

# Effective Learning from Serious Incidents - Experience from the Patient Safety Academy

Dr Helen Higham  
MBCChB, DPhil, FRCA, SFHEA  
Co-director Patient Safety Academy

# Patient Safety Partnership

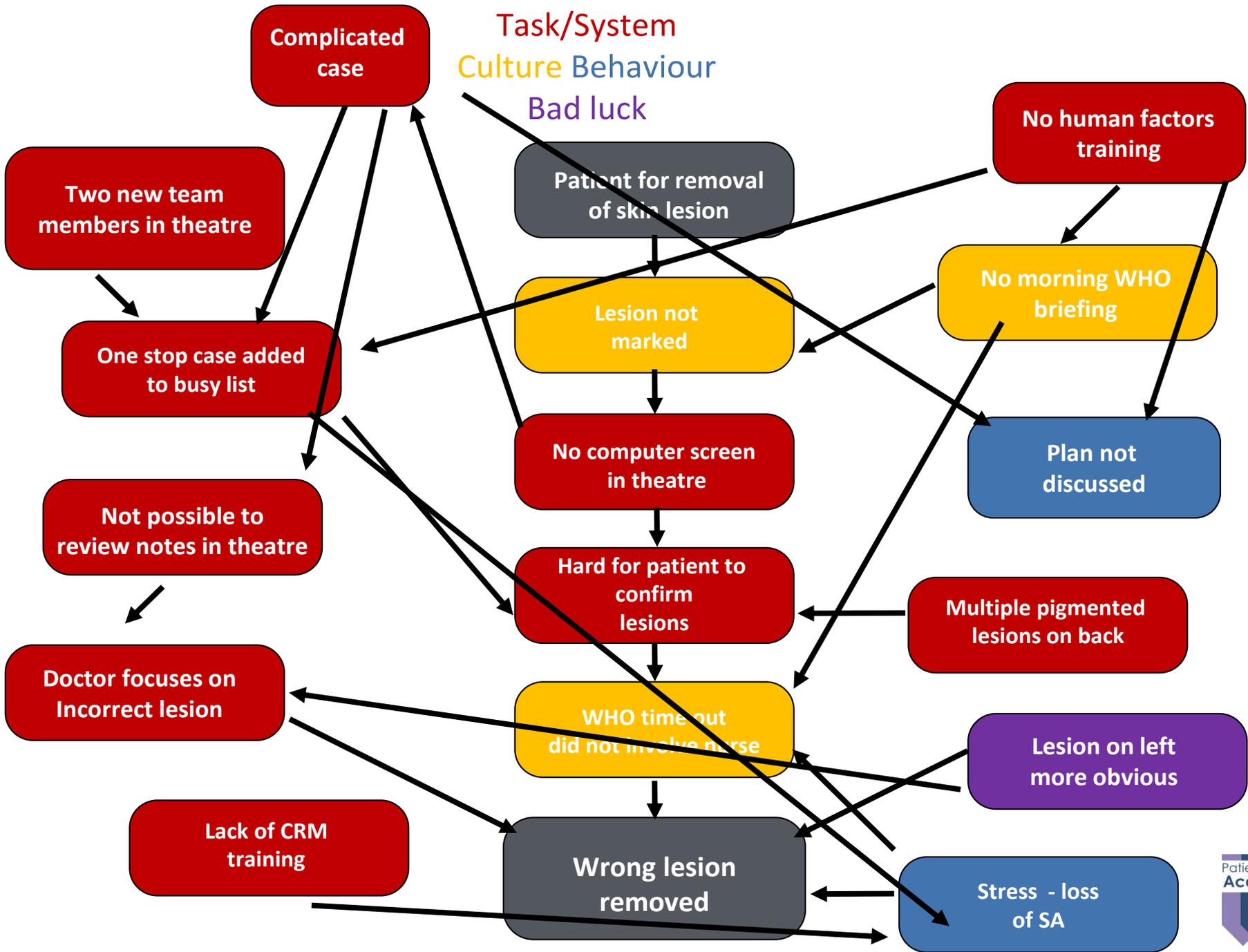


# Patient Safety Partnership



# Effective learning from serious incidents

- Human factors approach to incident analysis
  - Training
    - Revised incident investigation and analysis training
    - Regional external review - Thames Valley
  - Outcomes
    - Thematic analysis
    - Co-design of targeted interventions



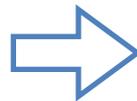
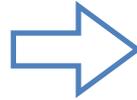
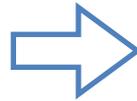
# Human factors approach to incident analysis

## Old View

Human error is seen as cause of failure

Saying what people should have done is a satisfying way to describe failure

Telling people to be more careful will make the problem go away

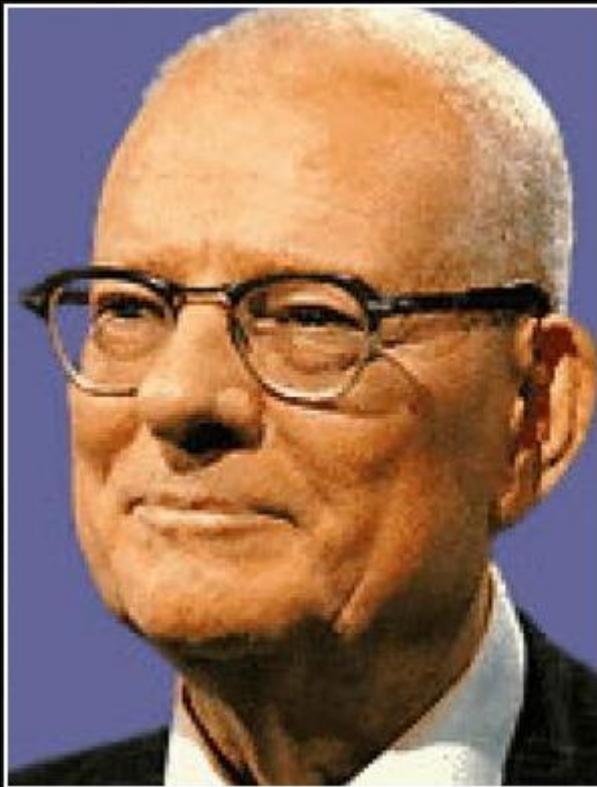


## New View

Human error is seen as the effect of systemic vulnerabilities deeper inside the organisation

Saying what people should have done doesn't explain why it made sense for them to do what they did

Only by constantly seeking out vulnerabilities can organisations enhance safety



Eighty-five percent of the reasons for failure are deficiencies in the systems and process rather than the employee. The role of management is to change the process rather than badgering individuals to do better.

— *W. Edwards Deming* —

AZ QUOTES

# NHS incident analysis

House of Commons  
Public Administration Select  
Committee

---

## Investigating clinical incidents in the NHS

---

Sixth Report of Session 2014–15

*Report, together with formal minutes relating  
to the report*

*Ordered by the House of Commons  
to be printed 24 March 2015*

- “...processes for investigating and learning from incidents are complicated, take far too long and are preoccupied with blame or avoiding financial liability.”
- “The quality of most investigations therefore falls far short of what patients, their families and NHS staff are entitled to expect.”

# NHS incident analysis

House of Commons  
Public Administration Select  
Committee

## Investigating clinical incidents in the NHS

Sixth Report of Session 2014–15

*Report, together with formal minutes relating  
to the report*

*Ordered by the House of Commons  
to be printed 24 March 2015*

- “...processes for investigating and learning from incidents are complicated, take far too long and are preoccupied with blame or avoiding financial liability.”
- “The quality of most investigations therefore falls far short of what patients, their families and NHS staff are entitled to expect.”

## Healthcare Safety Investigation Branch

HSIB became operational on 1st April 2017. Our purpose is to improve safety through effective and independent investigations that don't apportion blame or liability.

# Human factors approach to incident analysis

- Incident investigation training
  - Revised programme and educational materials
    - Staff trained across HEE-TV
  - Outcome measures
    - Initial scoping of incident analysis processes
    - Quantitative and qualitative feedback

# External review of incidents - initial findings

- Lack of HF skills in NHS Trusts
- Lack of standardisation of approach
- Variability in levels of support
- Variability in decision making processes (e.g. level of investigation)
- Different forms in use
- Conflicts of interest
- Trust independence and competition within the NHS inhibit transparency and sharing of learning and promote secrecy over safety incidents

# External review project - Aims and objectives

- To develop a service to provide independent external Human-Factors led evaluation of serious safety incidents for Thames Valley Trusts
- To increase openness, transparency and sharing of learning from investigations between Trusts
- To provide a degree of consistency in the way serious incidents are investigated regionally
- To enhance the quality of lower-level internal investigations by providing an example of good practice and increasing the level of HF-based investigation expertise within Trusts

# External review project - Aims and objectives

- ▶ Engagement with Medical Directors
- ▶ Designing the investigation template
- ▶ Designing and delivering the training programme for investigators
- ▶ Comparing internal and external investigations

# External review project - methods

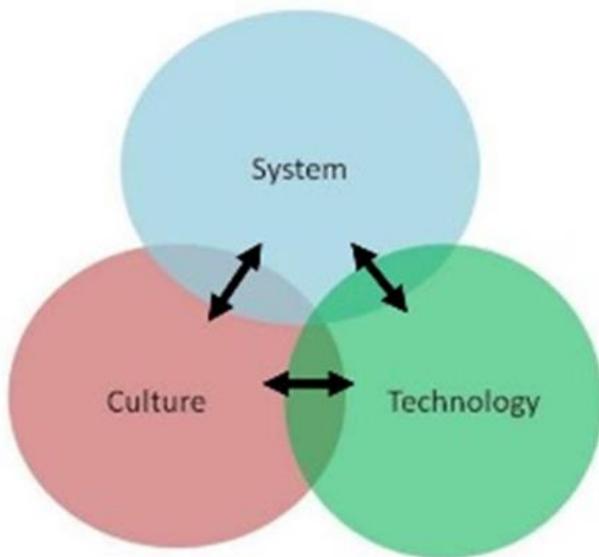
- Correspondence followed by face-to-face meetings
- Identified potential organisational barriers
- Building trust
- Recruitment of 2 suitable candidate investigators per Trust
  - 2 investigations per Trust
  - Support from PSA

# External review project - Learning outcomes

- Improved competence in developing a process map
- Clearer understanding of 2 simple HF models of risk to generate holistic understanding of events
- Clear guidance on recommendations, emphasising relative strengths of different solution types
- Other tools introduced as possibilities (e.g. link analysis HFMEA)

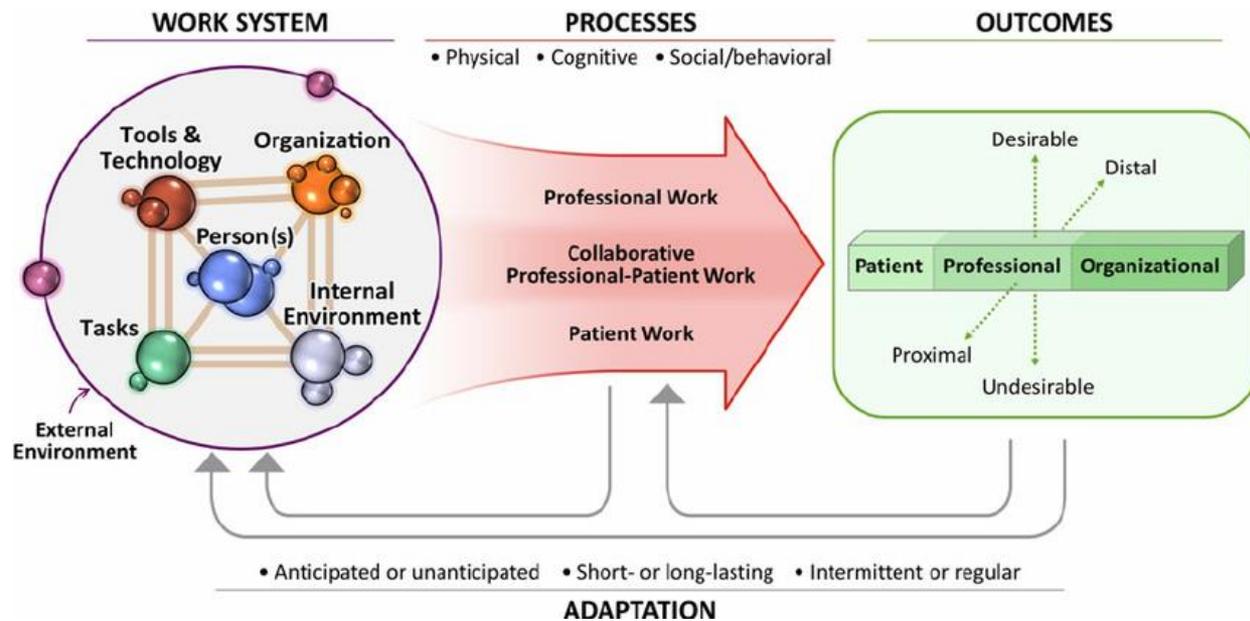
# Human factors approach to incident analysis: HF models

3-D



McCulloch P, Catchpole K. *BMC Surg.* 2011;11(1):23.

SEIPS

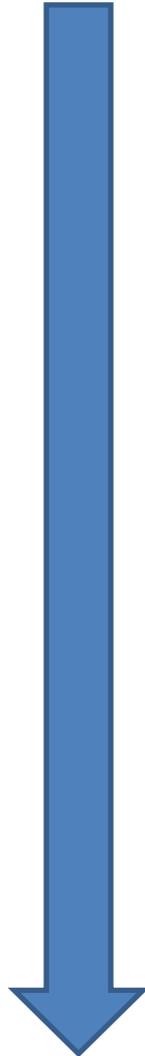


Carayon P, Schoofs Hundt A, Karsh B-T, et al. *Qual Saf Heal Care.* 2006;15:i50-i58.

# External review project - barriers

- Reluctance to take part
- Indemnity issues
- Confidentiality issues
- Logistic difficulties - information sharing
- Logistic difficulties - completing report in time

# Recommendations



Weak	<ul style="list-style-type: none"><li>Double checking</li><li>Warnings</li><li>New policy</li><li>Training</li><li>Disciplinary action</li></ul>	
Moderate	<ul style="list-style-type: none"><li>Enhanced communication</li><li>Checklists</li><li>Eliminate similar</li></ul>	
Strong	<ul style="list-style-type: none"><li>Re-design of equipment</li><li>Usability testing</li><li>Engineering controls</li><li>Simplify the process</li><li>Standardisation</li></ul>	

# External review project - Example #1

- ▶ 64 yr old male Patient with complex history of lung cancer, emphysema, previous PE, diabetes and leg ulcers admitted with pleural effusion in area of previous lobar resection for cancer
- ▶ Background: effusion discovered on emergency presentation with chest pain: this was 3<sup>rd</sup> admission in 6 weeks (1<sup>st</sup> for cellulitis of leg, 2<sup>nd</sup> for UTI).
- ▶ Delay and indecision over drainage led to mistakes in prescribing DVT prophylaxis
- ▶ Patient developed a pulmonary embolus

# Comparison of findings

## Example #1

### ➤ Internal report

- Anticoagulation withheld appropriately before drainage
- Anticoagulation not restarted for 4 days after procedure
- Difficulty in suspending drug dosage on EPR
- Difficulty in viewing all medications on EPR noted

### ➤ External report

- Initial decision to admit under respiratory medicine and perform drainage was faulty: complex post-surgical problem required specialist input
- Delay in decision to drain effusion
- Technical difficulties in performing drainage
- Indecision led to suspension of anticoagulation before drainage
- EPR defects contributed to failure to restart anticoagulation after drainage.
- Decision to request CTPA instead of CXR to review drainage result delayed drain removal and restart of medication
- Inadequate systematic review of care led to error remaining undetected for 4 days

# Comparison of recommendations

## Example #1

### Internal review

- ▶ Omit rather than suspending anticoagulation doses peri-procedure
- ▶ Create new view in drug chart which groups medications together

### External review

- ▶ Review of interdisciplinary working between Respiratory Medicine and Thoracic Surgery
- ▶ Review of clinical decision making, ward round and handover processes on Respiratory Medicine
- ▶ Consideration should be given to SOPs for ward rounds and handovers
- ▶ Review of the interface for prescribers on EPR with a view to:
  - ▶ Providing a single screen overview of all medication
  - ▶ Providing an option to group medications by type or indication
  - ▶ Creating a way to suspend medication which automatically triggers a reminder to reconsider
- ▶ Training on work-arounds for EPR for junior staff whilst awaiting resolution of recommendation 3

# External review project - Example #2

- ▶ Woman in 1<sup>st</sup> pregnancy admitted to Labour Ward at 29+2 weeks gestation with premature rupture of membranes
- ▶ History of this pregnancy: (no maternal age provided) Low mood in 1<sup>st</sup> trimester, nausea and vomiting, intrauterine growth retardation, Group B streptococcus infection, breech presentation
- ▶ Outcome: premature delivery by emergency Caesarean section, neonatal death

# Comparison of findings

## Example #2

### Internal report

- Inappropriate allocation of care for high-risk, pre-term patient to junior midwife
- Lack of appropriate escalation of care for high risk pregnancy by junior midwife
- Delay in ultrasound - long wait for scan
- Lack of recognition of urgency of situation by junior midwife when low fetal heart rate detected
- Lack of medical review on return to labour ward after scan

### External report

- Missed opportunities in ante-natal clinics to highlight IUGR and re-categorise pregnancy with resultant increased frequency of monitoring
- Lack of clarity over SOPs for IUGR, GpB Strep and PROM
- Communication breakdown led to delay in decision to transfer when no neonatal bed was available
- Decision to repeat USS scan when patient exhibiting signs of active labour
- Loss of situation awareness in midwifery team underpinned by inexperience
- Communication breakdown between midwifery and obstetric team led to delay in decision to go to section

# Comparison of recommendations

## Example #2

### Internal review

- Meet with Band 7 midwives to ensure they allocate cases appropriately
- Lecture to be delivered to midwives on preterm labour presentation
- Meet with sonographers to remind them about the emergency bleep system and emphasise importance of prioritising antenatal patients
- Lecture to be delivered to sonographers regarding basic obstetric issues
- Obstetric registrar to write reflective account of incident and discuss with clinical supervisor

### External review

- Missed opportunity to consider cultural and leadership issues in the report
- Missed opportunity to consider workforce and clinical acuity issues in obstetric service
- Multidisciplinary review of antenatal care pathways for high risk pregnancies including policies and lines of communication for escalation of care
- Review current SOPs for high risk pregnancies, including IUGR, GpB Strep and PROM and compare with national guidance on best practice
- Review of training needs and support processes for midwives and trainee obstetric staff on labour ward, investigate scope for experiential learning as MDT
- Review of processes for ultrasound examination of antenatal patients and escalation of concerns from USS to labour ward
- Consideration of possibility of providing USS service at point of care

# External review project - Lessons learned

- Richer, higher quality reports with stronger recommendations are produced
- Inertia remains a major problem in the absence of incentives for Trusts to seek external advice
- Logistics of conducting collaborative investigations with information sharing in real time are challenging
- Psycho-social aspects of relationship between internal and external team are critical

# External review project - Lessons learned

- Mentoring by experts essential at this stage
- Availability of independent clinical context expertise vital
- Strongly positive feedback from investigators
- Development of system over time will require resources

# External review project - Next steps

- Capacity Building: Postgraduate certificate in Patient Safety opens October 2018
- Completion of pilot programme and review with Trusts
- Discussions with AHSN, HSIB, PSC
- Research on process and outcomes
- Establishment of permanent programme
- Expansion
  - Primary care networks and Mental Health Trusts
  - GMC

# External review project - Vision

- ▶ National programme to increase availability of HF and QI skills in NHS urgently needed
- ▶ Regional systems of external review based on this template could link with and feed into national HSIB system
- ▶ Higher level training could be developed and cascaded as regional programmes acquire greater numbers of investigators with basic expertise

