Measure what you treasure: Safety culture mixed methods assessment in healthcare

DNV GL Healthcare
Presenter: Tita A. Listyowardojo
28 September 2016
Declaration of interest

- None
Our purpose and vision

<table>
<thead>
<tr>
<th>Purpose:</th>
<th>To safeguard life, property and environment</th>
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<tbody>
<tr>
<td>Vision:</td>
<td>Global impact for a safe and sustainable future</td>
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Housekeeping

- 30 minute presentation + Q&A

Objective:
- Participants will learn about safety culture in healthcare and how to assess it using a mixed methods approach

After this session, participants will be able to:
- Define safety culture and its elements in healthcare
- Explain the advantages and disadvantages of quantitative and qualitative assessment methods
- Explain the advantages of combining quantitative and qualitative methods (i.e. mixed methods) to assess safety culture in healthcare
- Explain the steps, benefits and pitfalls in conducting a mixed methods safety culture assessment
- Make sense of the results and utilise the results for quality improvement
When culture becomes a risk for patients

The failure to detect danger signals prior to a disaster is caused by “rigidities of perception and beliefs” (Turner & Pidgeon 1997, p. 47)
Patient safety incidents happen around the world

Norway (2009):
The death of a two-year-old Daniel Flemmen Ødegård resulted from having a breathing tube mistakenly placed in his esophagus instead of his trachea (air pipe).

Malaysia (2009):
The death of 7-year-old P. Thirishanraj resulted from a prescribed overdose of paracetamol.

Taiwan (2011):
Five patients were mistakenly transplanted HIV infected organs.

Singapore (2014):
Colin Sim’s double vision and headaches resulted from the failure of the Tan Tock Seng Hospital to consider his LASIK history when performing a cataract surgery.
Institute of Medicine recently released a report on diagnosis errors

“Diagnostic errors stem from many causes, including:

- inadequate collaboration and communication among clinicians, patients, and their families;
- a health care work system that is not well designed to support the diagnostic process;
- limited feedback to clinicians about diagnostic performance;
- and a culture that discourages transparency and disclosure of diagnostic errors, which in turn may impede attempts to learn from these events and improve diagnosis.”

What is safety culture

“It’s the way we do things around here”

“What we do when no one is watching”

Safety culture is organisational culture that directly or indirectly influences patient safety

Safety culture is the elements or parts of organisational culture that influence the organisational members’ attitudes, beliefs, perceptions, and behaviours, which have an impact on the level of safety within the organisation.
Safety culture in the system

Safety Culture

Structure

Processes

Outcomes
How is culture created and socialized?

1. Externalisation

2. Institutionalisation

3. Internalisation

- Operating theater & ICU
  - Anna & Steve 'teaching' others how to behave
  - New nurses
Layers of culture

**Artifacts** – Visible organisational structures and processes (hard to decipher)

**Espoused beliefs and values** – Strategies, goals, philosophies (espoused justifications)

**Underlying assumptions** – Unconscious, taken-for-granted beliefs, perceptions, thoughts, and feelings (ultimate sources of values and actions)

- Limited conversations and eye contact between nurses and surgeons
- Surgeons are perceived as “aloof” and “scary” by nurses
- Surgeons are the decision makers and thus should be respected
- One way to show respect is to practice hierarchy and make distance

Adapted from Schein’s Levels of Culture (1992)
What is the right time to assess our safety culture?

Low performing organisations

- **PATHOLOGICAL**
  Who cares as long as we are not caught

- **REACTIVE**
  Safety is important, we do a lot every time we have an accident

- **CALCULATIVE**
  We have systems in place to manage all hazards

- **PROACTIVE**
  We work on the problems that we still find

- **GENERATIVE**
  Safety is how we do business around here

World-class organisations
Blind men and an elephant

It’s a fan!
It’s a wall!
It’s a spear!
It’s a snake!
It’s a tree!

Safety Culture
Mixed methods: quantitative and qualitative methods

Survey
- Suitable for benchmarking/comparative purposes
- Economical assessment tool
- Answers “what” but not always “why”

Interview
- In depth analysis (explain and confirm survey results)
- Explorative
- Time and resource consuming
- Results are harder to compare

Quantitative

Qualitative

Mixed methods
Our example finding from a UK hospital: “Communication breakdowns that lead to delays of care are uncommon”

Unit 1
Mean score: 2.7 of 5.0

Unit 2
Mean score = 2.9 of 5.0

Interview findings

Barriers are ranging from individual staff’s communication skills to the lack of handover:

- Staff unavailability
- Poor quality of individual staff communication
- Difficulty in sharing information across a busy unit of staff working different shifts
- Different priorities between occupations
- Bed pressures

Interview findings

Barriers are between nursing and medical staff:

- Nursing staff perceived that the best way to communicate about patient information was verbally,
- Whereas medical staff perceived that written communication was sufficient.

Ungraded
Our example finding from a UK hospital: “Communication breakdowns that lead to delays of care are uncommon”

<table>
<thead>
<tr>
<th>Unit 1</th>
<th>Mean score: 2.7 of 5.0</th>
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<tbody>
<tr>
<td>Agree Strongly</td>
<td>13.7 %</td>
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<tr>
<td>Agree Slightly</td>
<td>9.8 %</td>
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<tr>
<td>Neutral</td>
<td>29.4 %</td>
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<tr>
<td>Disagree Slightly</td>
<td>31.4 %</td>
</tr>
<tr>
<td>Disagree Strongly</td>
<td>15.7 %</td>
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<table>
<thead>
<tr>
<th>Unit 2</th>
<th>Mean score = 2.9 of 5.0</th>
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<tr>
<td>Agree Strongly</td>
<td>9.8 %</td>
</tr>
<tr>
<td>Agree Slightly</td>
<td>25.5 %</td>
</tr>
<tr>
<td>Neutral</td>
<td>31.4 %</td>
</tr>
<tr>
<td>Disagree Slightly</td>
<td>13.7 %</td>
</tr>
<tr>
<td>Disagree Strongly</td>
<td>19.6 %</td>
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**Interview findings**

*Barriers* are ranging from individual staff’s communication skills to the lack of handover:

Staff unavailability, poor quality of individual staff communication, difficulty in sharing information across a busy unit of staff working different shifts, different priorities between occupations, bed pressures, ....

**Interview findings**

*Barriers* are between nursing and medical staff:

Nursing staff perceived that the best way to communicate about patient information was verbally, whereas medical staff perceived that written communication was sufficient.
Our methodology

Quantitative assessment (Survey) to select areas for qualitative assessment

Qualitative assessment

Sampling based on survey results

Quantitative and qualitative assessment for the same areas
Steps to assess safety culture using mixed methods

Why are you assessing this?
Which safety culture survey you want to use?
Based on the survey results, select fewer areas if applicable
Synthesise all results
Action planning

Which areas you want to assess and why?
When and how to conduct the survey?
Conduct interview and/or focus groups
Workshop with leaders, staff and champions
Reassessment
Which survey should we use?

The Safety Attitudes Questionnaire

Hospital Survey on Patient Safety Culture (AHRQ survey)
Which survey should we use?

- A number of tools in use but no ‘outstanding’ method – e.g. (after Health Foundation 2011b, Colla et al 2005)

<table>
<thead>
<tr>
<th>Tool and developer</th>
<th>Usage examples</th>
<th>Psychometric properties</th>
<th>Key strengths</th>
<th>Key weaknesses</th>
<th>Evidence quality / quantity</th>
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</table>
| Safety Attitudes Questionnaire (SAQ) | Primary Care, hospital, ICU, long-term care around the world | Extensively tested and validated | • Well validated  
• Strong combination of validation and use-ability  
• Can benchmark with other countries and industries | Longer version can be perceived as time consuming | |
| Hospital Survey on Patient Safety Culture (AHRQ) | Hospitals around the world | Tested but issues with reliability - e.g. staffing dimension (“we have enough staff, crisis mode, agency use” etc.) | Can compare countries and industries | • Focus on hospitals only  
• Some issues with V&R | |

Ungraded
## The SAQ and the AHRQ survey dimensions

<table>
<thead>
<tr>
<th>The safety attitudes questionnaire (SAQ) short form</th>
<th>6 dimensions, 36 questions</th>
<th>Hospital survey on patient safety culture (AHRQ)</th>
<th>12 dimensions, 42 questions</th>
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<tbody>
<tr>
<td>1. Safety Climate</td>
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<td>1. Teamwork Within Units</td>
<td></td>
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<tr>
<td>2. Teamwork climate</td>
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<td>2. Supervisor/Manager Expectations &amp; Actions Promoting Patient Safety</td>
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<td>3. Perceptions of management (at a hospital and unit level)</td>
<td>3. Organizational Learning—Continuous Improvement</td>
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<td>5. Job satisfaction</td>
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<td>5. Overall Perceptions of Patient Safety</td>
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<td>7. Communication Openness</td>
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<td>8. Frequency of Events Reported</td>
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<td>9. Teamwork Across Units</td>
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<td>10. Staffing</td>
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<td>11. Handoffs &amp; Transitions</td>
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<td>12. Nonpunitive Response to Errors</td>
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<td>Patient Safety Grade</td>
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<tr>
<td></td>
<td></td>
<td>Number of Events Reported</td>
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**Ungraded**
Things to consider prior to conducting a safety culture survey

Select a questionnaire

- The SAQ
- The AHRQ

Decide on the surveying methods to achieve the highest response rates possible (ideally >59%)

- Electronic-based only
- Paper-based only
- Both paper- and electronic-based

 Decide how to collect survey responses

- Stamped (i.e. prepaid) returned envelopes
- Survey collection center on-site

Decide which demographic characteristics to be included – e.g. occupation, departments, areas, age, work length, etc.

How long: between 2-8 weeks

Surveying schedule

How is the best time to get the highest response rate possible?

How the healthcare organisations plan to promote the survey
Tips for analysing survey responses

- Non-response bias analysis
- Finding differences between areas being assessed, e.g. between units, between departments, between clinical areas, etc.
- Finding differences between groups of demographic characteristics, e.g. between occupational groups, between seniority levels, between age groups, between work lengths, etc.
Selecting fewer areas for qualitative assessment

Focus of qualitative assessment:
Why do the problems occur in the units?
What are the underlying issues of the problems in the units?

Focus of qualitative assessment:
What is the mechanism behind the unit’s generative safety culture?
What can other units learn from these units?

Figure 8. Illustration on an example of the sequential mixed methods approach
(Red: Pathological safety culture, Orange: Reactive safety culture, Green: Generative safety culture)
Preparation for qualitative assessment

- Who should conduct the qualitative assessment
- Who to be invited
  - How many
  - Varieties
- Length of the qualitative assessment
  - Individual interviews
  - Focus group
- How to recruit participants
- Scheduling individual interviews and/or focus groups
- Understanding of the survey results
- Understanding of the areas being assessed
- Preparing the participant information sheet and consent form
Tips for conducting individual interviews and facilitating a focus group

- Bracketing
- Good rapport
- Being cautious about directing
- Playing “poker face”
- Use of silence
- Rephrasing
- No interview or focus group is perfect
Analysis and synthesis of quantitative and qualitative results

- identify common viewpoints
- identify individual or alternative viewpoints
- identify patterns that support the findings of the survey
- identify patterns that do not support the findings of the survey
- identify areas of strength relating to the unit's safety culture
- identify areas for improvement relating to the units' safety culture

PATHOLOGICAL REACTIVE CALCULATIVE PROACTIVE GENERATIVE
Example findings from a Chinese hospital

Inadequate staffing, imbalanced patient staff ratio, resulting in high workload

Competing priorities between different departments

Overlapping scope and responsibility between non-clinical departments
Our safety culture position paper

- Download for free at: www.dnvgl.com/patientsafety
Thank you

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