

How is a tool developed for the Aerospace Industry being used to prevent a leading cause of ABO incompatible transfusions?

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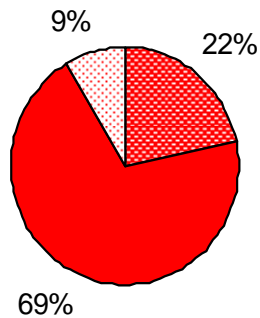
What is the leading cause of ABO incompatible transfusions?

- Human error¹
- Mislabeled specimens – what is the risk?

¹ Dzik W. Emily Cooley Lecture 2002: Transfusion Safety in the Hospital Transfusion. 2003;43:1190–1199

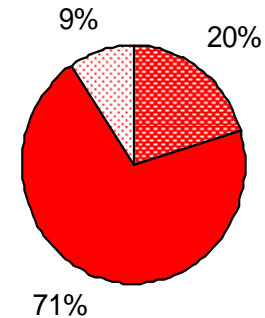
Peter Mac rejects ALL pre-transfusion blood sample errors

2007



Form Specimen Haemolysed

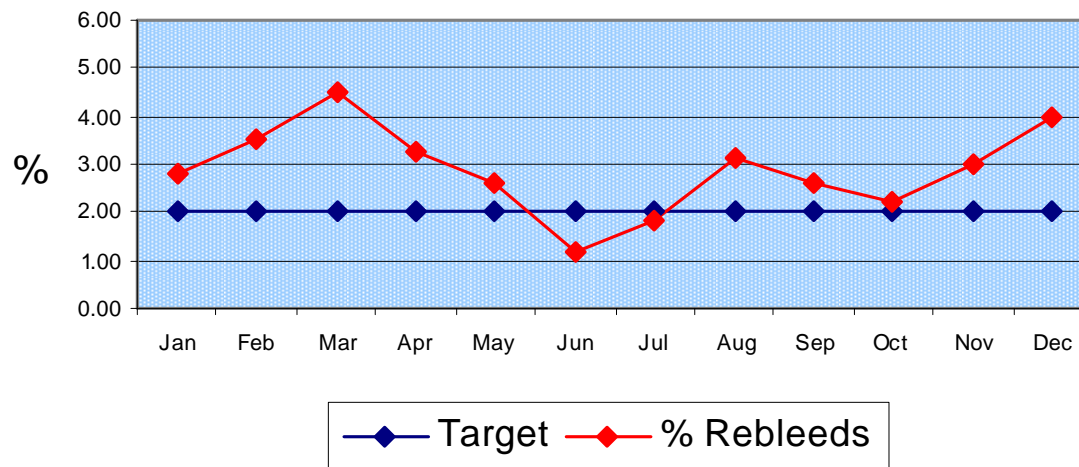
2008



Form Specimen Haemolysed

The Hospital Transfusion Committee monitors rebleeds due to pre-transfusion blood sample errors

2008



Failure Mode and Effect Analysis

What is it and Why use it ?

“A systematic, proactive method for evaluating a process to identify where and how it might fail and to assess the relative impact of different failures, in order to identify the parts of the process that are most in need of change.”²

² Institute for Healthcare Improvement, 2004

FMEA Process

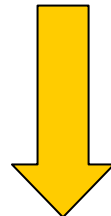
Phase 1 Understand and Describe the Process



Phase 2 Conduct Failure Mode and Risk Analysis



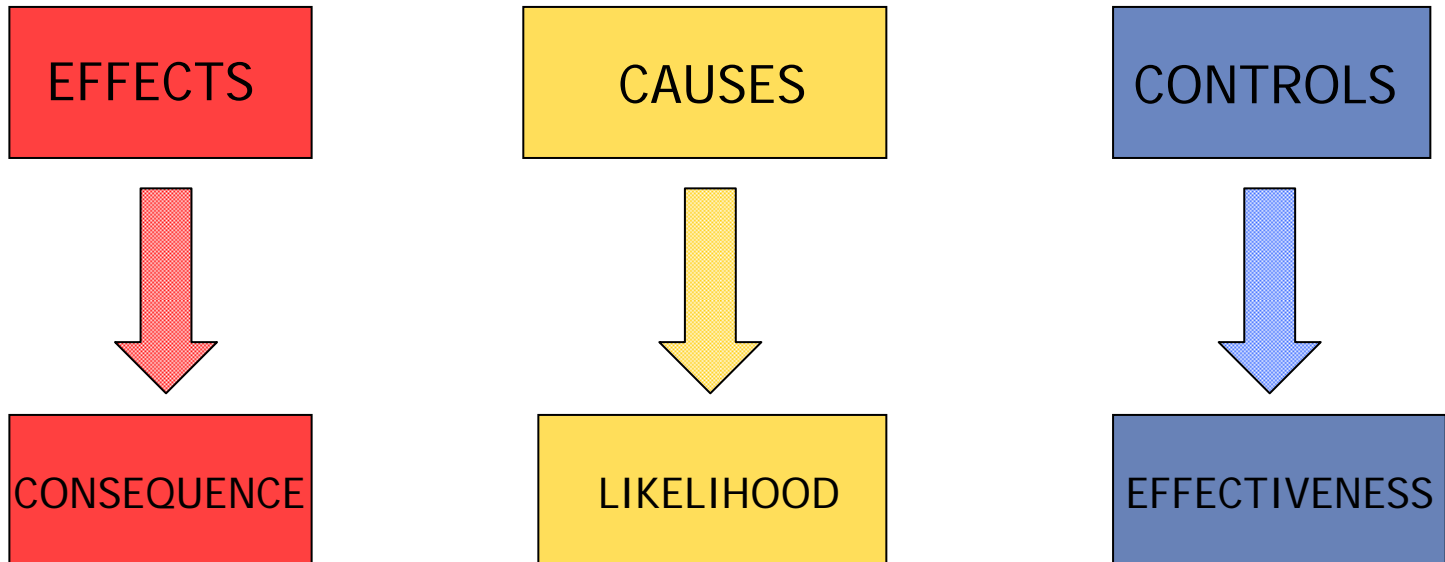
Phase 3 Redesign Process and Corrective actions



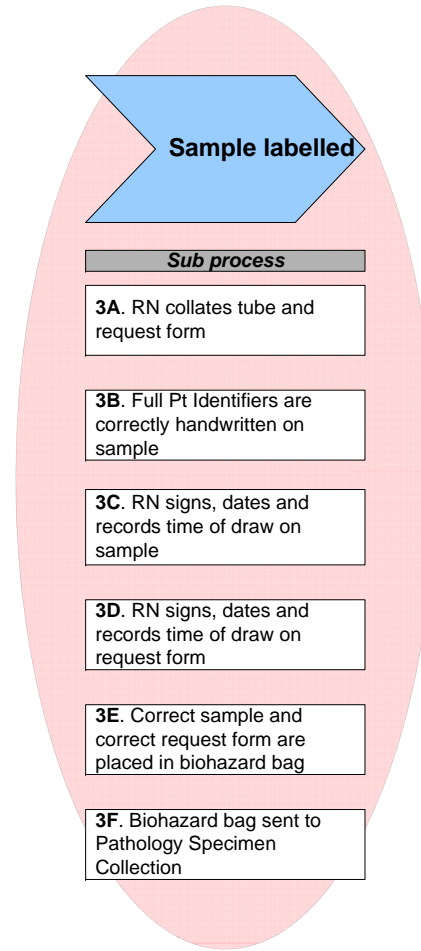
Phase 4 Implementation and Monitoring

FMEA Tool

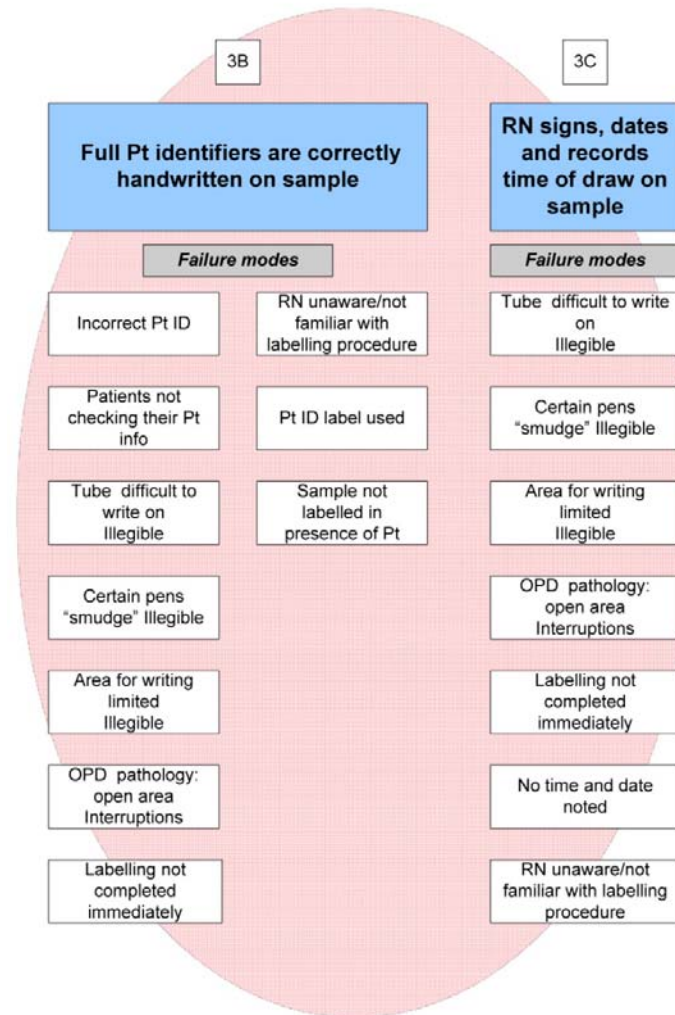
$$\text{RPN} = \text{SEVERITY} \times \text{OCCURRENCE} \times \text{DETECTION}$$



FMEA on the labelling of a pre-transfusion blood sample



Failure Modes



Failure Mode Risk Priority Numbers

Failure Mode: *Specimen tubes are difficult to write on*

Severity **10** X Occurrence **9** X Detection **2** = RPN **180**

Failure Mode: *Human errors in positive patient identification*

Severity **10** X Occurrence **6** X Detection **5** = RPN **300**

Failure Mode: *Physical environment – privacy issues*

– workflow issues

Severity **10** X Occurrence **9** X Detection **7** = RPN **630**

Failure mode: Specimen tubes are difficult to write on

➤ Why?

Corrective action

➤ New tube


➤ Different pen

Failure mode: Human errors in positive patient identification

Corrective action

- New patient information brochures
- Education
- Policies

Outpatient Pathology Department (OPD)



Clinical Trials Research Nurse

Nurse delayed

Nurse trying to concentrate

Clerk with a query

HIGH RISK!

Constant interruptions

No privacy for patients

Cluttered, cramped space

Very sociable!

But....Chaotic

In 1 hour : 32 blood samples collected

- 12 had 0 interruptions
- 9 had 1 interruption
- 6 had 2 interruptions
- 5 had >2 interruptions

Chair 1 – 16 venepunctures 23 interruptions

Chair 2 – 11 venepunctures 11 interruptions

Chair 3 – 4 CVAD accesses 2 interruptions

Pneumatic tube accessed 4x by non OPD staff.

100% of accesses resulted in interruptions to OPD staff.

Failure mode: **Physical environment**

- **privacy issues**
- **workflow issues**

Corrective action

- Redesign
- New Procedure
- Signage

Redesigning Care Team - LEAN



Corrective Action Risk Priority Numbers

Failure Mode: *Specimen tubes are difficult to write on*

Severity **10** X Occurrence **2** X Detection **2** = RPN **40**

Failure Mode: *Human errors in positive patient identification*

Severity **10** X Occurrence **3** X Detection **5** = RPN **50**

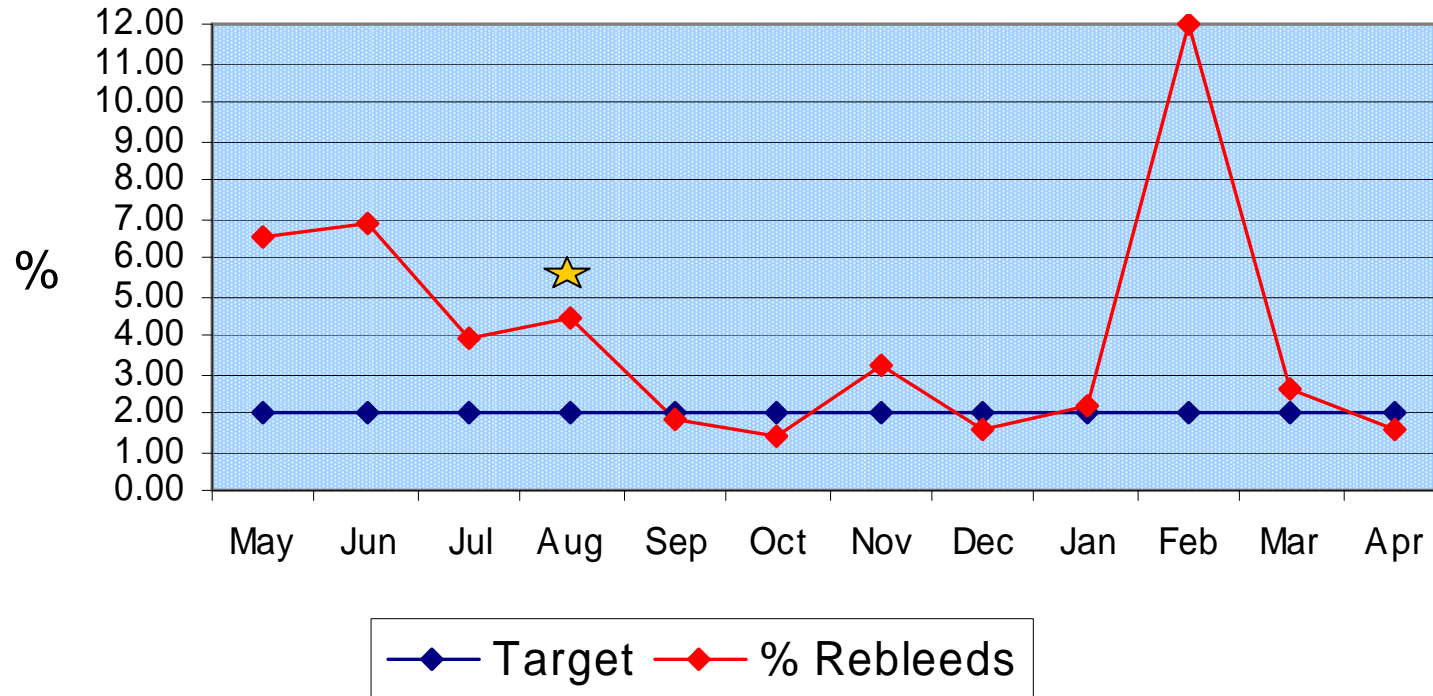
Failure Mode: *Physical environment – privacy issues*

– workflow issues

Severity **10** X Occurrence **3** X Detection **3** = RPN **90**

OPD rebleeds due to pre-transfusion blood sample errors

2009-10



What happened in February 2010?

- Change in OPD management structure
- Staff attitudes
- Staff changes

What did we do?

- Informed Clinical Governance
- OPD staff – Communication
– Education
- No blame → Accountability

Lesson Learnt

Anchor the change

- Changes won't stick until they become "the way we do things here"
- Staff see the connection between the corrective actions and the ↓ in errors
- ? celebrated initial success prematurely

Acknowledgement

Liz Cox

Acting Manager

Clinical Risk Management

VMIA

THANKYOU



Australia's Leading Cancer Centre