Using Frontline Ownership and Human Factors to Improve Health Care Safety

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These speakers have indicated no conflict of interest to disclose
culture eats strategy for breakfast
Some Inconvenient truths

1. What motivates you may not motivate them
2. Let them write/tell their own story
3. Both positive and negative are important
4. You are part of the problem
5. Influence leaders may not be influential

Keller and Aiken, McKinsey and Company, 2000
6. Money may not motivate
7. The process is as important as the outcome
8. Employees are what they think
9. Good intentions are not enough
Traditional Healthcare Culture

• Need to get things done immediately
• Evidence-based practice (scientific proof)
• Information and data are trusted
• Culture change is complicated
• Leaders need to ‘step-up’
• Top-down leadership from the senior team

Zimmerman et. al. Healthcare Papers 2013
How we think the healthcare world works:

A → B

How it really works:

W → BLACK BOX → B
For every complex problem there is a solution that is clear, simple, and wrong

-HL Mencken
What is Human Factors?

Design that accommodates the limits of the human user

Engineering for human efficiency
What is the role of HF in healthcare?

By studying human behavior, abilities and limitations, and applying this knowledge to design systems, human factors engineering:

• Improves safety
• Minimizes use errors
• Reduces training time
• Increases efficiency
What is the role of HF in healthcare?

“When properly diagnosed, rarely does a single cause explain unintentional failure” ~ CHFG

1. Cognition
2. Technology
3. Environment
4. Process

Reason (1990)
Nibble
How to get here?

From here?
1. Cognition
2. Technology

- **Product identification**
  1. Identify decision makers
  2. Distribute RFP/Short List Vendors

- **Product evaluation**
  3. Evaluate against clinical needs
  4. Evaluate technical performance
  5. Financial review

- **Decision**
  6. Final decision making

- HF procurement goals:
  - Objective evidence
  - Inform decision and negotiations
  - Inform implementation
  - Ensure best fit
3. Environment

- Work with good lighting, acoustics and temperature
- Clutter is cognitively demanding
4. Process

Figure 2. Process complexity and likelihood of error

<table>
<thead>
<tr>
<th>Number of process steps</th>
<th>Probability of success, each process step</th>
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<tr>
<td></td>
<td>0.95</td>
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NHS Confederation (2006)
Why is HF important?

<table>
<thead>
<tr>
<th>2004 through 2Q 2012 (N=29)</th>
<th>The majority of events have multiple root causes</th>
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<tbody>
<tr>
<td>Human Factors</td>
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<td>Physical Environment</td>
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<td>Care Planning</td>
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<td>Medication Use</td>
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Joint Commission (2012)
Risk Mitigation

ISMP Canada (2004)
I’m sorry I broke your company

We have been led to believe...that businesses are logical and run by the numbers and that their models and theories will provide step-by-step instructions on how to succeed.

But

Businesses are people—irrational, emotional, unpredictable, creative, oddly gifted, and sometimes ingenious people who don’t operate according to the theories.

Karen Phelan, 2013
Dominant Approach

New Approach
Norms
• what is legitimate?

Values
• beliefs, interpretations

Power
• who controls, influences?
• who decides, trains?

Resources
• money, time, attention
Principles of this Work

• Participation is voluntary
• Bottom up, top down and sideways
• Make the invisible visible
• Include the unusual suspects
• Go slow to go fast
• Nothing about me without me
• Act your way into a new way of thinking
• Minimum specifications (simple rules)
TRIZ
15% Solution
1, 2, 4, ALL
IGNITE
Sparking Change
Proud Member UHN

Healthcare Human Factors
University Health Network