Controlling violations to protocols & recommendations

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ISQUA & HAS
Outline

• We will see
  – HOW MANY violations and deviances we have in healthcare
  – WHY we have them
  – HOW to cope with
  – WHAT place for simulation training
SIZING THE PROBLEM
Error rate and consequence for flight (5000 flights)

(LOSA-Line-Oriented Safety Audit)

- Average of 2 errors per hour
- Little consequence for violations

%ERROR CONSEQUENTIAL FOR FLIGHT

ERROR RATE

On error management: lessons from aviation
Robert L. Hildreth

Summary points

- Incidents, accidents are usually highly visible and as a result aviation has developed standardized methods of investigating, documenting, and classifying errors and their lessons
- Although operating theatres are not cockpits, medicine could learn from aviation
  - Observation of flight in operation has identified failures of communication, procedure, proficiency, and decision making in contributing to errors
  - Surveys in operating theatres have confirmed that plans and decisions have common (in)personnel problem areas and similarities in professional culture

Error results from physiological and psychological limitations of humans. Common errors include fatigue, workload, and fear as well as cognitive overload, poor interpersonal communications, imperfect information processing, and flawed decision-making. In both aviation and medicine, teamwork is required, and error can be defined as an action or omission leading to deviation from plan or organizational intentions. Aviation increasingly uses error management strategies to improve safety. Error management is based on understanding the nature and extent of error.

Abstract

A significant part of the effective error management depends on a team where good communication is the key to safety.

Error Rate

%CONCEPTUAL FOR FLIGHT

ERROR RATE
Venous thrombo-embolism risk and prophylaxis

- 68 183 patients were enrolled; 30 827 (45%) were categorised as surgical, and 37 356 (55%) as medical.

- On the basis of American College of Chest Physicians - ACCP-criteria, 35 329 patients were judged to be at risk for venous thromboembolism -VTE-, including 19842 surgical patients and 15 487 medical patients.

- Of the surgical patients at risk, 11 613 (58.5%) received ACCP-recommended VTE prophylaxis, compared with 6119 (39.5%) at-risk medical patients.
Surgical site infections (SSIs) and antimicrobial prophylaxis

• Despite evidence of effectiveness of antimicrobials to prevent SSIs, numerous studies have demonstrated inappropriate timing, selection, and excess duration of administration of antimicrobial prophylaxis.

• Two thousand nine hundred sixty-five acute care US hospitals.

• An antimicrobial dose was administered to 55.7% of patients within 1 hour before incision.

• Antimicrobial agents consistent with published guidelines were administered to 92.6% of the patients.

• Antimicrobial prophylaxis was discontinued within 24 hours of surgery end time for only 40.7% of patients.
Case study: the natural lifespan of a safety policy

The natural lifespan of a safety policy: violations and system migration in anaesthesia
Guillaume de Saint Maurice, Yves Austry, Charles Vincent, René Amelbert

Abstract
Background Safety rules continue growing rapidly, as constraining human behavior was the unique avenue for reaching ultimate safety. Safety rules are essential for a safe system, but their multiplication can have detrimental effects. The aim of our study was to evaluate potential improvements of safety rules, compliance with a pre-established safety rule, and awareness of the benefits and hazards which help and hinder physicians from following guidelines.
Methods The rule standardised the day before surgery. Anesthesiologists had to record in the patient’s file the time they ended the induction stage, the moment of maintenance, and the time of the extubation. Compliance was measured before introduction, immediately after introduction, 6 months after introduction, and 1 year after introduction.
Results 77 patient records were included. This resulted in total compliance with policy, ranging from 60% for some items (less than 50%). Regression began within 3 months and returned almost to initial levels within 1 year. The indication showed poor compliance throughout the study and even initial checks demonstrated a lack of compliance. Compliance greatly improved in the maintenance phase, whereas in the induction phase the percentage was lower.
Conclusions Compliance varied over time. A major trigger of worse results seemed to be lack of continuous monitoring by a senior member of staff. Rules and procedures constitute tangible safety barriers, and it may be tedious to keep introducing new safety rules if it’s a matter of modifying daily practice. Compliance rules may be vulnerable to mistakes in case of conflict with competing elements.

P1, before introduction
P2, immediately after introduction
P3, 6 months after introduction
P4, 1 year after introduction

Hypnotic
Opioid
M. relaxant
Maintenance
Airway

The natural lifespan of a safety policy violations and system migration in anaesthesia
Guillaume de Saint Maurice, Yves Austry, Charles Vincent, René Amelbert

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A MODEL FOR UNDERSTANDING WHY
AND COPING WITH DEVIATIONS
Systemic Migration to Boundaries

**INDIVIDUAL BENEFITS**

- ‘Illegal normal’
- Real life standards

**VERY UNSAFE SPACE**

- ‘Illegal Illegal’
- Space

- BTCUs
- Usual Space of Action

- **Never**
- Sometimes

**ACCIDENT**

- Expected safe space of action as defined by professional standards

- Always always

**PERFORMANCE**

- Market demand

- Technology

- Individual concerns
  - Time on duty,
  - Life quality, ...
Concept of Border-line Tolerated Conditions of Use (BTCU)

- The BTCU becomes the ‘stabilized usual level of performance
  - We do them regularly with only rare adverse outcomes.
  - We come to feel safer and safer.
  - We come to the BTCU as normal and safe.
  - First there are benefits rather than problems.
  - Risks are known and supposedly under control.
  - Practices are rarely penalized.
Five causes of migrations

• **Constraint on the legal goal/ legal procedure**
  – Unachievable goal
  – Time missing, sub-system missing, sub-system inoperative – failure

• **Facilitation of group cohesion**
  – Give priority to please the team members, or reduce burden on them i.e., wild and improvised « initiations » of new members

• **Resilience of old procedure(s)**
  – Cost oriented conservatory strategy
  – Safety oriented conservatory strategy: Feeling that the new procedure breaks routines, and has the potential to degrade safety compared to present

• **Search for external acknowledgement of your own ‘s expert status**

• **Disputable rule**
  – Any time a legal system is about to change (pretransition phase), or under official spot for improvement, the ease to violate is multiply by x
COPING WITH THE PROBLEM
WHAT SHOULD BE DONE
The limit of good solutions....

Selon Jean Pariès, Dédale SA
The Result of Migration is Well Known

• There is great reluctance to monitor these new practices with indicators, since no one really knows what to do with the results obtained.

• It is essential to remember that all stakeholders in the system migrate and deviate from standards, even if migrations are different, depending on whether they occur at Senior Management level, in Departments, or with actors on the field.
<table>
<thead>
<tr>
<th>Scope</th>
<th>Design Vulnerabilities</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gradation of relevance</td>
<td>Tolerance of non compliance by hierarchy</td>
<td>Conflict with other policies</td>
</tr>
<tr>
<td>Under control</td>
<td>Scarcely sacrificed</td>
<td>NO</td>
</tr>
<tr>
<td>Potential risk, need specific action before implementation</td>
<td>Serious sacrifice in adverse conditions of work</td>
<td>No additional resources needed (Staff, material)</td>
</tr>
<tr>
<td>Definitively Weak</td>
<td>Always, when there is no adverse event associated with the deviation</td>
<td>YES Additional resource given</td>
</tr>
<tr>
<td>Purely process driven centered</td>
<td>ALWAYS, whatever consequences</td>
<td>YES</td>
</tr>
<tr>
<td>Ambiguous link with medical outcome</td>
<td>Always sacrificed</td>
<td>Management will not care</td>
</tr>
<tr>
<td>Under control</td>
<td>Sometimes sacrificed</td>
<td>Anticipate conditions</td>
</tr>
<tr>
<td>Clear link with medical outcome and disease control</td>
<td>Serious sacrifice in adverse conditions of work</td>
<td>NO</td>
</tr>
<tr>
<td>Gradation of relevance</td>
<td>Serious sacrifice in adverse conditions of work</td>
<td>NO</td>
</tr>
</tbody>
</table>

*Side effects*
## Designing Safer Safety Policy

<table>
<thead>
<tr>
<th>Score your matrix</th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
<th>P4</th>
<th>P5</th>
<th>P6</th>
<th>P7</th>
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</thead>
<tbody>
<tr>
<td>NO IDENTIFIED RISK</td>
<td>Design sounds perfect - High benefits expected</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>CUMMULATION OF DRAWBACKS</td>
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<tr>
<td>ONE ISOLATED ORANGE</td>
<td>Your policy should work provided you control drawback</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Any of two positive</td>
<td>Your design needs significant modification to limit potential</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Any of three positive</td>
<td></td>
<td></td>
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<tr>
<td>Any of four positive</td>
<td>Your design has no chance to be beneficial for safety</td>
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<tr>
<td>Any of five positive</td>
<td>You are creating risk with your safety policy</td>
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<tr>
<td>ANY RED</td>
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</table>
Control deviances and violations

• If a system is designed with only a limited sphere of safe operation, violations are very likely to occur under the conditions of actual performance.

• Violations cannot be eliminated but they can be managed. Working conditions, staffing, and medical knowledge always evolve and change over time.

• Borderline tolerated conditions of use (BTCUs) are best thought of as an understandable—although not necessarily desirable—adaptation to these changes.

• Simply considering BTCUs as unacceptable behaviors requiring disciplinary action is unhelpful; a better strategy is to monitor performance continually and to identify both violations and system migrations at an early stage.

• Dialogue between clinicians and managers is a key factor in establishing a shared safety culture. Violations and potential system migration must be discussed openly.