



University Hospitals Sussex  
NHS Foundation Trust

# Human Factors and Reducing Risk

Dr Katy Barnes

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# Aims

- ▶ **What is Human Factors?**
- ▶ **How can you practically use Human Factors to improve safety?**

# What is Human Factors?

**Enhancing clinical performance through an understanding of the effects of teamwork, tasks, equipment, workspace, culture, and organisation on human behaviour and abilities, and application of that knowledge in clinical settings'**

**Clinical Human Factors Group**

**<http://chfg.org/what-is-human-factors>**

# What is it really?

## Individually:

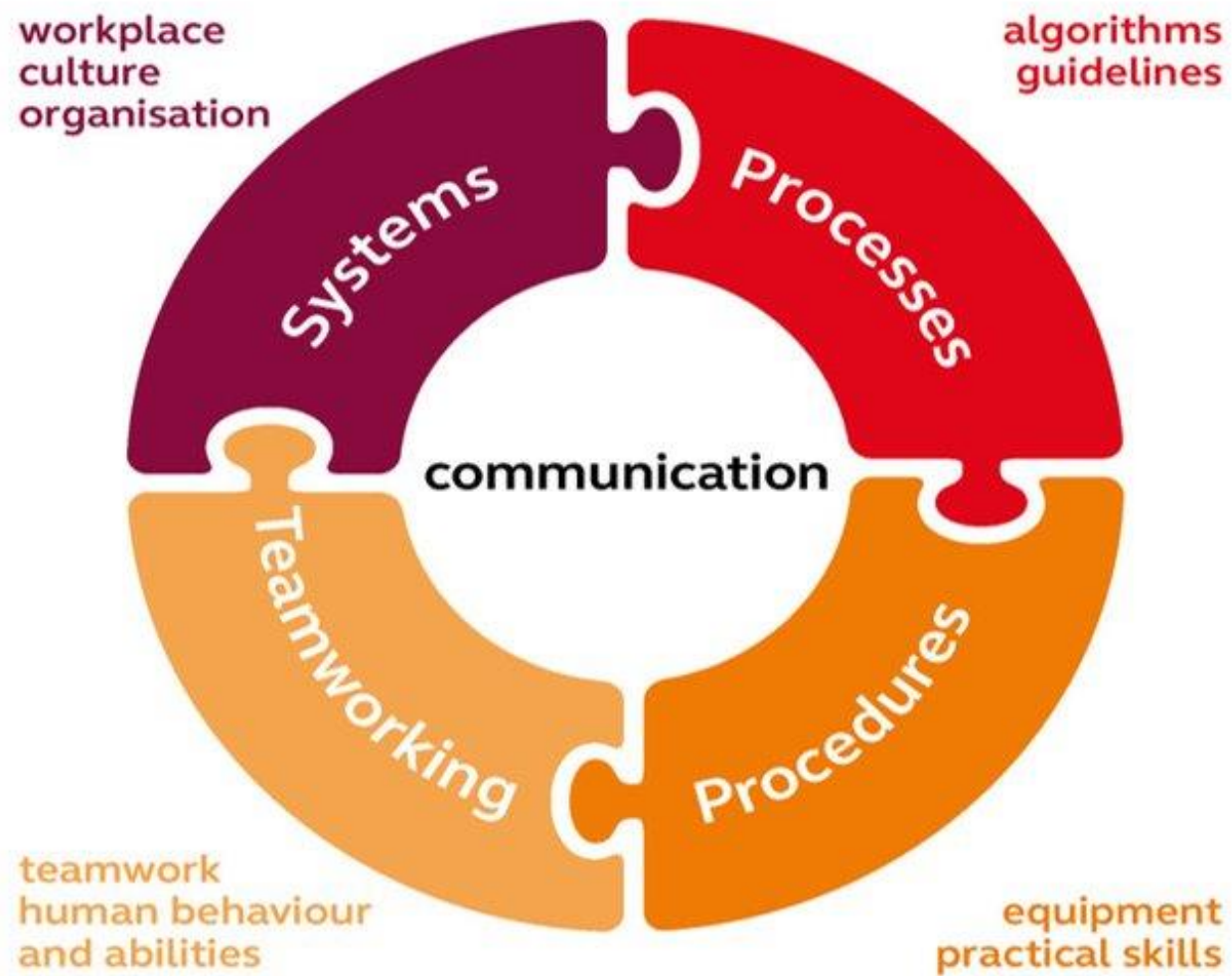
- ▶ How to reduce the risk of ballsing it up at 3 am when you are knackered working with people you don't know (or like) in a system that is understaffed and badly designed

## Managerially:

- ▶ How to design a system with less snags and workarounds and promote a culture that values learning to reduce the risk of 3 am balls-ups

# Does it matter?

- ▶ Patient safety event for 1 in 10 patients in hospital
- ▶ More than 50% considered avoidable harm
- ▶ 60% errors considered to have communication play a major role
- ▶ Highlighted in numerous reviews
  - ▶ Ockenden
  - ▶ Frances Report



# Leadership and Followership

- Leadership

- Allocate an explicit leader
- Suspend hierarchies
- Beware authority bias
- Clear vision / goals (systems check)
- Role allocation/Task management
- Global overview / helicopter view

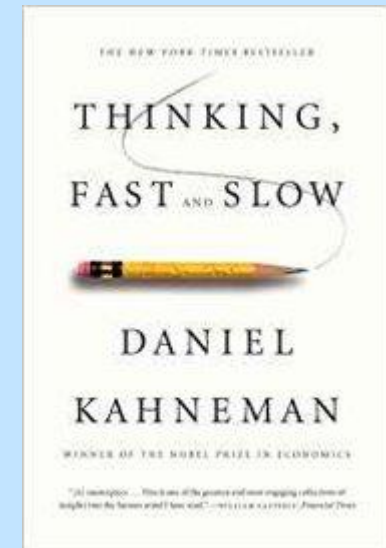
- Followership

- Situational awareness
- Bandwidth (avoiding fixation)
- Critical, active, supportive following
- Resources – help / leader without physical tasks / equipment
- Time – progress

# Behaviours – Cognitive Bias

Decision-making is affected by biases. Decisions need to be made with understanding of bias:

- Anchoring bias – focus on one piece information at expense others
- Confirmation bias – looking for a finding you are expecting
- Availability bias – favouring most readily recalled diagnosis





# What does it feel like to be wrong?

- ▶ Feels like being right
- ▶ How do we explain why others have different views
  1. Ignorance assumption
  2. Idiocy assumption
  3. Evil assumption

# Behaviours: Cognitive Dissonance

- ▶ **What is it?**
  - ▶ Mental discomfort we feel when we hold conflicting beliefs, ideas, or values, or when our actions contradict our beliefs.
- ▶ **Consequences of this?**
- ▶ **Higher stakes mean higher psychological cost of failing**
- ▶ **Natural to spin and reframe**
- ▶ **We know we will be judged for mistakes**
- ▶ **Easier to recognise the mistakes of others**

# Behaviours: Culture

- ▶ A supportive learning environment
- ▶ Value speaking up and opposing ideas
- ▶ Concrete learning processes
- ▶ Gathering information
  - ▶ Debriefs e.g. Safety Pauses
  - ▶ Sharing information
  - ▶ Experimenting with ideas
- ▶ Leadership that reinforces learning
- ▶ Progressive attitude to failure

# Behaviours: Communication

- ▶ Common language
- ▶ Inclusive – within / between teams
- ▶ Dynamic
- ▶ Structured (SBAR SBAR)
- ▶ ‘Closed loop’
- ▶ Moderated (through team leader)
- ▶ Polite
- ▶ Avoid jargon /acronyms

# Civility Saves Lives

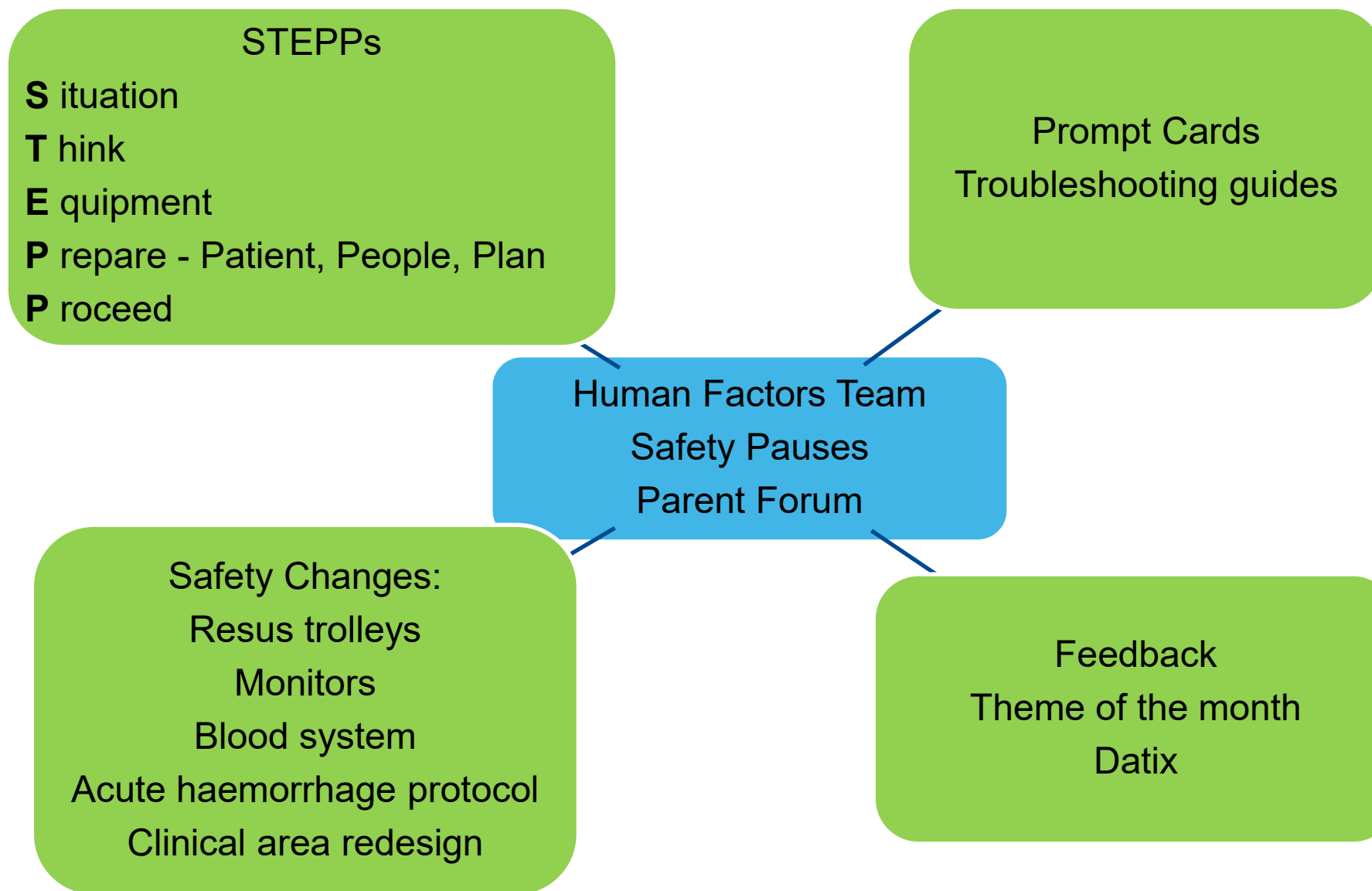
- ▶ Ongoing piece of work in NHS
- ▶ [Home | Civility Saves Lives](#)
- ▶ Evidence based approach to training
- ▶ Impact of Incivility

# Challenging Behaviours

- ▶ How do you speak up when you know something is wrong?
- ▶ Is it easy?
- ▶ Have a system
- ▶ PACE

# Implementing Human Factors

- ▶ Awareness of Human Factors
- ▶ Develop a common language
- ▶ Culture change – growth mindset – Review good and bad
  
- ▶ Human Factors Team
  - ▶ Consultants
  - ▶ Resident Doctors
  - ▶ Human Factors or Simulation Fellow
  - ▶ Nurses
  - ▶ ANNPs
  - ▶ Nursery Nurses
  
- ▶ What do they do?





# Safety **S.T.E.P.P** card

**START HERE**

## Situation checks

- Nurse in charge aware
- Senior Clinician aware
- Other Emergencies covered
- Team well-being

## Think Problems

- Predicted difficulties?
- Help available and how to contact ?

## Intubation & Extubation

### Equipment checks

#### Monitor

- HR or ECG
- O2 Saturations
- EtCO2

#### Cotside

- Neopuff/BVM
- Correct Mask size
- Suction/NG tube
- Oxygen blender
- Resuscitation trolley

#### Airway kit

- ETT (size +/- 1) & stylet
- Laryngoscope
  - Bulb check
  - Blade size
  - Consider video
- Select fixation method

#### Circulation

- IV access flushed & secure
- Drugs prepared?

## Prepare

### Patient

- Aseptic technique
- Optimise safe positioning
- Aspirate NG tube
- Deflate cuff for extubation if present

### People (*allocate names to roles*)

- Team leader
- Airway
- Assisting
- Giving drugs
- Timing or scribing

### Plan

- Verbalise plan A
- What is Plan B and C?
- Team agree to proceed?

## Proceed

Safety Pause &  
update parents afterwards

# Safety Pauses

- ▶ Rapid, in-situ debrief
- ▶ Max 5 minutes – average 3.2 minutes
- ▶ If you found yourself in the same situation:
  - ▶ What would you do differently?
  - ▶ What would you keep the same?
  - ▶ Was there anything that could have caused a problem but didn't on this occasion?
  - ▶ Suggestions for action
- ▶ Avoids Cognitive Dissonance
- ▶ Identifies latent threats
- ▶ Does not replace DATIX

# Blood transfusion project

- ▶ Identified that blood access in an emergency took too long
- ▶ Rapid QI cycles and involvement of all relevant parties
- ▶ Strategies undertaken to try to resolve issues included:
  - ▶ Educational emails + posters
  - ▶ Call early for blood - can be returned if within 2 hours.
  - ▶ Encouragement to send staff member to collect if staffing allows
  - ▶ Pathology location instructions
  - ▶ Replacing incorrect/absent major haemorrhage protocols
  - ▶ Protocol discussions with porters and transfusion

# What Have We Learned?

- Initial resistance to change
- Concern about parental perceptions
- Now STEPP use is almost universal
- Culture change takes time – don't focus on opposition
- Make it culturally unacceptable not to do
- Safety Pauses raked the NICU numerous projects initiated
- Human Factors team key

# Summary

- ▶ Identify systems, processes and procedures in your dept that can be improved
- ▶ Communication
- ▶ Team working (esp civility)
- ▶ Understanding how we think to reduce risk
- ▶ Errors are golden

# Acknowledgements

- ▶ Dr Cassie Lawn and Human Factors Team, TMBU
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