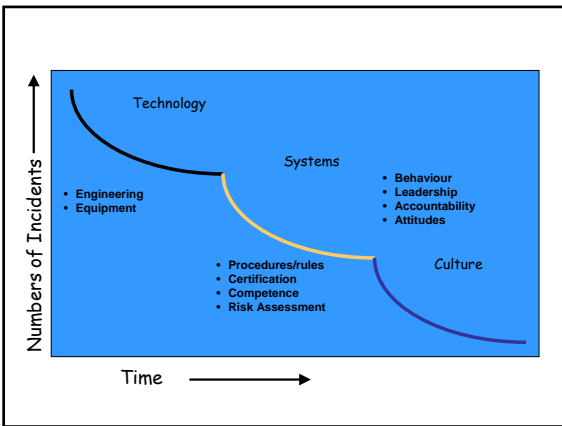


 The University of Manchester

Safety Management Systems in industry

Dianne Parker
 University of Manchester
 England

Halifax 6: 21 October, 2006





 The University of Manchester

Approaches to traffic safety

- **Engineering**
 - Primary safety: Road surfaces, street lights
 - Secondary safety: Seat belts, ABS, air bags
- **Enforcement**
 - Formal: Laws, Highway Code, police, cameras
 - Informal: Peer pressure, other drivers
- **Education**
 - Awareness/attitude change/persuasion campaigns

Is healthcare different? Yes

- Patient, not healthcare professional, is at physical risk
- Patients are sick people
- Highly complex, differentiated system
- Fast pace of change
- Difficulties with regulation
- Entrenched status hierarchies
- **Importance of professional clinical judgement**



A systematic approach to patient safety

- In risky systems, standardisation is a useful tool to increase predictability
- In healthcare, rules (guidelines, procedures, protocols) are multiplying, but evidence that compliance is patchy (Grilli and Lomas, 1994; Williams et al 2003; Sijmons et al 2006)
- Monitoring often difficult and/or inappropriate

The University of Manchester

MANCHESTER
1927

Rule-related behaviour

Errors

- arise from cognitive problems
- understand in relation to the individual
- reduce by improving skill and/or information

Violations

- arise from motivational problems
- understand in social context and/or with reference to rules
- reduce by improving attitudes, morale, culture

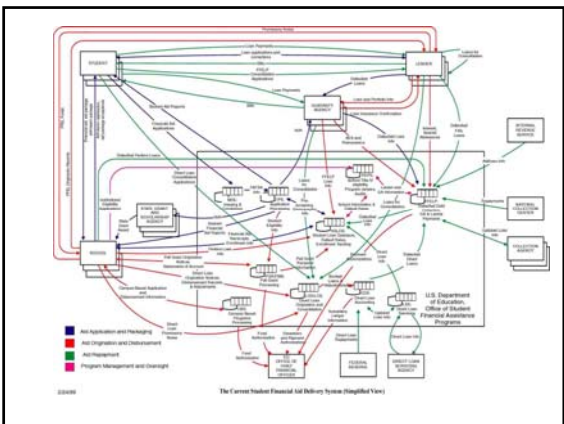
Parker, Reason, Manstead & Stradling, Ergonomics, 1995
Reason, Parker, & Lawton, J Occ Org Psych, 1998

The University of Manchester

MANCHESTER
1927

What is an SMS?

- a systematic approach to the management of safety, via formal organisational structures and processes
- applies concepts from human factors psychology
- has the aim of maintaining and enhancing organisational safety
- used extensively across high risk industries



MANCHESTER
1827

The University of Manchester

Is it just a quality management system?

- There are similarities, but SMS
 - acknowledges that error-free performance not achievable
 - focuses on the minimisation and management of human error
 - takes a whole-system, organisational approach
 - emphasises the importance of standardisation of behaviour as a way of managing performance

MANCHESTER
1827

The University of Manchester

An idiot's guide to SMS

- develop a policy
 - *what you want to achieve*
- organise and plan
 - *how you will get there*
- measure and review your safety performance
 - *how you will check where you are and change direction if necessary*
- audit all of the above

MANCHESTER
1827

The University of Manchester

Benefits of an SMS

- allows for the identification of safety critical issues before they give rise to an adverse event
- enables priorities to be set
- takes a proactive approach to the identification of systems factors (latent failures) before they combine with active failures, resulting in an adverse event



A bit like the
Second Law of
Thermodynamics
.... if complex
systems are not
actively managed –
they tend to
descend into chaos



Key steps to an SMS

- Establish senior management commitment to a safety management system as a core objective of the organisation
- Develop a safety policy
- Allocate roles and make statements of safety responsibility and accountability for all job levels
- Put in place risk management procedures, setting goals to identify and mitigate system weaknesses.

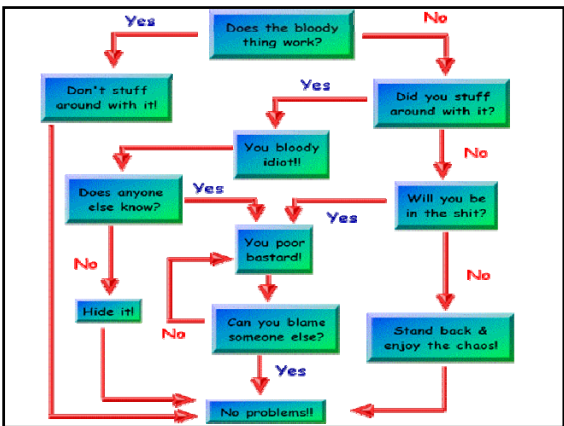


Key steps to an SMS

- Establish a hazard reporting system so that you have the data needed to control risk
- Establish an accident and incident reporting system
- Train all staff, and assess competence on safety critical aspects of performance **and** on the SMS
- Monitor, investigate and analyze adverse events
- Review your performance **and** your SMS



- MANCHESTER
1824
- The bloody culture
- ### Integration is crucial
- An integrated SMS must impinge on all aspects of safe operations
 - design
 - equipment
 - training
 - use of procedures
 - finance
 - maintenance management



Thank you
dianne.parker@manchester.ac.uk
