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2017



QUALITY CULTURE  
Our collective mindset for high-value care

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2017

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# Safety Culture: Why human factors matters more than ever to better patient safety

Speaker chair: Professor Jane Reid, Clinical Director Wessex Patient Safety Collaborative, Wessex Academic Health Science Network

Speakers:

Dr Ian Randle, managing Director, Hu-Tech Human Factors  
Beatrice Fraenkel, Chair, Mersey Care NHS Foundation Trust

# Conversations for Safety



## **Opening Remarks**

Human Factors an Organising Principle

Keeping People safer

Our Care Givers

Frontline and Policy Position

Conversations for Safety

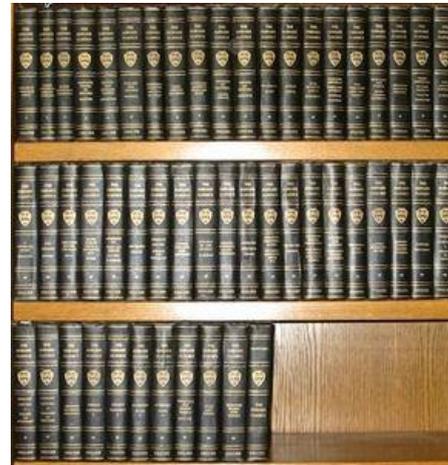


## The Science of Human Factors & Ergonomics

**BROAD  
SCIENCE**



Extensive research and application  
and evolving at a rapid rate





## Human Factors definition

*Human factors encompasses all of those factors that can influence people and their behaviour.*

*In a work context, human factors are the environmental, organisational and job factors and individual characteristics which influence behaviour at work.*

Clinical Human Factors Group. 2009



## Clinical 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**

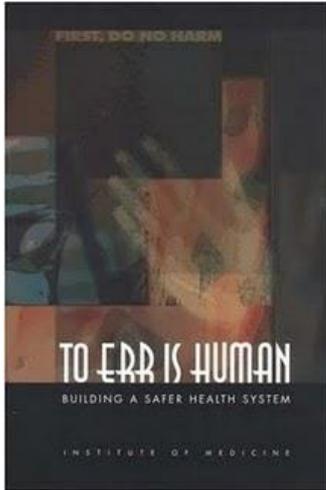
working for clinical professionals and  
managers to make healthcare safer

Catchpole K (2010)  
[www.chfg.org](http://www.chfg.org)

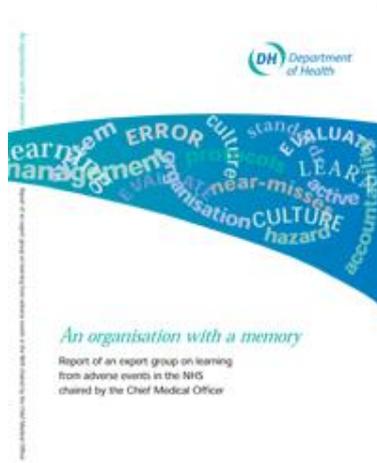
# Human Factors/Ergonomics..... An organising principle



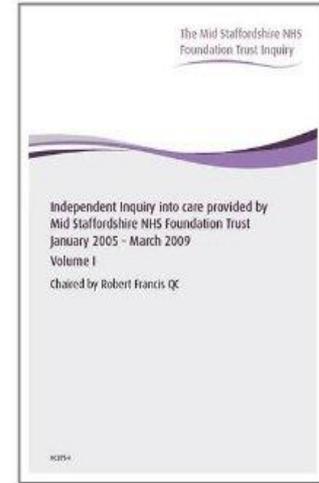
## Background/ Setting the Scene



Kohn 1999



Donaldson  
2000



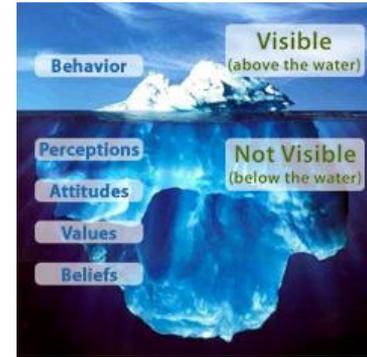
Francis  
2013

A promise to learn  
– a commitment to act



Improving the Safety of Patients  
in England

National Advisory Group on the  
Safety of Patients in England



Berwick Review 2013 : a response  
to Francis

## Human Factors in Healthcare

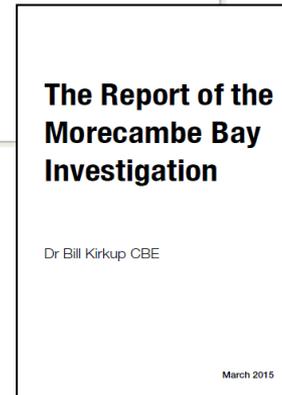
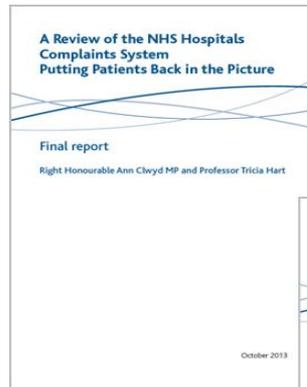
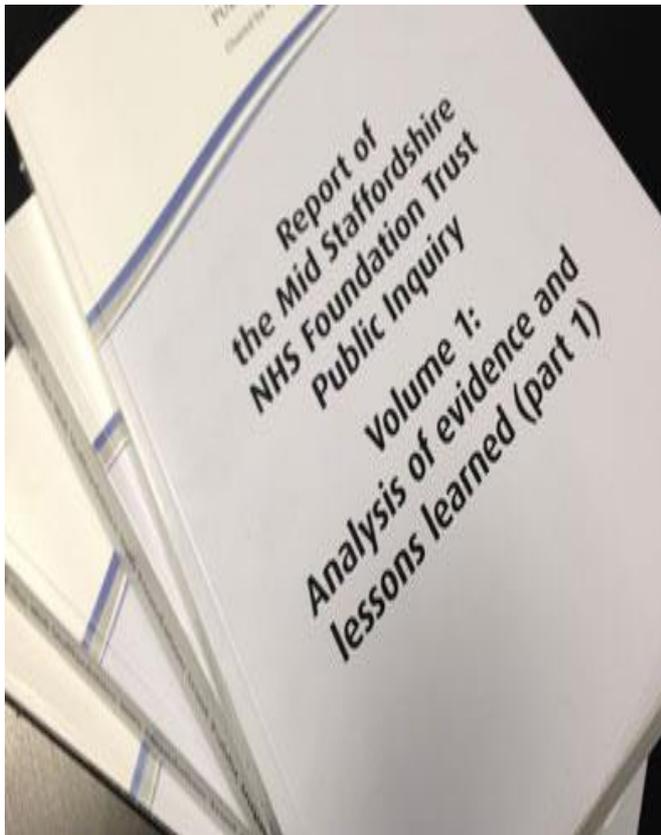
*A Concordat from the National Quality Board*



November 2013

There are two primary choices in life;  
to accept conditions as they exist or  
accept the responsibility for changing  
them

# The Francis report (2013) and its legacy



# Conversations for Safety



Why a focus on Human Factors is important?

- Setting the organisational culture
- Support for front line clinical teams
- Not just about patient safety
- Assurance

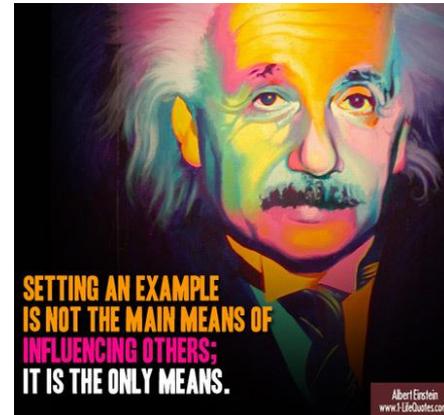


# Conversations for Safety



## Setting the Example

- Open, transparent approach
- Profile of patient safety and quality
- Support for staff to speak out
- Roles and relationship
- The human impact



# Conversations for Safety



## Context of Healthcare 2017/18

- The Legacy of Mid Staffs Inquiry
- Contradictions and Challenges
- NQB Concordat for Human Factors in Healthcare
- Health Investigation Branch – Just Culture
- Human Factors Informed Policy

*Conversations for Safety*



Unacceptable variation in quality  
of patient experience and  
clinical outcome

# Conversations for Safety



patients and families.....  
the human impact





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## Safety Culture: Why human factors matters more than ever to better patient safety

- Dr Ian Randle, managing Director, Hu-Tech Human Factors



# Human Factors: A Systems Approach to Patient Safety

Dr Ian Randle

[ian.randle@hu-tech.co.uk](mailto:ian.randle@hu-tech.co.uk)



Chartered Institute  
of Ergonomics  
& Human Factors

**HU-TECH**  
HUMAN FACTORS

# About

- MD of Hu-Tech Human Factors Consultancy
- President of Chartered Institute of Ergonomics & Human Factors (2016-17)



[www.ergonomics.org.uk](http://www.ergonomics.org.uk)

# Content

- Systems Human Factors approach
- What can Healthcare learn from other High Hazard sectors
- Emerging HF approaches in Healthcare
- Support from CIEHF

# What do we mean by Human Factors?

“the scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data, and other methods to design in order to optimize human well-being and overall system performance”

*(International Ergonomics Association, 2000)*

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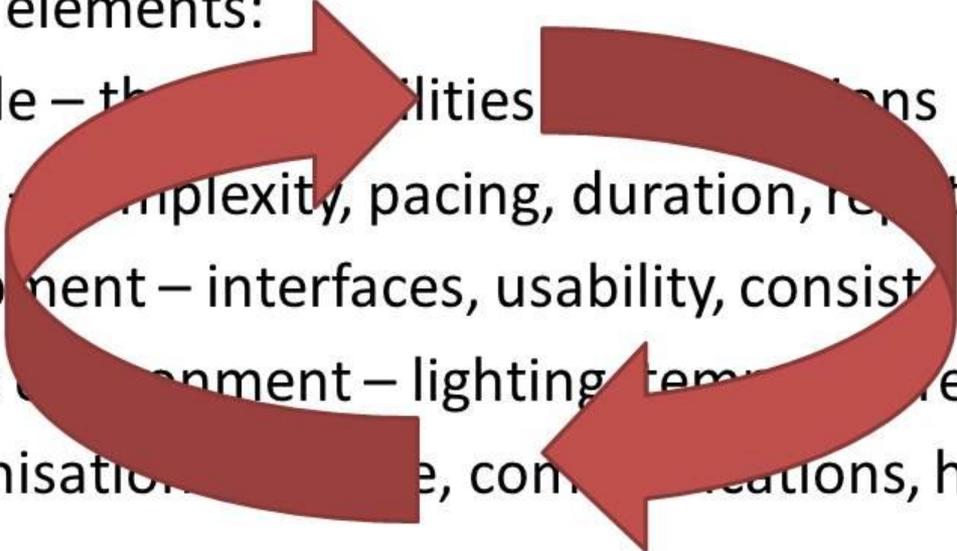
# What do we mean by Human Factors?

System elements:

- People – their capabilities and limitations
- Tasks – complexity, pacing, duration, repetition...
- Equipment – interfaces, usability, consistency...
- Work environment – lighting, temperature, space
- Organisation – culture, communications, hierarchy

# What do we mean by Human Factors?

System elements:

- People – the abilities and limitations
  - Tasks – complexity, pacing, duration, repetition...
  - Equipment – interfaces, usability, consistency,
  - Work environment – lighting, temperature, noise, space
  - Organisation – time, communication, hierarchy
- 

# Human Factors in Healthcare Risk Management

- Not yet a routine part of mainstream Risk Management in Healthcare
- Making inroads in certain areas
- Quality Improvement & Patient safety led
- Strong basis in Aviation Human Factors (Crew Resource Management (CRM), Simulation)
- Medical Device Design

# Systems Human Factors

- CRM and Simulation is useful and important, but is only part of what constitutes 'Human Factors'
- The focus is on improving the 'Human Capability' part of the system, which in Healthcare is often the part that has least room for improvement (compared to the other parts of the system)



# What can we learn from Other Sectors?

Human Factors in Healthcare

v

Human Factors in High-hazard industries

(Nuclear, Oil/Gas, Aviation...)

Similar challenges and goals,  
but different approaches

# Human Factors in 'High hazard' industries

## HSE Human Factors Key Topics:

[www.hse.gov.uk/humanfactors/](http://www.hse.gov.uk/humanfactors/)

1. Managing human failures
2. Staffing
3. Fatigue and shiftwork
4. Safety critical communications
5. Human factors in design
6. Procedures
7. Competence
8. Organisational change
9. Organisational culture
10. Maintenance, inspection and testing

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Do these apply to  
Healthcare?

Are they all  
included in your  
Human Factors  
and Risk  
Management  
processes?

# Human Factors in 'High hazard' industries

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# Managing Human Factors Risks

- What are you doing to proactively protect your patients and the Trust from catastrophic Human Error (like happened to BA last week)?
  - Employ good people
  - Train them
  - Give them procedures
- And then hope that these things are sufficient...
- That's not enough, Human Error still happens – patients suffer and the Trust carries the responsibility

## Managing Human Factors Risks

- So what can you do to manage this risk?
- Borrow approaches from other sectors – proactive management of HF risks
- It's not soft and fluffy, it's grounded in engineering and human science
- e.g.
  - Safety Critical Task Analysis
  - Bow tie analysis

# Safety Critical Task Analysis

*“Avoid putting people in situations where simple errors can have catastrophic consequences”*

President – Chartered Institute of Ergonomic & Human Factors



# Safety Critical Task Analysis

rites | 10015 | Help

## Patient Bleeds To Death During Surgery Because Of Spelling Mistake

Posted on February 2, 2016 by Edmondo Burr in News, UK // 0 Comments



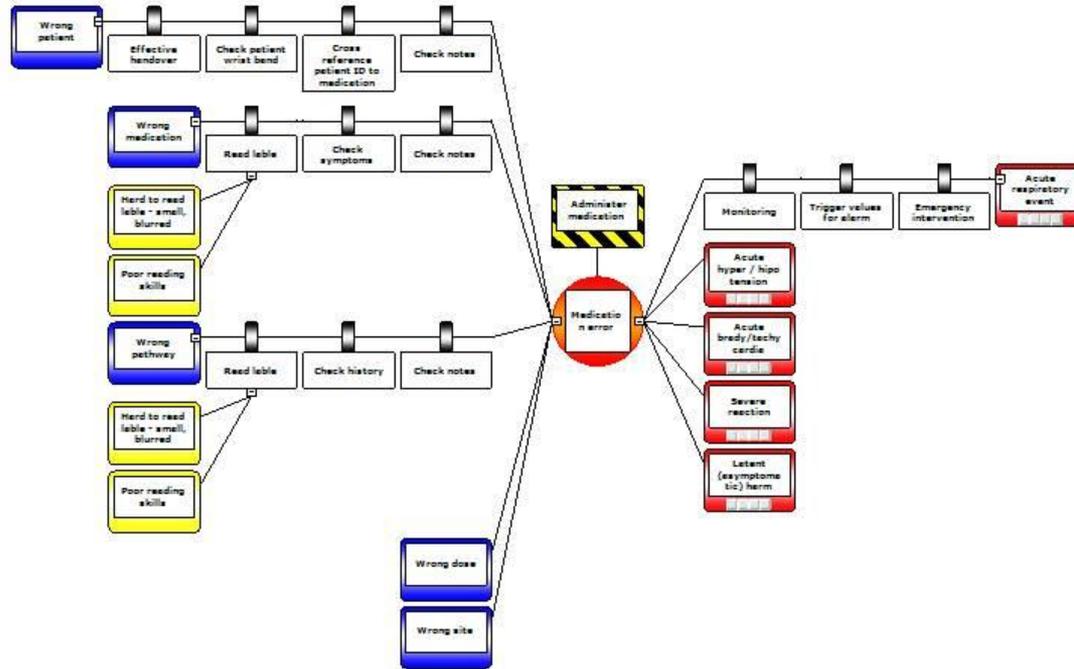
[Like](#) [Share](#) [226](#) [G+1](#) [3](#) [Tweet](#) [submit](#)

**An inquest has heard how a patient bled to death during surgery at Northwick Park Hospital in Harrow, because of a “spelling mistake”**

Pensioner Irmgard Cooper, 85, bled to death on the operating table after blood which was intended for her was sent back due to the incorrect spelling of her name.

The [Independent](#) reports:

# Bow-tie analysis



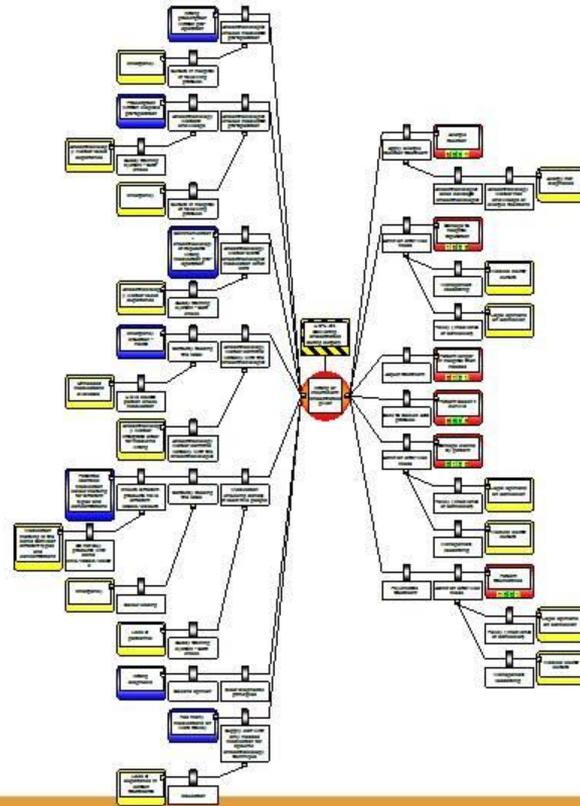
# What is Bow-tie analysis?



# Healthcare Bow-tie Analysis ongoing studies

- Identification and management of Type 2 respiratory failure
- Never-events and other common patient safety incidents

# BowTie - Wrong anaesthetic



## Support from CIEHF [www.ergonomics.org.uk](http://www.ergonomics.org.uk)

- Trusts are now employing Human Factors programme managers and Directors
  - What sort of qualifications and skills should they have?
  - What sort of programme are they managing?
- Specialist support is available from CIEHF
- CIEHF White Paper – Human Factors Integration in Healthcare (out later this year)
  - Competency levels
  - Roadmap for Implementation
  - Tools and methods

# Concluding Remarks

- Human Factors is not yet a mainstream part of Risk Management in Healthcare / Patient Safety
- There's more to HF than Simulation and Crew Resource Management – systems approach
- Successful techniques from other sectors are being introduced into Healthcare – these need to become integrated into Quality Improvement and Risk Management processes
- The complexity of the Healthcare system creates challenges, but we are making progress!

# Questions?

[ianrandle@hu-tech.co.uk](mailto:ianrandle@hu-tech.co.uk)

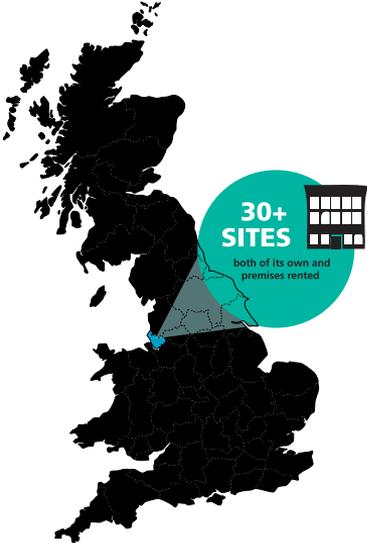
 @IanRandleHuTech

## Thank you

# Safety culture and the role of human factors in building system approaches to safety

Beatrice Fraenkel  
Chairman

# Our footprints

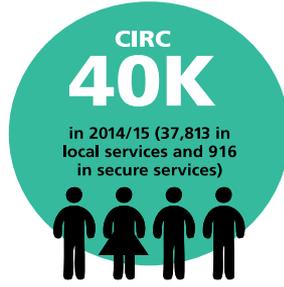


## OUR HOME PATCH

Local Services



# About Mersey Care



# We are striving for perfect care



**NHS organisations are complex human systems and this has to be recognised in order to achieve sustainable improvements in patient care.**



# How have we reflected human factors in our approach?

1. **Focus on supporting improvement at the point of care** – how are things at our point of care and how can we support improvement?
2. **Co-production with service users and staff** – assume many people have the answer and that together we can craft a solution; using design thinking approach
3. **A just and learning culture** – abandoning fear and blame as a tool for improvement, and trusting the good will and intentions of our staff

## 2. Co-production with service users and staff



**'Part of the team'**

**Peer support workers with lived experience**

**Duty of candour**

# 1. Focusing on point of care means offering practical quality improvement support to clinical teams



**74%** of staff (over 3600) trained to date using Mersey Care-designed suicide awareness training.

Created a **SAFE FROM SUICIDE TEAM**

**464**



staff engaged in discussions about Just Culture including 100 senior clinicians.

**16%**

decrease in use of restraint in implementer wards, with some wards achieving over **50%**



**COMPLETE REMOVAL**

of mechanical restraint in LD services

**WINNER**



National Patient Safety Awards 2015 - Changing Culture Award.

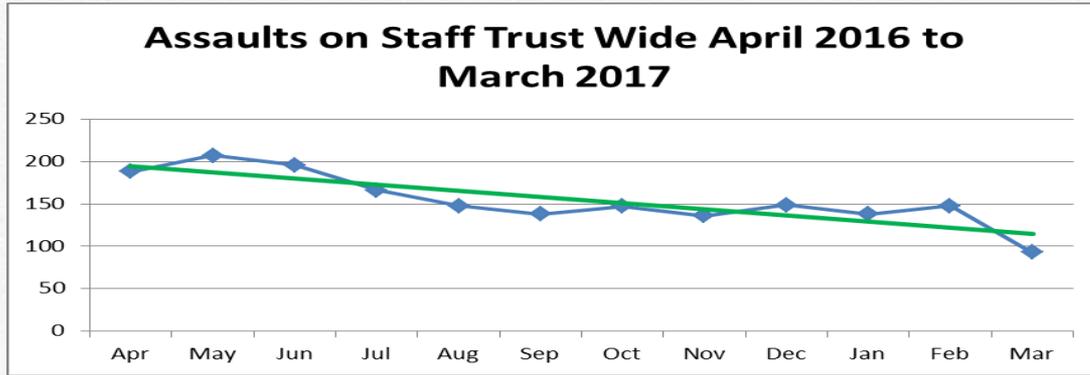
**WINNER** at the

National Service User Awards – Secure physical health promotion 'Dr Feelwell.'



**72%** of service users screened for Physical Health risks.

# Impact and Outcomes of our 'Perfect Care' approach: No Force First



- Improved Service User Experience
- Reducing Restrictive Practice Guide
- Reduction HSS Response Team Use
- Shortlisted for Patient Safety Awards

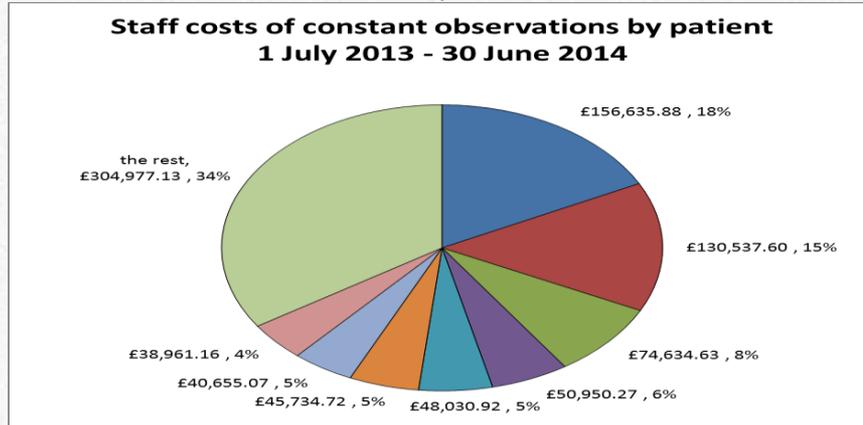
Trust-Wide Restraints		
		% Reduction
April 2015	465	
April 2016	294	
April 2017	220	53%

Work Related Sickness in Secure Division		
	Cost	Cost Savings
Jan - Dec 2015	£626,572	
Jan - Dec 2016	£384,503	£242,069



## 2. Supportive Observation project impact

Patient Hours 43,400 Staff Hours 49,836 =  
£891,177



- **Written records clinically uninformative**
- **Over 50 % initiated because of actual or potential harm to self**
- **Systemic Change useful**
- **Delphi Study**
- **Reducing restrictive Practice**
- **Data Capture Difficult+++**

- **A dilemma**  
**Preservation of life vs. Dependency**

*“At first you hate it, then you get used to it, then you like it, then you can’t live without it”*

- **A potential Solution**  
**Collaborative, Informed decision making**

8 patients no longer requiring constant observation potentially saving £586,200 per year, However one patient 1011.99 days – **A dilemma**

# 3. Developing a just and learning culture

## First ask why and how, not who

### Extract from “Just Culture – Balancing Safety and Accountability” – Sidney Dekker

- bring out information about what should be improved to levels or groups that can do something about it;
- allow the organisation to invest resources in improvements that have a safety dividend, rather than deflecting resources into legal protection and limiting liability;
- Simultaneously satisfying the need to calibrate accountability with learning and improvement.

# Just culture in practical terms

## Human Error

*Product of our current system design and behavioural choices.*

Manage through changes in:

- Choices
- Processes
- Procedures
- Training
- Design
- Environment

Console

## At-Risk Behaviour

*A choice – risk believed insignificant or justified.*

Manage through:

- Removing incentives for at risk-behaviours
- Creating incentives for healthy behaviours
- Increasing situational awareness

Coach

## Reckless Behaviour

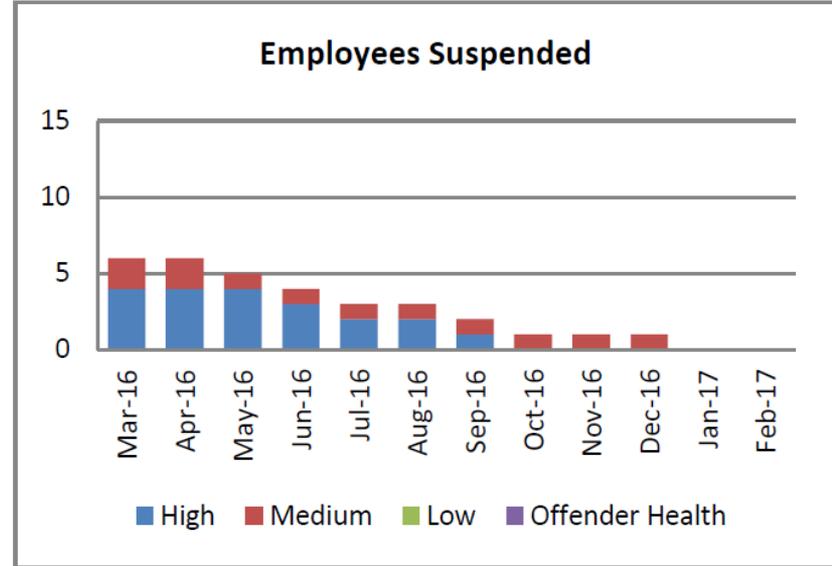
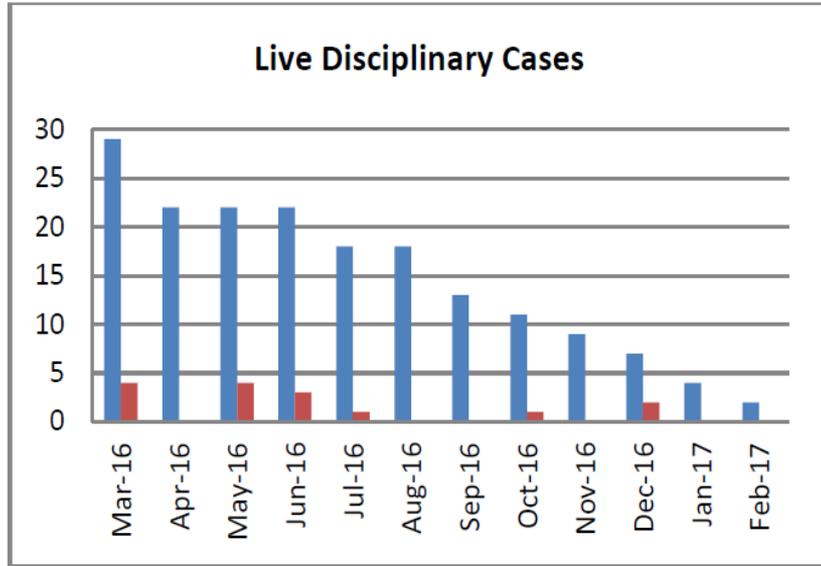
*Conscious disregard of substantial and unjustifiable risk.*

Manage through:

- Remedial action
- Punitive action

Accountability and responsibility

# Making a just and learning culture real for staff



**1 disciplinary process = £2500-£3000**

**Reductions in disciplinaries in our secure division saved between £63,000-£112,000**