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Your source for patient safety

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Measuring and Monitoring of Safety

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Welcome

What have you read about the Framework?

Read the full 2013 Health Foundation Report

Read the Practical Guide only

Have not had a chance yet

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Using the Framework

No action yet

Planning for applying the Framework in a clinical setting

Started to apply the Framework in a clinical setting

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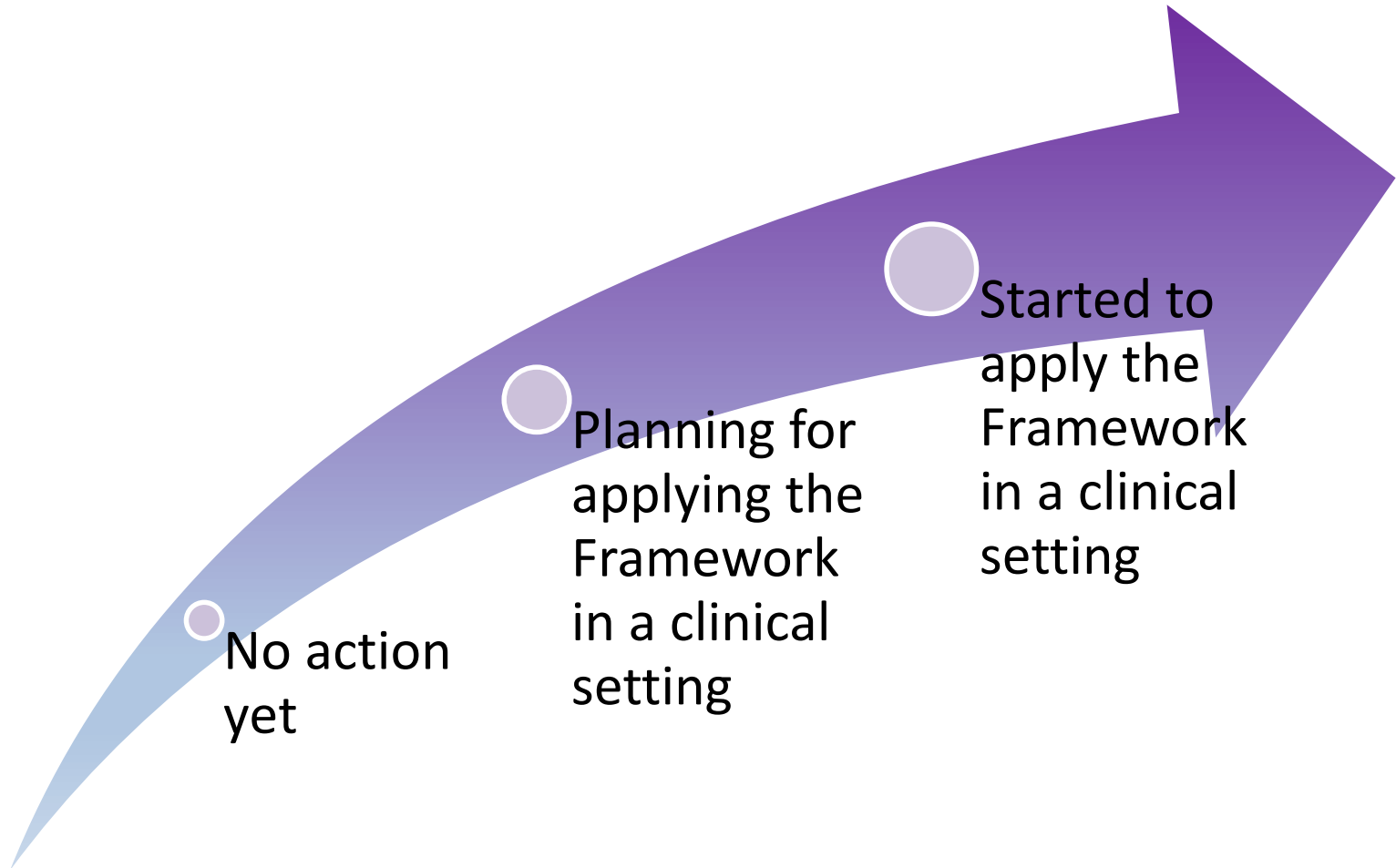
Chris Power

CPSI's interest in the Measuring and Monitoring of Safety Framework

The Measurement & Monitoring of Safety
CPSI Webinar January 2017

Charles Vincent
Professor of Psychology,
University of Oxford

UNIVERSITY OF
OXFORD

The
Health
Foundation
Inspiring
Improvement

The
Health
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Improvement

The measurement and monitoring of safety

Drawing together academic evidence and practical experience
to produce a framework for safety measurement and monitoring

Spotlight
April 2013

Jane
Carthey

Susan
Burnett

Adverse events in British hospitals: preliminary retrospective record review

Charles Vincent, Graham Neale, Maria Woloshynowych

10% patients harmed, half judged preventable

DH Department of Health

An organisation with a memory

Report of an expert group on learning from adverse events in the NHS chaired by the Chief Medical Officer

UK National Reporting & Learning System

Section: 2

Figure 2:
Reported incidents by type,
April 2006 to March 2007
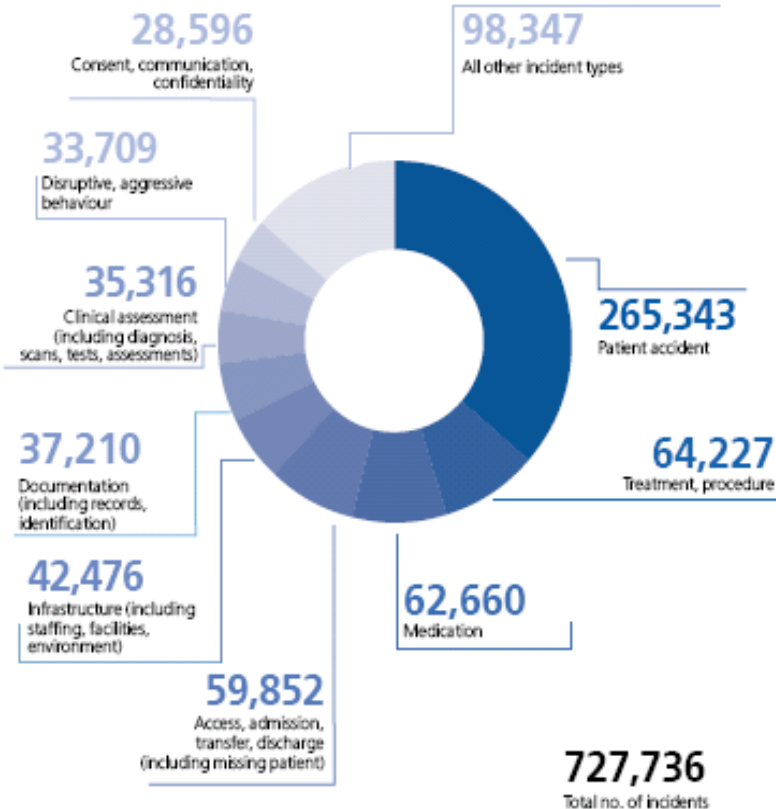
Total no. of incidents	Care setting	Apr–Jun 2006	Jul–Sep 2006	Oct–Dec 2006	Jan–Mar 2007
523,875	Acute/general hospital	131,149	131,067	133,515	128,144

28,596
Consent, communication, confidentiality

98,347
All other incident types

33,709
Disruptive, aggressive behaviour

35,316
Clinical assessment (including diagnosis, scans, tests, assessments)

265,343
Patient accident

37,210
Documentation (including records, identification)

64,227
Treatment, procedure

42,476
Infrastructure (including staffing, facilities, environment)

62,660
Medication

59,852
Access, admission, transfer, discharge (including missing patient)

727,736
Total no. of incidents

*Source: Data are based on the date the reported incident occurred, using data as of 4 July 2007.

Hospital Episode Statistics: 11.8M hospital admissions in England 2004/5

Research

Sensitivity of routine system for reporting patient safety incidents in an NHS hospital: retrospective patient case note review

Ali Baba-Akbari Sari, Trevor A Sheldon, Alison Cracknell, Alastair Turnbull

Abstract

Objective To evaluate the performance of a routine incident reporting system in identifying patient safety incidents.

Design Two stage retrospective review of patients' case notes and analysis of data submitted to the routine incident reporting system on the same patients.

Setting A large NHS hospital in England.

Population 1006 hospital admissions between January and May 2004: surgery (n=311), general medicine (n=251), elderly care (n=184), orthopaedics (n=131), urology (n=61), and three other specialties (n=68).

Main outcome measures Proportion of admissions with at least one patient safety incident; proportion and type of patient safety incidents missed by routine incident reporting and case note review methods.

Results 324 patient safety incidents were identified in 230/1006 admissions (22.9%; 95% confidence interval 20.3% to 25.5%). 270 (83%) patient safety incidents were identified by case note review only, 21 (7%) by the routine reporting system only, and 33 (10%) by both methods. 110 admissions (10.9%; 9.0% to 12.8%) had at least one patient safety incident resulting in patient harm, all of which were detected by the case note review and six (5%) by the reporting system.

Conclusion The routine incident reporting system may be poor at identifying patient safety incidents, particularly those resulting in harm. Structured case note review may have a useful role in surveillance of routine incident reporting and associated quality improvement programmes.

about the cause, contributory factors, preventability, and impact of these incidents.[9 10] In this paper we evaluate the relative performance of a local routine incident reporting system that feeds into the national reporting and learning system, by comparing it with a well validated method of systematically reviewing case notes.[1-3]

Methods

We did the study in a large NHS hospital trust in England in 2005. We selected a stratified random sample of 1006 admissions (>24 hours' stay) between January and May 2004 from eight specialties: surgery; urology; orthopaedics; general medicine; medicine for the elderly; oncology; ear, nose, and throat; and ophthalmology. All data extracted were anonymised and kept confidential. The study consisted of using structured data extraction tools to do a two stage retrospective case note review of the sample admissions and reviewing the patient safety incidents reported by the routine hospital reporting system for the same admissions.

Review of medical records

We used previously described methods to do the case note review.[1-3] Five trained nurses screened patients' records by using 18 explicit criteria (box). We used one (or more) positive criterion as an indicator of a patient safety incident and scrutinised these medical records in stage two. One of the other nurses independently reviewed a 10% sample to assess inter-rater reliability. In addition, medical staff fully reviewed 10% of admissions for which no positive criteria were identified to identify false

> **But incident reporting only detects 5% of harmful events**

Is health care getting safer?

Despite numerous initiatives to improve patient safety, we have little idea whether they have worked. **Charles Vincent and colleagues** argue that we need to develop systematic measures
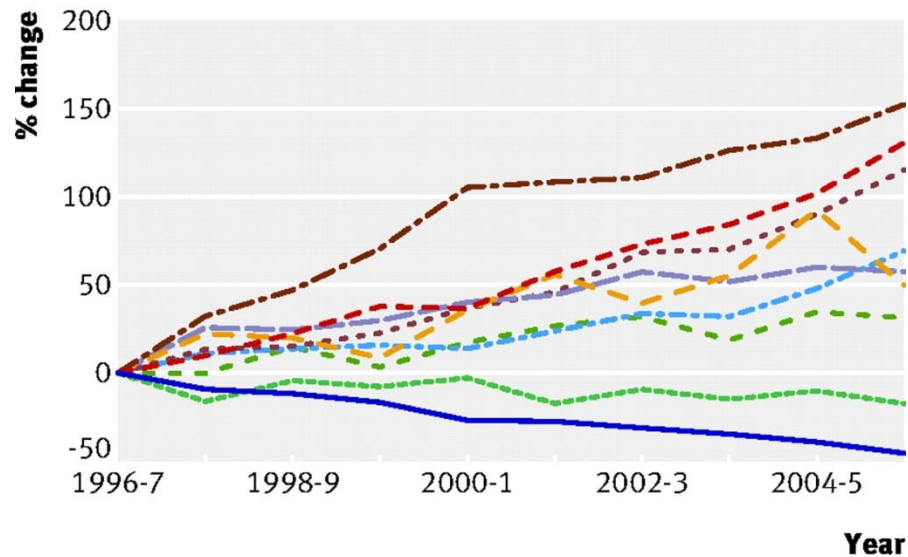
We do not know whether we are making progress or not

Just tell me - are we safe?

Methods

- Reviews of research literature and reports from organisations:

  - Safety relevant industries
  - Conceptual approaches and models of systems safety
  - Measurement and monitoring in healthcare
  - The role of patients and families

- Interviews with senior staff in national organisations

- Case studies in healthcare organisations in the UK and USA across sectors

Safety in high risk industries

- ◆ Lagging indicators
  - Measures of events of incidents
  - Reactive measures safety performance
  - Lost time injuries, incident reporting, thoroughness of incident investigation
- ◆ Leading indicators
  - Precursors, events or measures that purportedly predict safety performance
  - Monitoring of key control systems or actions
  - Safety management system audits, safety cases, culture surveys and walk rounds
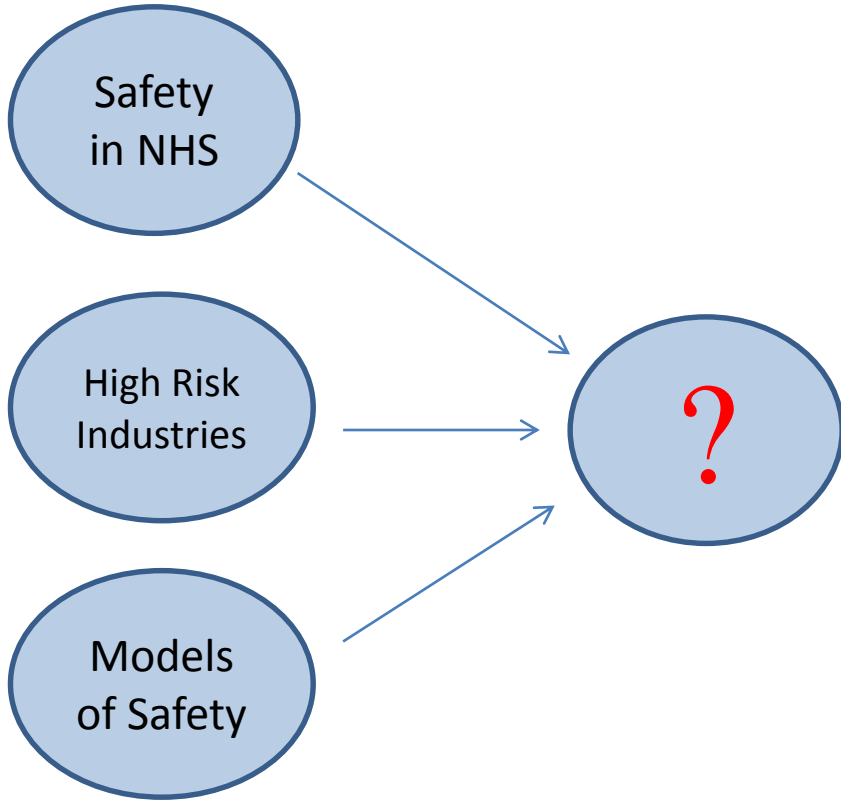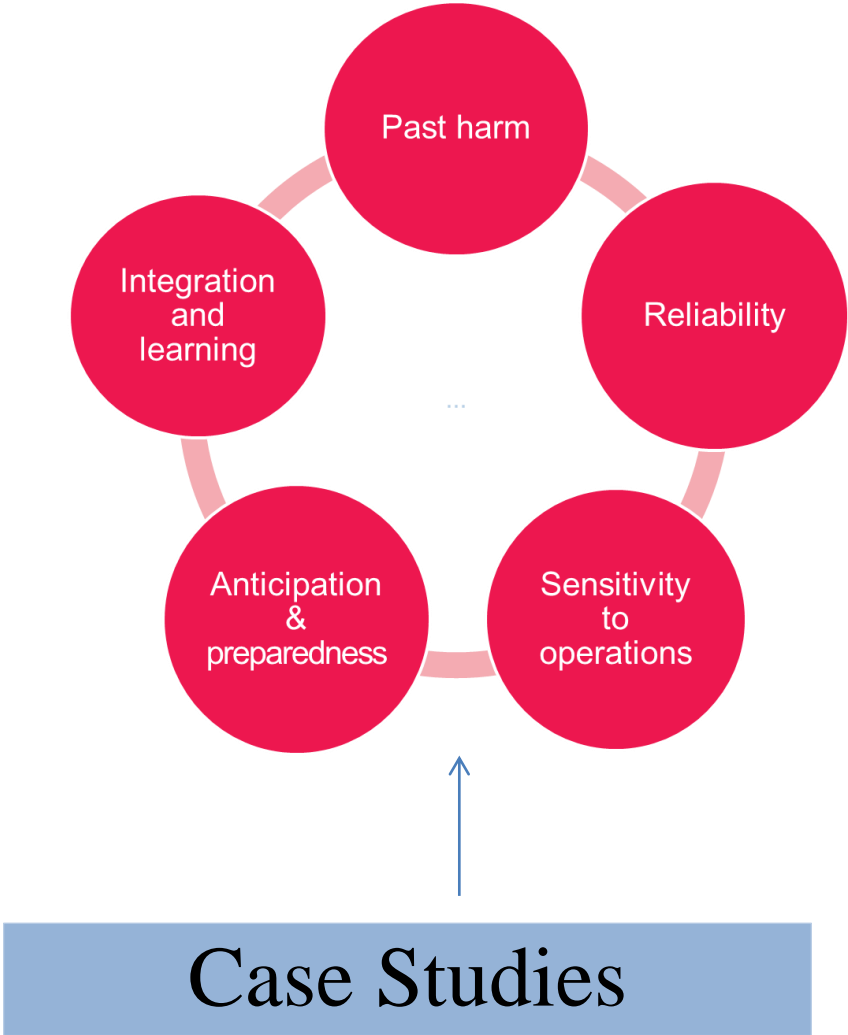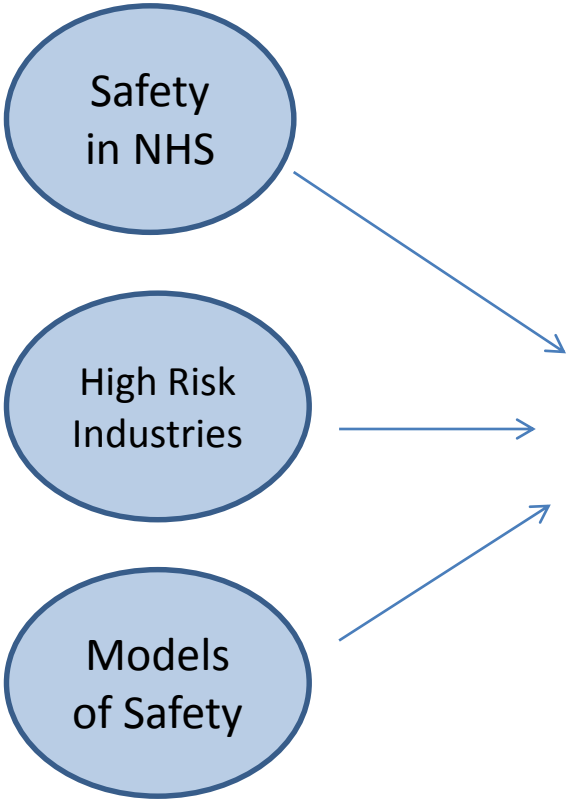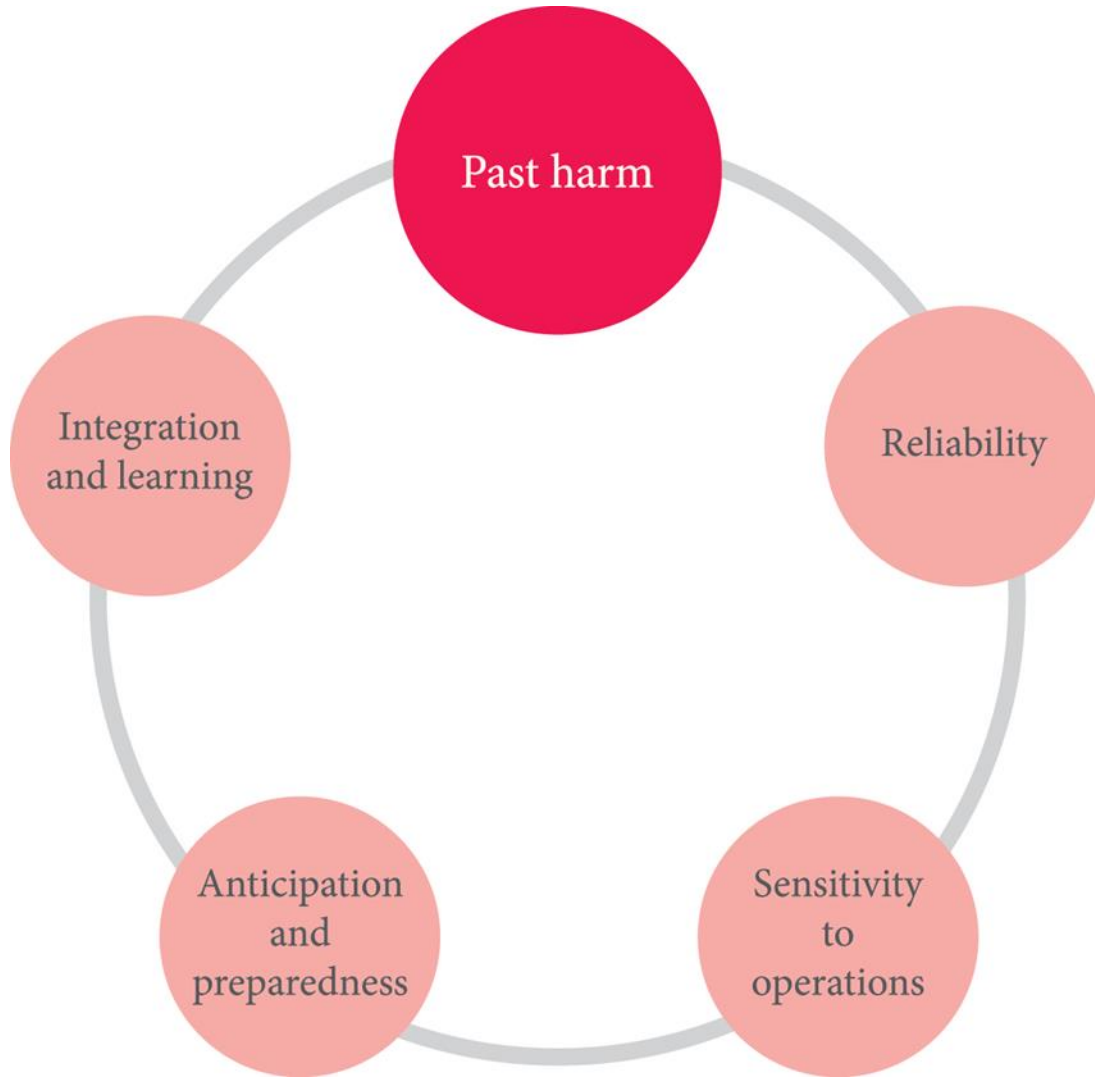
The fundamental questions

- Has patient care been safe in the past?

- Are our clinical systems and processes reliable?

- Is care safe today?

- Will care be safe in the future?

- Are we responding and improving?

Has patient care been safe in the past?

Are our clinical systems and processes reliable?

Are we responding and improving?

Will care be safe in the future?

Is care safe today?

Past harm

Reliability

Integration and learning

Safety measurement and monitoring
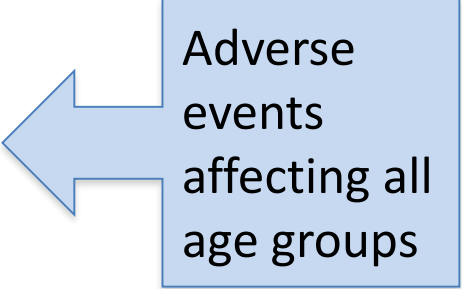
Anticipation and preparedness

Sensitivity to operations

What do we mean by harm?

- Treatment specific harm
- Harm due to over treatment
- General harm from healthcare
- Harm due to failure to provide appropriate treatment
- Harm due to failed or inadequate diagnosis
- Psychological harm and feeling unsafe
- *Harm due to neglect and dehumanisation*

Adverse events in older people

- Errors, omissions
- Operative/procedural complications
- Hospital acquired infections
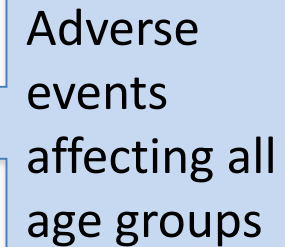- Adverse drug events

Adverse events affecting all age groups
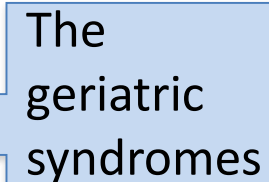
Adverse events in older people

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- Adverse drug events

Adverse events affecting all age groups

+
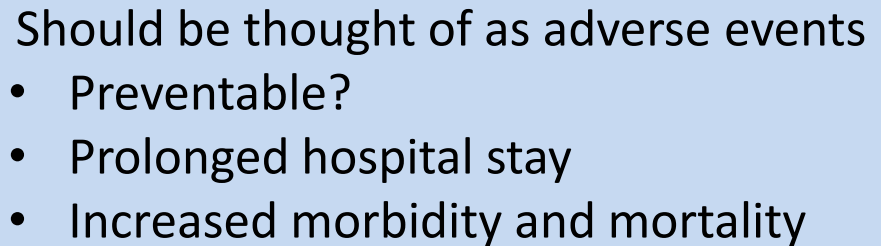
- Falls
- Pressure sores
- Incontinence
- Functional ± mobility decline
- Delirium
- Depression
- Nutritional decline
- Dehydration

The geriatric syndromes

Should be thought of as adverse events
- Preventable?
- Prolonged hospital stay
- Increased morbidity and mortality

- Past harm
- Reliability
- Sensitivity to operations
- Anticipation and preparedness
- Integration and learning
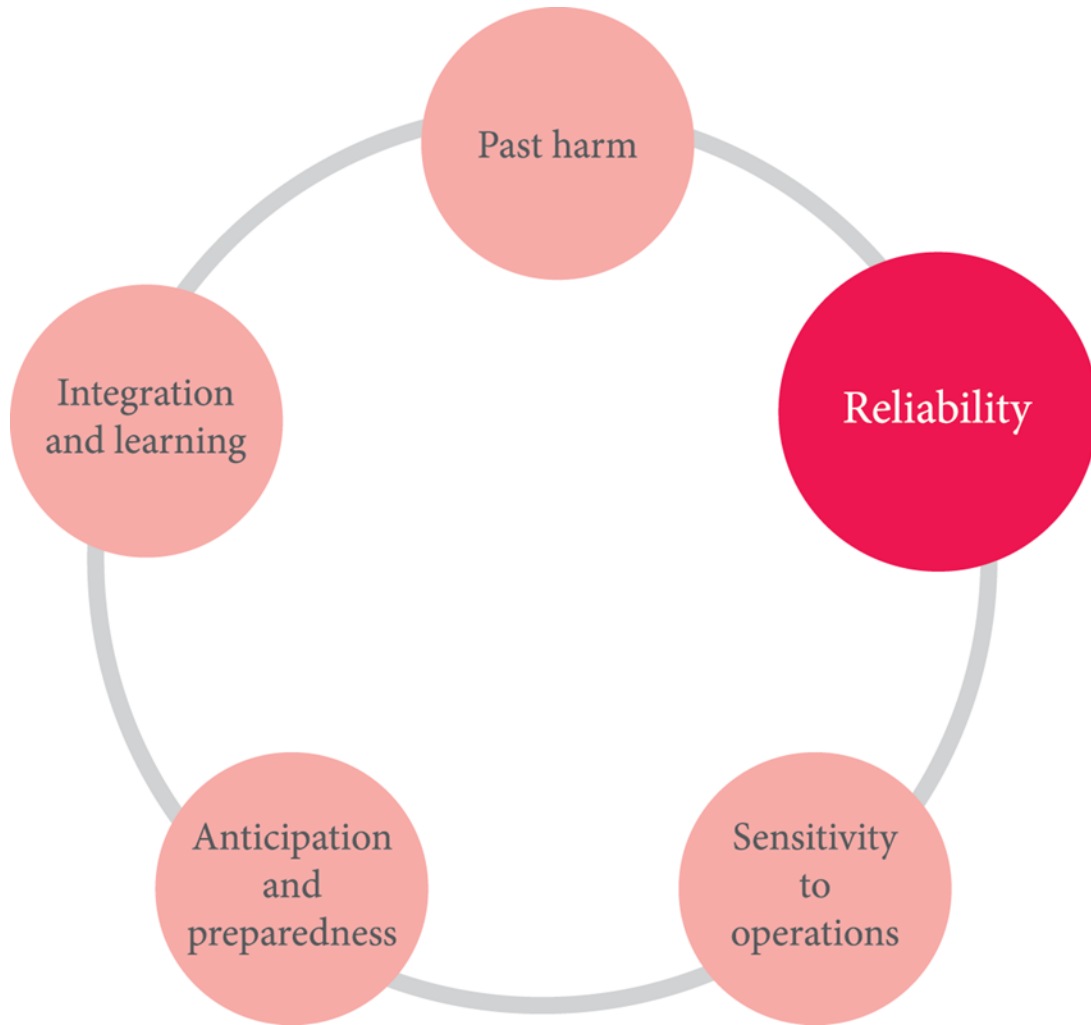
How reliable are clinical systems in the UK NHS? A study of seven NHS organisations

Susan Burnett,[1] Bryony Dean Franklin,[2] Krishna Moorthy,[3] Matthew W Cooke,[4] Charles Vincent[5]

- Clinical information available in hospital outpatient clinics
- Prescribing for hospital inpatient
- Equipment availability in the operating theatre
- Equipment available for inserting peripheral intravenous lines

Missing & faulty equipment

Site	Total operations studied	Number of operations with equipment problems	Percentage operations with one or more equipment problems
A	258	50	19%
D	67	25	37%
F	165	19	12%
Total	490	94	19%

'We always need a colposcope with that list and time and time again it isn't there or it's broken or it isn't back or nobody knows where it is'

Surgeon 3 Organisation A

Past harm

Reliability

Sensitivity
to
operations

Anticipation
and
preparedness

Integration
and learning
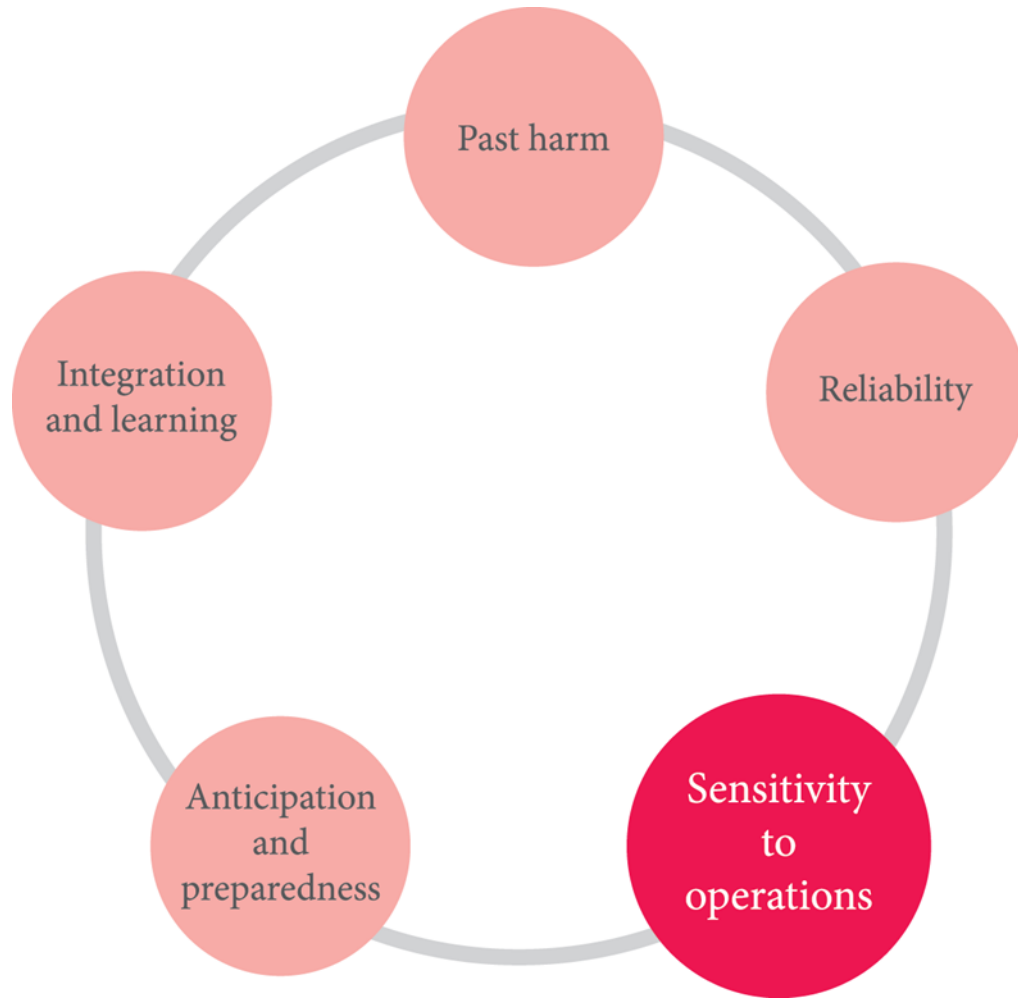
Sensitivity to operations

- Clinicians monitor their patients, watching for subtle signs of deterioration or improvement,

- Leaders monitor their teams for signs of discord, fatigue or lapses in standards.

- Managers have to be alert to the impact of staff shortages, equipment breakdowns, sudden increases in patient flow and other problems.

Soft intelligence

- ◆ Safety walk-rounds
- ◆ Using designated patient safety officers
- ◆ Operational meetings, handovers and ward rounds
- ◆ Briefings and debriefings
- ◆ Day to day conversations
- ◆ And above all …. the patient voice
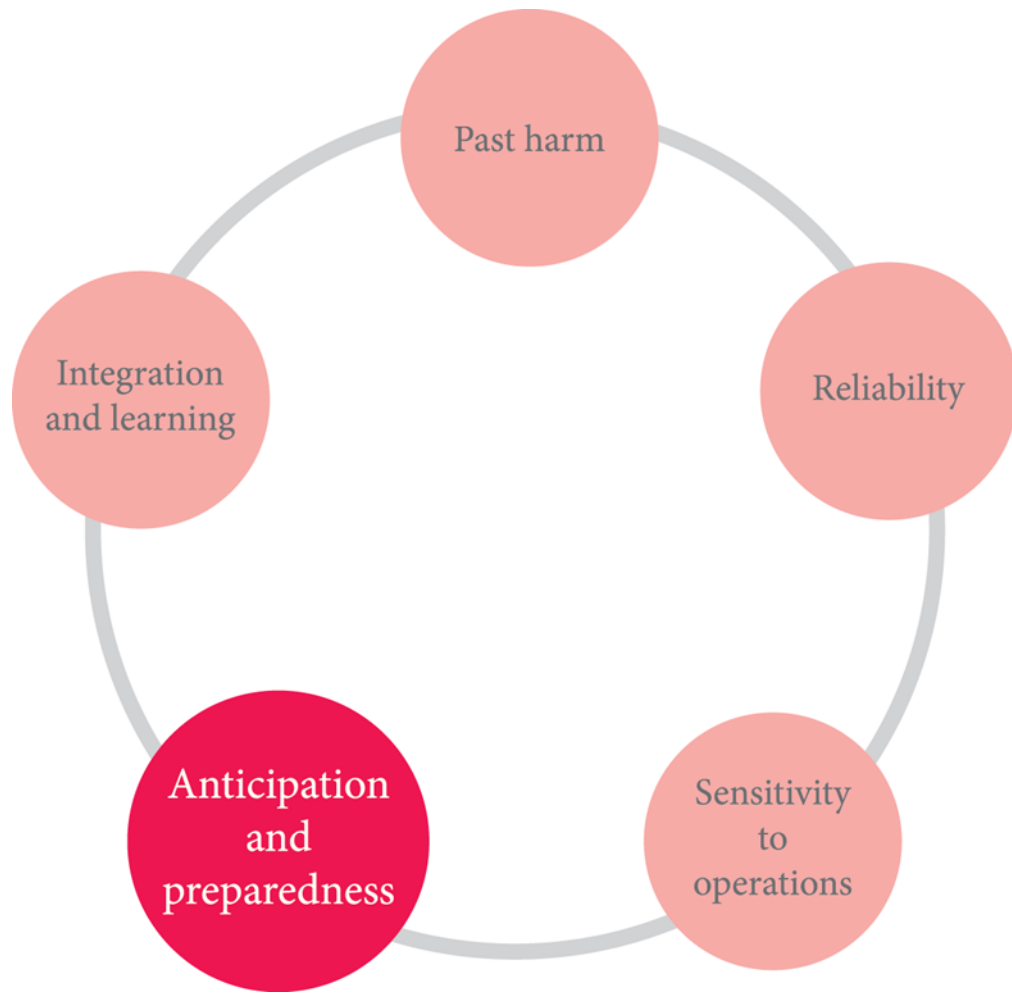
Experts are constantly thinking ahead

◆ Pre-mission planning for

   fighter pilots often takes longer than the mission

◆ Each part of the route is analysed for possible threats, whether from hostile aircraft, personal factors, weather or technical breakdown.

◆ During the flight pilots devoted over 90% of available time to anticipation

◆ Typically they developed a 'tree' of events that might occur over the course of the flight.

Amalberti & Deblon, 1992

Anticipation and Preparedness:
Will care be safe in the future?

- ◆ WHO Surgery Checklist
- ◆ Risk assessments
    - − (falls, pressure ulcers, self harm)
- ◆ Risk registers
- ◆ Safety culture assessments
- ◆ Safety cases

- ◆ Bringing available information in the organisation to anticipate safety in the future
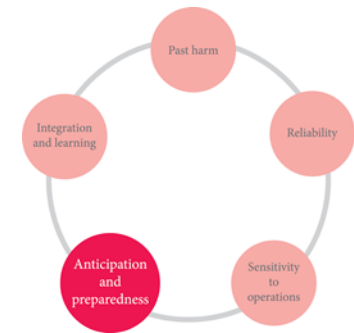
Integration & learning. Are we responding and improving?

Past harm

Reliability

Integration and learning

Sensitivity to operations

Anticipation and preparedness
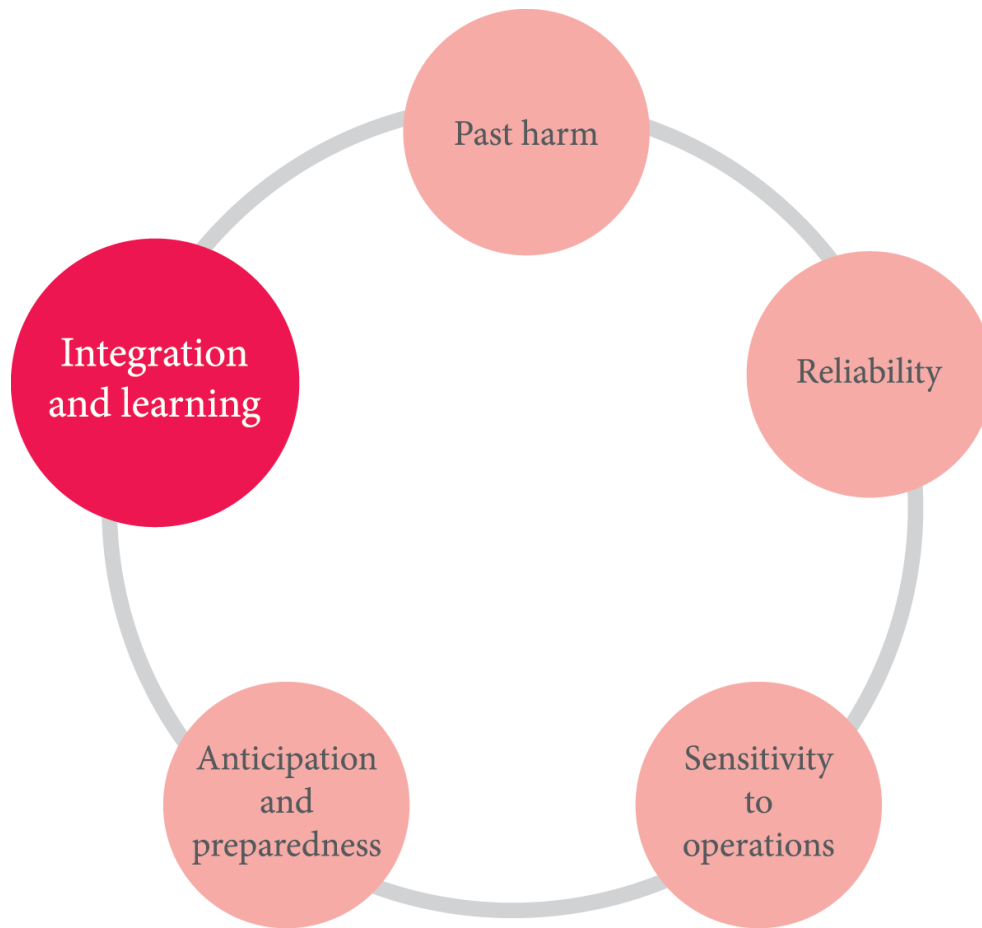
Berwick Report

"Most Health care organisations at present have very little capacity to analyse, monitor, or learn from safety and quality information. This gap is costly and should be closed and that early warning signals can be valued and should be maintained and heeded" (Berwick, 2013, p26)

Great Ormond St: team level

- Number of days since the last serious incident (SI)
    - narrative, lessons learnt and recommendations
- Central venous line, MRSA (MSSA) infection rates
- Hand hygiene compliance rate
- WHO Surgical Safety Checklist compliance rate per clinical unit
- Common themes identified in executive walk-rounds
- Medication errors
- Top three risks from the clinical unit's risk register.

Intermountain Healthcare

- Online reports portal with 80 quality and patient safety metrics patient safety metrics

- Use of electronic records and data provided by care provider as part of clinical workflow

- Web-enabled reporting and SPC charts on demand including:

    - Centres for Medicare and Medicaid Services (CMS)

    - The Joint Commission core measures,

    - Quality Forum (NQF) etc. Intermountain captures patient harm from existing

Response & Evolution
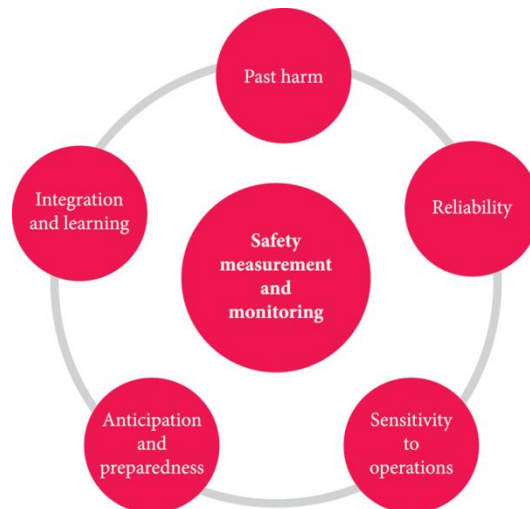
Global impact of the report

Since report published:

Downloads
24,600

Hard copies
12,200

36,800 interactions globally

Changes in thinking & culture

- Rigid thinking
- Low awareness
- Blame culture
- Reactive thinking
- Disparate thinking
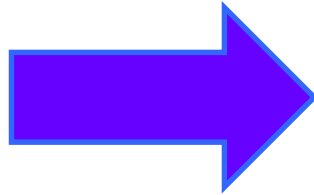
- Holistic view
- Increased awareness
- Increased ownership
- Proactive thinking
- Changed conversations
- Common language
- See safety through patients' eyes

'Deceptive simplicity'

'I thought it was a simple framework, I thought it looked easy. I didn't think we'd have 18 months of work to do with it. Turns out I was pretty naïve. I found it really difficult…. We gave it so much thought and discussion, went round and round'

Safety manager, Site F

A framework for the measurement and monitoring of safety
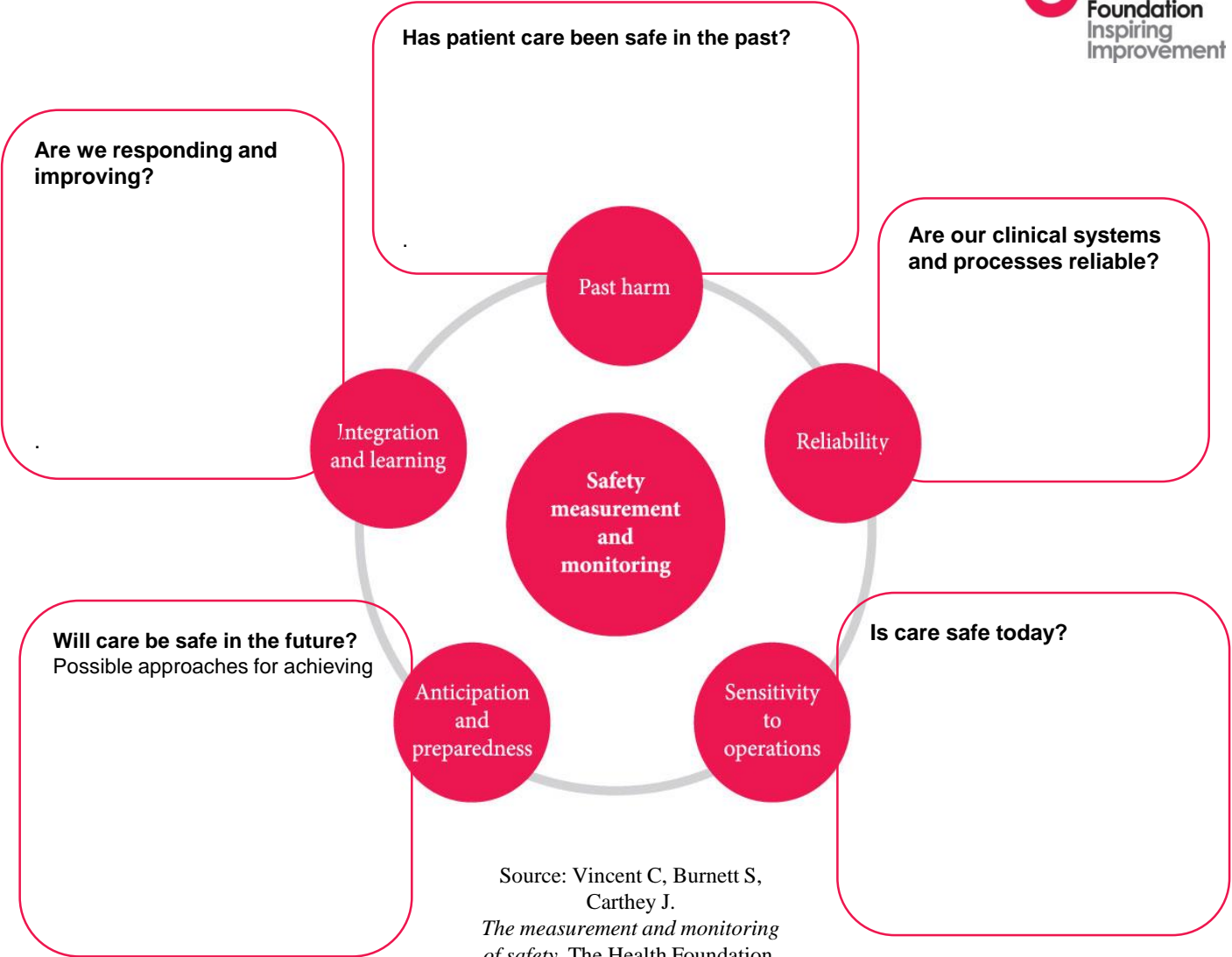
The Health Foundation
Inspiring
Improvement

Has patient care been safe in the past?

.

Are we responding and improving?

.

Are our clinical systems and processes reliable?

Past harm

Integration and learning

Reliability

Safety measurement and monitoring

Will care be safe in the future?
Possible approaches for achieving

Anticipation and preparedness

Sensitivity to operations

Is care safe today?

Source: Vincent C, Burnett S, Carthey J.
The measurement and monitoring of safety. The Health Foundation, 2013

A framework for the measurement and monitoring of safety

Are we responding and improving?
Sources of information to learn from include:
- automated information management systems highlighting key data at a clinical unit level (e.g. medication errors and hand hygiene compliance rates)
- at a board level, using dashboards and reports with indicators, set alongside financial and access targets.

Has patient care been safe in the past?
Ways to monitor harm include:
•mortality statistics (including HSMR and SHMI)
•record review (including case note review and the Global Trigger Tool)
•staff reporting (including incident report and 'never events')
•routine databases.

Are our clinical systems and processes reliable?
Ways to monitor reliability include:
- percentage of all inpatient admissions screened for MRSA
- percentage compliance with all elements of the pressure ulcer care bundle.

Will care be safe in the future?
Possible approaches for achieving anticipation and preparedness include:
•risk registers
•safety culture analysis and safety climate analysis
•safety training rates
•sickness absence rates
•frequency of sharps injuries per month
•human reliability analysis (e.g. FMEA)
•safety cases.

Is care safe today?
Ways to monitor sensitivity to operations include:
- safety walk-rounds
- using designated patient safety officers
- meetings, handovers and ward rounds
- day-to-day conversations
- staffing levels
- patient interviews to identify threats to safety.

Past harm

Reliability

Integration and learning

Safety measurement and monitoring

Anticipation and preparedness

Sensitivity to operations

Source: Vincent C, Burnett S, Carthey J. *The measurement and monitoring of safety*. The Health Foundation, 2013

The Health Foundation
Inspiring Improvement

Assurance $\longrightarrow$ Inquiry

Are we safe? → What can we learn about safety today?

Questions and Answers

Chris Power – Closing Remarks

Shift to **Safety**

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Poll

Learn more, access Call Recording and CPSI Contacts

To learn more about the framework
http://www.patientsafetyinstitute.ca/en/toolsResources/Measure-Patient-Safety/Pages/default.aspx

To access the recording of the call (available in about 5-7 days)
http://www.patientsafetyinstitute.ca/en/Events/Pages/Measuring-and-Monitoring-of-Safety-Vincent-Framework.aspx

To learn more about SHIFT to Safety
http://www.patientsafetyinstitute.ca/en/About/Programs/shift-to-safety/Pages/provider.aspx

CPSI contacts

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