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

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

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Aims and objectives: To investigate the experiences of patients who received a medical emergency team review following a period of clinical deterioration and their views about the potential use of a patient and family activated escalation system.

Background: Delay or failure by health professionals to respond to clinical deterioration remains a patient safety concern. Patients may sometimes identify subtle cues of early deterioration prior to changes in vital signs. In response to health professional and system failures, patient and family activated escalation systems have been mandated and implemented in Australia. However, little research has evaluated their effectiveness nor taken patients' perspectives into account.

Design: Qualitative exploratory descriptive design was used.

Methods: Purposive sampling was used. Semistructured interviews were undertaken in 2014 with 33 patients who required medical emergency team intervention. Data were collected from one private and one public hospital in Melbourne, Victoria, Australia. The framework method was used to analyse the data.

Results: All patients stated that it was the clinician who detected and responded to deterioration. Private patient participants were unaware of the medical emergency team system, and felt escalating care was not their responsibility. These patients reported being too sick to communicate prior to and during medical emergency team review and did not favour a patient and family activated escalation system. Public patients were well informed about the medical emergency team system yet expressed concerns around overriding clinicians if activating a patient and family activated escalation system.

Conclusion: Patient participation during a period of deterioration is restricted by their clinical condition and limited medical knowledge. Patients felt comfortable to communicate concerns to clinicians but felt they would not activate the patient and family activated escalation system. This behoves clinicians to actively listen and respond to patient concerns.

Relevance to clinical practice: Clinicians must promote a collaborative relationship and encourage patients to communicate their concerns. Given the perceived barriers
to patient and family activated escalation systems use, resources being employed for their implementation could be redistributed to other areas of patient safety.

**KEYWORDS**
clinical decision-making, communication, deterioration, nursing, patient and family escalation, patient participation, rapid response systems

### 1 | INTRODUCTION

In today’s complex hospital environment, patients are at risk of clinical deterioration (Vorwerk & King, 2016). Health systems are now treating an increasing proportion of patients with complex chronic medical problems who are more likely, or at risk of becoming seriously ill whilst in hospital (Schoen, Osborn, How, Doty, & Peugh, 2009). Additionally, the increasing demand for hospital beds along with an ageing population and shorter hospital stays has resulted in increased patient acuity which can compromise patient safety (Australian Institute of Health and Welfare, 2008). Jha et al. (2013) estimated the burden of adverse events (AE) worldwide at 43 million annually. An AE is defined as an unintended injury or complication resulting in a prolonged hospital stay, disability at the time of discharge or death, and is caused by healthcare management rather than by the patient’s underlying disease process (de Vries, Ramrattan, Smorenburg, Gouma, & Boermeester, 2008). These AEs are responsible for 23 million disability-adjusted life years, increased hospital length of stay, decreasing quality of life and increasing morbidity and mortality (Forster, Murff, Peterson, Gandhi, & Bates, 2003; Vincent, Neale, & Woloshynowych, 2001). Early intervention for clinical deterioration has been shown to improve patient outcomes (Jones, DeVita, & Bellomo, 2011; Maharaj, Raffaele, & Wendon, 2015). Rapid response teams (RRTs) were introduced to improve the recognition and response time to deteriorating ward patients in order to reduce cardiorespiratory arrest and mortality rates (DeVita et al., 2006). In Australia, RRTs are commonly referred to as a medical emergency team (MET). By 2005, 65% of Australian intensive care units (ICUs)-equipped hospitals had an active MET system in place (Jones, George, Hart, Bellomo, & Martin, 2008) and a number of publications reporting on Australian single-centre METs reported review rates between 8.7–71.3 calls per 1,000 patient admissions (Jones, Bellomo, & DeVita, 2009; Santiano et al., 2009; Young, Donald, Parr, & Hillman, 2008). Despite the number of MET activations, there have been equivocal results published nationally and internationally on RRT effectiveness. The Medical Early Response Intervention and Therapy (MERIT) study was the first cluster randomized controlled trial, which attempted to evaluate the effectiveness of the RRT concept in 23 Australian hospitals (Hillman et al., 2005). Three principal variables were studied: cardiac arrest (no palpable pulse) without a prior “not for resuscitation” (NFR) order, unplanned ICU admissions and unexpected deaths (deaths without a prior NFR order). The introduction of a MET was associated with an increased call rate; however, no significant difference between the two groups was recorded for any of the study outcomes (Hillman et al., 2005). In addition to other variables influencing the findings, they found despite appropriate physiological triggers, MET activation was often delayed or failed. The incidence of failed MET activation was at least 50% in both groups who had an unplanned ICU admission or unexpected hospital death (Hillman et al., 2005). In a prospective, point-prevalence study, Bucknall, Jones, Bellomo, and Staples (2013) found that one in 30 patients achieved MET criteria during a single set of vital signs, but very few received MET review. Furthermore, the presence of MET criteria was associated with a marked increase in-hospital, 30- and 60-day mortality (Bucknall et al., 2013). Similarly, in a retrospective observational study to determine the incidence of patients fulfilling MET criteria during their entire hospital admission, one in seven patients (14%) had vital signs that fulfilled one or more MET call criteria, yet MET activation was remarkably low (Guinane, Bucknall, Currey, & Jones, 2011).
Failure to recognise or effectively respond to deteriorating patients remains problematic both nationally and internationally (Boniati et al., 2014; Fuhrmann, Lippert, Perner, & Østergaard, 2008). Associated factors are multifactorial but are largely attributed to an inadequate interpretation of changes in the patient’s condition in conjunction with failure to implement the appropriate escalation action (DeVita et al., 2006). More recently, investigations into AE have shown that even when patients or carers have reported concerns to the healthcare team, appropriate treatment has at times been delayed and leads to negative patient outcomes (King, 2009). Subsequently, the role of the patient and their family has been increasingly recognised as a key contributor in recognising and responding to patient deterioration (Australian Commission of Safety and Quality in Health Care, 2011).

Within the Australian healthcare context, hospitals are governed by 10 National Safety and Quality in Health Service Standards (NSQHSS) (Australian Commission of Safety and Quality in Health Care, 2012). The standards cover areas where patients are deemed to be at high risk of harm, and there is evidence of how safer care can be facilitated. In this article, we will discuss the synergies between two of the standards “partnering with consumers” and “recognising and responding to clinical deterioration in acute health care.” In Australia and internationally, major health agencies have recognised the valuable input health consumers can offer and have emphasised health care which promotes patient participation as a vital strategy to improve patient safety (Burns, Bellows, Eigenseher, & Gallivan, 2014; Koutantji, Davis, Vincent, & Coulter, 2005).

Patient participation has been shown to benefit patients in many ways, with evidence of increased patient satisfaction, safety and the quality of care provided (Poochikian-Sarkissian, Sidani, Ferguson-Pare, & Doran, 2010; Schwappach, Frank, Buschmann, & Babst, 2013; Tobiano, Bucknall, Marshall, Guinan, & Chaboyer, 2016; Weingart et al., 2011). However, barriers to patient participation such as socioeconomic status, power imbalances, generation, differences in knowledge level and illness severity exist and influence consumers’ ability to partake in their own care (Davis, Jacklin, Sevdalis, & Vincent, 2007; Eldh, Ekman, & Ehnfors, 2006; Larsson, Sahlsten, Segesten, & Plos, 2011; Tobiano et al., 2016). Some patients have also expressed a preference to take a passive role (Rathert, Huddleston, & Pak, 2011), whilst others perceived themselves as being subordinate to physicians, suggesting that patient participation is highly individual and subject to a reluctance to participate in their care (Tobiano et al., 2016).

The core concepts of “partnering with consumers” and standard nine (“recognising and responding to clinical deterioration in acute health care”) have been drawn together to acknowledge the significant role patient and family members can contribute to their healthcare outcomes, specifically their ability to recognise and report clinical deterioration (Australian Commission of Safety and Quality in Health Care, 2012). In Australia, all health services are required to comply with state and national requirements which stipulate all RRSs have the capacity for patients or family members to trigger an escalation in care, independent of the healthcare professional caring for that individual. This escalation results in the attendance of an individual, or team of individuals who are capable of assessing the patient, can initiate therapeutic intervention and escalate care to a health professional with advanced life support skills if needed (Australian Commission of Safety and Quality in Health Care, 2012). These systems are commonly referred to as patient and family activated escalation systems (PFAESs) and the impetus for the system was twofold. First, they were driven by a number of highly publicised national and international paediatric cases, where hospital clinicians did not adequately respond to families’ concerns, resulting in tragic patient outcomes (Barnes, 2011; Dunbar, Reddy, Beresford, Ramsey, & Lord, 2007; King, 2009). Second, on patients and relatives, whilst not responsible for the assessment and management of clinical changes, can potentially identify subtle cues of deterioration, prior to the changes showing in the patient’s vital signs (Gill, Leslie, & Marshall, 2016b). However, it has been the paediatric examples of consumer involvement that have led to policy change, and was based on an assumption a PFAES would have been effective in preventing the catastrophic consequences for those individual cases. This assumption was then extended to presume that a PFAES would also be effective in an adult patient population. To date, their implementation has largely been driven by the requirement to meet national standards and legislation in the absence of research evidence (Gill, Leslie, & Marshall, 2016a; Gill et al., 2016b). A systematic review by Gill et al. (2016b) aimed to identify the impact of implementation of PFAESs for the clinically deteriorating patient in hospital. Ten published articles were included in the review, all of which were descriptive articles that outlined the system implementation experience, a review of the PFAES calls and attitudes of family and staff members (Gill et al., 2016b). However, there was no systematic evaluation of the implementation to ascertain the effectiveness of PFAESs for the outcomes of deteriorating patients. Specific to identifying clinical deterioration, there were no published studies that reported the type of symptoms or changes in the patient that elicited concern for the patient or their views of potential barriers and facilitators in escalating care needs via a PFAES. To our knowledge, no other study has reported on consumers’ perspectives around an episode of acute clinical deterioration and their MET experience or their views of PFAESs.

Acknowledging this gap leads to our study aims, which were as follows:

1. To explore the reported experiences of patients who had a period of clinical deterioration and received a MET review and
2. To elicit patient attitudes towards their potential role in activating a PFAES where patients and families may call for urgent clinical assistance.

The findings presented in this article were part of a larger study that investigated whether patient and family perspectives were treated as evidence of a patient’s deteriorating health status whilst in hospital.
2 METHODS

2.1 Design

A qualitative exploratory descriptive design was used to address our research aims. We used an epistemological approach favouring the desire for knowledge that can be put to use rather than being primarily of a theoretical interest (Thorne, Stephens, & Truant, 2016). As nursing epistemology is concerned with both individual human experience and knowledge that can be derived from target populations (Thorne & Sawatzky, 2014), it was deemed appropriate for this study. This iterative dialectic between individual cases and population knowledge (Newman, 2002) was thought to shape the kind of knowledge that would have relevance for our research questions and nursing practice.

2.2 Sampling

A purposive sampling technique was used to recruit participants. Interviews were conducted with patients from a private and a public inpatient setting in the State of Victoria, Australia. These settings were chosen as both are large metropolitan hospitals with a high throughput of acutely ill medical and surgical patients with the potential to experience episodes of acute clinical deterioration. Both hospitals had established MET systems, however did not have an active PFAES in place at the time of the study. Medical and surgical patients were included. We interviewed patients who had a period of clinical instability prior to a MET review during the study period. Clinical instability was defined as patients who had abnormal vital signs fulfilling MET criteria in an 8-hr period prior to their MET call. Individual differences in the complexity of each patient’s situation were considered to select a mix of participants with different medical and surgical needs. The inclusion and exclusion criteria are listed in Table 1.

2.3 Ethical considerations

Prior to commencement of data collection, ethics approval was obtained from each hospital Human Research Ethics Committee (HREC). Formal approval was gained in April 2014 for the private institution and in July 2014 for the public hospital.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Study criteria</th>
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<tbody>
<tr>
<td>Inclusion criteria</td>
<td>Exclusion criteria</td>
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<tr>
<td>Had a medical emergency team (MET) review</td>
<td>Patients with a documented not for resuscitation status</td>
</tr>
<tr>
<td>≥18 years of age</td>
<td>Patients in ICU or emergency</td>
</tr>
<tr>
<td>English speaking</td>
<td>Nonward patients (hospital visitors/staff)</td>
</tr>
<tr>
<td>Physically and cognitively able to communicate</td>
<td>Patients who were transferred to ICU after the MET call and required sedation and intubation</td>
</tr>
<tr>
<td>Had abnormal vitals signs fulfilling MET criteria in an eight-hour period prior to their MET review</td>
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</tbody>
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2.4 Data collection

During the data collection period, the primary researcher reviewed the hospital-specific MET register daily at the two research sites to identify potentially eligible patients. Patients deemed eligible were followed up by the researcher on the hospital wards. The patient was approached and recruitment occurred when they had recovered sufficiently from their MET review and had the capacity to consent. Prior to consent, all eligible participants were given a plain language statement and an opportunity to ask questions about the study. Patients were assured that participation was voluntary, and they were free to withdraw their consent at any time without jeopardising their relationship with any hospital clinicians or researcher. For consented participants, a semistructured interview was undertaken prior to their hospital discharge. Following a discussion on the participants’ experience surrounding their MET review, an introduction to the concept of a PFAES, why they are being implemented and a scenario in which it would be indicated was detailed. This involved the researcher describing some of the highly publicised paediatric cases where healthcare professionals failed to adequately respond to families’ concerns and subsequently resulted in tragic patient outcomes.

It was explained that on reflection parents or caregivers felt powerless and frustrated when their concerns were communicated but not acted upon, and felt if they were able to directly activate a RRT call (MET call), then the patient outcome could have been significantly different. This then led to the researcher detailing a clinical situation where the need for a patient to activate a PFAES would be indicated. The researcher drew upon the patient’s recent experience of requiring a MET to personalise the scenario. See Appendix 1 for an example of an interview.

The interview took place at the patient’s bedside or in a suitable area on the ward to maintain privacy. All interviews were individually conducted, audio-recorded and transcribed verbatim. All data were deidentified to ensure anonymity of reported data. If during the interview the patient became visibly tired or distressed, the researcher offered to cease the interview and resume at a later stage.

2.5 Data analysis

The framework method was used to guide data analysis. This approach provides a systematic and rigorous method for analysing qualitative data (Ritchie & Spencer, 2002). It involves several distinct and highly interconnected stages to sift, chart and sort data according to key issues and theme. Whilst systematic, the approach also requires the researcher to draw on creative and conceptual thinking to determine meaning, salience and connections. Leaps in analytical thinking often involve jumping ahead and then returning to rework earlier ideas.

We used the framework method to code the interview transcripts, using an inductive approach without a predetermined set of themes. Two researchers coded each of the transcripts independently and then discussed the codes and emerging themes identified by the analysts. Through these discussions, a matrix was developed which was used to further sort the data and identify emergent major themes.
TABLE 2 Patient demographics

<table>
<thead>
<tr>
<th>Patient</th>
<th>Private (N = 17)</th>
<th>Public (N = 16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>n = 9</td>
<td>n = 10</td>
</tr>
<tr>
<td>Female</td>
<td>n = 8</td>
<td>n = 6</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td>71</td>
</tr>
</tbody>
</table>

3 | RESULTS

In total, 33 patients were interviewed, 17 from the private setting and 16 from the public setting. There was a relatively even distribution of male and female participants, and the average age was 71 years in the private setting and 54 years in the public. Table 2 presents patient demographics. Relevant to clinical deterioration and participants' MET experiences, three major themes were developed: patient knowledge of their body, communication and clinician trust and expectation. Themes pertaining to PFAESs consisted of individual traits influencing PFAES use, patients' lack of medical knowledge and definition of medical emergency. The interactions between these themes are presented with results from the private and public setting presented together, with similarities and differences outlined.

3.1 | Clinical deterioration and MET experience

3.1.1 | Patient knowledge of their body

Patients from both cohorts frequency discussed "knowing" their own bodies and being acutely aware of the onset of new physical symptoms: "I know my body, they don't know my body and I felt hot and could feel that the infection had not gone and I told them that" (public patient 16). Most commonly, physical sensations that elicited concern to patients were feeling short of breath, burning skin, pain, sweating, dizziness, excessive tiredness and nausea. Some patients described an "unusual" feeling leading them to believe something was not quite right: "I felt lousy, just lousy, I couldn't explain it" (private patient 1). Interestingly, participants stated the onset of a physical symptom prompted them to notify their nurse but as they were unable to interpret the clinical significance of the symptom they did not relate it to a deterioration in their clinical status: "I was inordinately drowsy ...weird drowsy...I wasn't concerned though" (public patient 2). Furthermore, they believed the interpretation of symptoms and their potential to indicate clinical deterioration was the responsibility of the healthcare professional:

I'm here because I needed a medical facility with medical staff...I much prefer to let people who know what they're doing decide what needs to be done...they know much better than I do. (private patient 14)

Interestingly, many private patient participants discussed an expectation they would feel "unwell" secondary to the medical condition that led to their hospitalisation: "I didn't feel good. But I just put it down to the surgery I just had" (private patient 5). This expectation to feel unwell was not detected in the public patient participants.

3.1.2 | Communication

Across both cohorts, participants reported their default method of communication for any concerns or acquisition of information was directly with the bedside nurse. Participants stated they were unaware and uninformed of alternate ways of communicating or escalating concerns, "if I had some inkling that something was wrong I would tell my nurse and then if they thought there was something that needed to be addressed it would depend on their judgement" (private patient 14).

During the interview, all participants were asked to comment on the communication between themselves and clinicians in reference to their MET experience. Private patient participants had limited to no knowledge about the MET system or their actual MET review: "It wasn't until a few days later in this room I heard that 'MET call' [over the hospital PA] and thought what is that? And I looked it up [on the internet] and thought 'Oh that happened to me!'" (private patient 2). There were no private patient participants who were able to state their specific MET trigger. The majority stated they felt too sick to communicate prior to or during their MET review and had physiologically deteriorated significantly enough to alter their cognition and capacity to communicate:

I was out of it so much, I remember hearing it happening and opening my eyes and seeing so many people in front of me. (private patient 2)

I was actually beyond communicating at that point. (private patient 12)

In turn, the severity of the patient's acute illness restricted their ability to directly express concerns or notify nursing staff of their worrying symptoms. Therefore, detection of deterioration relied upon the nurse to interpret patient changes and assess their physiology without any guidance from the patient as to how they feel.

In the public cohort, it was evident the MET system was strongly embedded in the hospital culture. All public patient participants were educated on the purpose of the MET system and were able to recall the physiological variance that lead to their MET review: "What it [heart rate] was doing was creeping up slowly, and then it would hit trigger point, even if it went down by the time they [MET] got here, once it reached that 120 that was that point of establishment" (public patient 10).

During the pre-MET period, public patient participants thought the bedside nurse effectively communicated effectively about the clinical changes occurring, what they meant, potential to deteriorate and escalation procedures. Patients felt well informed and reported if they raised a concern with their nurse they felt satisfied their response met their clinical needs. Most often, the nurse would take their vital signs, make a clinical assessment and escalate care...
accordingly: “My pain got worse so I told the nurse when she came back in and she started checking all the vital signs and on that box thing and indicated my heart rate was up and said we need it [MET] and then bang they arrived” (public patient 1). There was a strong sense of collaboration between patients and nurses in this public patient cohort.

3.1.3 Trust and expectation

Trust and confidence in hospital clinicians was a reoccurring theme that emerged from both the public and private patient cohorts. All participants felt the care they received prior to their MET review was appropriate to their needs, although admitted they were often unaware of why certain clinical interventions were taking place. Beyond trust was an expectation that clinicians were competent to skilfully monitor and manage their clinical status. These participants believed that by purely communicating a concern (e.g., feeling dizzy) to clinicians, the correct clinical management would result: “I didn’t worry about it anymore. I told whoever I had to tell and so I’m fine” (private patient 4). These patients also spoke of a willingness to comply with clinician’s recommendations as they believed they were better informed, therefore trusted their assessments and decision-making:

I can’t agree or disagree with them [nursing staff]. I know they are on my side and I know they are looking after me. (private patient 7)

That is what happens when you come to hospital. You put your trust in them. (private patient 12)

The majority of private participants expressed a preference to take a passive role and desire to follow clinician’s orders: “I accept when you come in there, that I’m in here to do as I’m told and that’s the way I would look at it” (private patient 16).

Public patients also described strongly trusting their clinicians: “I’m in their hands and they will make me good again” (public patient 7), although frequently participants discussed feeling vulnerable due to long waiting times when using their call bell for nurse assistance: “Sometimes you just can’t get the nurses. It might take a good 15 minutes for them to get here and if you were seriously ill then it’s a bit late” (public patient 9).

3.2 Patient and family activated escalation systems

3.2.1 Individual traits influencing PFAES use

When participant views were sought on patients escalating their care needs via a PFAESs, both patient cohorts considered individual patient characteristics as a strong influencing factor for system utilisation. Private patient participants spoke extensively about a patient’s medical history as a facilitator or barrier to PFAES escalation. They suggested a patient with chronic illness may be more capable of astutely monitoring their physical symptoms and be more vigilant in detecting worrying changes from their baseline condition. Furthermore, patients with a chronic illness were more likely to have had previous hospital admissions and be familiar with the hospital culture. These two factors were thought to enable this patient cohort to be more confident in “speaking up” about their care needs and presumably more likely to activate a PFAES if indicated. In comparison, a patient with an acute illness or somebody hospitalised for the first time was thought to be more likely take a passive role and be less confident to override their bedside nurse.

Participants from both the private and public cohorts also identified personality traits as an influencing factor. Participants speculated an outgoing person who is generally outspoken would be confident to communicate concerns and use a PFAES, as opposed to a more passive person: “I would never be rude or tell them that they can’t do something. I am normally just agreeable with what they say” (private patient 12). “I wouldn’t make that call, but my husband might because he’s a take control sort of person” (private patient 14). This factor was thought to create some inequality for varying patient demographic groups.

3.2.2 Patient lack of medical knowledge

As previously reported, a new onset or change in a physical sensation was an indication to patients of a change in their clinical condition. However, participants stated as they were not medical professionals and did not have medical knowledge, they were unable to determine the significance of these symptoms: “How would I know if I need a call? I mean it takes someone with medical knowledge to know if you need it” (private patient 14). In this study cohort, it was the bedside nurse who detected clinical deterioration and activated the MET review. There were no cases where a patient had to embellish how they felt to be listened to or escalate their concerns beyond their nurse. All participants believed it is unrealistic to think patients could potentially determine what constitutes a medical emergency or know what resources are required for varying clinical situations: “I’m not qualified to think if things are right or wrong… I don’t query it… I’m ready to take orders from anyone who I think knows more about what they’re doing than I do” (private patient 16). Because of this, participants felt apprehensive to override nurse’s decision-making by activating a PFAES: “Patients have every right to have an expectation about their treatment, but I don’t believe they have the knowledge to dictate their treatment” (private patient 14).

In contrast to the majority of participants who had hesitations about a PFAES, a small proportion of public patient participants believed a PFAES would be of value, stating: “if I can have that quick call out and they fix it up… different people from different departments and they are all working together to work out what’s wrong, it’s probably good for your mental wellbeing knowing someone is there” (public patient 1). These patients saw benefit in a PFAES to fast-track their medical care and a solution to delays in access to medical staff. The intention to activate a call to expedite medical
attention from their own doctors indicates these participants have misunderstood or overinterpreted the purpose of the system. This was despite patients being informed the purpose was to provide an additional safety layer to clinically deteriorating patients’ needs in the circumstances their care needs were not being adequately addressed at the ward level.

3.2.3 Definition of medical emergency

Patients from both private and public cohorts frequently expressed concern around an inconsistent definition of a “medical emergency” and considered this to influence PFAES use. Participants were of the opinion some patients would be inclined to panic and may unnecessarily activate the PFAES: “one guy might have a heartbeat of say 48 and he thinks that’s too fast, I want the MET team. That’s well within the boundaries, and he’s overriding the nurse” (public patient 10). Conversely, participants acknowledged that a more stoic individual may underestimate the severity of their clinical condition or not reliably communicate symptoms not detected by clinical staff. Furthermore, participants discussed a fear associated with activating a PFAES. Public patients often discussed the potential to create a “boy who cried wolf” scenario or that they would be perceived as a burden if they continually communicated concerns to clinical staff: “No, I didn’t say anything, they’re always so busy” (public patient 2), “I just kept apologising to them for being so difficult” (public patient 11). These same participants believed that a PFAES call is “overplaying” the situation: “I just wouldn’t want a big commotion over something that I thought wasn’t that serious” (public patient 1), and stated enabling patients to activate a PFAES would result in a substantial number of inappropriate call-outs that may waste valuable hospital resources: “It’s using the already limited resources really expensively by having to answer MET calls all over the place ... there needs to be strong control measures or checklist ... I don’t think the patient should be able to call it” (public patient 16). Participants acknowledged these assumptions were made secondary to their lack of medical knowledge and subsequently felt disempowered to activate a PFAES call.

4 Discussion

This study was conducted prior to the mandatory implementation of PFAESs and represents patient views on the system and their potential role in system activation. In addition, patient perceptions around a period of clinical deterioration and receiving a MET review were sought. Whilst the NSQHSSs (Australian Commission of Safety and Quality in Health Care, 2012) and legislation stipulate all hospitals have, or are in the working stages towards a PFAES, our results suggest there is complexity around this and further research is required. There is currently no systematic evaluation of PFAES implementation to evaluate their effectiveness for the outcomes of deteriorating patients.

In our study cohort, the majority of participants felt empowered to express concerns to their nurse. However, they were unwilling to override their clinicians, fearing they would be seen as a burden, or they may potentially overreact to a situation, but predominately they did not feel qualified to make a clinical decision on their care needs. Particularly in the private cohort, communication was restricted during this critical period due to patients’ deteriorated health status, therefore impeding the patient’s ability to work collaboratively with clinicians. Even though participants in the public hospital reported being more cognitively alert in the pre-MET period, their preference still was to escalate their care via their bedside nurse. We believe this preference was based on patients trusting their clinicians, their belief clinicians had expert knowledge and their confidence that their clinical needs were being taken care of. This is consistent with the findings reported by Soleimani, Rafii, and Seyed-fatem (2010) whereby patients had a belief that nurses knew better and as such adhered to nurses’ instructions. However, it differs from the highly publicised paediatric cases from where PFAESs originated. Families’ believed clinicians were not responsive to their concerns and consequently led to disastrous outcomes (King, 2006). No participants in our study felt that their concerns were not addressed or that insufficient care was provided, resulting in their MET review.

An interesting finding we reported was the difference between the private and public patient participants’ awareness of the MET system and their individual MET review. The private cohort was largely unaware of the MET system, had poor recall of their MET review and could not state the reason for their MET call. This lack of MET awareness and understanding may rationalise this cohort’s apprehension in seeing the benefit in a PFAES. Conversely, public patient participants could articulate why they required a MET review, and the only few participants in our study who saw value in a PFAES were from this cohort. The average age of participants in the private cohort was 71 years compared to 54 years in the public. According to Levinson, Kao, Kuby, and Thisted (2005), older people tend to prefer a doctor-lead model of care and also patients in poorer health had a significant preference for physician-directed style of decision-making. Given the private patients were older, and clinically more unstable in the period pre-MET, these factors may explain their apprehension around a PFAES and willingness to use it. In this study, we did not collect data on socioeconomic status, education or patient’s medical history so we cannot comment on these factors and their association with PFAES preference in our study.

In the literature available on PFAESs, a commonly reported fear is that consumers may abuse the system, resulting in an overuse of hospital resources (Gerdik et al., 2010; Odell, Gerber, & Gager, 2010; Ray et al., 2009). In our study, the public patients who considered PFAESs a valuable resource did so on the belief it would fast-track their access to medical staff and have their care needs to be fulfilled more promptly. Whilst this finding may elicit concerns of inappropriate use of the system, for hospitals with a PFAES in place high numbers of inappropriate call-outs have not been reported (Gill et al., 2016b).

In this study, we learnt that whilst patients were astute in noticing the onset of physical symptoms, they were unable to interpret their clinical significance. Participants attributed this to their lack of
medically knowledgeable and identified it as a barrier to PFAES activation. Other factors such as individual patient characteristics and a patient's medical history were also perceived as barriers or facilitators to PFAES use. Participants speculated that an individual with an outgoing personality, or someone with a chronic illness who had multiple previous hospital admissions, would be more likely to be confident to activate the PFAES. This is in keeping with other studies that have shown the level of patient participation in their care depends on many factors, including previous hospital experience and medical knowledge (Henderson, 2002), patients' physical ability (Larsson, Sahlsten, Sjöström, Lindencrona, & Plos, 2007), severity of the illness (Cahill, 1996) and nurses' competence and attitude towards the patient (Sahlsten, Larsson, Plos, & Lindencrona, 2005).

All participants in our study who reported a physical complaint or concern to their nurse felt that their response was sufficient and fulfilled their clinical needs. This highlights the importance of non-technical skills such as effective and astute communication between clinician and patients and also between nursing and medical staff. Effective communication, in conjunction with leadership, teamwork and situational awareness, has been shown to enable nurses to more effectively respond to a deteriorating patient (Endsley, 1995; Flin, O’Connor, & Crichton, 2008; Stubbings, Chaboyer, & McMurray, 2012). In addition, Andrews and Waterman (2005) reported that effective communication skills coupled with appropriate medical language result in a more positive response and outcome in responding to patient deterioration. Further to this, our private population did not consider it their role to make decisions about their clinical care. They declared an expectation and assumption that the clinician had a duty of care to be diligent in monitoring patient well-being. This is consistent with results from another study where patients took a passive role in their care based on the assumption that it is a patient's role to receive a service (Barrere, 2007).

4.1 Implications for practice, education and research

Our results suggest that there are perceived barriers to consumers feeling empowered to use a PFAES. It necessitates hospital clinicians to promote and engage consumers in PFAES awareness and facilitate a collaborative relationship with their patients. Clinicians have a responsibility to discuss the role consumers can take in recognising deterioration and encourage consumers to communicate their concerns or needs. To assist clinicians in engaging with consumers, we suggest a section on the vital sign chart which acknowledges if the patient has concerns. This then ensures clinical staff seek information from the patient's perspective then requires clinicians to listen to and act on the information received.

For education purposes, a component of undergraduate nursing and medicine should focus on the relevance of patient-centred care to encourage clinicians to engage with consumers in a collaborative manner. This education should also be reiterated in the hospital environment for practising clinicians to ensure they are educated on current patient-centred practices, and more specifically the role patients can take in enhancing their safety whilst in hospital.

At the time of data collection in this study, the hospitals did not have active PFAESs, therefore repeating this study with consumers who have used a PFAES and incorporating the treatment team perspectives would be a valuable addition to this body of literature.

4.2 Strengths and limitations

To our knowledge, this is the first study to assess patient views about their experience with clinical deterioration and receiving a MET review, and their potential role in activating a PFAES. We interviewed patients from public and private settings, therefore representing potential differences between the two demographics. However, we did not interview the nursing staff, medical staff or members of the MET team within the study settings, which would add richness to the study findings. The study included only adult patients. The study was conducted in two hospitals in metropolitan Melbourne so our results may not be transferable to other settings. A PFAES was not used in the study hospitals at the time of this research and patients were only informed about such a system at the time of the interview, potentially affecting their responses. On average, the public patient cohort was 20 years younger compared to the private patients. Younger patients may have a different attitude to their healthcare delivery, potentially creating a selection bias; we did not collect other demographic data, which may be of influence to our findings.

5 Conclusion

Whilst working in collaboration with patients and families is mandatory in some jurisdictions and advantageous in many aspects of health care, the findings of this study indicate that patients' role in activating a PFAES is complex and worthy of further research. The role of the patient is to reliably communicate physical changes to clinical staff, as we found that patients were typically unwilling to override clinicians to escalate care using a PFAES. Patients did not feel it was their role, nor did they feel they had the knowledge to ascertain when a PFAES call may be indicated. This then requires the clinician to actively listen to and act upon patient concerns by using their clinical assessment skills and subsequently take responsibility for escalating care accordingly. Significant resources have been used to implement mandatory PFAES without understanding the contextual influences that are prerequisites to successful implementation. The lack of understanding negates the likely impact of such a system.

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CONTRIBUTIONS

Study design: TKB, AMH; data collection and analysis: JG, TKB, AMH; and manuscript preparation JG, TKB, AMH.

CONFLICT OF INTEREST

No conflict of interest has been declared by the author(s).

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**APPENDIX 1**

As we have discussed, you recently became unwell and had to be reviewed by the medical emergency team (MET). Prior to MET review, were you aware of any changes in your condition? If you were, what changes made you concerned and did you let your nurse know? In your case, we know that your nurse made a clinical assessment and detected something was not right so alerted the ‘experts’ to review you. However, for the purpose of this study, let’s say that when you began feeling unwell you told your nurse

Let’s say you still felt unwell, and in fact you felt significantly worse than before. Let’s say you explained that you had severe pain in your tummy, and it was significantly worse than the previous few days. This nurse takes your vital signs and states,

...
'everything is fine' and goes to see her next patient. Meanwhile, you feel you are getting worse and something is not right however you have told two nurses who have said 'you are fine'. If this scenario occurred, and you were aware of a patient and family activated escalation system (PFAES) from information in your pre-admission pack, then nursing staff reiterating the information on your admissions and posters up in your room, how likely would you be to activate a PFAES if you continued to have pain and were worried? What factors would make you more or less likely to override your nurse and use this system offered to you. What are your general thoughts/impressions of this system?