



NEWSLETTER

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Human factors research regarding observation charts

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The Commission is working in partnership with the Patient Safety Centre and Skills Development Centre in Queensland Health and the University of Queensland to provide new knowledge about the design and use of observation charts that will assist staff to better identify clinical deterioration.

The first phase of this project involved a team of evaluators with human factors and clinical backgrounds reviewing 25 charts from Australia and New Zealand. A total of 1,189 usability problems in the 25 charts were identified that could potentially lead to errors while recording data or detecting deterioration. The team found a dramatic variation in the usability of different charts and that all had some issues that could be improved through redesign.

Some examples of usability problems encountered were:

- vital sign data presented numerically rather than graphically (see Figure 1)
- charts that did use graphs required users to plot multiple overlapping

vital signs on the same graph rather than plotting each vital sign on a separate graph (see Figure 2)

- some charts put an unnecessary burden on users' memory or introduced unnecessary cognitive load
- only about a third of the charts used colour to improve chart usability
- inadequate space for recording comments or font sizes too small to be easily read

A new chart was developed to avoid as many of these design problems as possible by combining the best elements of existing charts.

The second phase of this project involves an online survey of opinions and preferences of health professionals regarding chart design.

The third phase of the project is a series of simulation studies examining the extent to which the design of charts influences the potential for documentation and process errors.

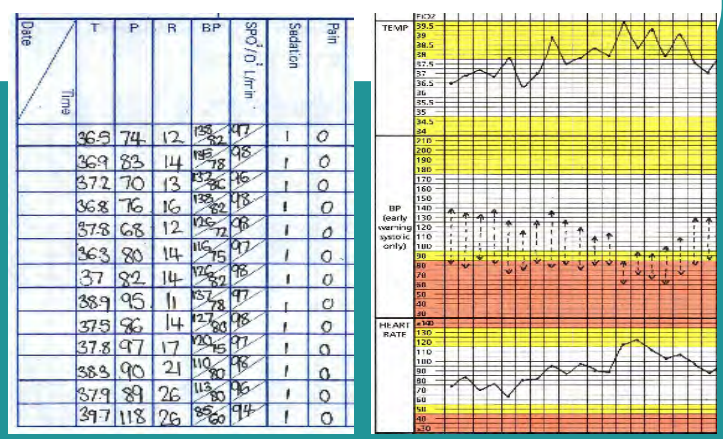


Figure 1: deterioration is easier to detect in the graph form

Have your say ... & win an Apple iPhone

Be involved in this project and take part in a **15 to 20 minute online survey** to gauge the opinions of health professionals regarding the **design and use of adult general observation charts**.

If you complete the survey, you will be eligible to enter a prize draw to **win an Apple iPhone**. All you have to do is **enter your email address after the end of the survey**. Your survey responses and your email address will be stored separately from one another to maintain your anonymity.

Participation in the survey is completely **voluntary and confidential**. Information supplied by you will be **non-identifiable**.

To complete the survey go to:

<https://experiment.psy.uq.edu.au/obschart/>

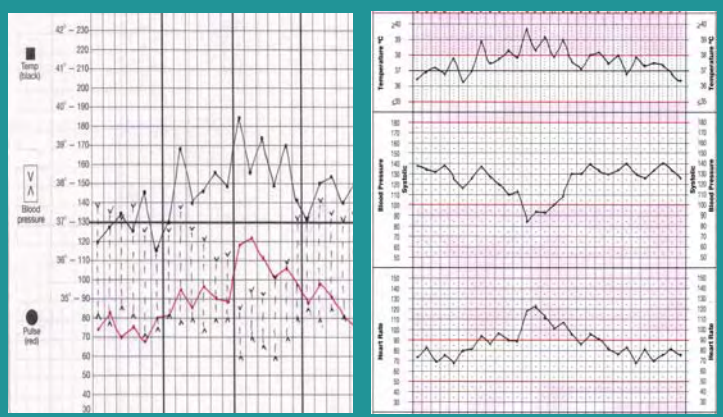


Figure 2: trends in data are clearer when the plots are separated

7th Australasian Conference on Safety and Quality in Health Care Management of the Deteriorating Patient Presentations

Early Recognition of deteriorating patients – are improvements sustainable?

Mitchell, I¹, McKay, H², Vanleuvan C¹, Mamootil S¹,
Laberth P., Avard B¹, Fletcher T³

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Health Care ACT

The Early Recognition of the Deteriorating Patient Program (ERDP) in the ACT aimed to improve the documentation and recognition of deteriorating vital signs and the timeliness of medical review. The ERDP program is a multifaceted intervention which includes a track and trigger system, a new observation chart and a locally developed COMPASS[®] education package, which aims to bring physiology to the bedside and provide an understanding of why we measure vital signs. The initial pilot showed improvements, and following the rollout across inpatient areas, measures were undertaken

to determine if results could be replicated over 28 clinical areas.

Evaluation post rollout of the program has demonstrated sustained improvements in several areas. There has been an increase in frequency of measurement of all vital signs in the 24 hours prior to a MET call out and the time to medical review from the initial communication reduced from 76 minutes to 31 minutes. There has also been a sustained improvement in the frequency and completeness of vital sign documentation, as well as an improved accuracy of the calculation of the MEWS. Sustainability of improvements is achievable however ongoing auditing, support and education are essential. All the resources developed by the ACT are available on the website www.compass.act.gov.au for use by other facilities free of charge.

Rapid Response Systems — a cure for sick hospitals

Massey, D, Griffith University.

There is an increasing number of patients with complex care needs who suffer serious physiological deterioration that may be recognised but not acted on by clinical staff. There may be a number of different reasons why clinical staff fail to respond to these detected physiological alterations. Literature suggests that clinical staff may lack the knowledge and skills required to safely and effectively manage the acutely ill ward patient at risk of serious physiological deterioration.

Rapid Response Systems (RRS) are a hospital wide system approach that provide a safety net for ward patients who suddenly become acutely ill and develop complex care needs that may be outside the scope of clinical ward staff knowledge and skills or where patients' clinical needs outstrip the available ward resources. At a minimum, an RRS must have an afferent (case detection and response-triggering) limb and an efferent (response) limb to attempt to prevent deterioration. The key aims of RRS systems are averting admission to critical care units, facilitating discharge from a critical care facility and the sharing of critical care skills throughout the hospital. This presentation provided a critical analysis of the literature on RRS.

Identifying issues relating to the failure to recognise the deteriorating patient pre-implementation of the MET team

Armstrong, A, Ward, H, Lim, P, Parsons, L,
Wilson-Row, C.

The Prince Charles Hospital

There is growing need for better systems to recognise and manage the deteriorating patient. Historically, the hospital has relied on an Intensive Care Unit outreach service to review sick patients in the wards; now, planning is underway for the implementation of a MET team.

The Prince Charles Hospital Executive sponsored a team to join the Health Roundtable SAFE Patient Care Program 2009 to investigate ways to improve the management of the deteriorating patient.

Initial results from data collected suggest:

- Nursing compliance with taking vital signs, including respiratory rates, is high.
- Patients in pilot surgical wards were reviewed by medical staff in a timely manner.
- Retrospective audit of patients with cardiorespiratory arrests indicated that it was difficult to ascertain whether timely medical intervention occurred.

Initial audits indicate that compliance with taking vital signs is good. However, documentation on the details of escalation and time of review by doctors is poor. Further prospective data from ICU outreach will be collected to inform prioritisation of implementation resources.

Responding to medical emergencies at a private hospital

Bucknall, T.K, Ruseckaite, R, Barrett, J,
Levinson, M.

Cabrini-Deakin Centre for Nursing Research,
Cabrini Hospital

This project aimed to examine inpatient MET call data at a private hospital to identify MET call activation criteria and factors impacting on patient outcomes following MET calls. A retrospective audit was conducted on 282 MET calls. Patients' demographics, vital signs, progress notes, MET activation criteria, MET delays and patients' outcomes were collected and analysed descriptively. Respiratory distress/failure (65.1%) and nurse initiated concerns and prompt need for help (59.6%) calls were the most common reasons for MET calls; 9.5% of MET calls were found to be delayed.

Similar to reported public hospital data, MET calls were at times delayed in the private setting, although the delay in this study was less frequent and of shorter duration than reported in public hospitals with a mean delay of 214 ± 40 mins. Mortality rates within 24 hrs of MET calls were consistent with public hospital data.

The study demonstrates the outcomes of a MET call system in detecting and managing deteriorating patients in a private hospital. Notably, both the incidence of missed MET calls, the antecedent events and the prevalence of the problem remain unknown. This information is critical if we are to establish a risk management model that can address the increasing complexity and acuity of patients in acute care settings in both private and public sectors.

Improving Nursing Processes to Facilitate the Recognition and Appropriate Response to the Early Signs of Patient Deterioration

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¹South Eastern Sydney Illawarra Health Service, NSW, ²South Western Sydney Area Health Service, NSW

In one Sydney metropolitan hospital (>100 beds) the rates of failure to recognise and respond to signs of patient deterioration were high (55%). Nursing processes were task orientated and dictated by routine and time, rather than being based on patient assessment findings and individual patient needs.

Several strategies were undertaken to address this issue. A new nursing model of care (VITAL[®]) was implemented to provide a structured, systematic approach to patient assessment, documentation and care planning.

Patient safety and the quality of nursing care improved substantially and have been sustained beyond project completion. Rates of failure to recognise and respond to signs of patient deterioration fell from 55% to 0% and improvements in nursing documentation have also been achieved. The model of care and quality framework is simple and easily transferable to any hospital setting, providing nursing leaders with a solution to a complex patient safety issue.

The Medical Emergency Team response in a rural base hospital

Kempler, H., Lismore Base Hospital

Lismore Base Hospital (LBH) is a large rural base hospital with a combined intensive care / high dependency unit and coronary care unit. A MET commenced operation in 2004 with the ICU resident medical officer and an ICU ALS accredited registered nurse as the initial response team.

Since 2004 there have been 1910 MET calls with 435 for 2008 and 292 hours spent on MET calls in 2008. In 2008 hypotension was the main reason for a MET call (34%); 18% of MET calls were due

to a decrease in Glasgow Coma Scale, 14% of MET calls were due to being worried about a patient.

Also since 2004, the number of in hospital cardiac arrests has dropped from 22 in 2004 to 12 in 2008; we believe that MET teams have contributed to this.

Early initiation of not for resuscitation and advance care directives from the team have also been influenced.

Further improvements to the system are planned.





Between the Flags

Keeping patients safe



The Between the Flags (BTF) Program is an initiative of the NSW Clinical Excellence Commission and is a comprehensive safety system that is designed to reduce the frequency of adverse events caused by failure to recognise and respond to deteriorating patients.

The importance of this problem has been identified in NSW as a high priority safety risk by the Greater Metropolitan Clinical Taskforce and by Area Health Service Directors of Clinical Governance. More recently, the Garling Commission of Inquiry recommended that the problem should be addressed by implementing the BTF Program.

The lifesaving analogy of Between the Flags is inspired by the fact that there has only been one drowning 'between the flags' on a beach patrolled by surf lifesavers since 1935.

Widespread consultation across the health system has informed the development of 5 key elements of the Program that will be progressively

implemented across NSW this year and in 2010:

- A standard observation chart
- Standards for clinical emergency response systems
- Education to provide practical skills in the recognition and management of deteriorating patients using the **DETECT** Program.
- Indicators to measure the performance of the Program
- Consistent governance of the Program across NSW.

In addition, a paediatric expert group has been established to advance this important initiative for children. Work is also being undertaken to develop specific charts for maternity patients and emergency departments.

For more information contact the Between the Flags Project Officer, **(02) 9382 7600**.

The Deteriorating Patient Seminar

Change Champions invites participation in its toolkit seminar, ***The Deteriorating Patient***,

Date: 11-12 March 2010

Venue: Four Seasons Hotel, Sydney

Seminar aims:

- Highlight initiatives that focus on timely and appropriate recognition of, and response to patients who are at risk of clinical deterioration
- Showcase organisational/facility wide systems and communication strategies that enable clinical deterioration to be identified early and appropriately communicated
- Showcase programs where solutions to problems related to the identification and management of clinical deterioration and have been successfully implemented

Audience:

- Quality, safety & risk management professionals
- Health professions directly involved in patient care
- Executives and managers

For further information visit, <http://www.changechampions.com.au> or phone **(02) 4963 5150**.

Paediatric Interest Group Workshop

The Commission will be hosting a second workshop in March 2010, for the interest group on paediatric observation charts and the identification of deteriorating paediatric patients.

Over 40 participants attended the first workshop, held 19 March 2009 and details of this meeting are available on the Recognising and Responding to Clinical Deterioration program page on the Commission's website.

This group was established to provide a forum for researchers and clinicians with an interest in issues regarding the identification and management of deteriorating paediatric patients.

Further details about the upcoming workshop will be made available in the coming months.

If you would like to register your interest in being involved in future communications and meetings of this group, please email Alex SONSIE at:

alexandra.sonsie@safetyandquality.gov.au.

Contact us

Telephone: **(02) 9263 3633**

email: mail@safetyandquality.gov.au