



MONASH University

Medicine, Nursing and Health Sciences

Unit design for optimising patient outcomes

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Outline

1. Resilience
2. Deteriorating patient
3. Non-responding patient
4. Team-based resilience
 - Multidisciplinary ward rounds
 - Collaborative cross checking
 - Flagging non-responsive patients
5. Summary



Section 1: Resilience

Resilience (traditionally)

- Resilience is an everyday word
- Used as a characteristic of a person
- Used as a characteristic of structures



Resilience (human factors)

“Resilience is the broad application of failure sensitive strategies that reduce the potential for and consequences from erroneous actions, surprising events, unanticipated variability, and complicating factors”

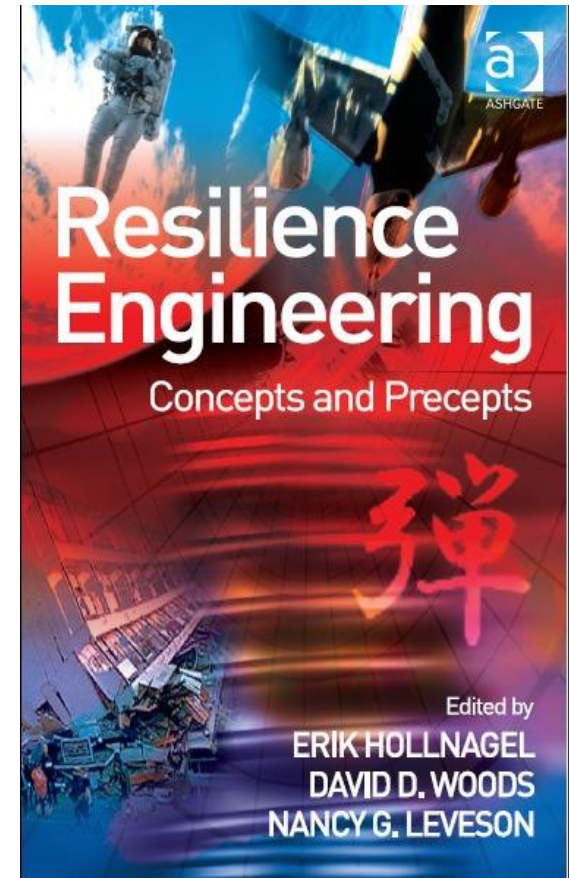
(Woods and Shattuck, 2000)

“Resilience [engineering] focuses on what sustains or erodes the adaptive capacities of the human-technical system in a changing environment (Patterson et. al, 2005)

“Resilience appears to have everything to do with learning about, and adapting around, multiple goals, hazards & trade-offs” (Cook, 1998)

What does that mean?

- *'Foresight'* – Ability to prevent something bad happening
- *'Coping'* – Ability to prevent something bad becoming worse
- *'Recovery'* – Ability to recover from something bad once it has happened



Old & new view of safety

- Old View:

- Ethos – ‘erratic people degrade an otherwise safe system’
- Approach – reactive, error counting, focus on failure, blame/train
- Investigation – The “first” story

- New View:

- Ethos – ‘people are viewed as a primary source of resilience in creating safety’
- Approach – proactive, learning culture, focus on success and system “gaps”
- Investigation – The “second” story

What goes wrong

- Old View
 - Humans cause trouble
 - Investigate errors, violations, incompetence
 - Search for people's inaccuracies
- New View
 - Humans symptom of deeper system trouble
 - Do not try to find where people went wrong
 - Why did people do what they did at that time?

(Dekker, 'The Field Guide to Understanding Human Error', 2006)

How to make it right

- Old View

- Complex systems are safe
- Erratic humans undermine defenses
- Restrict human contributions

- New View

- Complex systems are NOT safe!
- Constant safety and efficiency trade-offs
- Safety involves all levels of the organisation

(Dekker, 'The Field Guide to Understanding Human Error', 2006)

Resilience in healthcare

- We need to develop research to:
 - Characterise “gaps”
 - Learn how they develop
 - Understand how they manifest in particular contexts
 - Understand how they impact care
 - Understand how experts successfully create “bridges”

(Cook et. al, 2000)

- Weick (1987) described safety as a “dynamic non-event”

Resilience and teams

- (1) the individual or cognitive/knowledge-based
- (2) micro-organisational or **TEAM**/intergroup dynamics
- (3) macro-organisational or whole organisation

Section 2: Deteriorating patient

Failure to recognise and respond

- not monitoring vital signs consistently or detecting changes in vital signs
- lack of knowledge of signs and symptoms that could signal deterioration
- failing to recognise the significance of apparent deterioration
- uncertainty about whether assistance should be called
- delays in notifying medical staff of the signs of deterioration
- delays by medical staff in responding to such notification
- lack of skills and knowledge about managing deteriorating patients among ward medical and nursing staff
- failure of ward staff to promptly seek supervision or advice
- failure to communicate with other staff about concerns, including during handover
- failure of essential equipment
- lack of clarity about roles & responsibilities for care of deteriorating patients

(McQuillan, 1998; Goldhill, 1999; Hillman, 2001; Cioffi, 2006; Endacott, 2007)

RRS and MET teams

- Rapid Response Systems (RRS) is the “system (and not just the individual components of the system) for providing a safety net for patients who suddenly become critically ill and have a mismatch of needs and resources”

(DeVita et al., 2006)

- MET teams differ from other forms of RRS teams; the team leader is a physician and typically has ICU expertise

(Jones et al., 2009)

Four RRS components

1. the afferent limb, 'crisis detection' and triggering of the RRT;
2. the efferent (responder) limb, the RRT itself;
3. the quality improvement structures, provide data and feedback to the RRS;
4. and the governance and administrative structures, coordinating the resources to facilitate improved care

(DeVita et al., 2006, Jones et al., 2011).

RRS Evidence

- A multi-center, cluster-randomized trial (Hillman. Lancet. 2005) and two meta-analyses (Chan 2010; McGaughey, 2007) failed to demonstrate clear effectiveness of RRS for deteriorating patients.
- With RRS and MET teams the focus of action has traditionally skewed heavily towards *recovery*. ...
- If *foresight* and *coping* were hardwired into hospital ward processes, the clinical team could evaluate patients more proactive and earlier in the time-opportunity continuum

RRS and Resilience

CONCEPT (Jeffcott et al., 2009)	Clinical Goals Applied to Preventable Hospital Deaths
'Foresight'	Treat the diagnosis with evidence based practice Prevent predictable complications of hospitalization, e.g. deaths, infections, clots, falls, adverse drug events, etc
'Coping'	Recognize and respond to missed or undertreated diagnosis Revise diagnostic or therapeutic plan at earliest possible moment
'Recovery'	Rescue deteriorating patient Resuscitate arrested patient

Section 3: Non-responding patient

Foresight and Coping

- “Non-responding” is defined here as a patient who’s clinical course has failed to progress as expected for the given diagnosis and treatment, or who has even developed signs of decline
- “Proactive coping” on the ward could be defined as recognizing and responding to patients **prior** to frank deterioration.

Awareness, Inertia and Deviance

- Limitations in managing non-responding patients occur due to:
 - Deficits in “situation awareness” (Reader, 2011)
 - “Clinical inertia” (Phillips, 2001)
 - “Normalisation of deviance” (Hall, 2003)

Section 4: Team-based resilience

Multidisciplinary ward rounds

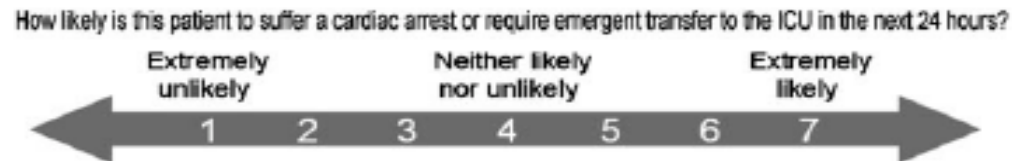
- A resilient ward would demonstrate the ability to embed daily processes to address both categories of preventable hospital deaths.
- *Structured Interdisciplinary Bedside Rounds*
- Output is a cross check of patient diagnosis, treatment, & interval progress; use of quality-safety checklist aimed at preventing predictable hospital complications; and verbalizing a synthesized plan for the day.

Collaborative cross checking

- Collaborative cross-checking (Patterson, 2007)
- What if?
 - Afferent limb: non-responding patients flagged through collaborative cross checking during interdisciplinary bedside rounds
 - Efferent limb: mandatory secondary review of flagged patients by an experienced clinician with aim to revise the diagnostic or treatment plan e.g. “*Rover Teams*”
(Hueckel, 2008)

Flagging non-responding patients (1)

- With insufficient perception, context, or temporal trending, or else a tendency to be swayed by initial impressions of self or others, clinicians can discount, fail to detect, or fail to act upon subtle but vital signals



(Edelson, 2011)

- In NSW the Clinical Excellence Commission has undertaken a project, “Between the Flags”, which will identify if the patient is not-responding to treatment (yellow flag) or has deteriorated (red flag).

Summary

- Resilience is a new concept in healthcare that has value when trying to improve the management of patients who are non-responding
- It has three key components (**foresight**, **coping**, recovery)
- It has three inter-connected levels (individual, **micro**, macro)
- When applied to ward structure and process – such as **multidisciplinary** rounds – rational & exciting ideas emerge for bridging the quality chasm

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