Is there any peripheral oedema?</p> <p>Does the patient have hypoalbuminaemia?</p> <p>Does the patient have significant renal impairment?</p>	<p>3</p> <ul style="list-style-type: none"> Consider body weight dosing for red cells (especially if low body weight) Transfuse one unit (red cells) and review symptoms of anaemia Measure the fluid balance Consider giving a prophylactic diuretic Monitor the vital signs closely, including oxygen saturation


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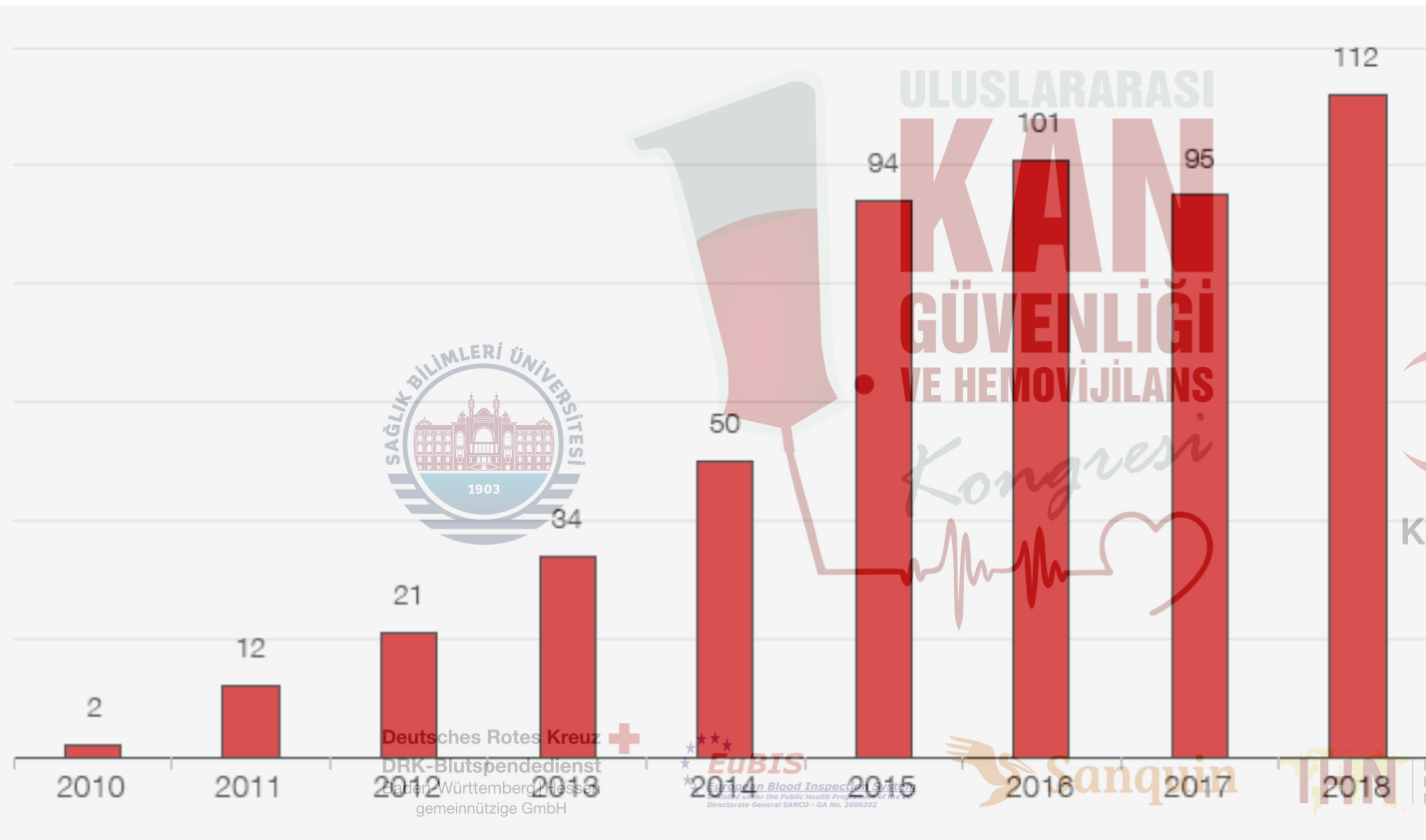

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Due to the differences in adult and neonatal physiology, babies may have a different risk for TACO. Calculate the dose by weight and observe the notes above.

TACO=transfusion-associated circulatory overload

Delayed transfusion reports by year 2010-2018

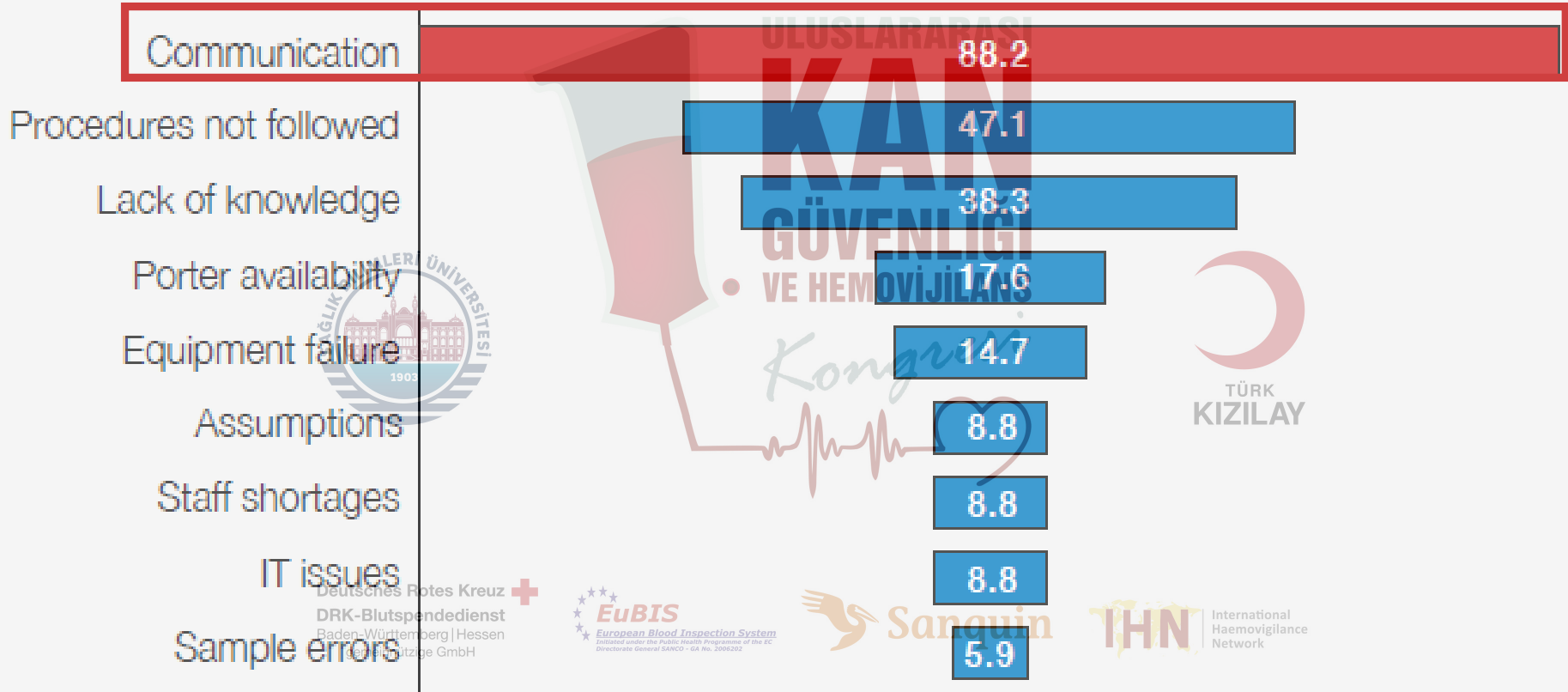


In 13 cases delays were experienced during MHP activation and in a further 6 cases with major haemorrhage but without MHP activation.

Delays can contribute to patient death. Every second counts!

Poor communication is the most common factor contributing to errors in MHP-related reports

(results as %)



IT=information technology



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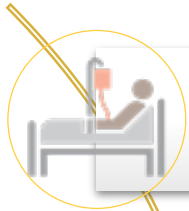


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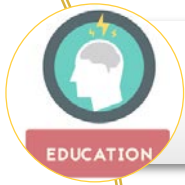


The human factor

SHOT improves transfusion safety by:



Improving standards of hospital transfusion practice



Educating users on transfusion hazards and their prevention



Aiding production of clinical guidelines



Informing policy within the UK Blood Services



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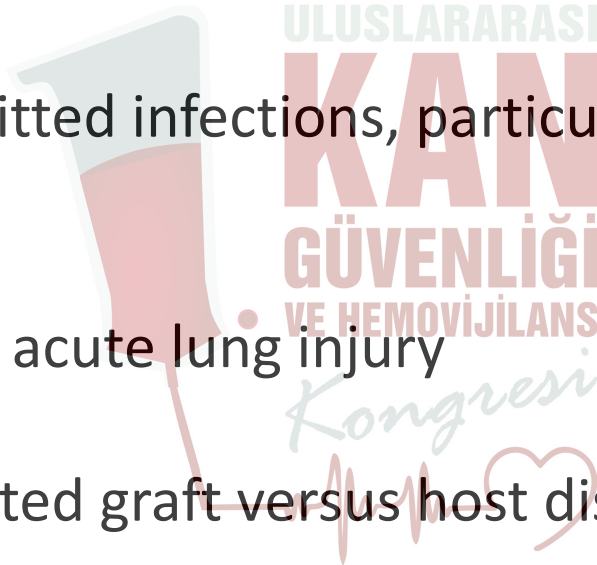
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Informing national policy on transfusion safety within the UK

SHOT BENEFITS: serial reports show the impact of past recommendations and suggested actions on serious adverse reactions - so that these are now rare

- Transfusion-transmitted infections, particularly bacterial transmission
- Transfusion-related acute lung injury
- Transfusion-associated graft versus host disease
- ABO-incompatible transfusion*



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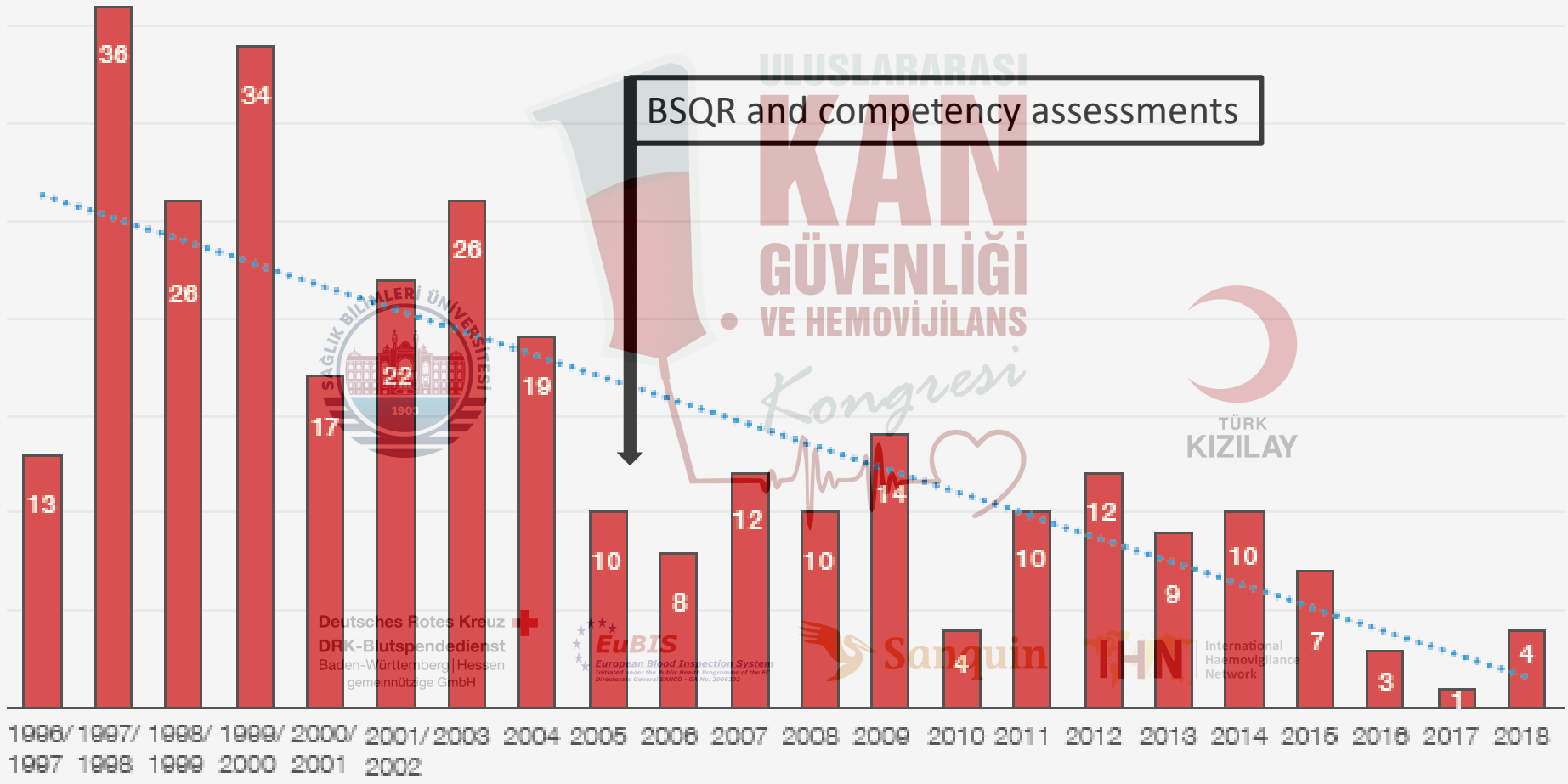
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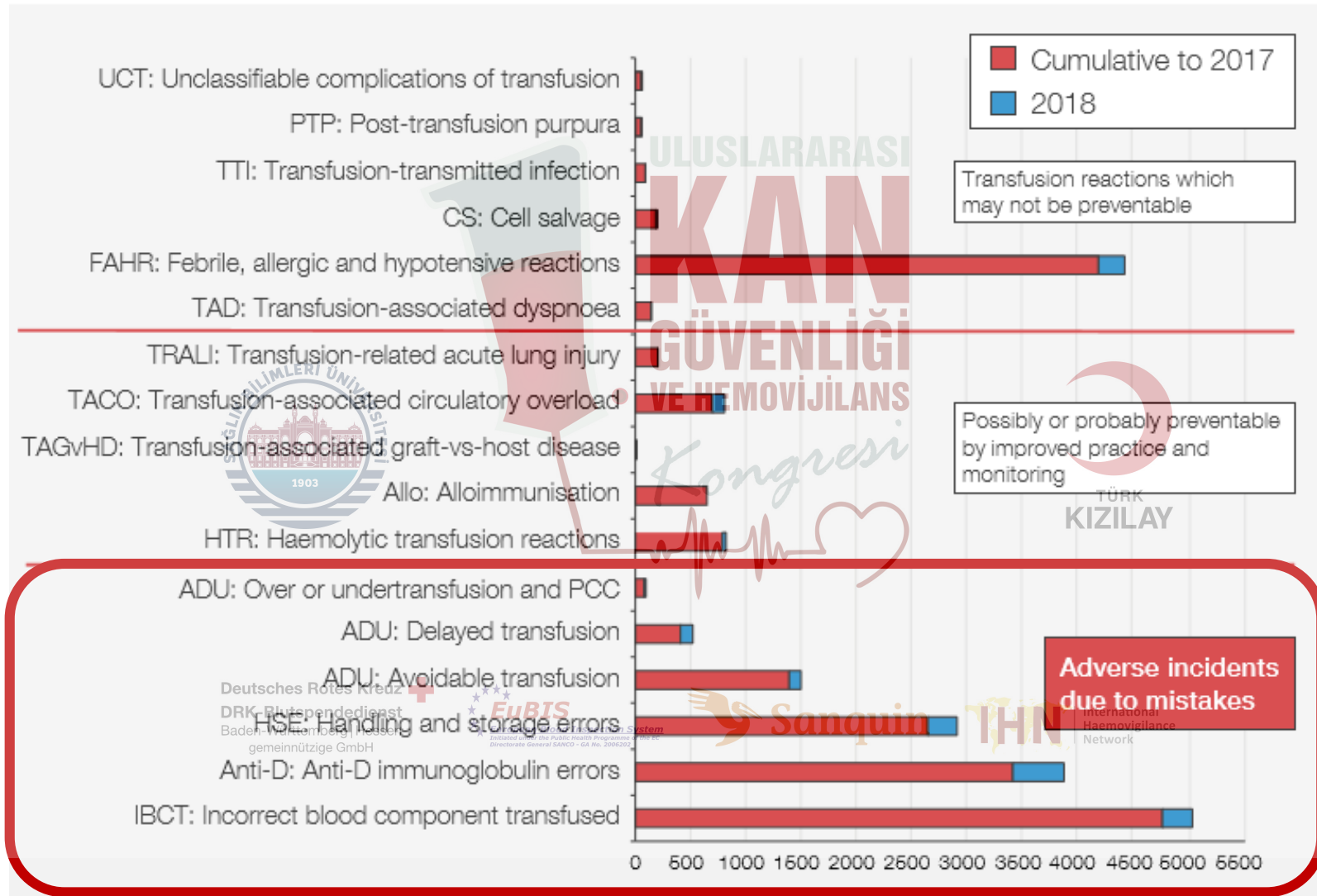
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Blood components are very safe, but our practice can be safer

Number of ABO-incompatible red cell transfusions 1996-2018

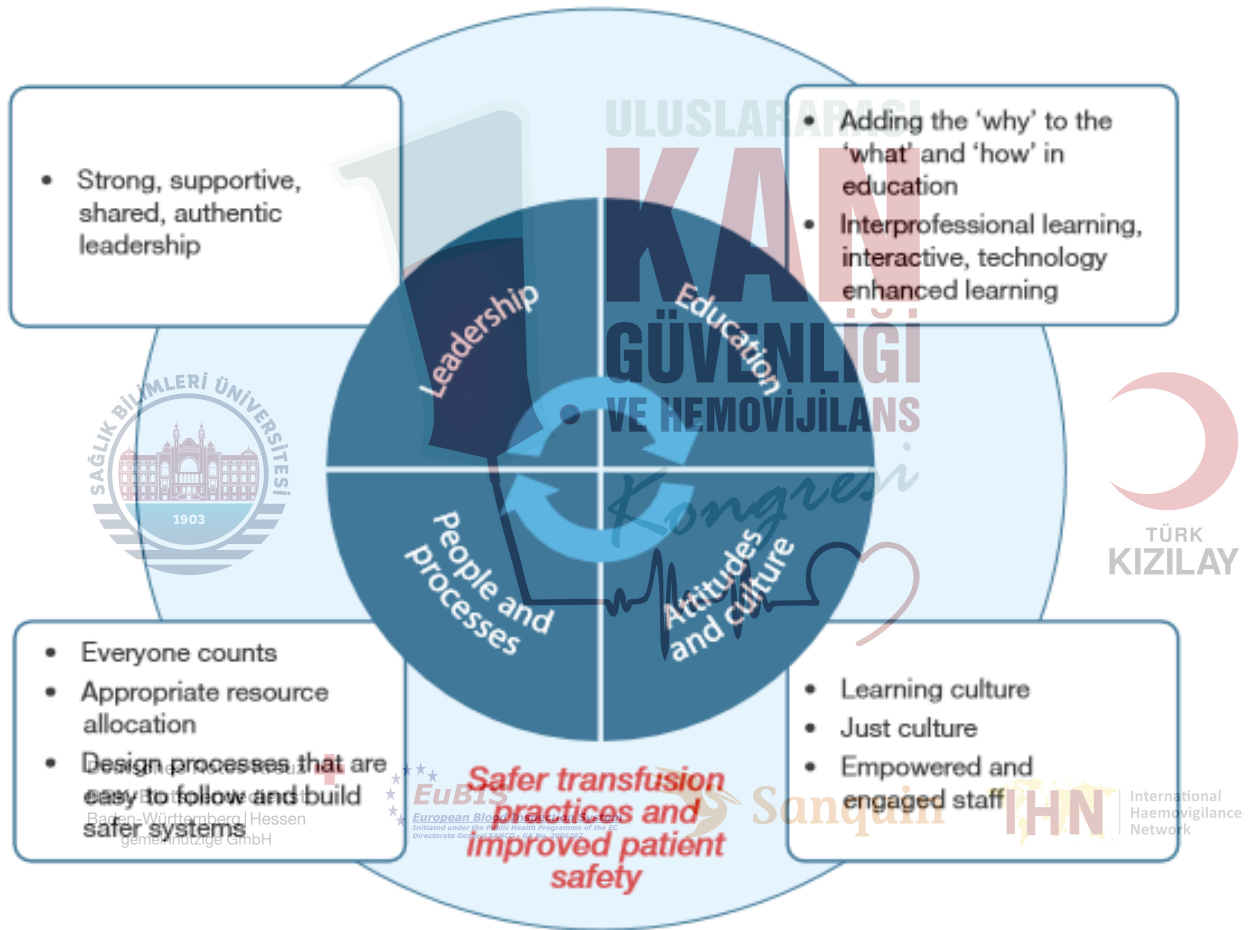


Cumulative data for all SHOT categories 1996 to 2018; Report numbers = 21,474



2018

LEAP TO Transfusion safety



Safer transfusion practices and improved patient safety

SHOT 2018 RECOMMENDATIONS



All NHS organisations must move away from a blame culture and towards a just and learning culture



All clinical and laboratory staff should be encouraged to become familiar with human factors and ergonomics concepts



All transfusion decisions must be made after carefully assessing the risks and benefits of transfusion therapy. Collaboration and co-ordination among staff are vital



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Transfusion
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- Dr Shruthi Narayan
- The SHOT team
- The SHOT Working Expert Group
- The SHOT Steering Group
- MHRA haemovigilance team
- The vigilant reporters and hospital staff who share their incidents
- The UK Forum for funding

Many resources on website www.shotuk.org



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