Improving clinical decision-making to build fail-safe systems & enhance patient outcomes

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Twitter: #nursedecisions
This session...

• My journey
• Impact of poor decisions
• Clinical decision-making
• Real world decision-making
• Decisions that make a difference - from research to practice
My story…
Working towards improving patient care

ICU Staff Nurse
Doctor of Philosophy Graduate
Researcher
Clinician Scientist
Family rewards
• Clinicians have excessive information to deal with & increasing work pressures
• Patients die from preventable errors
• Patients and families expect high quality care and a fail-safe experience
• Governments have high expectations of health services & increasing budget constraints
Only 57% receive appropriate care
Clinical decision-making: An intellectual activity

• Good clinical judgement—greatest attribute

• Medicine brings together facts and value judgements (Downie & MacNaughton, 2000)

• Scientific evidence on treatment not always right for individuals (Connelly et al 2000)

• Evidence is a matter of degrees, not cut and dried (Svets, 2000)
Clinical decision-making

• Cognitive activity-integrating complex information from many sources
• Information-imperfect or incomplete & often uncertain
• Deciding on the effectiveness of alternative clinical strategies
• Complex interaction between multiple stakeholders
Real world decision-making

Too much information
Too little time to review it
Interruptions & distractions
People needing quick & accurate answers
No time to wait, no time to think....
Intuition vs analysis
BUT
Bad decisions can cause harm & death
Critical care nurses’ decision-making

• 1 decision every 30 seconds

• Most frequent types of decisions were:
  ▪ Assessment & evaluation decisions 51.4%
  ▪ Communication decisions 29.5%
  ▪ Intervention decisions 19.3%

• Decisions influenced by: individual nurse, task, patient, availability of resources and interpersonal relationships

Stress and decision-making

When stressed in any critical event clinicians have increased cognitive rigidity and a decline in general cognitive ability (Holst, 1978)

Information overload & decision fatigue

“the volume and complexity of what we know has exceeded our individual ability to deliver its benefits correctly, safely, or reliably. Knowledge has both saved us and burdened us.”

— Atul Gawande
Room for improvement...

- From 28 hospitals, 14,000 patients, 2353 AEs (16.6%)
  - 15.8% **Failure to synthesise, decide and/or act on available information**
  - 4.9% died (Wilson, RM et al., 1999 *MJA*. 170: 411-5.)
- NHS, from 2010, 23% fatal events were caused by failure to act on or recognise deterioration (Donaldson et al, 2014,PLOS Med 11)

The problem....

- Suboptimal MET activation limits efficacy.
- The high prevalence and failed MET activation rate has significant individual and organisational consequences.
- Failure to translate knowledge into practice remains a major problem.
Recognising and responding to clinical deterioration

Figure 1. Components of the Rapid Response System (RRS). The Afferent limb involves detection of patient deterioration and triggering of the response. The efferent limb is the MET or Rapid Response Team (RRT) or Critical Care Outreach (CCO). Other aspects of the system involve data collection and analysis, as well as a link to administrative and governance arms. Devita, M.A., et al., Findings of the first consensus conference on medical emergency teams. *Crit Care Med*, 2006. **34**(9): p. 2463-78.
Resuscitating sick people is easier than resuscitating dead people!
FROM RESEARCH TO PRACTICE...

Focus on response to deterioration

Pre-MET focus

MERIT, 2005; Critical Care Outreach

Liverpool MET, 1995

Harvard Medical Practice Study, 1991

• Preventable adverse events (70%);
• High mortality rates in unexpected cardiac arrests (50-80%);
• Preceding deterioration unrecognised (80%)

Recognition that delay leads to poor outcome > New GOC

Mandatory escalation policy

Patient & family activation

Data Linkage 2015

Interdisciplinary communication models

LOMT & EOLC

Stand-down decision-making

PRONTO

FIRST² ACT
How serious is the problem?

Clinical paper

Point prevalence of patients fulfilling MET criteria in ten MET equipped hospitals. The methodology of the RESCUE study

Tracey K. Bucknall, Daryl Jones, Jonathon Barrett, Rinaldo Bellomo, Mari Botti, Julie Considine, Judy Currey, Trisha L. Dunning, David Green, Michele Levinson, Patricia M. Hallett

Clinical paper

Responding to medical emergencies: System characteristics under examination (RESCUE). A prospective multi-site point prevalence study

Tracey K. Bucknall, Daryl Jones, Rinaldo Bellomo, Margaret Staples, The RESCUE Investigators

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What are we missing and does it matter?

Missed medical emergency team activations: tracking decisions and outcomes in practice

Jessica L Guinane, Tracey K Bucknall, Judy Currey and Daryl A Jones
Is earlier detection better for patient outcomes?

ABSTRACT

Objectives: To assess the prevalence of patients fulfilling clinical review criteria (CRC), to determine activation rates for CRC assessments, to compare baseline characteristics and outcomes of patients who fulfilled CRC with patients who did not, and to identify the documented nursing actions in response to CRC values.

Design, setting and participants: A cross-sectional study using a retrospective medical record audit, in a university-affiliated, tertiary referral hospital with a two-tier rapid response system in Melbourne, Australia. We used a convenience sample of hospital inpatients on general medical, surgical and specialist service wards admitted during a 24-hour period in 2013.

Main outcome measures: Medical emergency team (MET) or code blue activation, unplanned intensive care unit admissions, hospital length of stay and inhospital mortality. For patients who fulfilled CRC or MET criteria during the 24-hour period, the specific criteria fulfilled, escalation treatments and outcomes were collected.

Results: Of the sample (N = 422), 81 patients (19%) fulfilled CRC on 109 occasions. From 109 CRC events, 66 patients (81%) had at least one observation fulfilling CRC, and 15 patients (18%) met CRC on multiple occasions. The documented escalation rate was 58 of 109 events (53%). The number of patients who fulfilled CRC and subsequent MET call activation criteria within 24 hours was significantly greater than the number who did not meet CRC (P < 0.001).

Conclusions: About one in five patients reached CRC during the study period; these patients were about four times more likely to also fulfil MET call criteria. Contrary to hospital policy, escalation was not documented for about half the patients meeting CRC values. Despite the clarity of escalation procedures on the graphic observation chart, escalation remains an ongoing problem. Further research is needed on the impact on patient outcomes over time and to understand factors influencing staff response.
Are we treating the wrong people?
Can we prevent adverse events if we know who is most at risk?
Can we train nursing students to make better decisions during simulations to prepare them for practice?
Does earlier nursing intervention improve patient outcomes?
LISTEN TO ME, I REALLY AM SICK!

Understanding Patient and Family Perspectives in Triggering Responses to Medical Emergencies

Patient perceptions of deterioration and patient and family activated escalation systems—A qualitative study

Jessica Guinane RN, CCRN, MN, PhD Candidate, Alison M Hutchinson PhD, RN, Professor, Chair in Nursing, Deputy Director, Co-Director, Tracey K Bucknall PhD, RN, Professor, Professor & Associate Head of School - Research, Director of Nursing Research & Foundational Chair in Nursing

What can we learn from patients & families?
A DREAM written down with a date becomes a GOAL.

A goal broken down into steps becomes a PLAN.

A plan backed by ACTION makes your dreams REALITY.
THANK YOU STTI

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