Seven steps to patient safety: A route map to delivering a safer health care system in England & Wales

Susan Williams
Joint Chief Executive
National Patient Safety Agency
Overview

• Patient safety – what, why and how big is the problem in the UK

• Role of National Patient Safety Agency

• Seven steps to patient safety and the tools to make a difference
Patient Safety – A global issue

% of acute admissions

- Australia 16.6%
- England 10.8%
- Denmark 9%
- New Zealand 12.9%
- Canada 7.5%
- Japan 11%
Patient Safety – A National Issue

- 10% of admissions = 900,000 patients affected
- around £1 billion/year in extra hospital stay costs
- average 8.5 extra bed days
- 400 people die or are seriously injured in incidents involving medical devices
- £450 million clinical negligence settlements
- over £1 billion spent on hospital associated infections
- £29 million direct costs related to staff suspension
### Patient Safety – A Local Issue

A typical acute hospital with 500 beds

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Admissions</td>
<td>30,000</td>
</tr>
<tr>
<td>No. of PSI’s</td>
<td>3,200</td>
</tr>
<tr>
<td>Moderate to severe</td>
<td>1,100</td>
</tr>
<tr>
<td>Preventable</td>
<td>1,500</td>
</tr>
<tr>
<td>No. of extra bed days</td>
<td>27,400</td>
</tr>
<tr>
<td>Cost</td>
<td>7.4m</td>
</tr>
<tr>
<td>Number of claims p.a</td>
<td>20</td>
</tr>
<tr>
<td>Settlement payments</td>
<td>1.2m</td>
</tr>
</tbody>
</table>

Sources: DOH, HES and Activity States 2002, NHS Negligence claims CNST, Vincent et al. 2001
UK Context

- Organisation with a Memory 2000
- Building a Safer NHS 2001
- Bristol Enquiry – July 2001
- Nottingham – January 2001
What is the National Patient Safety Agency?
advise Ministers

promote R&D

track progress

develop NHS-wide solutions

assimilate information from others

capture and analyse incidents
Purpose of the NPSA

Help the NHS to:

• learn from things that go wrong
• develop and implement solutions to problems
• improve patient safety in frontline services

Focus on:

• systems not individuals
• learning not judgement
• fairness not blame
• openness not secrecy
• all care settings not just acute care
Seven Steps

1. Build a safety culture that is open and fair
2. Lead and support your staff in patient safety
3. Integrate your risk management activity
4. Promote reporting
5. Involve patients and the public
6. Learn and share safety lessons
7. Implement solutions to prevent harm
Step 1 - Build a safety culture that is open and fair

- Safety is considered in everything you do
- There is a balanced approach when things go wrong - you ask why and not who
- Constant vigilance
- Openness with patients – fair for all staff
12 days without food in hospital then Fred died

Payout over blunder on wards

Doctors missed cancer tumour in dying wife

Blunders over blood risk lives of thousands

The dying mother a hospital sent home three times

A family history of heart trouble, but doctors diagnosed stomach acid

BLUNDER KILLS ‘ANXIETY’ MUM

Cancer bungle

A DOCTOR failed to send a man to hospital even though he had a grapefruit-sized growth and a history of cancer.

Dr Philip Watts failed to mark the case as urgent, the General Medical Council heard. The 55-year-old patient died of cancer a month later.

Dr Watts, 63, of Sturminster Newton, Dorset, denies serious professional misconduct. The hearing continues.
Incident Decision Tree

Start Here

Deliberate Harm Test
- Were the actions as intended?
- Were adverse consequences intended?
  - YES
  - NO
  - YES
  - NO
Consult NCAA or relevant regulatory body
Advising individual to consult Trade Union Representative
Consider:
  - Suspension
  - Referral to police and disciplinary/ regulatory body
  - Occupationally Health referral
Highlight any System Failures identified

Incapacity Test
- Does there appear to be evidence of ill health or substance abuse?
- Does the individual have a known medical condition?
  - YES
  - NO
Consult NCAA or relevant regulatory body
Advising individual to consult Trade Union Representative
Consider:
  - Suspension
  - Referral to police and disciplinary/ regulatory body
  - Occupationally Health referral
  - Sick leave
Highlight any System Failures identified

Foresight Test
- Did the individual depart from agreed protocols or safe procedures?
- Were the protocols and safe procedures available, workable, intelligible, correct and in routine use?
  - YES
  - NO
Advising individual to consult Trade Union Representative
Consider:
  - Corrective training
  - Improved supervision
  - Occupationally Health referral
  - Reasonable adjustment to duties
Highlight any System Failures identified

Substitution Test
- Would another individual coming from the same professional group, possessing comparable qualifications and experience, behave in the same way in similar circumstances?
- Were there any deficiencies in training, experience or supervision?
  - YES
  - NO
Advising individual to consult Trade Union Representative
Consider:
  - Referral to disciplinary/ regulatory body
  - Reasonable adjustment to duties
  - Occupationally Health referral
  - Suspension
Highlight any System Failures identified

System Failure Review system

* Based on James Reason’s Culpability Model
Balancing individual – v- system error

Individual approach
- error prone people - individuals are careless, at fault, reckless
- Find someone to blame – punish, shame and train
- ‘Fix’ individual = improve safety

Systems approach
- error prone situations - poor organisational design sets people up to fail
- Focus on multiple contributing factors not just actions of individual
- Redesign the process = improve safety
• the perfection myth
  – if we try hard enough we will not make any errors

• the punishment myth
  – if we punish people when they make errors they will make fewer of them
Application of human factors

• Relying too much on human memory
  – Solution: decision aids, electronic alerts, checklists

• Poor communication between members of the team
  – Solution: team briefing and de-briefing

• Vulnerable handover points across care boundaries
  – Solution: clearly identified roles and responsibilities

• Wide variety of equipment in use
  – Solution: standardisation where relevant

• Inadequate orientation / induction / rehearsal
  – Solution: rehearsal simulation training, induction training
Step 2
Leadership and support

- **Leadership advised to:**
  - Undertake executive walkabouts
  - Develop team safety briefing and debriefing
  - Appoint patient safety clinical champions
  - Undertake safety culture and team culture assessments
Levels of maturity with respect to a ‘safety culture’

Pathological:
- Why waste our time on safety?

Reactive:
- We do something when we have an incident

Calculative:
- We have systems in place to manage all like risks

Proactive:
- We are always on the alert for risks that might emerge

Generative:
- Risk management is an integral part of everything that we do
Commitment to Q
Priority to PS
Causes
Investigation
Learning
Communication
Personnel
Education
Team working
Patient safety e-learning programmes
Step 3 - Integrated risk management

- **all risk management functions and information:**
  - patient safety,
  - health and safety,
  - complaints,
  - clinical litigation,
  - employment litigation,
  - financial and environmental risk

- **training, management, analysis, assessment and investigations**

- **processes and decisions about risks into business and strategic plans**
Step 4
Promote reporting

- National reporting and learning system (NRLS)
- Reporting via:
  - local risk management systems
  - E-form on NHS net
  - E-form on www
- Anonymous (names of patients and staff)
- Confidential (names of organisations)
National Reporting & Learning System

- electronic system to enable NHS organisations and staff to report patient safety incidents to a national database in order to:
  - analyse and report on data
  - encourage improved reporting
  - help the NHS learn from errors and system failures
  - build a more open and fair culture in the NHS
PATIENT SAFETY INCIDENT
Any unintended or unexpected incident(s) which could have or did lead to harm for one or more persons receiving NHS funded care

NO HARM
Prevented, i.e. not impacted on patient (previous near miss)

LOW
Not prevented, but resulted in no harm

MODERATE

SEVERE

DEATH
Design of the Reporting System

- anonymous (patients and staff)
- confidential (NHS organisations)
- voluntary
- hypothesis generating and learning
- complement not replace local reporting
- build on local risk management systems
- streamline impact at frontline
- patient and public reporting (over time)
Surveillance & Monitoring

OBSERVATORY

Research – by NPSA
- With others
- Lit review

Other bodies & Their views
- SHAs
- NICE
- DoH/Ministers
- CMO
- CPPIH
- VOs/Charities

NHS Feedback & Bounceback
Sources of Intelligence/Knowledge
- CSAs, PSMs & Expert Groups
- PEPI & Patient/Public Views
- Individual Patients
- Interest Groups etc.

PRIORITISATION
- Criteria/methods
- (rapid response)
- Topic selection

NRLS
Public/Patient e-form
EVALUATION
Other confidential reporting systems
R&D

Other dataset relevant to patient safety
- e.g. MRHA
- NCAA
- CHAI Reviews
- HES
- RCGP Database
- NHS Direct

PATIENTS/
PUBLIC

OTHER ORGANISATIONS
- CHAI, DoH etc

Research – by NPSA
- With others
- Lit review
Results

Hospital system (DA) system (DB)

- 68
- 44 Both
- 99

CICU consultant’s

Ricci, Goldman, de Leval, Cohen, Devaney and Carthey 2004
National reporting and learning system

NHS

NRLS

monitor impact

Improved patient safety

test & implement solution

design solution

reports

identification of issues
prioritisation of solution work

National Patient Safety Agency

NHS

National reporting and learning system
eForm Look and Feel

HELPING TO IMPROVE NHS PATIENT SAFETY

INCIDENT REPORT FORM

 Incident Details  Patient Details  Medication  Device  Staff Details  Your organisation  Submit

- Individual Patient
- Patient Group
- Patient Summary

In this section you are asked to provide information about the Patient Safety Incident you are reporting.

Is the text on this page too small?  CHANGE TEXT SIZE

Key Incident Details

When and Where?

ID01  Date on which the incident occurred:
- Date: Day  Month  Year  Set to today's date
- OR  Date unknown

ID02  Time of incident:
- Provide Time: Hours  Minute
Control chart

Number of patients harmed in each week

Subgroup Sizes: Min n=1 Max n=3

Generated by the SAS System (Production, WIN ASRV) on 27MAY2004 at 1:52 PM
Autonomy Cluster Map

- **dining room, door, tv**
  - 126 documents
  - Found on floor beside bed.
  - Found on floor between bed and commode.
  - Found on floor by sluice.
  - Patient was attempting to get out of bed to commode when his feet slipped and
  - Patient walking with walking aid in dining room - loud crash. Patient fallen to ground
  - While walking from one dining area to the next, patient tripped over door threshold resulting
  - Patient attempting to throw tv, alarm activated, several staff attended and intervened, there were other

- **cord Ph, baby, paed**
  - 60 documents
  - Patient readmitted to CHDU following transfer to ward area from [Ward name]. This patient was readmitted
  - Baby born NVD - Cord ph 6.94. Apgars 7,10. Paed SHO informed - to observe
  - Low cord Ph’s
  - Low cord ph’s 7.185 + 7.177
  - NVD with normal CTG’s during labour - clear liquor. Cord pH 7.052
  - Baby born and did not establish regular respirations and was put on the resuscitaire and
  - Uneventful labour. Caesarean delivery with cord round neck. Slipped over at the time cord Ph
  - NVD at 36/40. Paed called to review baby who was grunting advised to observe. Baby
  - Mother had IOL for obstetric cholestasis. ARM - meconium stained liquor. Baby
  - Ph 7.06, 7.132
“To understand an adverse event and prevent future problems requires analysis. You have to examine, investigate and talk to people.”
Step 5
Involve and communicate with patients and the public

Being open principles
– Apologise and explain
– Find out the causes
– Offer support in coping with the consequences
– Advise about ongoing treatment required
– Involve patient and carer in the investigation and the recommendations for change
NPSA Being Open Toolkit

• Policy
  – What to say, who should say it and when

• Video
  – Case studies to demonstrate communicating bad news

• Training programme
  – Groups of 16 – using actors to role play scenarios

• E-learning
  – To be available on the www 2005
Step 6 Learn and share safety lessons

- **Root Cause Analysis**

- A structured, robust approach to incident investigation which looks beyond the immediate actions and assumed causes and identifies the contributory factors, latent conditions and root causes which lead to an incident occurring.
NPSA RCA programme

- Over 5000 NHS staff trained in RCA methodology
- E-learning toolkit
- Guidance
- Aggregated themed RCA
- RCA data capture
- Training for independent investigations
Contributory factors - NPSA framework

The key part of the analysis is to identify the contributory factors lying behind each problem. The NPSA’s CFF has categories and components relating to exploring incidents. Click each category to find out more.

Individual factors

Individual factors are grouped into three types:

- Physical Issues
- Psychological Issues
- Personality.

Example: A staff nurse experiencing problems with hearing and misheard handover instructions to patient.
Step 7
Solutions to Prevent Harm

• Address root causes
• Make designs of equipment, systems, processes, more intuitive
• Make wrong actions more difficult
• Make incorrect actions correct
• Make it easier to discover error

“Telling people to be more careful doesn’t work”
Affordances

How would you operate these doors?

Push or pull? left side or right? How did you know?

A

B

C

John R. Grout
What Can Be Done to Remove Problems?

- Design out the problem
- Change the system
- Change practice
- Train the staff
- Involve patients
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
NPSA Patient Safety Alert 1:

• Preventing Accidental Overdose with Intravenous Potassium

**PROBLEM:**
Research in UK and elsewhere has identified a risk to patients from errors occurring during intravenous administration of potassium solutions.
Potassium chloride concentrate solution can be fatal if given inappropriately.

**ACTION FOR NHS BY 31 OCTOBER 2002:**
This alert sets out action, including initial action in the following areas:
1. Storage and handling of potassium chloride concentrate and other strong potassium solutions
2. Preparation of dilute solutions containing potassium
3. Prescription of solutions containing potassium
4. Checking use of strong potassium solutions in clinical areas

**For the attention of:**
Chief Executives of NHS Trusts and Primary Care Trusts

**For action by:**
Chief Pharmacists and pharmaceutical advisers in NHS Trusts and Primary Care Trusts

**For information to:**
Regional Directors of Health and Social Care
Chief Executives of Strategic Health Authorities
Directors of Public Health: Regional, STHA, PCT
Medical Directors
Directors of Nursing
Risk Managers
Lead Consultants/Clinical Directors – critical care areas
Communications Leads
Patient Advice and Liaison Service (PALS)

**Date:** 23 July 2002
Summary of Safety Controls for Potassium Chloride Solutions
Before and After Safety Alert

Positive Responses %

- Before Alert:
  - 2002 (n=172): 25%
  - 2003 (n=154): 87%

Time of data sample
Case Examples

Clean your hands campaign
National Patient Safety Agency

Elements of the cleanyourhands campaign

- Near patient alcohol handrubs
- Staff champion and local leads
- cleanyourhands campaign with all its multifaceted elements

Staff too busy + Too few sinks + Not enough handrubs + Some skin problems + Negative influence of colleagues + Generally low priority ÷ Low internal motivation = Hand hygiene compliance of less than 50%
What is the cleanyourhands campaign about – and how can it help prevent infections spreading in hospital?

The campaign is about getting staff to clean their hands before and after they touch patients. It helps stop bugs spreading.

It's 99% effective, so let's all do this.

Using disinfectant is a good way to kill germs in around 15 seconds. And because we need to clean no more than once every hour, it's especially encouraged seeing us use this.

Washing with soap and water is best when hands are soiled.

Did you know that 1 in 5 of these infections can be prevented by soap and water? Did you also know that each device can spread all bugs in 15 seconds?

The best way of stopping infection is to clean your hands.

cleanyourhands
It's OK to ask
Hand hygiene and compliance according to risk category and observation period
(the size of the symbol is proportional to the number of opportunities observed)
Patient safety incidents with oral methotrexate 1993-2002

137 cases, 25 deaths
Improving Labelling and Packaging

A partnership with UK manufacturers of Methotrexate to develop novel packaging designs
Alerts in clinical IT systems

A project to adapt IT systems in GP surgeries and community pharmacies to incorporate flagging mechanisms to provide alerts

Methotrexate is usually prescribed weekly and requires regular monitoring and blood tests.

Do not proceed  Proceed
Improving Infusion Device Safety

- Average per hospital
- 31 different types
- 1065 pumps in stock
- 65% lying about under utilised

- Potential cost savings by standardizing equipment and creating a central store:
  - £161,667 per hospital
  - £33.7 million across NHS
To err is human
To cover up is unforgivable
To fail to learn is inexcusable

Sir Liam Donaldson
Chief Medical Officer
England
Thank you for listening

Any questions?

Need help contact;  www.npsa.nhs.uk