The Investigation and Analysis of Clinical Incidents

Association Francaise des Gestionnaires de Risques Sanitaires

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Facing up to the problem

- 1970s
  - California Malpractice Study
  - Medical Nemesis (Illich, 1975)
- 1980s
  - The critical attitude in medicine: the need for a new ethics (McIntyre & Popper, BMJ 1983)
  - Rising litigation, financial and legal solutions
  - Little research: a case of negligence? (Vincent, 1989)
- Early 1990s -
  - Epidemiology (Harvard Study, QAHCS)
  - Analysis of claims (Eg Ennis & Vincent, 1990)
  - Awareness of underlying clinical problems

From risk management to patient safety

- Mid 1990s.
  - Clinical risk management
  - Human factors and understanding errors (Reason, 1993; Leape, 1994)
- Late 1990s to present
  - An Organisation with a Memory
  - Major reports in US and Australia
  - Australian Council for Safety and Quality
  - UK National Patient Safety Agency
- International initiatives and co-operation


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Reducing error
Improving safety

Care management problems

- The significance of the decelerations on the CTG trace were not given sufficient weight
- The midwife did not reduce the syntocinon as soon as she saw the deteriorating trace
- The consultant overrode the decision of the team without considering their arguments
- The senior midwife was ‘forced’ to put the baby at risk

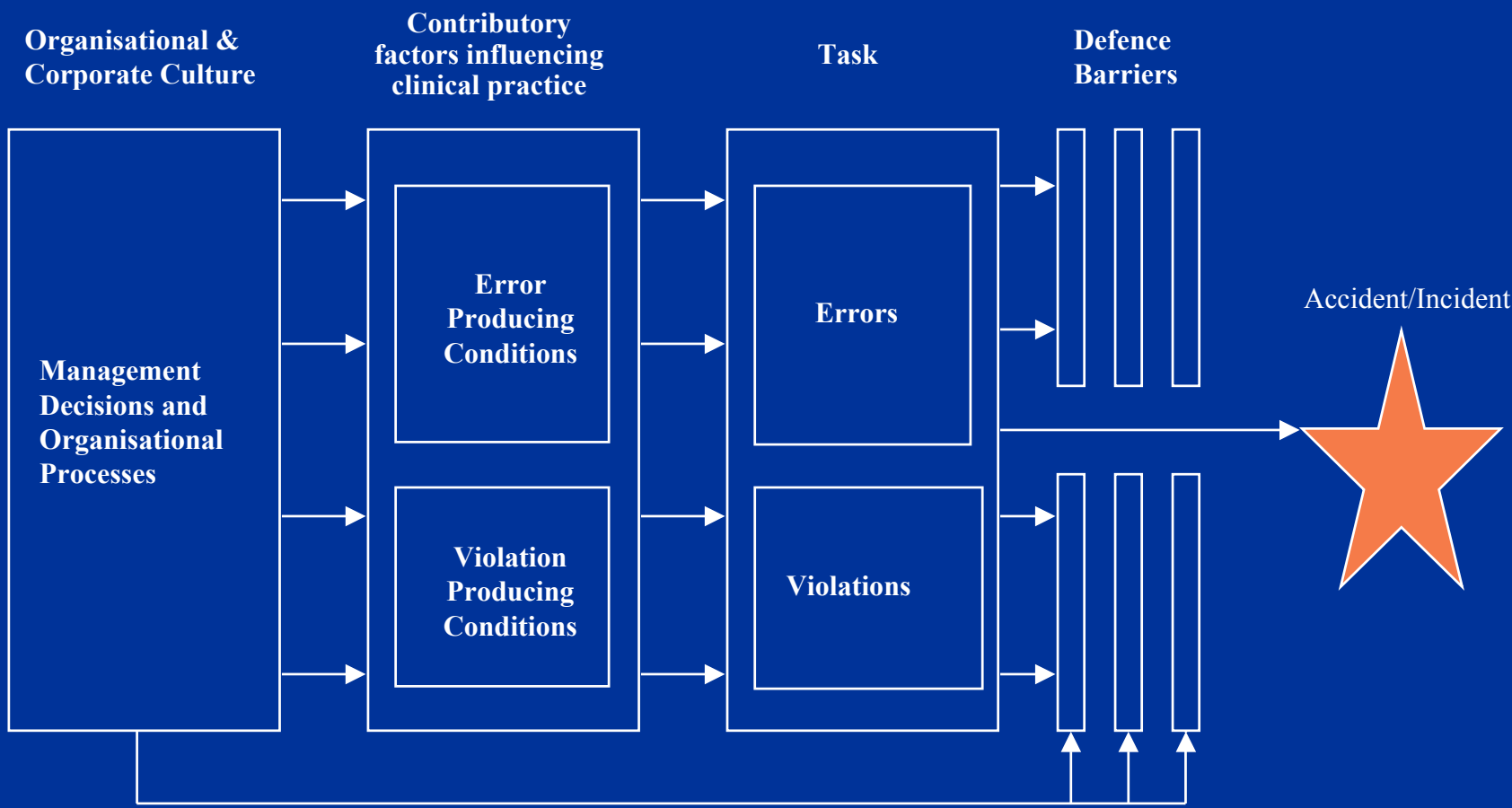
General features of the unit (Contributory factors)

- No clear demarcation of roles and responsibilities and no agreed line of communication in a crisis
- Inadequate training for CTG interpretation
- Staff assumed faults in machines rather than fetal distress
- General acceptance of faulty equipment
- No system to ensure lessons learnt from serious incidents

Person versus System explanations

- Person Centred View
  - Focuses on those at the `sharp end'
  - Individual responsibility and blame
  - Countermeasures aimed at changing individuals' behaviour
- System View
  - Human beings fallible, errors to be expected
  - Focus on factors influencing errors
  - Countermeasures aimed at conditions of work

Stages of development of an organisational accident



Adapted from Reason (1990)

Conditions that lead to error

- Unfamiliarity with the task (x17)
- Shortage of time (x10)
- Poor human equipment interface (x8)
- Inexperience (x4)
- Poor procedures (x3)
- Inadequate checking (x3)

Framework for the analysis of risk and safety in medicine

- Patient factors
- Task factors
- Individual staff factors
- Team Factors
- Work environment
- Organisation and management
- Institutional context

Vincent et al, BMJ 1998; 316: 1154-7

Framework of factors influencing clinical practice and clinical outcomes

- Patient factors
  - Condition (complexity and seriousness)
  - Language and communication
  - Personality and social factors
- Task factors
  - Task design and clarity of process
  - Availability & use of protocols,
  - Availability & use of test results
- Individual staff factors
  - Knowledge and skills
  - Motivation, physical and mental health
- Team Factors
  - Verbal and written communication
  - Supervision and seeking help
  - Leadership
- Work environment
  - Staffing levels and skill mix
  - Workload and shift patterns
  - Design, availability and maintenance of equipment
- Organisation and management
  - Financial resources & constraints
  - Organisational structure
  - Policy standards & goals
  - Safety culture & priorities
- Institutional context
  - Economic & regulatory context
  - Social attitudes to risk
  - National Health Service Executive
  - Clinical negligence schemes

Vincent et al, BMJ 1998; 316: 1154-7

Why have a formal method of investigation and analysis?

- To utilise clinical expertise to fullest extent
- Ensure comprehensive approach without `premature closure'
- Ensure full exploration of contributory factors
- Less threatening to staff
- Prevent immediate assignment of blame

Investigation and analysis of adverse events: the process

- Interviews with staff and inspection of records
- Identify care management problems (CMPs) from chronology of events
- Determine general contributory factors
- Implications for action

Obtaining the basic information

- Review of records and reports gives initial CMPs and possible contributory factors
- Interviews involve three phases
  - Chronology - `the story'
  - Staff member identifies the CMPs
  - Staff member is guided to reflect on contributory factors

The analysis

The core of the process is to ask:

- What happened?
- How did it happen?
- Why did it happen?
- What can we learn from this and what changes should we make, if any?
- The analysis follows the same sequence as the interviews

The analysis

- Merging the accounts to form a clear chronology, identifying areas of difference
- Identifying the most important CMPs
- Considering each CMP in turn
- What factors contributed to this CMP?
  - Patient, task, team, working conditions etc

Writing a formal report

- The structure of the investigation also provides the structure of the report
  - Chronology
  - CMPs
  - Contributory factors
- Final summary will emphasise
  - Main contributory factors (root causes)
  - Targets for prevention
- “The report writes itself ”

Analysis of adverse events
Management of attempted suicide

- When junior doctor saw patient the previous day, he recorded that she was not depressed and not suicidal
  - Individual: lack of knowledge and experience
  - Team factors: lack of supervision and support
  - Organisation: poor safety culture. Lack of supervision not taken seriously

Analysis of adverse events
Airway filter occlusion

- Delayed identification of airway filter occlusion
  - Task: Airway filter routinely positioned under drapes during facial surgery (G)
  - Individual: junior anaesthetist not familiar with airway occlusion (S)
  - Organisation: Lack of specific warning about risk of occlusion during training (G)

On the spot investigation

- The method can be used for immediate reflection on any incident by carrying out brief interviews or structured discussion in the time available.
  - Determine what happened and who involved
  - Impact on patient and staff
  - Most important CMPs
  - Most important contributory factors
  - How those involved think future similar incidents might be prevented
- Proceed to a full investigation if the incident is very serious or has high potential for learning.

A Window on the System

- Case analysis brings understanding of systems
  - Complexity of events and contributory factors
  - Moving away from blame
- Case analysis to identify common themes and systemic weaknesses
  - Looking to the future
  - Prioritising contributory factors - root causes
  - Generating plans for action

Further information

- The full protocol, case examples and two side summary can be downloaded from

  www.patientsafety.ucl.ac.uk

- Principal publications:
  - Vincent CA, Adams S, Stanhope N (1998). A framework for the analysis of risk and safety in medicine. BMJ 316 1154-7
  - Vincent CA, Adams S, Hewett DH et al. (2000) How to investigate and analyse clinical incidents: CRU & ALARM protocol. BMJ320,777-781. http://www.bmj.com
  - Vincent CA (ed). Clinical risk management, Enhancing patients safety. BMJ Publications, 2001.