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Managing HF Risk in Healthcare: The Work of the National Patient Safety Agency

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Created in 2001 following publication of:

- *An Organisation with a Memory,* which looked at learning from adverse incidents in the NHS;

and

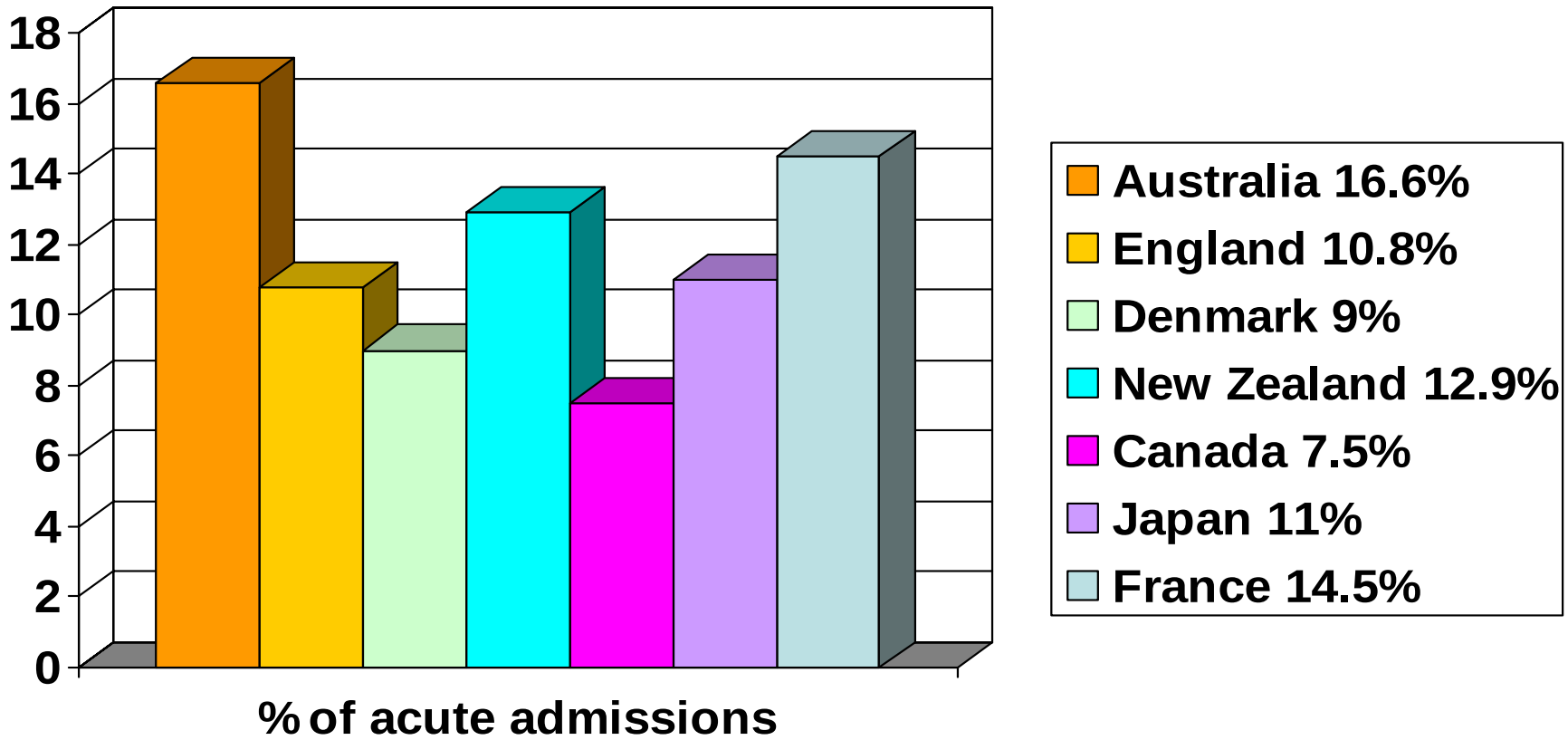
- *Building A Safer NHS for Patients,* which set out the government's plans to address the recommendations.

Adverse events in British hospitals

- Retrospective review of 1014 records in 2 hospitals
- 10.8% of patients experienced an adverse event
  - Half of these were judged to be preventable
  - A third led to moderate or > disability, or even death
- Between 7 and 8 extra bed days per adverse event

Vincent et al BMJ 2001; 322; 517-9

Patient safety – a global issue



Primary Care - GP patient safety incident frequency

- Between 5-80 incidents per 100,000 GP consultations (1 million consultations with GPs in UK every working day (NHS Plan, 2000))
  - 26-78% identified errors related to diagnosis
  - 11- 42% delayed / inappropriate treatment
  - 11% of prescriptions

- Between 60-83% preventable

Sanders & Esmail, Fam. Prac. (2003) 20 (3) 231-6

Understanding the Problem

- ~ 80% of accidents are attributable to human factors, at the individual level, the organisational level, or more commonly both
- This is probably a conservative figure and appears to be irrespective of domain
- To manage this we need to identify and understand the risks (and causes and contributory factors). Without this we can't put appropriate remedial action in place.

Identifying the risks

- ‘Reactive’ methods
  - Accident investigation - root cause analysis
  - Reporting systems - incidents
- ‘Proactive’ methods
  - Reporting systems - ‘near-misses’, safety concerns
  - Prospective Risk Assessment

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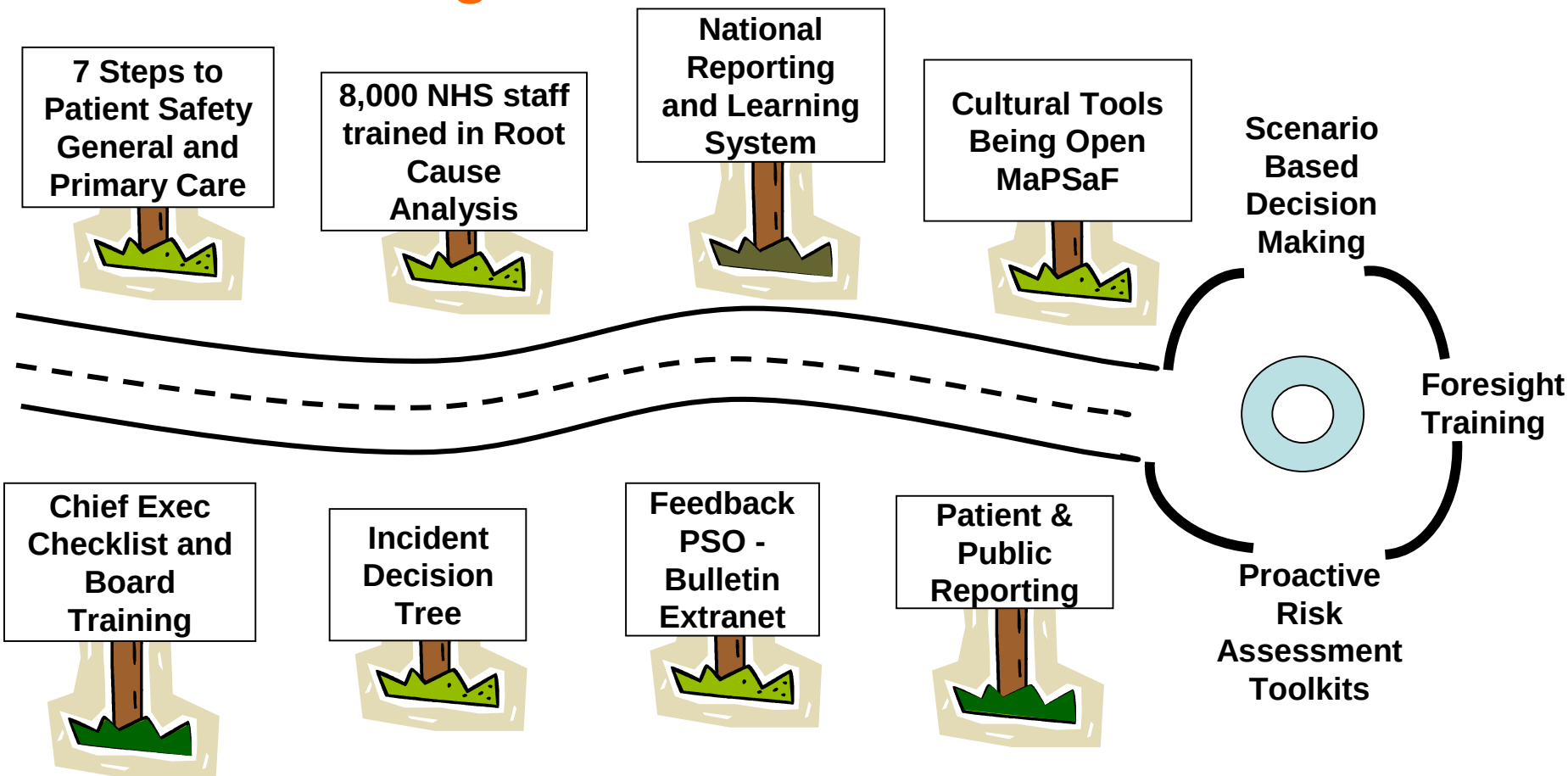
NHS Health Organisations - The Road to Resilience



Vulnerable – High Reliability - Resilience → Safer Healthcare

Seven Steps to Patient Safety

- Step 1 Build a safety culture
- Step 2 Lead and support your staff
- Step 3 Integrate your risk management activity
- Step 4 Promote reporting
- Step 5 Involve and communicate with patients and the public
- Step 6 Learn and share safety lessons (RCA)
- Step 7 Implement solutions to prevent harm

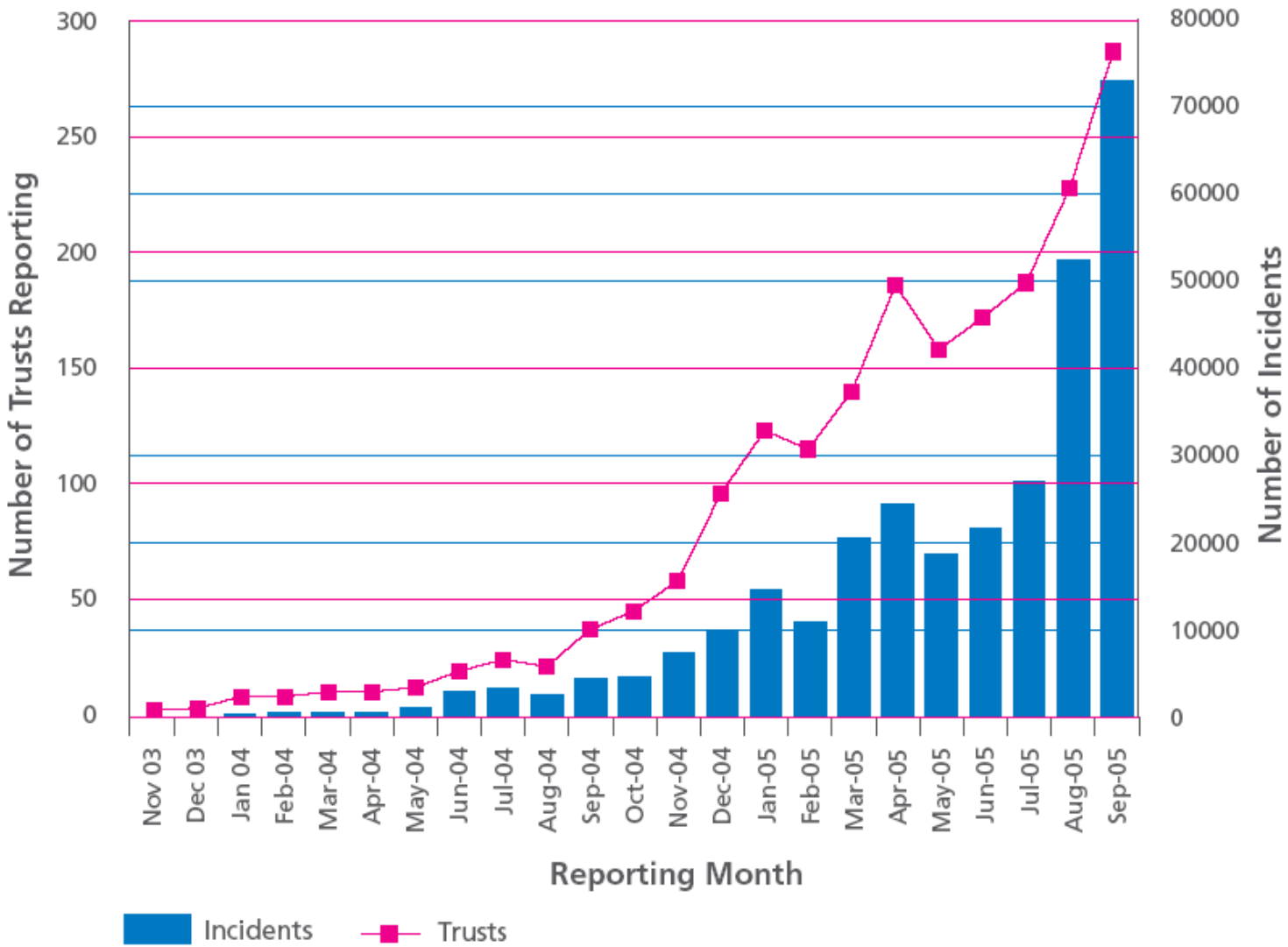
Investigation Training

- Why necessary
- Root Cause Analysis – a systematic and methodical approach to collecting information and data and analysis
- Toolkit on the Website
- Training to relevant staff in every NHS organisation (trained = > 8,000)

National Reporting and Learning System

- All 607 NHS organisations connected
  - Acute Trusts via their existing Local Risk Management System – major IT issues
  - Primary Care organisations typically by newly designed – immature reporting culture
- Anonymous

Diagram 5: Roll out of the NRLS: reported incidents and number of reporting trusts



NRLS

Care setting of incident reports

	Total Nov 03 – Sept 05	
Care Setting	**No.**	**Percent**
Acute/general hospital	**226,002**	**74.7**
Ambulance service	**1,093**	**0.4**
Community and general dental service	**56**	**0.0**
Community nursing, medical and therapy service (incl. community hospital)	**24,895**	**8.2**
Community optometry / optician service	**3**	**0.0**
Community pharmacy	**192**	**0.1**
General practice	**1,185**	**0.4**
Learning disabilities service	**7,428**	**2.5**
Mental Health Service	**41,809**	**13.8**
Total	**302,663**	**100.0**

Analysis

- Specialist Review for severe and death reports

- Analytical Software
  - Statistics
  - Data mining
    for free text,
    clustering,
    outliers.
- Observatory reports (includes other data sources) and feedback to the Trusts.

NRLS

Table 13: Degree of harm incident reports

	Total Nov 03 – Sept 05	
Degree of Harm	**No.**	**Percent**
No Harm	207,349	68.3
Low	75,603	24.9
Moderate	17,013	5.6
Severe	2,185	0.7
Death	1,297	0.4
Total	**303,447**	**100.0**

Source: Reports to the NRLS database, up to the end of September 2005

*** Since the last PSO report was produced, more duplicates have been identified in the NRLS database. The number of incidents shown up to the end of March 2005 in the table above is therefore slightly different from that reported in the previous PSO report.**

Primary Care (General Practice)

- Failure or delay in diagnosis
- Medication prescription errors
- Failure or delay in referral
- Failure to warn of, or recognise, side effects of medication
- Communication issues

Remaining Challenges

- To get more detailed reports (problem with anonymity)
- To encourage more reporting from Primary Care (where reporting has not been the norm)
- To encourage more doctors to report (even though anonymous)

Remaining Barriers to Reporting

- Confidentiality and fear
  - lack of trust at both local and national level; for contractors, concern over providing a ‘dossier of their own incompetence’
- Failure to recognise or understand report is required
  - patient not harmed, don’t understand a ‘near-miss’
- Too busy
  - form too complicated and lengthy, got enough to do
- Lack of feedback
  - all goes into a ‘black hole’, nothing ever happens

Embedding Safety for Doctors in Training

- Aimed at doctors in second foundation year
- Principles of human error
- Principles of risk assessment
- Safer systems
- Learning from when things go wrong (including incident reporting and RCA)
- Being open
- Doctors Net – 39,000 interactions with online materials on patient safety
- Saferhealthcare.org.uk

Sharing Solutions / Safer Practices
Forms of NPSA advice

- A patient safety alert requires prompt action to address high risk safety problems

- A safer practice notice strongly advises implementing particular recommendations or solutions

- Patient safety information suggests issues or effective techniques that healthcare staff might consider to enhance safety

Patient Safety & Nasogastric (NG) Tubes – a case history

Background

- Coroner’s Inquest into death of a child
- Patient Safety Managers concerns
- Joint Commission on Accreditation of Health Care Organisations (JCAHO)

Aggregate RCA (UK)

- 8 year old child
  - development delay, cerebral palsy, epilepsy, scoliosis, could not swallow, frequent chest infections
- 18½ year old
  - cerebral palsy, microcephaly, epilepsy, feeding and swallowing difficulties
- Middle-aged female
  - history of feeling unwell and vomiting, small bowel obstruction, bowel surgery
- 77 year old male
  - 2 week difficulty with swallowing and speech

Problems identified

- All tubes misplaced
- Standard tests were used
- Decisions to feed made automatically rather than following an individual risk and benefit analysis
- Lack of documentation of key decisions
- Out of hours tube insertion unsupported by 24 hour support services such as radiology

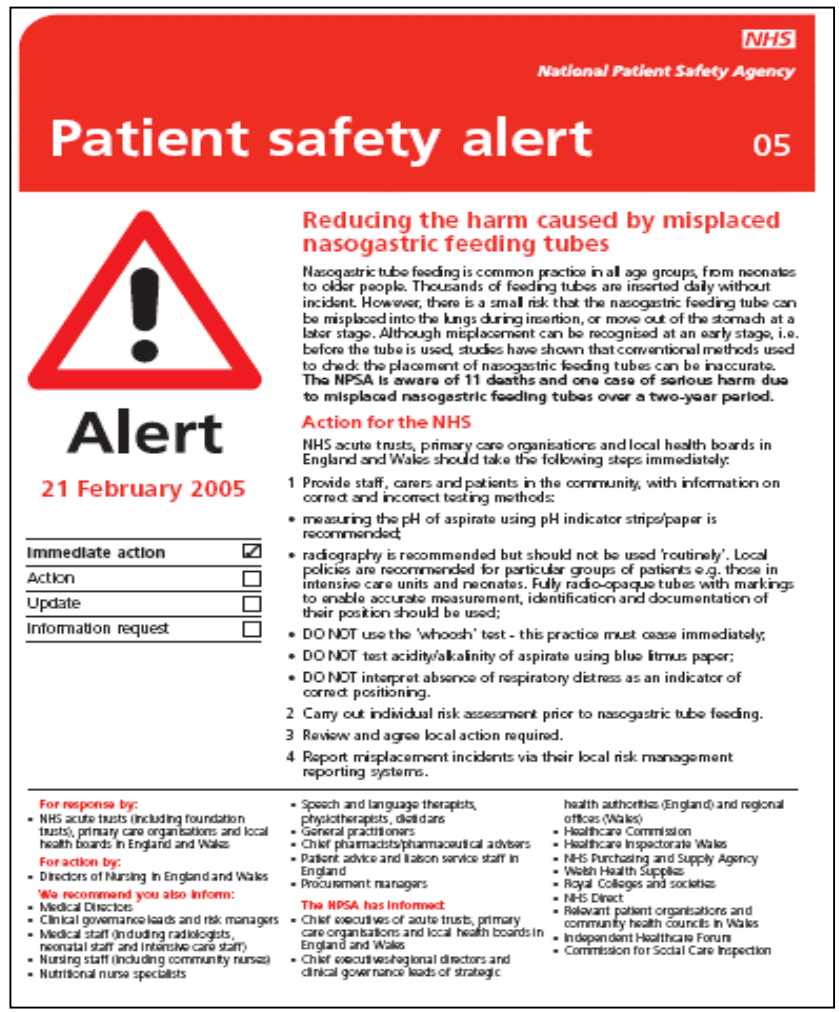
System factors

- Use of non evidence-based guidelines
- Evidence showing some tests do not work
- A ‘small insignificant procedure’ – mindset – role given to junior staff without supervision
- Routine
- Expectation of symptoms

Action

- International Review
- MHRA Review
- Literature Review
- Mapping of Clinical Practice
- What we don't know

ALERT



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Patient safety alert 05

Alert

21 February 2005

Immediate action	☑
Action	☐
Update	☐
Information request	☐

Reducing the harm caused by misplaced nasogastric feeding tubes

Nasogastric tube feeding is common practice in all age groups, from neonates to older people. Thousands of feeding tubes are inserted daily without incident. However, there is a small risk that the nasogastric feeding tube can be misplaced into the lungs during insertion, or move out of the stomach at a later stage. Although misplacement can be recognised at an early stage, i.e. before the tube is used, studies have shown that conventional methods used to check the placement of nasogastric feeding tubes can be inaccurate. **The NPSA is aware of 11 deaths and one case of serious harm due to misplaced nasogastric feeding tubes over a two-year period.**

Action for the NHS

NHS acute trusts, primary care organisations and local health boards in England and Wales should take the following steps immediately:

1 Provide staff, carers and patients in the community, with information on correct and incorrect testing methods:
- measuring the pH of aspirate using pH indicator strips/paper is recommended;
- radiography is recommended but should not be used 'routinely'. Local policies are recommended for particular groups of patients e.g. those in intensive care units and neonates. Fully radio-opaque tubes with markings to enable accurate measurement, identification and documentation of their position should be used;
- DO NOT use the 'whoosh' test - this practice must cease immediately;
- DO NOT test acidity/alkalinity of aspirate using blue litmus paper;
- DO NOT interpret absence of respiratory distress as an indicator of correct positioning.

2 Carry out individual risk assessment prior to nasogastric tube feeding.

3 Review and agree local action required.

4 Report misplacement incidents via their local risk management reporting systems.

For response by:
- NHS acute trusts (including foundation trusts), primary care organisations and local health boards in England and Wales

For action by:
- Directors of Nursing in England and Wales

We recommend you also inform:
- Medical Directors
- Clinical governance leads and risk managers
- Medical staff (including radiologists, neonatal staff and intensive care staff)
- Nursing staff (including community nurses)
- Nutritional nurse specialists
- Speech and language therapists, physiotherapists, dietitians
- General practitioners
- Chief pharmacists/pharmaceutical advisers
- Patient advice and liaison service staff in England
- Procurement managers

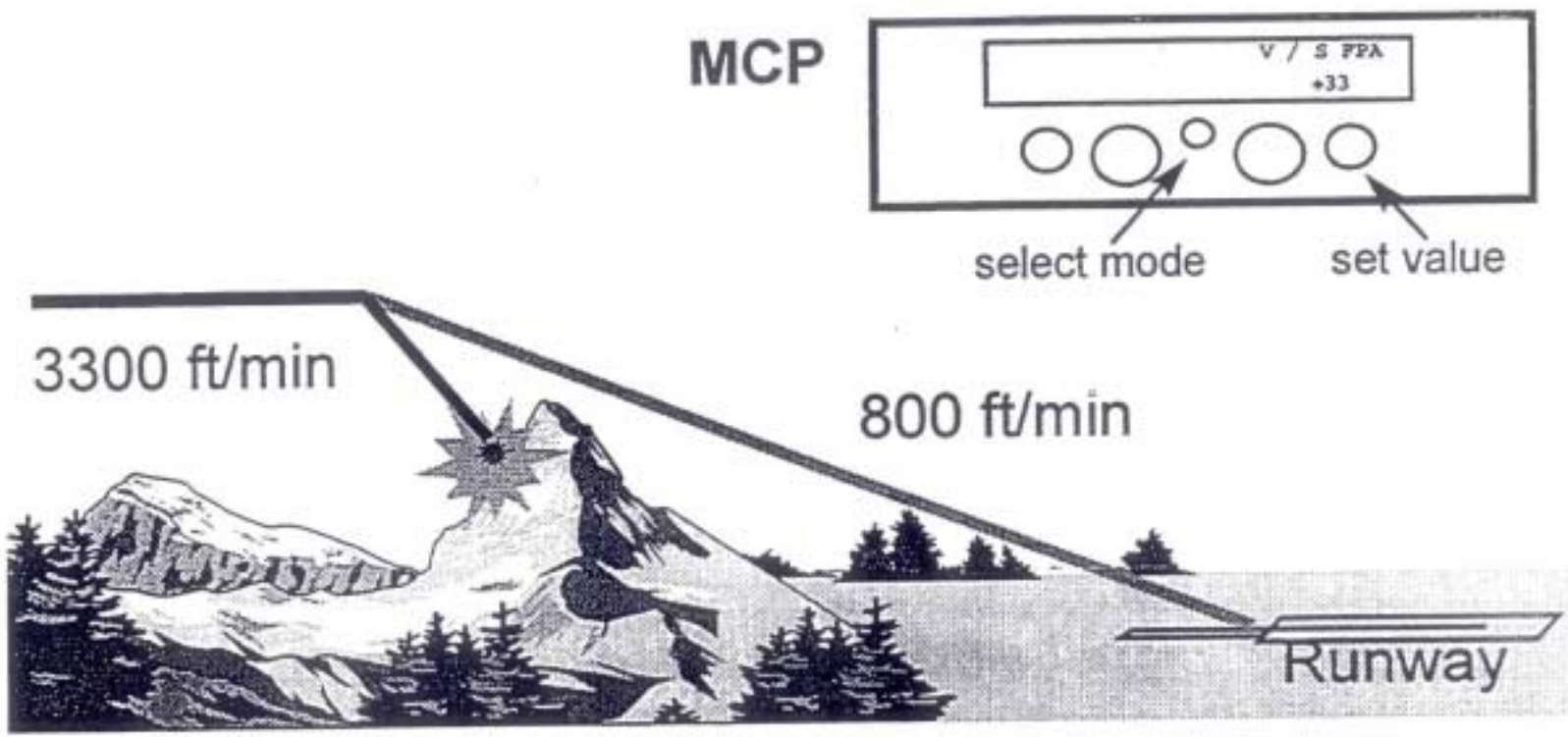
The NPSA has informed:
- Chief executives of acute trusts, primary care organisations and local health boards in England and Wales
- Chief executives/regional directors and clinical governance leads of strategic health authorities (England) and regional offices (Wales)
- Healthcare Commission
- Healthcare Inspectorate Wales
- NHS Purchasing and Supply Agency
- Welsh Health Supplies
- Royal Colleges and societies
- NHS Direct
- Relevant patient organisations and community health councils in Wales
- Independent Healthcare Forum
- Commission for Social Care Inspection

Solutions work

- Need to risk-proof system solutions
- Need to help people to make the correct choice, selection, decision, rather than leave them with the possibility (even probability) of making the wrong one
- Some of these issues are more straightforward than others

Problems with labelling and packaging

‘Mode’ Execution Error



GP prescribing systems- Results from NPSA funded study by University of Nottingham

- Hazards introduced by drop-down menus
- Allergy alert may/may not not be generated
- Hazard alert generated every third prescription
- Single keystroke to over-ride alert
- No audit trail
- Not all safety functionality activated (e.g. contra-indications)
- GPs unsure of safety functionality on systems
- Some think functionality is present when it isn't (wrong 'mental model' e.g. re contra-indications)

Fatigue in Healthcare

- The problem of tired doctors
- The European Working Time Directive
- The challenge:
  - limited number of doctors
  - people still need healthcare, so removing the service not an option (cf grounding a plane)
  - reducing doctors' hours increases handovers, and decrease training opportunities
  - need to be more creative, move certain tasks to day time
- NPSA guidance on risk assessment for Hospital at Night

Some Methods in Prospective Risk Assessment

‘Standard’ Techniques

- (H)FMEA
  - (Healthcare) Failure Modes and Effects Analysis
- HACCP
  - Hazard and Critical Control Points (Food Industry)
- HAZOPS
  - Hazard and Operability Studies (Chemical)
- PRA
  - Probabilistic Risk Assessment (Nuclear)
- SWIFT
  - Structured ‘What If’ Technique

Human Reliability Techniques

- HEART
  - Human Error Analysis and Reduction Technique
- THERP
  - Technique for Human Error Prediction
- SHERPA
  - Systematic Human Error Reduction and Prediction Approach
- GEMS
  - Generic Error Modelling System
- IDEAS
  - Influence Diagram Error Analysis System

Prospective Risk Assessment

- Confusing picture, many methods time-consuming and resource-intensive
- Staff need simple tools
- Patient Safety Research Programme (PSRP) to develop PRA methods tailored to healthcare
- The basic questions:
  - What could go wrong?
  - How bad could this be (including frequency)?
  - What can we do about it?

The challenge remains

At this point in time it is vital that all staff continue to be aware of their potential contribution to patient safety, in spite of, and perhaps because of, all the other pressures upon them both individually and collectively.

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