

# Safer Healthcare Strategies for the Real World

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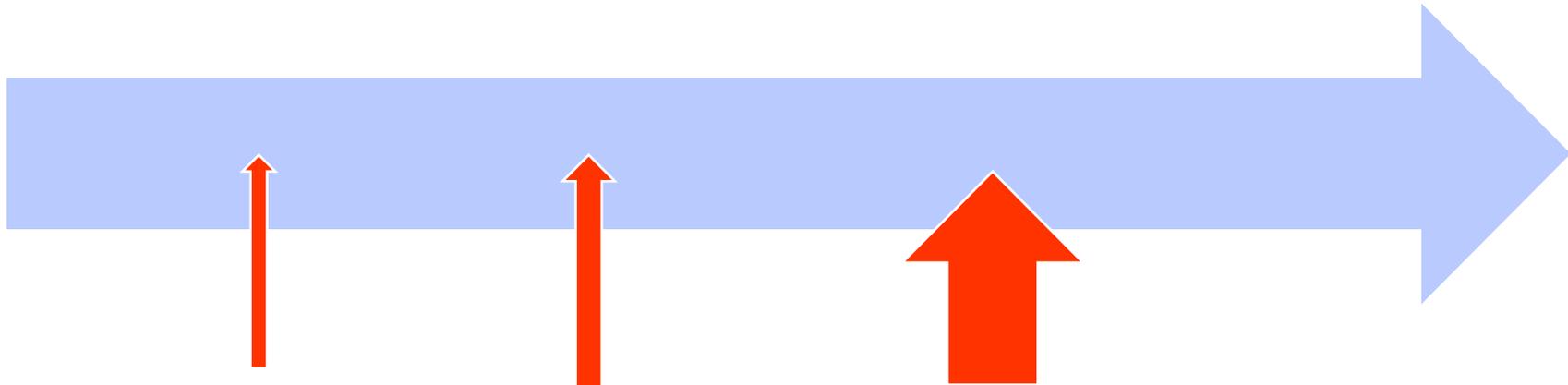
# A new vision is needed

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- ◆ Harm has been defined too narrowly
- ◆ Progress is slower than anticipated
- ◆ Only part of the healthcare system has been addressed
- ◆ Interventions are idealistic
- ◆ Safety and quality improvement equated
- ◆ ... and healthcare is changing rapidly

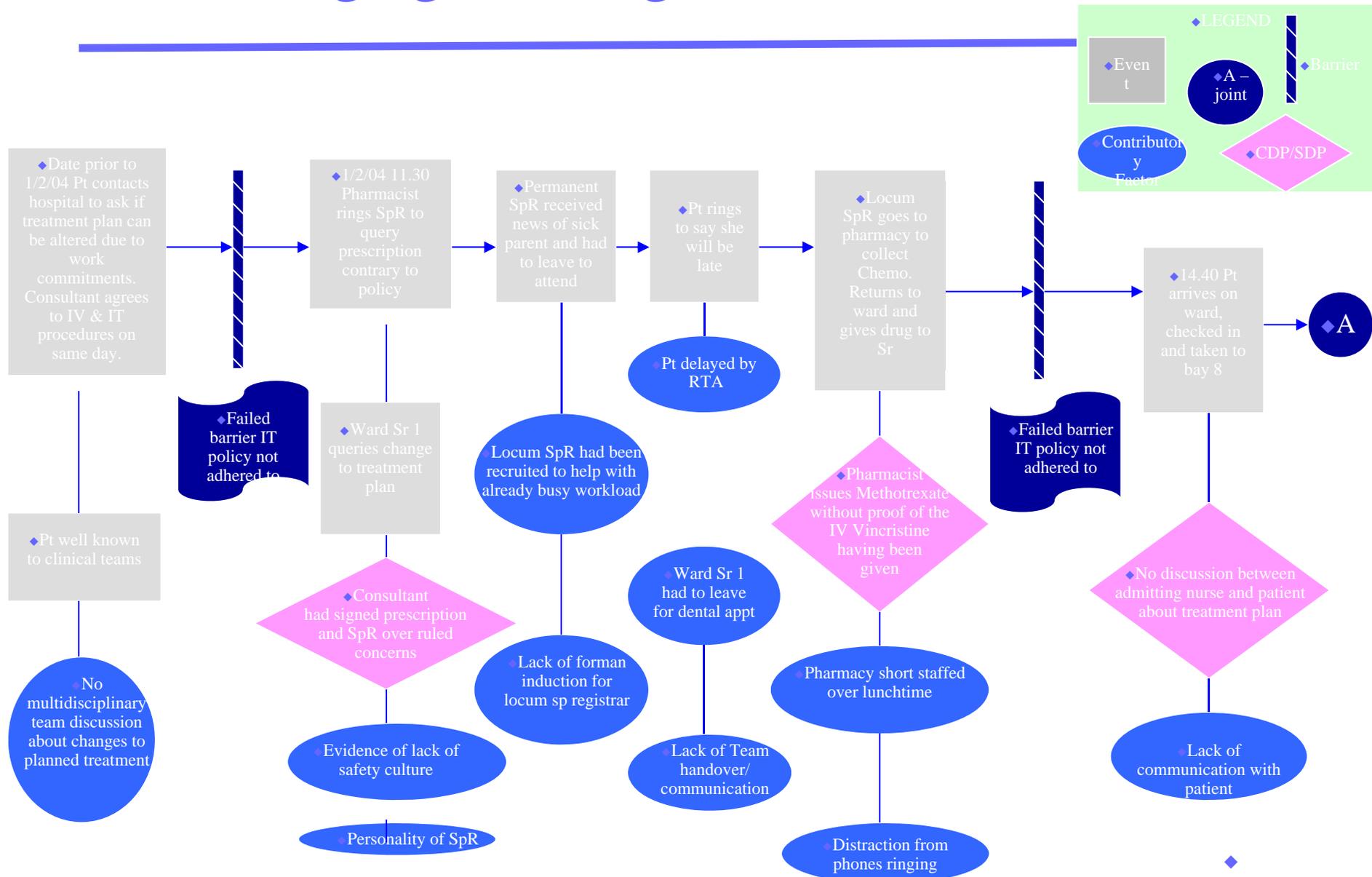
# Incidents within a patient journey (Healthcare professionals' view)

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Good care + incidents

# How things go wrong



# Frameworks for safety

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## Incident analysis Seven levels Framework

Patient  
Task  
Staff  
Team  
Working conditions  
Organisation  
Institutional context

## Measurement & monitoring of safety



Vincent et al, 1998; Vincent,  
Burnett, Carthey, 2013

## The Top Patient Safety Strategies That Can Be Encouraged for Adoption Now

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*Table 2. Patient Safety Strategies Ready for Adoption Now*

- ◆ Targeted at events
- ◆ Aim is to optimise reliability of basic procedures

### Strongly encouraged

Preoperative checklists and anesthesia checklists to prevent operative and postoperative events

Bundles that include checklists to prevent central line–associated bloodstream infections

Interventions to reduce urinary catheter use, including catheter reminders, stop orders, or nurse-initiated removal protocols

Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine, and subglottic suctioning endotracheal tubes to prevent ventilator-associated pneumonia

Hand hygiene

The do-not-use list for hazardous abbreviations

Multicomponent interventions to reduce pressure ulcers

Barrier precautions to prevent health care–associated infections

Use of real-time ultrasonography for central line placement

Interventions to improve prophylaxis for venous thromboembolisms

Vincent · Amalberti

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René Amalberti

# Safer Healthcare



Safer Healthcare

Strategies for  
the Real World

OPEN

 Springer

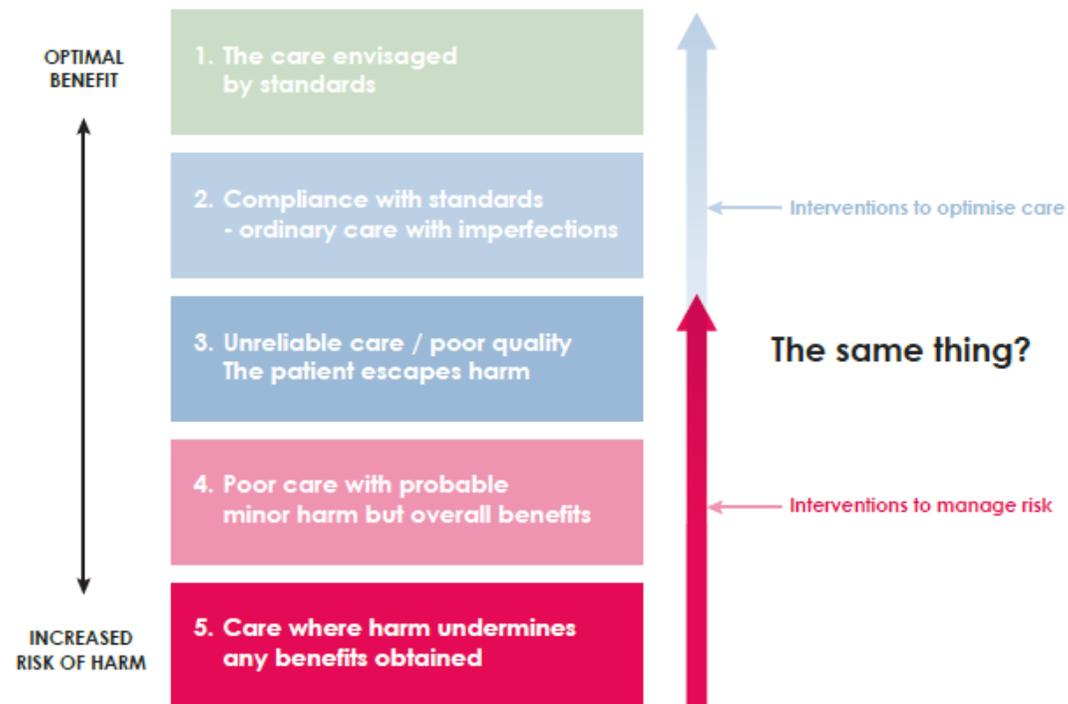
# New directions

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- ◆ The ideal and the real
- ◆ Safety along the patient journey
  - In collaboration with patients and families
- ◆ Safety in context
- ◆ A menu of safety strategies
- ◆ Wider implications
  - Revised objectives and language
  - Greater flexibility in approach to safety
  - Trade offs with other objectives

# The ideal and the real

## 5 levels of care



# Seeing safety through the patient's eyes

Patient harm happens in every healthcare setting: at home in convalescence, in an operating room under anaesthesia, at the lab getting blood drawn, in the hospital corridor lying alone on a stretcher .....

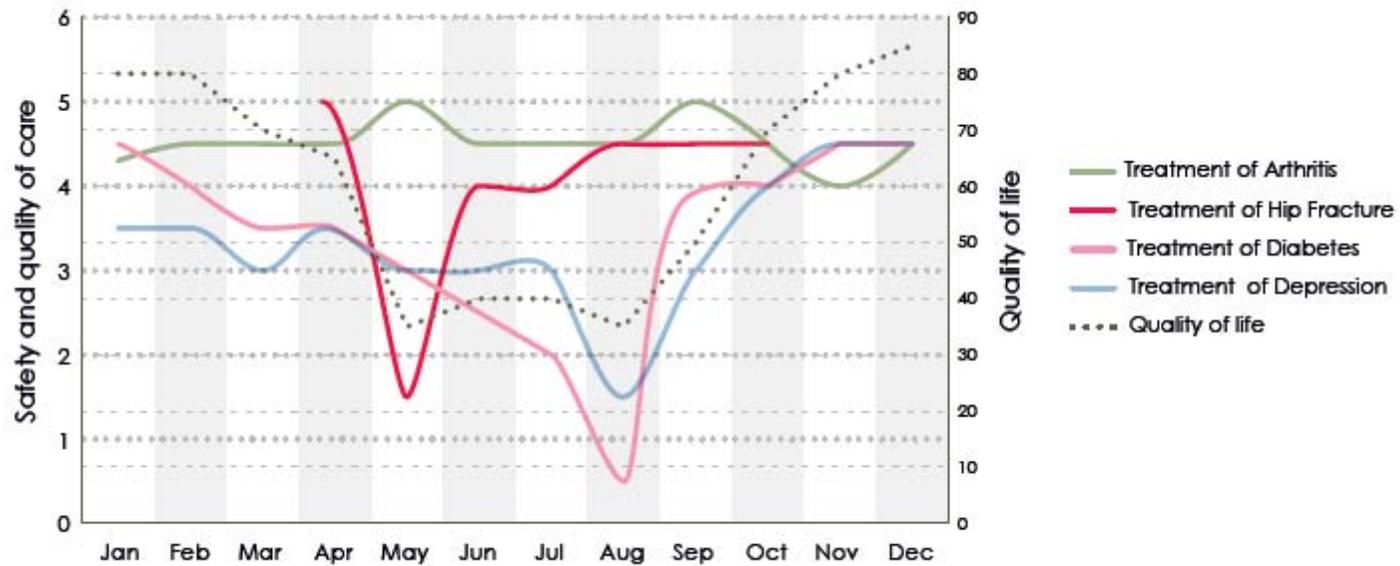
Harm may result from missed diagnosis, scheduling delay, poor hygiene, mistaken identity, hostile behaviour, device malfunction, confusing instructions and hazardous surroundings.

The trajectory of harm begins with the unexpected experience of harm arising from or associated with the provision of care .....

The patient may experience harm during the episode of care when the failure occurred, or later, after some time has passed. Harm as it is first endured may evolve, transform and spread

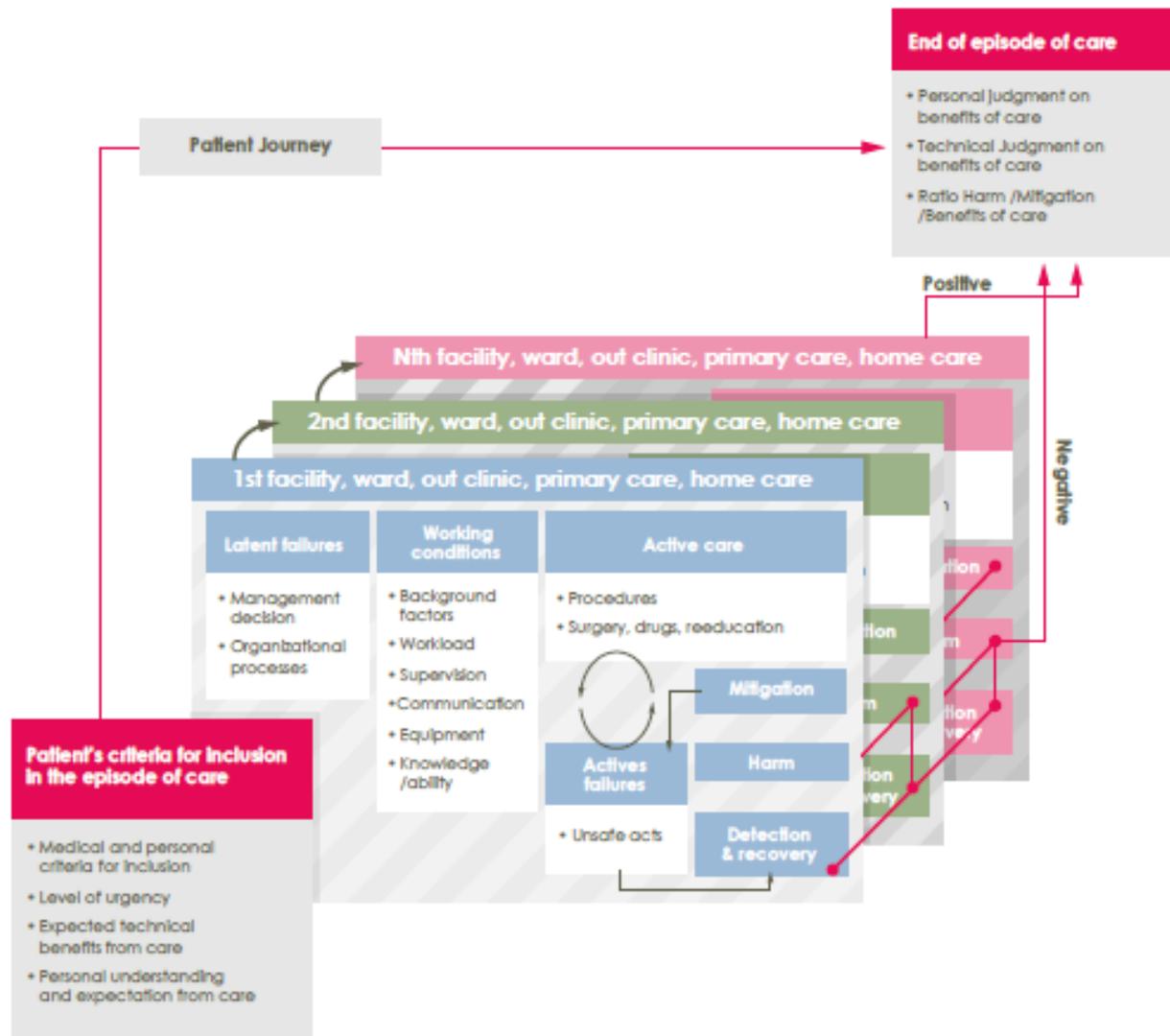
(Canfield, 2013)

# The management of risk over time



Does this look like an incident?

# Analysis along the patient journey



# Three models of safety

## Avoiding risk: ultra safe

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- ◆ Risk is excluded as far as possible
- ◆ Procedures & supervisory systems
- ◆ Priority given to prevention
- ◆ Strong regulatory control
- ◆ Training focused on rigorous procedures and management of workload



# Managing risk: high reliability model

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- ◆ Risk is not sought out but is inherent in the profession
- ◆ Group intelligence and adaptation
- ◆ Mutual protection of team members.
- ◆ Training and safety focused on adaptability and flexibility of procedures



# Embracing risk: ultra-adaptive

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- ◆ Taking risks is the essence of the profession
- ◆ Working conditions are unstable and sometimes unforeseeable
- ◆ Cult of champions and heroes
- ◆ Success analysis more important than accident analysis
- ◆ Training is acquisition of expertise, understanding own limitations



## Three contrasting approaches to safety

### ULTRA ADAPTIVE Embracing risk

**Context: Taking risks is the essence of the profession:**  
Deep sea fishing, military in war time, drilling industry, rare cancer, treatment of trauma.

**Safety model: Power to experts**  
to rely on personal resilience, expertise and technology to survive and prosper in adverse conditions.

**Training** through peer-to-peer learning shadowing, acquiring professional experience, knowing one's own limitations.

Priority to adaptation and recovery strategies

### HIGH RELIABILITY Managing risk

**Context: Risk is not sought out but is inherent in the profession:**  
Marine, shipping, oil industry, fire-fighters, elective surgery.

**Safety model: Power to the group** to organise itself, provide mutual protection, apply procedures, adapt, and make sense of the environment.

**Training** in teams to prepare and rehearse flexible routines for the management of hazards.

Priority to procedures and adaptation strategies

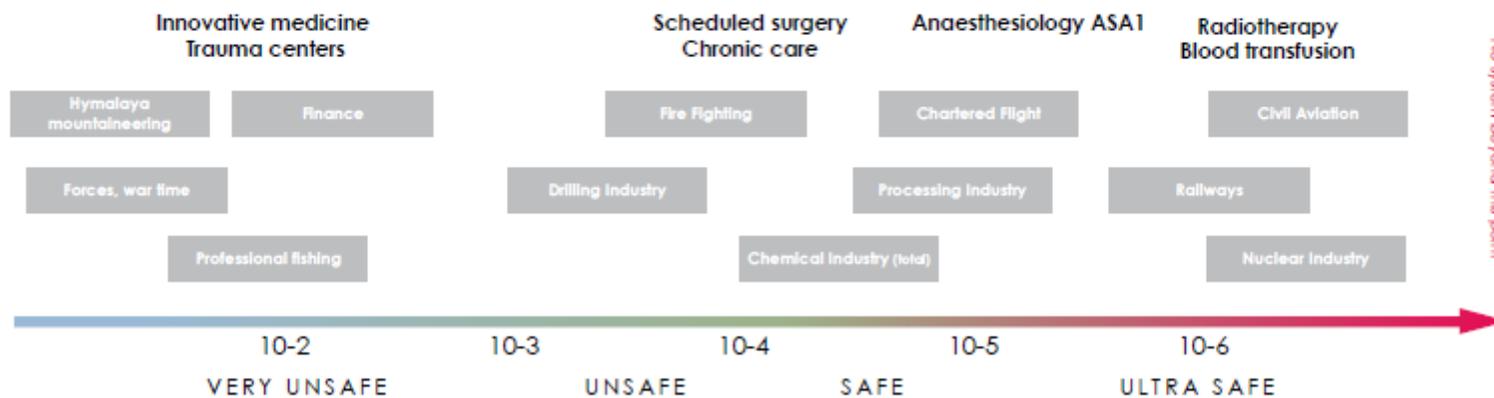
### ULTRA SAFE Avoiding risk

**Context: Risk is excluded as far as possible:** Civil aviation, nuclear industry, public transport, food industry, medical laboratory, blood transfusion.

**Safety model: Power to regulators and supervision** of the system to avoid exposing front-line actors to unnecessary risks.

**Training** in teams to apply procedures for both routine operations and emergencies.

Priority to prevention strategies



# Families of safety interventions

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Best practice

Improve the system

Risk control

Adapt & respond

Mitigation

**Optimising  
Strategies**

**Risk  
Management  
Strategies**

# I Aspire to standards – safety as best practice

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Annals of Internal Medicine

| SUPPLEMENT

## The Top Patient Safety Strategies That Can Be Encouraged for Adoption Now

- ◆ Targeted at specific events
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*Table 2. Patient Safety Strategies Ready for Adoption Now*

### Strongly encouraged

- Preoperative checklists and anesthesia checklists to prevent operative and postoperative events
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- Hand hygiene
- The do-not-use list for hazardous abbreviations
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- Barrier precautions to prevent health care-associated infections
- Use of real-time ultrasonography for central line placement
- Interventions to improve prophylaxis for venous thromboembolisms

Shekelle et al, 2013

## II Improvement of processes and systems

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- ◆ Standardisation and simplification
- ◆ Automation and decision support
- ◆ Improved equipment design
- ◆ Formalising team roles and responsibilities
- ◆ Reduce interruptions and distractions
- ◆ Improve organisation and level of staffing

# III Risk control

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- ◆ Withdraw services
- ◆ Reduce demand
- ◆ Place restrictions on services
- ◆ Place restrictions on conditions of operation
- ◆ Place restrictions on individuals
- ◆ Prioritisation of activities

# Potential for risk control in anaesthesia

## Faulty gas analyser: Go or No Go?

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### **GO**

Use TIVA with propofol (BIS monitored)... I am well aware that a functioning oxygen monitor is present in the guidelines. To cancel would be the counsel of perfection, but this won't get the patient the treatment he needs [Consultant; 25 years' experience]

### **NO-GO**

Completely elective cases with faulty kit I would not proceed. There is a risk of awareness/hypoxia. Proceeding fails my stand up in court test. [Consultant; 10 years' experience]

# IV Monitoring, adaptation and response

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- ◆ Resilient teamwork at the frontline
- ◆ Supportive interventions
  - Briefing and de-briefing
  - Team training for cross checking, monitoring
- ◆ Develop planned approaches to adaptation and recovery rather than relying on ad hoc improvisation.
- ◆ Executive training in risk scenarios and trade offs between safety and other objectives

# Anticipation & Preparedness

Experts are constantly thinking ahead

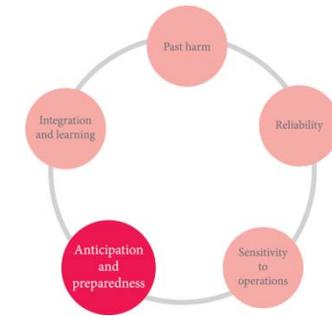


- ◆ Pre-mission planning for fighter pilots often takes longer than the mission
- ◆ Each part of the route is analysed for possible threats, whether from hostile aircraft, personal factors, weather or technical breakdown.
- ◆ During the flight pilots devoted over 90% of available time to anticipation
- ◆ Typically they developed a ‘tree’ of events that might occur over the course of the flight.

Amalberti & Deblon, 1992

## Box 9.1: Anticipation and preparedness in surgery

*'You need to have a strategy ready when there is bleeding: cold, automatic responses to a hazardous situation ingrained in your mind so that it can be done without stress and strain. What to do if the groin starts to bleed is one of the worst situations. When teaching I give them a list of things they're going to do. I get them to repeat it to me over and over again so that when it does happen to them, and it will eventually, they don't need to think, they just go into autopilot.'*



# V Mitigation

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- ◆ Support for patients, families and carers
- ◆ Support for staff
- ◆ Financial and legal planning
- ◆ Management of media
- ◆ Response to regulators

The screenshot shows the MITSS (Medically Induced Trauma Support Services) website. The header includes the MITSS logo and the tagline "Supporting Healing. Restoring Hope." The navigation menu has five items: "FOR PATIENTS & FAMILIES", "FOR CLINICIANS" (highlighted in orange), "FOR HEALTHCARE ORGANIZATIONS", "ABOUT US", and "CONTACT US". The main content area features a photograph of a man in a hospital setting, with the text "You're Not Alone. We Understand. We Can Help." and a paragraph about the organization's mission. To the right, there is a red first aid kit icon and a link to "CLICK HERE TO ACCESS THE CLINICIAN SUPPORT TOOLKIT". Below this is a purple box for the "MITSS 11TH ANNUAL DINNER & FUNDRAISER" with a "Click here for more info" link. The footer contains four sections: "SPEAKING ENGAGEMENTS", "MITSS TOOLS", "MITSS SOCIAL NETWORKS", and "2012 MITSS HOPE AWARD".

# Mitigation in home haemodialysis

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- ◆ Established units provide training and prepare patients and carers very carefully for the home dialysis procedures.
- ◆ Instilling a culture of safety without unduly alarming the patient,
- ◆ Mitigate the risk of adverse events,
- ◆ Ensuring the patient is fully briefed in emergency procedures, letter for emergency department
- ◆ An explicit and comprehensive set of safety strategies as part of the basic programme.

| Strategy                                 | Interventions                                   | Level of Implementation   |              |        | Degree of use |         |              |              |
|--|---|---|--------------|--------|---------------|---------|--------------|--------------|
|  |   | Frontline   | Organisation | System |               |         |              |              |
| Safety as best practice: aspire to stand | Focal safety programme to reduce specific harms | ✓   |              |        |               | Used ++ |              |              |
|  | Improvement of systems and processes            | Staff training, assessment and feedback                         | ✓            | ✓      |               |         | Used +       |              |
|  |   | Standardisation and simplification of key processes             | ✓            | ✓      | ✓             |         | Underused ++ |              |
|  |   | IT to support decision making                                   | ✓            | ✓      |               |         | Used +       |              |
|  |   | Automation of processes   | ✓            | ✓      |               |         | Underused +  |              |
|  | Risk control                                    | Withdraw services   |              |        |               | ✓       | ✓            | Underused ++ |
|  |   | Reduce demand   |              |        |               | ✓       | ✓            | Underused ++ |
|  |   | Place restrictions on services                                  |              |        |               | ✓       | ✓            | Underused ++ |
|  |   | Place restrictions on individuals                               |              |        |               | ✓       | ✓            | Underused ++ |
|  |   | Place restrictions on conditions                                |              |        |               |         |              |              |
|  | Monitoring, adaptation and response             | Improve safety culture  |              |        | ✓             | ✓       |              | Underused +  |
|  |   | Improve detection of deterioration                              |              |        | ✓             | ✓       |              | Underused +  |
|  |   | Develop emergency response systems                              |              |        | ✓             | ✓       |              | Used +       |
|  | Mitigation                                      | Policy of explanation, apology and support for injured patients |              |        | ✓             | ✓       |              | Used +       |
|  |   | Rapid response to physical harm                                 |              |        | ✓             |         |              | Used +       |
|  |   | Psychological support for patients and families                 |              |        | ✓             | ✓       |              | Underused +  |
|  |   | Peer to peer support programmes for staff                       |              |        | ✓             | ✓       |              | Underused ++ |
|  |   | Formal support and mentoring for staff                          |              |        | ✓             | ✓       |              | Underused ++ |
|  |   | Insurance of staff and organisation against claims              |              |        |               | ✓       | ✓            | Used ++      |
|  |   | Proactive response to complaints and claims                     |              |        |               | ✓       |              | Underused ++ |
|  |   | Proactive response to media                                     |              |        |               | ✓       | ✓            | Underused    |
|  |   | Open dialogue with regulators                                   |              |        |               | ✓       | ✓            | Underused ++ |

# A Compendium of Safety Strategies

## An Incomplete Taxonomy

|  | Strategy                                     | Interventions   | Level of Implementation |              |   | Degree of Use  | Challenges   |
|--|--|---|-------------------------|--------------|---|--|--|
|  |  |   | Frontline               | Organization | System  |  |  |
| Optimization strategies                                    | Safety as best practice: aspire to standards | Local safety programmes to reduce specific harms                  | ✓                       |              |   | Used ++  | Absolve more time to implementation                        |
|  |  | Improve reliability of targeted processes                         | ✓                       |              |   | Underused +  | Reduce disparity within settings                           |
|  |  | Improve continuous professional education to adopt best practices | ✓                       | ✓            |   | Used +   | Unfunded time allocated to education and training          |
|  |  | Develop more sophisticated guidelines for complex patients        |                         |              | ✓   | Underused  | Personalised medicine in progress                          |
|  | Improvement of systems and processes         | Staff training, assessment and feedback                           | ✓                       | ✓            |   | Used +   | Excessive use of temporary staff                           |
|  |  | Standardisation and simplification of key processes               | ✓                       | ✓            | ✓   | Underused ++   | Increasing volume of policies and related processes        |
|  |  | IT to support decision making                                     | ✓                       | ✓            |   | Used +   | Usability and integration into workflow remain problematic |
|  |  | Automation of processes   | ✓                       | ✓            |   | Underused +  | Resistance to adopt  |
|  |  | Improved equipment design   | ✓                       |              | ✓   | Used +   | Manufacturers not sufficiently engaged in safety           |
|  |  | Formalising team roles and responsibilities                       | ✓                       | ✓            |   | Used   | Models available but seldom implemented                    |
|  |  | Standardisation and enhancement of handover                       | ✓                       |              |   | Used   | Models available but seldom implemented                    |
|  |  | Improve working conditions (light, noise, physical environment)   | ✓                       | ✓            |   | Used +   | Ample margin for progress                                  |
|  |  | Reduce interruptions and distractions                             | ✓                       | ✓            |   | Underused ++   | Not considered as a problem                                |
|  |  | Improve organisation and level of staffing                        |                         |              | ✓   | Underused +  | Economic constraints and fixed professional roles          |
| Creation of new roles and posts to improve coordination    |  |   | ✓                       | Underused +  | Economic constraints and fixed professional roles         |  |  |
| Risk management strategies                                 | Risk control                                 | Withdraw services   |                         | ✓            | ✓   | Underused ++   | Political constraints and potential adverse social impact  |
|  |  | Reduce demand   |                         | ✓            | ✓   | Underused ++   | Political constraints and potential adverse social impact  |
|  |  | Place restrictions on services                                    |                         |              | ✓   | Underused ++   | Political constraints and potential adverse social impact  |
|  |  | Place restrictions on individuals                                 |                         |              | ✓   | Underused ++   | Response often too late and too punitive                   |
|  |  | Place restrictions on conditions of operation                     | ✓                       | ✓            | ✓   | Underused +  | Does not conform to healthcare culture                     |
|  |  | Perfection of care either temporarily or permanently              | ✓                       | ✓            |   | Underused ++   | Politically difficult at local level                       |
|  | Monitoring, adaptation and response          | Improve safety culture  | ✓                       | ✓            |   | Underused +  | Often advised but seldom effectively implemented           |
|  |  | Improve detection of deterioration                                | ✓                       | ✓            |   | Underused +  | In progress with increasing attention to failure to rescue |
|  |  | Develop emergency response systems                                | ✓                       | ✓            |   | Used +   | Many examples but could be more widely employed            |
|  |  | Develop team cross checking and monitoring                        | ✓                       | ✓            |   | Used +   | Models available and huge potential for increased use      |
|  |  | Briefing and debriefing of handovers                              | ✓                       | ✓            |   | Used +   | Models available and huge potential for increased use      |
|  |  | Improve organisational response to pressure and threats to safety | ✓                       | ✓            |   | Underused +  | Needs exploration, study and development                   |
|  |  | Negotiate response to regulatory demands                          |                         |              | ✓   | Underused  | Adversarial relationship between providers and regulators  |
|  |  |   |                         |              | ✓   | Underused  |  |
|  | Mitigation                                   | Policy of expedition, apology and support for injured patients    | ✓                       | ✓            |   | Used +   | Policies exist but practice lags behind                    |
|  |  | Rapid response to physical harm                                   | ✓                       |              |   | Used +   | Rapid response in hospital but may be slower in community  |
|  |  | Psychological support for patients and families                   | ✓                       | ✓            |   | Underused +  | Policies exist but practice lags behind                    |
|  |  | Peer to peer support programmes for staff                         | ✓                       | ✓            |   | Underused ++   | Models exist but few examples of effective implementation  |
| Formal support and mentoring for staff                     |  | ✓   | ✓                       |              | Underused ++  | Models exist but few examples of effective implementation    |  |
| Encouragement of staff and organisational support of staff |  |   |                         | ✓            | Used ++   | Widely used but not always effectively to safety initiatives |  |
| Proactive response to complaints and claims                |  |   |                         | ✓            | Underused ++  | Models exist but few examples of effective implementation    |  |
| Proactive response to media                                |  |   |                         | ✓            | Underused   | Some examples of good practice but frequently difficult      |  |
| Open dialogue with regulators                              |  |   | ✓                       | Underused ++ | Huge scope for improved and more productive relationships |  |  |

# A framework of safety strategies and interventions



‘We know that these ideas need to be tested in practice and that ultimately the test is whether this approach will lead in a useful direction for patients. We believe very strongly that the proposals we are making can only become effective if a community of people join together to develop the ideas and implications’.

