ST VINCENT'S HEALTH AUSTRALIA

What are the enablers and barriers to escalation of care of deteriorating patients in sub acute care, and what can be addressed by nursing education?

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Education and Learning

Introduction

Demands for care in acute facilities, the aging population and the burden of chronic disease have created a flow on effect in patient acuity in hospitals designated for sub-acute care (Department of Health Victoria, 2012).

Sub-acute care usually means

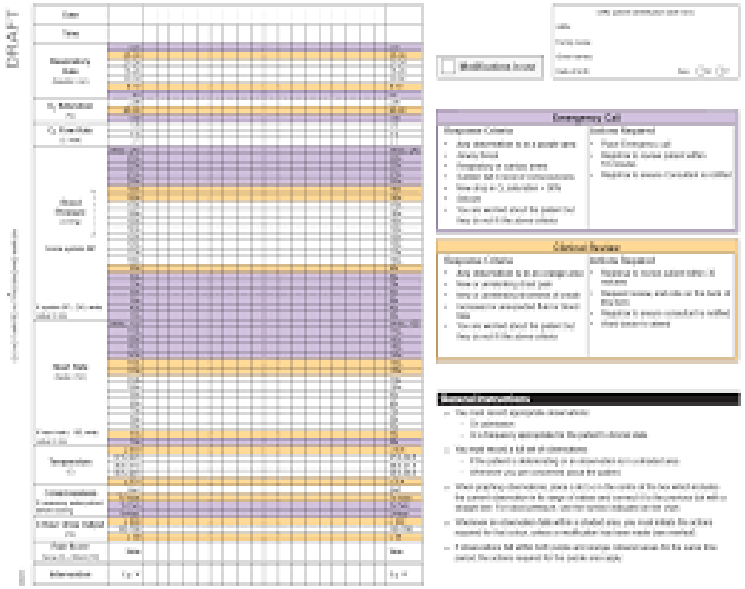
- **rehabilitation**
- **palliative**
- **geriatric evaluation**
- **psychogeriatric care**

Background

Recognising and Responding to Clinical Deterioration

The Australian Commission on Safety and Quality in Health Care

- **Developed the Observation and Response Chart**
- **Rapid response systems (RRS) have evolved to meet these requirements**



Background

In acute care settings researchers have identified both process and practice factors that can impact on the activation of RRS (Sundararajan, et al 2016)

Detection

- **Abnormal vital signs in the period before deterioration not recognised as signalling deterioration**
  - Staff knowledge, familiarity with criteria

Recording

- **Not all vital signs are recorded**
  - (respiratory rate is poorly recorded), poor documentation of medical / nursing review

Action

- **Failure to act on signs of deterioration**
  - Fear of being criticised, traditional reporting systems and hierarchies

Background

Visser et al, (2014) conducted a retrospective medical record review in a sub acute facility.

- **similar patterns of RRS activation and outcomes to studies assessing these responses in acute care facilities.**
- **lack of documented escalation of care prior to the activation of the medical emergency, by medical and nursing staff.**
  - **Possibly due to sudden deterioration, deterioration that was not recognized, or recognized, but not documented.**

Aims

We aimed to examine responses to the deteriorating patient at a sub-acute facility

We wanted to explore barriers and enablers to RRS activation and responses to clinical deterioration

We wanted to determine the contributions of process and practice factors, which might indicate what role nursing education might have in improving responses to the deteriorating patient

Methods

Setting

We undertook an mixed methods descriptive study in a sub-acute facility in metropolitan Melbourne, funded by a SVHM Research Endowment Fund grant

Data was collected in the six months between 1 April and 30 September 2018

Quality Assurance permission to conduct the study

Tools

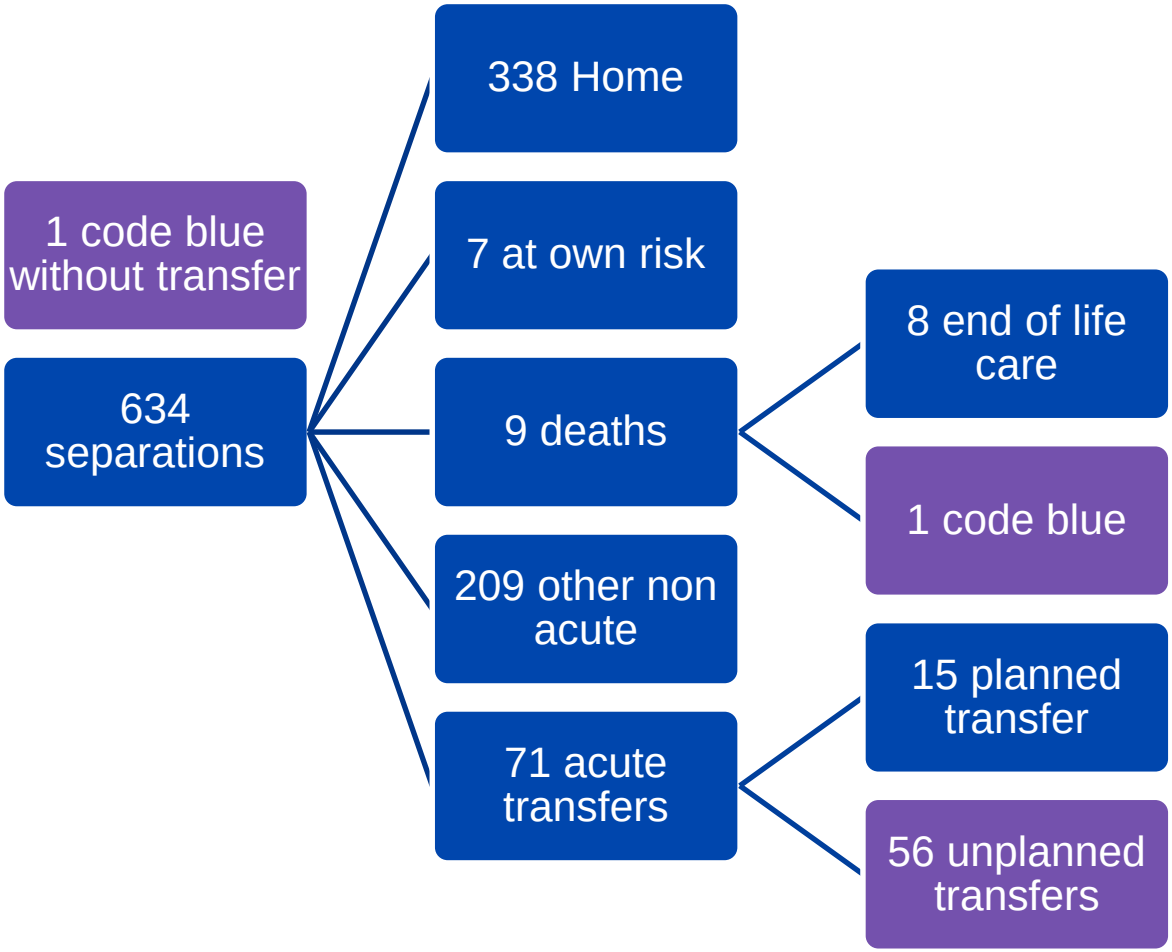
Rapid Response System Case reports

- Records reasons for call, who called and management of situation. (Australian Commission on Safety and Quality in Health Care)

Observation, monitoring and escalation of care audit tool

- Designed to measure documentation of observations, compliance with monitoring plans and escalation of care

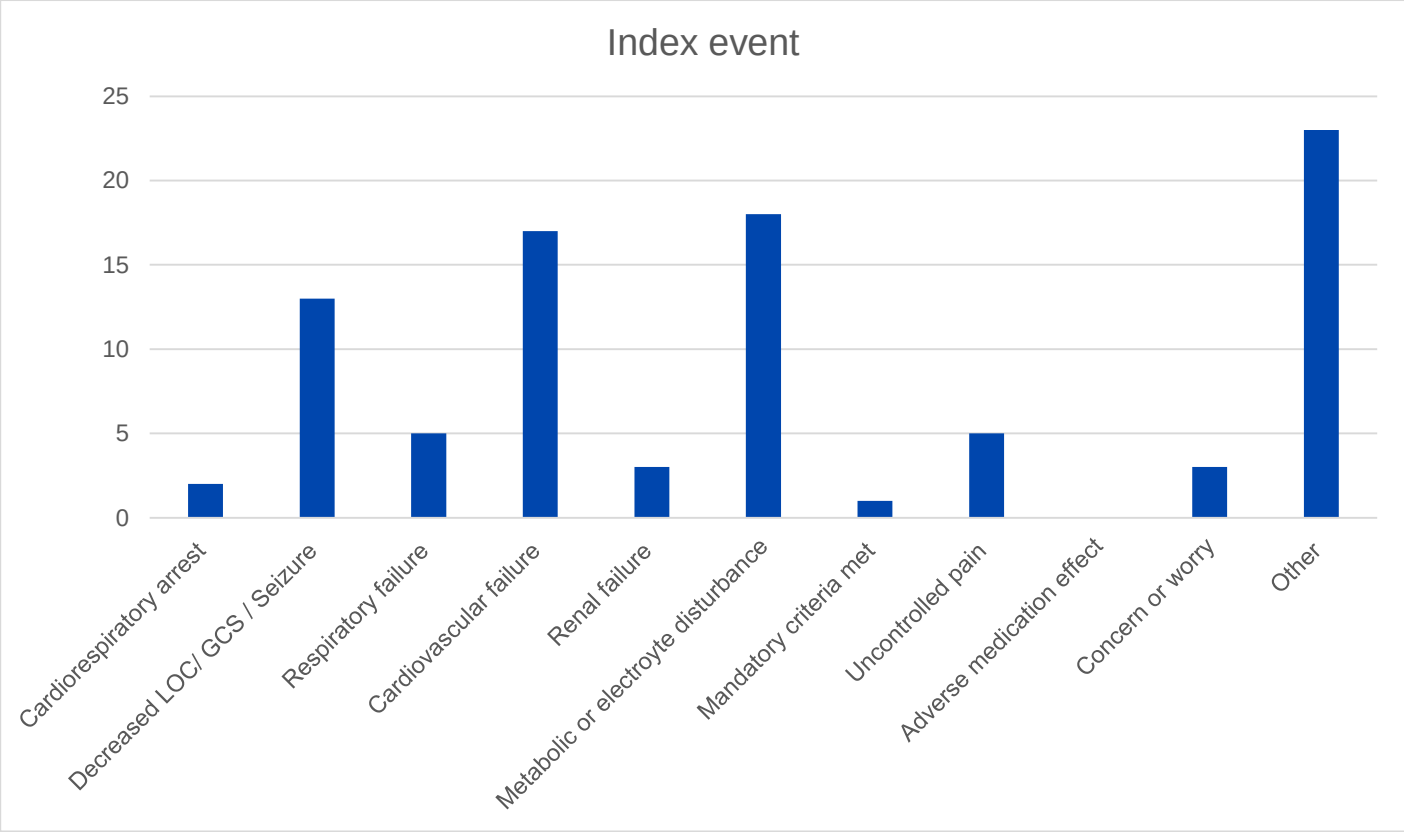
Case selection process



Characteristics of patients with an event that led to RRT activation or transfer

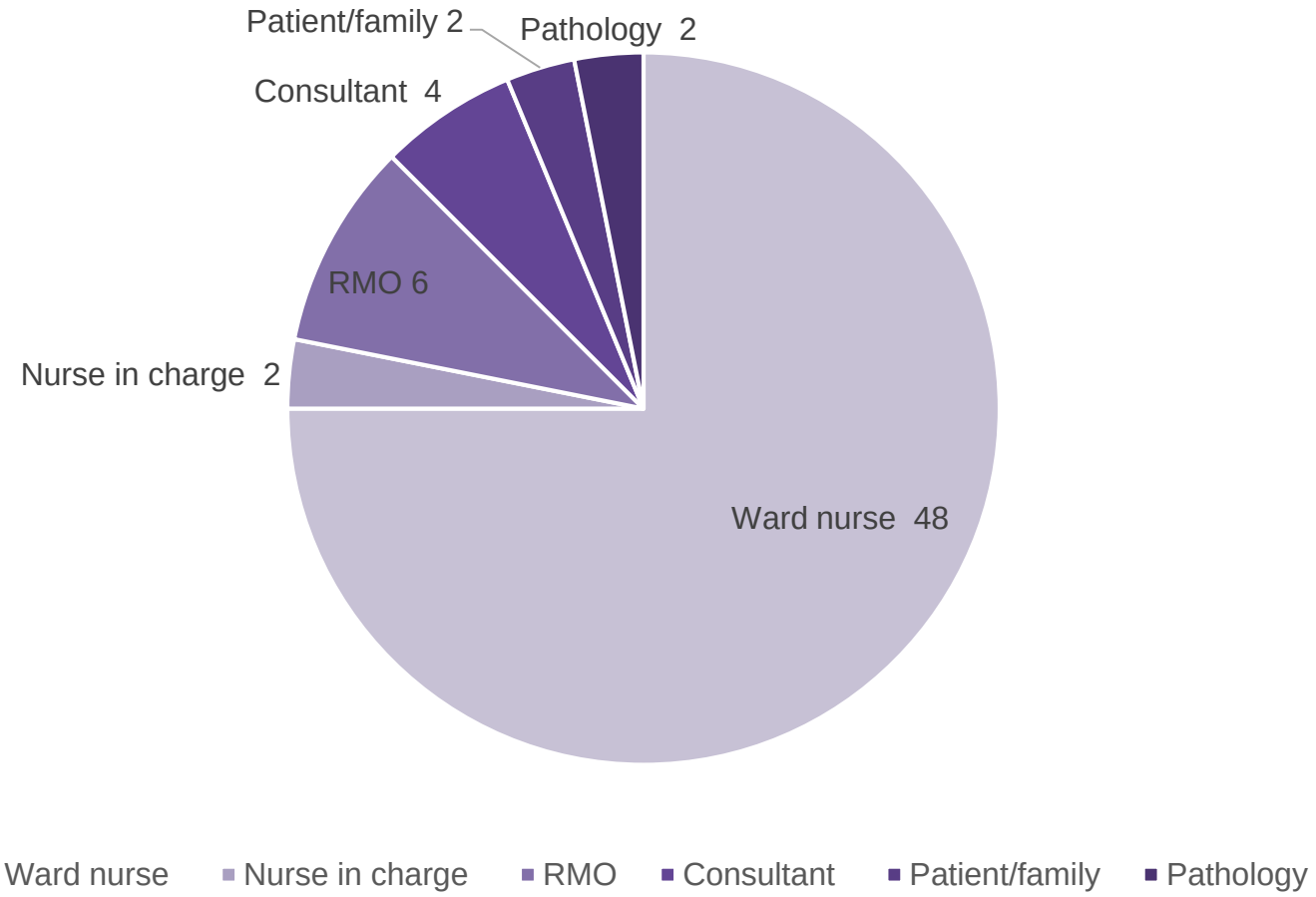
Patient characteristics n 58		
		% age
Age	40-93 (mean 76)	
Female gender	30	51.7
Admitting unit • Geriatric Evaluation Unit 1 • Geriatric Evaluation Unit 2 • Rehabilitation Unit • Rehabilitation Unit • Transitional Care	 13 11 13 12 9 **(58)**	 22.4 19 22.4 20.7 15.5 **(100)**
Length of stay in hours (days)	4-1584 (mean 282.52) 0.16-66 (mean 11.77)	
RRS activation • no • yes	 48 10	 82.8 17.2

Index event

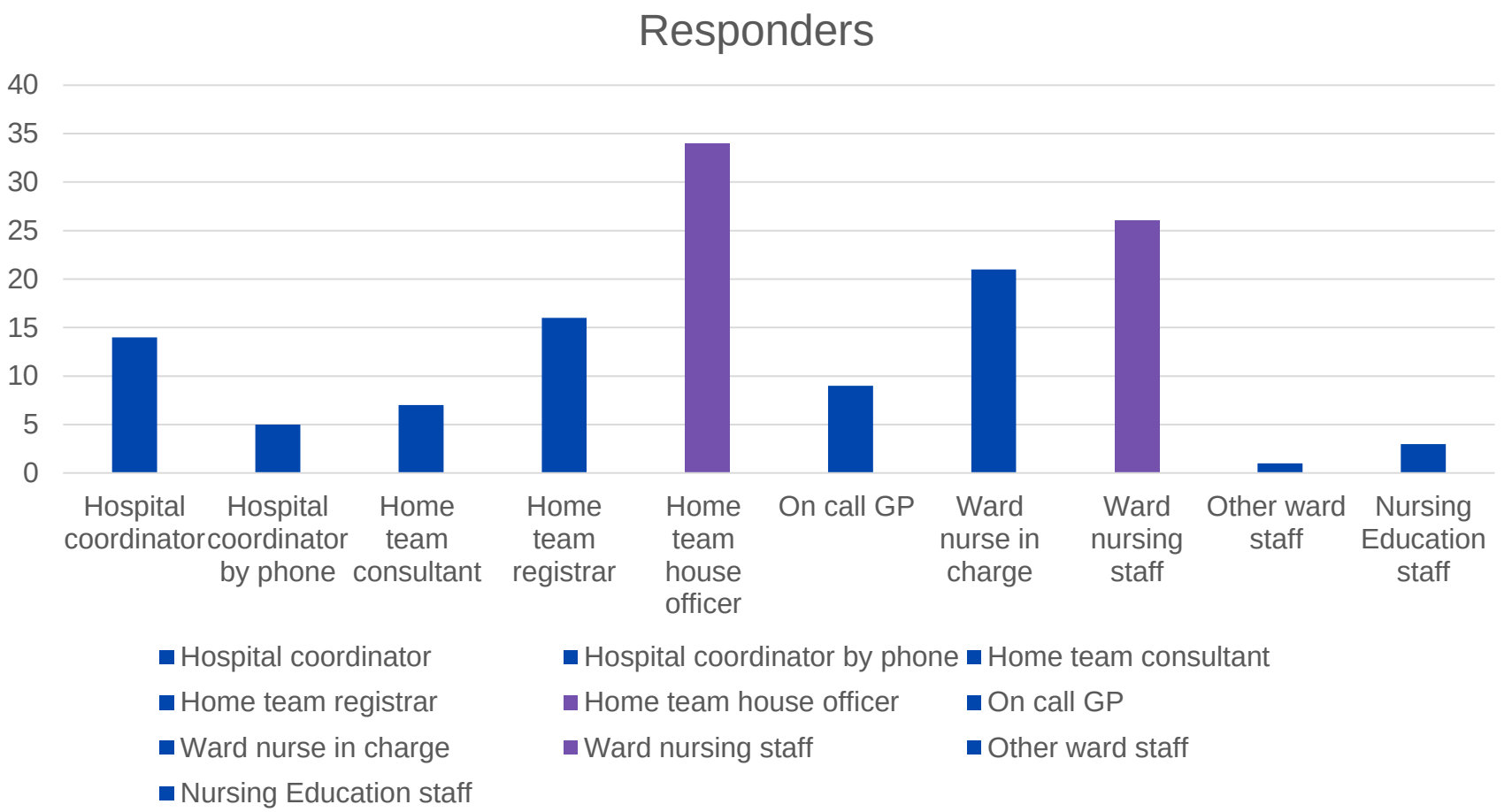


The Australian Commission on Safety and Quality in Health Care identify 11 domains of patient deterioration.

Who identified the index event



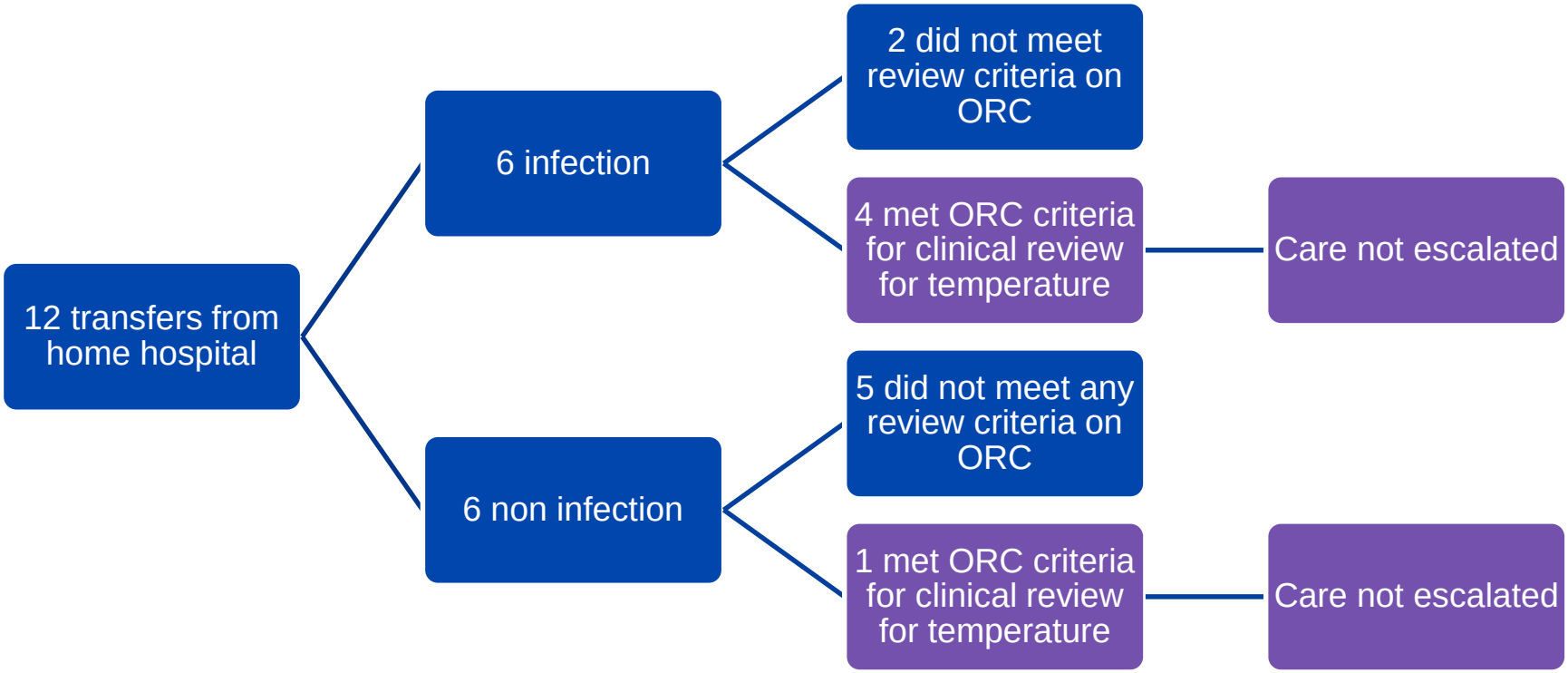
Who responded?



ORC observations

Variable	Description range (mean)		Total / Missing data
Temperature in degrees Celsius	35.7-38.8 (36.8)		**57 / 1**
Heart rate in beats per minute	56-108 (81.2)		**53 / 5**
Systolic blood pressure in mmHg	91-179 (129)		**55 / 3**
Respiratory rate in breaths per minute	16-23 (19)		**52 / 6**
Oxygen via device in litres per minute	0 1 1.5 2	53 1 1 1	**56 / 2**
Oxygen saturation as percentage	89 - 100 (97)		**57 / 1**
Level of consciousness classified	Alert Easy to rouse	50 3	**53 / 5**
Heart rhythm classified	Regular Irregular	43 8	**51 / 7**
Pain score between 1 and 10	0 - 31 Score 1 to 5 Score 6 to 10	31 8 4	**43 / 15**

Transfers back to acute within three days



Conclusions

Staff in sub acute are caring for sick patients

Detection

- We did not find large numbers of vital signs that were abnormal in the set of observations prior to clinical trigger
- Many of the unplanned transfers back to acute were for serious events but did not meet ORC trigger
- Abnormal vital signs were recognised

Recording

- Patients who deteriorated did not have all observations recorded in the set of observations prior to deterioration

Action

- Staff in sub acute care responded promptly to clinical deterioration
- Staff in acute care do not always respond to abnormal vital signs
  - One of the trends we noticed was that once an abnormal vital sign was reported further abnormal signs were not escalated

Education and Learning responses to our research

- **We have presented the interim results of the study to the medical staff at the sub acute facility**
- **We will recommend**
  - Further auditing of the ORC in line with the standard for recognising and responding to acute deterioration
  - Examination of the process of transfer of patients from acute to sub acute care
  - The number of patients returning to acute in three days warrants further investigation
- **We have implemented simulation based training in response to**
  - the acuity of patients in sub acute
  - and that junior staff are often the first responders to deteriorating patient at the sub acute facility
- **The data analysis is still underway and we will report fully by the end of this year.**

Limitations

Retrospective case audit

Nurse perspective

Limited documentation in an emergency is understandable and common

Our study only examined those that were escalated or transferred – we don't know how many patients in the study period deteriorated but were not escalated, or escalated managed and returned to health whilst an inpatient

We got a sense of the negative experience of patients in being transferred from one hospital to another and also the financial implications, but we did not measure these

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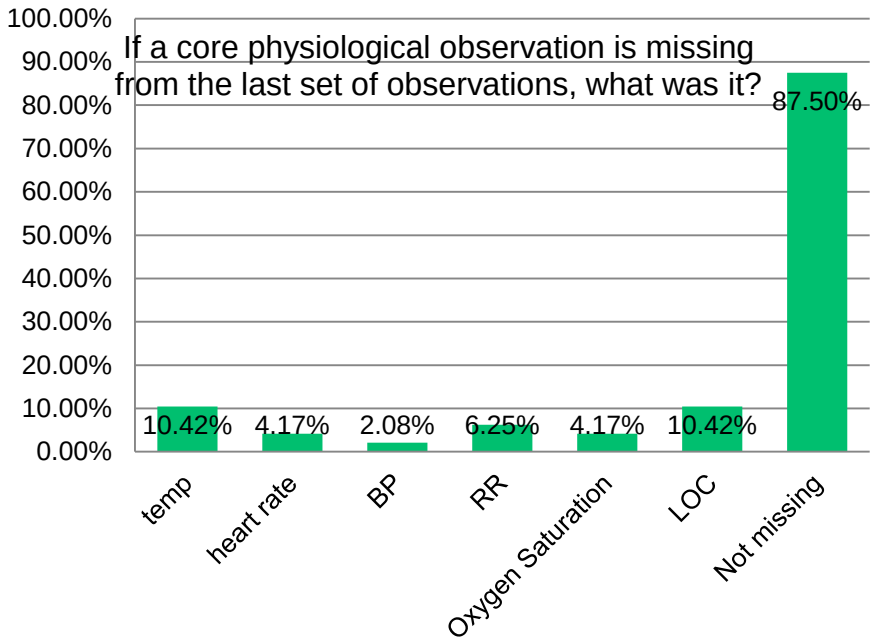
ORC audit


If a core physiological observation is missing from the last set of observations, what was it?
100.00%
90.00%
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
10.42%
4.17%
2.08%
6.25%
4.17%
10.42%
87.50%
temp
heart rate
BP
RR
Oxygen Saturation
LOC
Not missing