Resilience Analysis Grid – Understanding and Improving Organisational Resilience

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Aims of the presentation

- Introduce the RAG
- Explain why it is useful for understanding organisational resilience
- Describe why/how RAG was adapted

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What we've seen so far …

- Introduction to the concepts of Resilience Engineering
- Moved from theory to practice
- Tools for application - FRAM

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Theoretical Focus

- How to use RE theory?
- Understanding the potential for resilient performance of your system
- Literature review of approaches to measuring organisational resilience
- NOT measuring
- RAG is the answer!

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Resilience Analysis Grid (RAG)

- Developed by Hollnagel 2009
- A tool for understanding and improving Organisational Resilience – develops a profile of how well a system can respond, monitor, learn and anticipate
- Use questions to examine the extent to which a system is able to do these four abilities

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Implementation Gap

- No established method about how questions should be adapted/generated for each new application
- Original RAG questions irrelevant to frontline healthcare practitioners
- Talk to the experts!

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Original RAG Questions

Event List	What are the events for which the system has a prepared response?
Background	How were these events selected (tradition, regulator requirements, design basis, risk assessment, etc)?
Relevance	When was the list created? How often is it revised? On which basis is it revised? Who is responsible for maintaining and evaluating the list?
Threshold	When is a response activated? What is the triggering criterion or threshold? Is the criterion absolute or does it depend on internal/external factors? Is there a trade-off between e.g., safety and productivity?
Response List	How was the specific type of response list decided? How is it ascertained that it is adequate? (Empirically, or based on analyses or models?)
Speed	How fast is full response ability available? How fast can an effective response be implemented?

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Study aims

- Develop a **replicable** and **robust** process for **nursing teams** to analyse, understand and improve the potential for resilient performance

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My Study

- Phase One – Question Development
  - Discuss what nursing staff find challenging about their work, why they find it challenging and how they manage – develop questions based on responses
- Phase Two – Questionnaire Application
  - Ask all nursing staff on the ward to fill out questionnaire (n=100)
- Phase Three – Reflection on results of questionnaire
  - Facilitate nursing staff to reflect on the results of the questionnaire and identify possible improvements

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Phase One - Question Development

- We need to talk to experts – find out what questions need to be asked of the system
- Can't talk to all of them
- Recruit a group – 'expert group' – to represent the range of nursing staff on the ward
- Expert group will be involved in Phase One and Phase Three

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Getting the detail

- Nurses are good at reporting WAI, but doing WAD
- Early focus groups were dedicated to generating a list of challenges staff experience on the ward
- Later focus groups were dedicated to discussing specific challenges from that list in depth

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WAD vs WAI

F1: Er. Yes. So that's if it's NEWS of five or above. Isn't it?

P1: Three in one parameter or five. Overall.

F1: And if it's five you always escalate?

P1: Meant to.

P2: Mm.

F1: So what about that gap maybe when. Um. You use your judgement? Perhaps? Um.

P1: It's policy that you're meant to do it. If it's over five.

F1: Mm.

P1: But I know that I'm guilty of checking it in the next again hour. (2). If it might just be a septic flurry. You give them. You speak to the doctor. You give them a bolus of fluids. To see if that helps.

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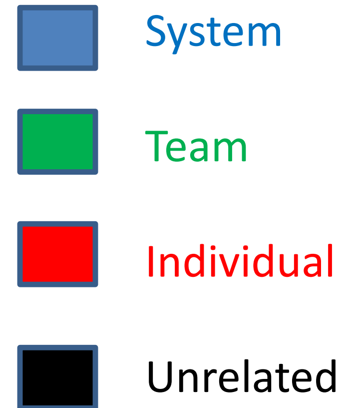
Challenges identified by nursing staff

- Deteriorating patients
- Skill mix
- Multiple simultaneous admissions
- Staffing – shortages/skill mix
- Teamwork
- Equipment problems
- Patient flow – admissions/transfers/discharges
- Challenging patients – behaviour/mental health
- Time management
- Prioritising
- Complex patients
- Nursing students
- Accountability for tasks completed by others



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Thematic analysis

- Qualitative data analysis of focus group transcripts
- Move beyond challenges identified staff to explore content of discussion
- Generation of 23 themes

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‘Deteriorating Patients’

Do you feel confident escalating a patient early?

1 F2: So. Does anybody ever say to you? Why did you call me? It was only a two.
2 P1: I do start the conversation. With I know it’s only a two. BUT.
3 P2: I don’t want my ear chewed off. Mm. Yer. I do start off. By saying. I know. He’s this. This.
4 And this. BUT. Like.
5 P2: Hear me out.
6 P1: But his bloods said this. And his chest x-ray said that. Or whatever. And I can see that
7 he might not be this stable. Or seemingly stable. For long. You know. I can see it kind of.
8 Going down this pathway.
9 …
10 P2: If you did just say. So they’re newsing a two. This and this and this. They would probably
11 cut you off.
12 P1: I know this is what he came in with. But I. I am anticipating that. Something could.
13 P2: I’m concerned.
14 F1: Yer.
15 P2: PLEASE listen. I’m concerned.

Do you know what to do when you don’t get the response to escalation that you needed?

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'Experience'

Do you monitor the work of agency/bank staff?

- P1: the bad thing is. Even though they get the lighter side. Or whatever. They do *not* come and help. On the heavy side. With your washes or anything. Now. *I* worked with an agency nurse. I find it hard. Working with patients. I guess. That's why they put. A nursing assistant. A permanent one. Because an agency doesn't know anything. And. I'm in zone one. A:nd. That patient. (LAUGHS). That agency nurse. They *must* hate. The patient was *so* sick. And he was newsing so much. Likes nines. Tens. And I was doing. The. Throughout the *whole* day. I was doing the *whole* obs. The *hourly* fluid balance. Every time I needed to speak to her. I couldn't find her. And I needed to go to the nurse in charge. And. You know.

Do you know when to adjust the way you work when allocated in a team with bank/agency staff?

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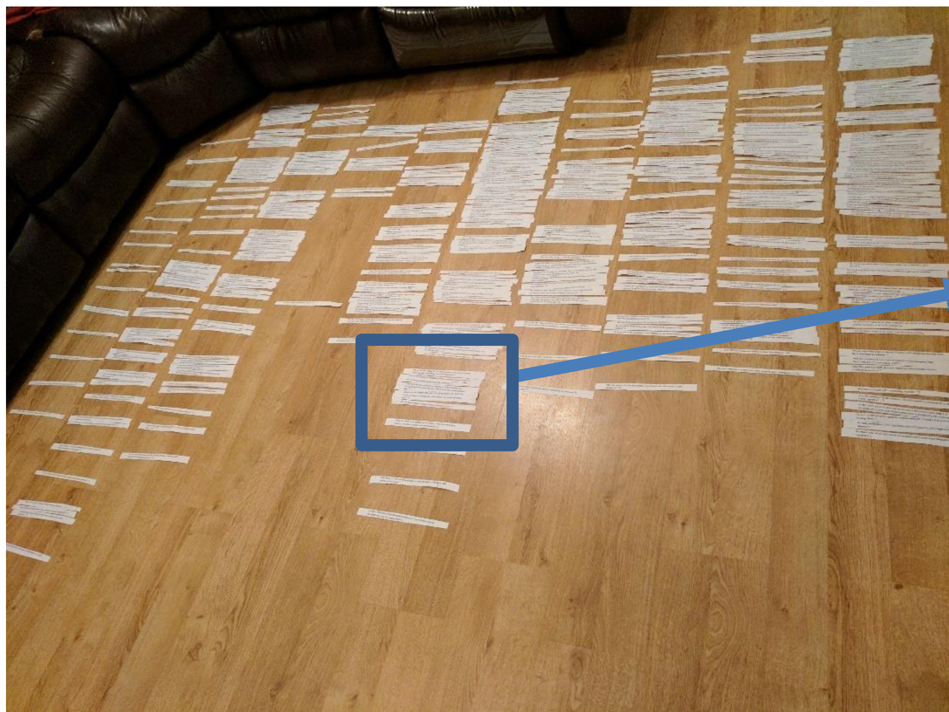
Reducing overlap 500 → 100



Do you know when other people in your zone need help?

Do you know about the status of other team members in the zone?

Do you notice when other people in your zone are struggling?

Do you know how busy other people in your team are?

Do you know when other people in your team need help?

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Summary of process

- Focus groups – 7 hours
- Thematic analysis – 23 themes
- Question generation - ~500 items
- Reducing overlap/repetition - ~100 items
- Question refinement – representative and theoretically coherent – 54 items
- Review and final selection by expert group

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Time for discussion …

- What are the demands on the system?

- What questions would you develop to explore these demands?

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- https://www.youtube.com/watch?v=TNu3O3Pqebk (BBC report)

- https://www.youtube.com/watch?v=QyhIBdLpQMQ (Guardian report)

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Short list of 54 items

1. I feel confident judging when to escalate a patient when the clinical picture is unclear.
2. As a team we discuss priorities as things change throughout the day
3. There is a lot of variability in how the nurses in charge work.
4. Huddles help with awareness of patient care in the zone.
5. I am involved with discussions about patient care decisions.

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Challenges

- Inferential leap from focus group data to item development
- Reconciling individual responses with the work of the system
- Incorporating ‘learning’ into questionnaire
- Incorporating social elements e.g. teamwork, when not well explained by RMLA

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Using the RAG

- Repeated snapshot over time
- Standard questions that can be applied to other healthcare settings?
- Quality improvement

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