Title page

Full title:

How actionable are staff behaviours specified in policy documents? A document analysis of protocols for managing deteriorating patients

Running title:

Document analysis of protocols

Current word count body of the paper (not including the abstract): 4660

Current word count abstract: 300

Authors:

1st (corresponding author)	Duncan SMITH MSc MN PGCert (Ed) DTN RN RNT e. Duncan.smith.1@city.ac.uk t. 07729749807 1. Clinical Doctoral Research Fellow City, University of London School of Health Sciences Northampton Square London UK EC1V 0HB 2. Honorary Charge Nurse – Patient Emergency Response & Resuscitation Team (PERRT) University College London Hospitals NHS Foundation Trust Euston Road London UK NW1 2BU

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/JOCN.15005

2nd	Mandeep SEKHON PhD e. mandeep.sekhon@kcl.ac.uk 1. Department of Population Health Sciences School of Population Health & Environmental Sciences Faculty of Life Sciences and Medicine King's College London 2nd Floor, Addison House Guy's Campus London, SE1 1UL
3rd	Jill J FRANCIS PhD e. Jill.Francis.1@city.ac.uk 1. Professor of Health Services Research City, University of London School of Health Sciences Northampton Square London UK EC1V 0HB
Last	Leanne M AITKEN PhD RN e. Leanne.Aitken.1@city.ac.uk 1. Professor of Critical Care City, University of London School of Health Sciences Northampton Square London UK EC1V 0HB 2. Menzies Health Institute Queensland Griffith University Nathan, QLD 4111 Australia

Author Contributions:

Criteria	Author Initials
Made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;	DS, MS, JJF, LMA
Involved in drafting the manuscript or revising it critically for important intellectual content;	DS, MS, JJF, LMA
Given final approval of the version to be published. Each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content;	DS, MS, JJF, LMA
Agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.	DS, MS, JJF, LMA

Conflict of Interest:

None of the authors declare conflict of interest.

Funding:

This study was funded by a Pump Priming grant from City, University of London.

MR. DUNCAN JAMIE SMITH (Orcid ID : 0000-0003-4290-8423)

Article type : Original Article

How actionable are staff behaviours specified in policy documents? A document analysis of protocols for managing deteriorating patients

ABSTRACT

Background

To optimise care of deteriorating patients, healthcare organisations have implemented Rapid Response Systems including an 'afferent' and 'efferent' limb. Afferent limb behaviours include monitoring vital signs and escalating care. To strengthen afferent limb behaviour, and reduce adverse patient outcomes, the National Early Warning Score (NEWS) was implemented in the UK. There are no published reports of how NEWS guidance has translated into Trust-level deteriorating patient policy and whether these documents provide clear, actionable statements guiding staff.

Aim

To identify how deteriorating patient policy documents provide 'actionable' behavioural instruction for staff, responsible for actioning the afferent limb of the rapid response system.

Design

A structured content analysis of a national guideline and local policies using a behaviour specification framework.

Methods

Local deteriorating patient policies were obtained. Statements of behaviour were extracted from policies; coded using a behaviour specification framework: TACTA (Target, Action, Context, Timing, and Actor) and scored for specificity (1 = present; non-specific, 2 = present; specific). Frequencies and proportions of statements containing elements of the TACTA framework were summarised descriptively. Reporting was guided by the COREQ checklist.

Results

There were more statements related to monitoring than escalation behaviour (65% v 35%). Despite high levels of clear specification of the action (94%) and the target of the behaviour (74%); context, timing and actor were poorly specified (37%, 37%, 33%).

Conclusion

Delay in escalating deteriorating patients is associated with adverse outcomes. Some delay could be addressed by writing local protocols with greater behavioural specificity, to facilitate actionability.

Relevance to clinical practice

Numerous clinical staff are required for an effective response to patient deterioration. To mitigate role-confusion, local policy-writers should provide clear specification of the actor. As the behaviours are time sensitive, clear specification of the time-frame, may increase actionability of policy statements for clinical staff.

KEYWORDS

- Oragnisational behaviour
- Documentation
- Nurse's responsibilities
- Policy
- Vital signs
- Critical care outreach

IMPACT STATEMENT

- An innovative use of a simple behaviour specification framework, to analyse a sample of local deteriorating patient policy documents, guiding staff behaviour when actioning behaviours of the rapid response system.
- Evidence that local (organisation level) deteriorating patient policies typically contain more information guiding staff on how to monitor patients than how to call for help (escalate) in the event of deterioration.
- Evidence that policy-statements, directing staff behaviour, frequently do not specify who should enact the behaviour, nor the timeframe within which these time-sensitive behaviours should be actioned.

MAIN DOCUMENT

1. INTRODUCTION

The recognition of and response to a deteriorating patient in a hospital ward has been a priority of clinicians, academics and policy-makers for the past two decades (Chua et al., 2017; Credland, Dyson, & Johnson, 2018; McQuillan et al., 1998). Patients who deteriorate are at risk of adverse outcomes such as cardiac arrest, unplanned intensive care admission and death (Tirkkonen et al., 2013; Trinkle & Flabouris, 2011). These endpoints are frequently preceded by a period of physiological deterioration reflected by changes in vital signs, including heart rate, respiratory rate, blood pressure, temperature, oximetry and level of consciousness (Kause et al., 2004; Sprogis, Currey, Considine, Baldwin, & Jones, 2017). A *post hoc* analysis of data from a multi-site (n=23) cluster-randomised controlled trial was conducted to examine the relationship between call times to emergency teams and serious adverse events (n=11,242) (Chen, Bellomo, Flabouris, Hillman, & Finfer, 2009). A statistically significant ($p<0.001$) relationship was reported between early calls made to emergency teams and unexpected deaths, unexpected cardiac arrests, and overall cardiac arrests (Chen et al., 2009). These findings suggest that an early call for help in the event of patient deterioration reduces the incidence of adverse patient outcomes.

2. BACKGROUND

2.1 Rapid Response Systems

To facilitate a timely and clinically appropriate response to patient deterioration, healthcare organisations globally have implemented rapid response systems (RRS) (Lyons, Edelson, & Churpek, 2018). Despite differences in the how these services have been operationalised, the characteristics are often similar. RRS frequently have an *afferent* and an *efferent limb* (DeVita et al., 2006) (Figure 1). In this context, 'limb' refers to a sequence of actions performed by clinical staff within a specified timeframe. Expected afferent limb behaviours include monitoring a patient's vital signs at specified intervals, recognising abnormality (which signals deterioration), and informing a more senior or expert clinician (termed escalation) within a specified timeframe (Credland et al., 2018; Lyons et al., 2018). Modes of notification will depend on the context, but could include any combination of face-to-face communication, telephone communication and use of technology, e.g., a hospital pager system (DeVita et al., 2006; Johnston, Arora, King, Stroman, & Darzi, 2014). These monitoring and escalation behaviours are typically performed by nursing staff (Smith and Aitken, 2016). The *efferent limb* of the RRS includes all actions that follow escalation performed by the responder/s (Lyons et al., 2018). Efferent limb behaviours include performing additional patient assessment, initiating treatment or stabilising interventions, and facilitating a transfer of the patient to a higher-care setting, for example, a critical care unit (Bannard-Smith et al., 2016).

2.2 Afferent Limb Failure

To enhance the afferent limb of the RRS, 'track and trigger' tools have been widely implemented to facilitate identification (and escalation if indicated) of patients with deranged physiology. From the tools available, aggregate scoring track-and-trigger charts (also known as early warning scoring tools) appear to most reliably predict patients at greatest risk (Smith, Prytherch, Schmidt, & Featherstone,

2008). Specifically, the National Early Warning Scoring (NEWS) tool is advocated as the 'gold standard' within the UK context (Royal College of Physicians, 2012; Smith, Prytherch, Meredith, Schmidt, & Featherstone, 2013). For NEWS, if the aggregate score generated from a complete set of vital signs is 5 or more, nurses are prompted to escalate (Royal College of Physicians, 2017). Despite escalation protocols being linked explicitly to the track-and-trigger tool, there is evidence that nursing staff are failing to change their behaviour by increasing the frequency of monitoring (Hands et al., 2013; Kolic et al., 2015; Smith and Aitken, 2016) or escalating care in response to relevant criteria being met (Kolic et al., 2015; Shearer et al., 2012; Tirkkonen et al., 2013). This is described as afferent limb failure (ALF) (Johnston et al., 2014; Trinkle & Flabouris, 2011).

In 2012, the NEWS implementation group (NEWSIG) published a working party report (Royal College of Physicians, 2012) to support the strategic roll-out of NEWS. Whilst this document has served as an overarching guideline, it was recommended that NEWS be operationalised in a way that is locally appropriate (Royal College of Physicians, 2012). Consequently, organisations have developed local protocols and procedures for the implementation of NEWS for managing deteriorating patients (here, local is defined as Trust or organisation level). To ensure that relevant protocols and procedures are available to relevant stakeholders in one document, they are typically set-out in the format of a local policy. Local policies are described as 'live documents' through which organisations can present rules, guidelines and behavioural expectancies under which staff working within them should operate (Tannas, n.d.).To increase the likelihood that these local policies lead to appropriate actions, the recommended clinical behaviours should be defined using language that is specific, concrete and actionable (Grol, Dalhuijsen, Thomas, Rutten, & Mokkink, 1998; Michie, 2004). Lack of specificity within deteriorating patient policies is potentially a proximal antecedent to ALF. In order for policy statements directing staff behaviour to be actionable, they should specify *'who'; should do 'what'; to 'whom'; 'when'* and *'where'* (Gould et al., 2014; Michie, 2004). Within the literature (Gould et al., 2014; Presseau et al., 2017), these same 5 elements have been reported using a simple framework to specify behaviour according to the Target, Action, Context, Timing and Actor (TACTA).

At present, there is no published work that reports how NEWS implementation guidance has been translated into local deteriorating patient policies and what level of specificity in behavioural instruction is provided for clinicians. In order to fully explore this potential antecedent to ALF, a documentary analysis of local deteriorating patient policies was carried out using the TACTA framework.

3. METHODS

3.1 Aim

The aim of this study was to identify how local (NHS Trusts across the United Kingdom) deteriorating patient policy documents provide 'actionable' behavioural instruction for clinical staff, who are responsible for actioning the afferent limb of the rapid response system.

Objectives

The objectives of this study were to:

- Analyse local deteriorating patient policies to identify specification of 'who, what, whom, when and where' (Michie, 2004) in relation to each item of behavioural instruction.
- Compare the frequency of the five elements of the TACTA framework, between policies obtained from district general hospitals and specialist referral hospitals providing tertiary-level care.
- Identify inconsistencies in the translation of behavioural instruction from the NEWSIG report to local policy documents.
- Report instances of good practice where behavioural instruction is specific, and areas where clinical behaviour is less clearly specified.
- Offer recommendations to facilitate policy-makers to improve the specificity of behavioural instruction within local policy documents.

3.2 Design

In order to systematically analyse text-rich documents, we conducted a structured content analysis (Gould et al., 2014; McGraw & Drennan, 2015; Murray, 2013) of local deteriorating patient policies. Content analysis is a versatile method that enables themes and patterns to be identified through systematic classification and coding of text-based data (Hsieh & Shannon, 2005). The documentary analysis was informed by existing theory, suggesting that clear specification of behaviour within guidelines and policies is important (Grol et al., 1998; Michie, 2004; Michie & Lester, 2005), and a behaviour specification framework (Gould et al., 2014; Presseau et al., 2017). The broad study design is 'directed content analysis' as the data extraction, interpretation and discussion of findings is all directed by existing theory (Hsieh & Shannon, 2005). Reporting was guided by the consolidated criteria for reporting qualitative research (COREQ) checklist (Tong, Sainsbury, & Craig, 2007) (supplementary file 1).

3.3 Access to documents and sample size

We obtained local deteriorating patient policies from acute NHS Trusts between January and March 2017. Our objective was to report how the National Early Warning Score (NEWS) has been implemented since its inception in 2012. As this tool is typically a UK-based system, we purposively sampled within the UK only and targeted a range of settings including hospitals located in cities, sub-urban and rural areas, as well as district general hospitals and tertiary-level hospitals providing a level of specialised care. Some hospitals - with open access - allowed policy documents to be obtained directly via their Trust websites (obtained this way n=20). Where this was not the case, we contacted Trusts using email and requested policy documents under the Freedom of Information Act (2000) (obtained this way n=7). This approach for accessing policies and local guidelines has been used in previously published documentary analyses (Bowen, 2009; Hsieh & Shannon, 2005). We then scrutinised the policies to identify if the organisation was using the National Early Warning Score (NEWS) chart in paper or electronic form. Policies from organisations not using this tool, and from

non-acute Trusts (including community mental health Trusts and intermediate/long-term care providers), were excluded from the sample. Policies that had passed their date for review at the point of access were considered 'out of date' (i.e., no longer a 'live document') and were also excluded from further analysis. From the 135 acute Trusts within the NHS ("NHS statistics, facts and figures," 2017), we obtained 27 documents; we excluded 2 policy documents as they did not refer to the use of the NEWS tool; a further 4 as they were not operational within an acute Trust; and 1 because it was out of date at the point of access. Twenty local policy documents met the criteria for inclusion in the documentary analysis.

3.4 Development of the coding framework

To conduct the content analysis, we developed a codebook (Tracy, 2013) (supplementary file 2) and coding framework to enable data extraction and to examine the behavioural specificity of the policy documents. A coding spreadsheet (supplementary file 3) was developed in Microsoft Excel™ based on the TACTA framework (Gould et al., 2014). In an extension of the methods proposed in the existing TACTA literature, columns were added so that each of the 5 elements could be graded for specificity.

We anticipated that the National Early Warning Score Implementation Guideline (Royal College of Physicians, 2012) would be a rich source of data on the expected behaviours of the afferent limb. Using the coding spreadsheet, this document was coded by the primary investigator (DS) a critical care nurse with expertise in the recognition of and response to deteriorating patients. DS has 9 years of clinical experience practicing in critical care outreach teams and currently practices as a Honorary Charge Nurse on a Patient Emergency Response and Resuscitation Team (alongside an academic role). The coding of each recommendation within the NEWSIG report provided an opportunity to pilot the coding spreadsheet and to develop the first iteration of a codebook (Tracy, 2013). This document also served as a national standard from which to compare the local documents.

3.5 Data extraction

The process of primary coding was informed using methods described in published literature (McEwen, 2004; Murray, 2013; Tracy, 2013) and was carried out as follows:

- Each document was read superficially and then more thoroughly, to ensure familiarisation with the subject matter;
- Content (textual and diagrammatic) related to the afferent limb was identified (using criteria from the codebook), copied directly from the document and entered into the coding spreadsheet as a first-level code;
- Each first-level code was then further analysed (using information from the codebook) for presence (or absence) of the behavioural elements of the TACTA framework (Gould et al., 2014; Michie, 2004);
- The specificity of the Target, Action, Timing and Actor elements of TACTA were evaluated and graded from 0-2. A score of 0 was assigned if the element was missing from the statement altogether. A score of 1 was assigned if the element was present but enactment would be

difficult due to a lack of specificity in the instruction. A score of 2 was assigned if the element was present and specific enough that the behaviour could be enacted. The 'context' was defined as either the location in which the behaviour should (or should not) take place and/or the circumstances in which the behaviour should be enacted. Context was not assigned a score at this stage, as the 'where' element was frequently described in broad overarching information within the introductory pages of the policy document, rather than embedded within the individual codes.

3.6 Data analysis

After primary coding, one author (DS) reviewed first-level codes for all policy documents and categorised them as either 'monitoring behaviour' (actions related to measuring or documenting of vital signs and calculating the NEWS) or 'escalation behaviour' (actions related to calling for help or 'raising the alarm').

We grouped these data by hospital type (i. district general hospitals and ii. specialist referral hospitals providing tertiary-level care). This information was obtained by reviewing Trust websites and organisational reports available in the public domain. We counted frequencies and proportions of behavioural statements containing each of the TACTA elements for both hospital types. Statements categorised as monitoring behaviours and escalation behaviours were also counted. Proportions of TACTA elements, monitoring behaviour statements and escalation behaviour statements were displayed using histograms. We used parametric or nonparametric descriptive statistics, depending on the whether the data met the statistical assumptions for parametric tests.

We calculated the proportion of statements within each policy document. If the target, action, timing and actor were included within the statement and specific this was graded as 2; included but not specific graded 1; and not included graded 0. To obtain a range of example statements, we used the coding spreadsheet to identify policies where the 4 elements of TACTA were evident and specific (high proportion of statements graded 2); where the 4 elements of TACTA were evident but not specific (high proportion of statements graded 1); and where the 4 elements were not present at all (high proportion of statements graded 0).

3.7 Rigor in primary coding

Primary coding of the policy documents was conducted in two stages and was performed by one author (DS) and a research assistant (MS), a non-clinician with academic expertise in health psychology and behaviour change research. Ten percent of documents (n=2) were initially selected randomly (using computer-generated random selection) and coded independently (Tracy, 2013). Both researchers then met to compare coding, to calculate percentage agreement, and to reconcile differences through consensus discussion. Once agreement was reached, the codebook was revised accordingly. This entire process was repeated until inter-coder agreement exceeded 90% (Tracy,

2013). The remaining policy documents were then coded by one researcher alone (MS), who had opportunity to discuss uncertainties throughout the process.

3.8 Ethical considerations

No human paricipants were involved in the conduct of this research, therefore the study did not meet crtieria for application to a research ethics committee. Many of the local policies analysed were available in the public domain and did not include confidential or sensitive content. Despite this, no identifiable information about the organisation from which the policy document originated were recorded during data extraction. Likewise, no organisations have been identified in reporting of results. Coded data were stored on an encrypted external drive.

4. RESULTS

4.1 The NEWSIG document (national standard)

The NEWS Implementation Group document (Royal College of Physicians, 2012) has 47 pages, including 34 pages of codable text. Twenty-four behavioural statements related to clinicians' afferent limb behaviour were extracted during primary coding. Twelve of these statements were monitoring behaviours and 12 were escalation behaviours.

4.2 Local policy documents

Data were not normally distributed, therefore descriptive statistics were displayed using medians and interquartile ranges. Differences between policies from the two hospital groups (tertiary-level or district general hospital) were explored using Mann-Whitney U (Field, 2013). Data analysis was conducted in SPSS version 20, IBM Corp. Released 2011 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp).

Eight policy documents were from district general hospitals; 12 were from specialist referral hospitals providing tertiary-level care. The number of pages per policy document ranged from 11 to 64 (median 21, IQR 18-32). Nine hundred and nineteen statements related to afferent limb behaviour were extracted (range 2 – 113 statements; median 41, IQR 35-60). Five hundred and ninety-nine (65%) statements were categorised as monitoring behaviour; 320 (35%) statements were categorised as escalation behaviour.

No statistically significant differences were found between policy documents from the two hospital groups for proportions of statements containing each TACTA element. No statistically significant difference was found between hospital groups for the proportions of statements related to monitoring behaviour and escalation behaviour. Therefore, no further analyses were carried out between these groups of data and all further reporting of findings is for the entire sample. Due to the broad range in

frequencies of afferent limb statements between policy documents, percentages are reported for descriptive statistics.

The most frequently specified element of the behaviour was the 'action' with 94% of statements containing information about the activity to be undertaken (range 68-100%, median 96%, IQR 89-100%). Where the action was present in the statement, it was reported specifically (graded as 2) in 89% of statements. The least frequently specified element of the behaviour was the 'actor' which was included in only 33% of statements (range 0-71%, median 31%, IQR 24-43%). Where the actor was reported, it was done so specifically (graded as 2) in 86% of statements. These data are summarised in table 1.

Several policy documents provided broad contextual ('where') information within the introductory pages, stating where the policy should be used and where the behaviours described within it should be enacted. Additionally, in some documents further detail was offered regarding the context in which the reported behaviours should not be enacted. The contextual detail was also often linked to the target/s of the behaviour:

> *"The scope of this policy applies to adult inpatients. It excludes paediatric, critical care areas and maternity patients who, due to their specialist requirements, follow their own observation and escalation policies."*
>
> Policy 03

> *"This policy is therefore aimed at all doctors, registered nurses, healthcare assistants and allied healthcare professionals employed within the X, who are specifically involved in the delivery of care to adult patients cared for in an emergency and ward environment within X. Please note that this policy also applies to Mental Health Division patients cared for at X Hospital."*
>
> Policy 07

In some behavioural statements the 'active voice' was used (here the actor – who is specified - performs the action):

> *"The Registered Nurse should review the patient and repeat a full set of observations prior to seeking senior advice and support."*
>
> Policy 11

More frequently, the 'passive voice' was used (here the target receives the action and no actor is specified):

"The Registered Nurse responsible for the patient must be informed when the NEWS Score is greater than 0."

Policy 02

In table 2, we present example statements related to afferent limb behaviour from local policy documents. We have highlighted the 5 elements of the TACTA framework and the scores assigned for level of specificity. Where the element of the TACTA framework was present but not specific (scored 1 for level of certainty), we have explained our coding decision and offered a recommended re-structure that may improve the specificity of the overall statement.

5. DISCUSSION

The aim of the present research was to identify how local deteriorating patient policy documents provide actionable behavioural instruction for clinical staff, when using the National Early Warning Score (NEWS) to enact behaviours of the afferent limb. Within the sample of local policies, there was noteworthy variation in relation to the number of pages and the frequency of behavioural statements related to the afferent limb. Within the NEWSIG (Royal College of Physicians, 2012) there were equal numbers of statements related to monitoring behaviours and escalation behaviours. Within the sample of local policy documents there were more statements related to monitoring than escalation behaviour. The target and action elements of the TACTA framework were present in a high proportion of behavioural statements. The context, timing and actor elements were present in a lower proportion of statements, with the lowest proportion of statements specifying the actor. Within the documents sampled, there were no significant differences in these proportions between policies obtained from tertiary-level and district general hospitals.

A recently published prospective study - involving 1,148 rapid response activations - reported a significantly ($p<0.001$) higher 30-day mortality in patients where escalation was delayed, compared to where it was timely (Boniatti et al., 2014). This result suggests that escalation behaviours are time-sensitive and should be promptly enacted in the event of an elevated NEWS. Despite this, there is evidence in the literature of delays and inconsistencies in the escalation of deteriorating patients (Churpek, Edelson, Lee, Carey, & Snyder, 2017; Fernando et al., 2018; Shearer et al., 2012). In this documentary analysis, we found a low proportion of statements included a specific timeframe for the clinician to enact the behaviour. Further, there were examples where statements included a timing element but with the use of terms such as 'immediately' or 'urgently''. This wording is consistent with language used to report the time scale for afferent limb behaviours within the NEWSIG (Royal College of Physicians, 2012). Whilst this language may be appropriate for a national document, and clearly emphasises that the behaviour is time-critical, these terms are open to varied interpretation and could contribute to an inconsistent response at the level of the individual clinician. Behavioural statements within local policy documents would be more actionable if they were documented in more specific terms i.e., within how many minutes or hours the behaviour should be enacted. As advised within

NEWSIG (Royal College of Physicians, 2012), providing this level of specificity would also allow the Trust-level policy writers to customise the timing of the behaviour to make it realistic and achievable within the local context.

In addition to registered nurses, within the UK context it is common for some afferent limb behaviours to be performed by un-registered practitioners including health care assistants, pre-registration student nurses and, increasingly, associate practitioners (Mackintosh et al., 2014; Smith and Aitken, 2016). In addition, at the point of escalation, the local clinicians (typically those listed above) are required to contact one or more efferent responder/s (commonly a medical officer and/or a senior specialist nurse) (Bannard-Smith et al., 2016; DeVita et al., 2006). By the point where the afferent and efferent limbs interface, a range of different clinical actors may be performing a complex array of different and overlapping behaviours (Smith et al., 2006). Dixon-Woods and Pronovost (2016) suggest that, at system-level, the fallibility of healthcare systems increases when they are dependent on "distributed, heterogeneous but interdependent actors" (p487). This point has clear relevance to the RRS, the effectiveness of which is contingent on the performance a range of actors, from different clinical backgrounds and disciplines, who may respond to a deteriorating patient from different locations within the hospital setting. These actors must fulfil the responsibilities of their own professional role whilst also interacting effectively and working alongside other personnel (Mackintosh & Sandall, 2010). The potential for an effective system-level response decreases when individuals operating within the system, lack co-ordination and a clear understanding of their own role and the role of other actors (Dixon-Woods & Pronovost, 2016). Within this sample of policies, the actor element of the TACTA framework was infrequently specified in statements related to afferent limb behaviour, irrespective of the organisation (tertiary-level or district general hospital). Given the potential number of actors involved in operationalising the RRS, the lack of clear specification of 'who should do what' may be contributing to a less cohesive response to deteriorating patients. Achieving a mutual understanding of goals, priorities, and approaches to patient assessment and management, may help to create a 'shared mental model' amongst clinical staff, improving performance at the level of the individual and the team (Mackintosh & Sandall, 2010; McComb & Simpson, 2014). Improving the performance of staff and teams who action behaviours of the RRS, has the potential to reduce hospital-based adverse events which cause avoidable patient harm (De Vries, Ramrattan, Smorenburg, Gouma, & Boermeester, 2008) and place significant financial burden on the organisation and wider healthcare system (Ridley & Morris, 2007; Vincent, Neale, & Woloshynowych, 2001). As such, the need for clearer specification of the actor/s within deteriorating patient policy statements, is a key recommendation from this work

Over the past two decades, an expansive body of literature related to the rapid response system has emerged. In relation to the afferent limb of the RRS specifically, a sizable proportion of this work has focused on the use of track-and-trigger tools and their predictive value in identifying patients most at risk of adverse outcomes (Downey, Tahir, Randell, Brown, & Jayne, 2017; Hands et al., 2013; Jarvis et al., 2015). Similarly, the interventions (primarily educational) proposed to address the problem of afferent limb failure, have tended to focus on the behaviours related to patient monitoring and

assessment (Liaw et al., 2016; Smith, Osgood, & Crane, 2002). In comparison, there are paucity of studies that have reported the actions of staff when they are escalating care and what influences their escalation behaviour (Massey et al., 2017, 2014; Smith and Aitken, 2016). The results of this documentary analysis reflect the wider body of evidence, with a higher proportion of statements related to monitoring behaviour compared to escalation behaviour. In other words, it is likely that healthcare staff monitor patients' vital signs effectively but are still uncertain or unconfident about what to do when they detect deterioration. More focused observational work may be beneficial to 'unpick' the nuances of escalation behaviour and to elucidate what actually happens in the clinical setting. Improving the understanding of the afferent limb through a 'behavioural lens', could also permit the development of more focused, theoretically-informed, behaviour change interventions (Cane, O'Connor, & Michie, 2012; Craig et al., 2008) targeting behavioural antecedents to afferent limb failure.

Within the policy documents, we found examples of instructions where the actor was directed to enact multiple behaviours in the same context (Sniehotta, Presseau, Allan, & Araújo-Soares, 2016). This was more common in escalation behaviour statements, where nursing staff were directed to contact a number of different 'efferent limb' responders, for example: *"notify a doctor, a critical care nurse, and/or a nurse practitioner".* In response to these instructions, we pose these questions:

- *Should these behaviours occur in sequence or concurrently?*
  - *If concurrently, with whom should the behaviours be enacted?*
  - *If in sequence (by one actor), in what order should these behaviours be enacted?*
- *Should all the listed behaviours always be enacted or, are some behaviours conditional*? (We define conditional as: only enacted under certain conditions (Michie, Atkins, & West, 2014) e.g., *the nurse practitioner should be contacted after the critical care nurse and only if the critical care nurse is unavailable).*

We acknowledge that these may be empirical questions and that they are currently unanswered by published literature. Pragmatically, to make statements more actionable, it may be useful for policy writers to consider these points when writing statements that direct staff to enact multiple behaviours.

5.1 Strengths and Limitations

We believe that this is the first published documentary analysis of local deteriorating patient policy documents, and the first study to report, using a behaviour specification framework, how actionable policy-statements directing afferent limb behaviour are. We were able to sample of range of policy documents from organisations across the UK, enabling us to develop a broad understanding of how NEWS had been applied since its inception in 2012. However, we acknowledge that we were unable to code all policy documents and that our findings may not be representative of every operational policy document within the UK. Likewise, our sampling of policy documents was limited to oraganisations using the NEWS track and trigger tool (a typically UK-based system) and therefore excluded policy documents from other international organisations. However, given that rapid response

systems have been implemented on an international scale, and the expected behaviours of the afferent limb are typically the same (regardless of the particular track and tigger tool in use), our recommendations are likely to be relevant to those who develop policy and protocols for deteriorating pattients in the wider international context.

Whilst it is intuitive that improving specificity in policy statements will increase the likelihood of the behaviour being enacted as specified, we do not have empirical evidence that greater specification in policy directly increases the desired behaviours. In order for the policy to influence behaviour, staff would need to read the document in the first instance. In addition, we acknowledge that behaviour change is determined by a range of different mediators (Francis, O'Connor, & Curran, 2012) and that disseminating a policy alone - even if it contains clear, actionable and specific behavioural statements - may not result in the desired behaviour change. Despite these limitations, clear, actionable, policy-specified behaviours are arguably the first essential element to inform/drive consistent, timely responses to the deteriorating patient.

6. CONCLUSION

Delay in escalating deteriorating patients is associated with adverse outcomes. Some of this delay could be addressed by writing local protocols with a greater level of behavioural specificity, to facilitate their actionability. We have used a simple framework for analysing current hospital documents and for proposing how they can be made more actionable. However, the effect of such changes on timely responses to deteriorating patients should be investigated empirically in further research.

7. RELEVANCE TO CLINICAL PRACTICE

In December 2017, a second iteration of the National Early Warning Score (NEWS2) was published by the Royal College of Physicians (Royal College of Physicians, 2017). Whilst amendments have been made to the layout, presentation and content, (Royal College of Physicians, 2017) the overarching principles that determine its use remain unchanged. It is quite plausible that acute healthcare Trusts within the UK will have/be working towards substituting the original tool with the updated version. We suggest that this period of change provides a timely opportunity for senior clinicians responsible for writing, reviewing and ratifying local policy, to consider how actionable the statements of behaviour are and to identify opportunities to increase the specification of behavioural statements within these key documents. In particular, we recommend the inclusion of a specified clinical actor (who is responsible for enacting the behaviour/s) and a clear actionable time-frame (how quickly the behaviour needs to be enacted). In addition, enacting multiple behaviours, in the same clinical context, may place a higher cognitive load on cliincal staff (Subbe, Duller, & Bellomo, 2017). As such, we recommend that further attention be given to increasing the specificity of policy statements that direct clinical staff to enact multiple behaviours.

Funding

This study was funded by a Pump Priming grant from XXXX

Conflict of Interest

None of the authors declare conflict of interest.

References

Bannard-Smith, J., Lighthall, G. K., Subbe, C. P., Durham, L., Welch, J., Bellomo, R., & Jones, D. A. (2016). Clinical outcomes of patients seen by Rapid Response Teams: A template for benchmarking international teams. *Resuscitation*, *107*, 7–12. https://doi.org/10.1016/j.resuscitation.2016.07.001

Boniatti, M. M., Azzolini, N., Viana, M. V., Ribeiro, B. S. P., Coelho, R. S., Castilho, R. K., … Filho, E. M. R. (2014). Delayed medical emergency team calls and associated outcomes. *Critical Care Medicine*, *42*(1), 26–30. https://doi.org/10.1097/CCM.0b013e31829e53b9

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, *9*(2), 27–40. https://doi.org/10.3316/QRJ0902027

Cane, J., O'Connor, D., & Michie, S. (2012). Validation of the theoretical domains framework for use in behaviour change and implementation research. *Implementation Science*, *7*(1), 37. https://doi.org/10.1186/1748-5908-7-37

Chen, J., Bellomo, R., Flabouris, A., Hillman, K., & Finfer, S. (2009). The relationship between early emergency team calls and serious adverse events. *Critical Care Medicine*, *37*(1), 148–153. https://doi.org/10.1097/CCM.0b013e3181928ce3

Chua, W. L., See, M. T. A., Legio-Quigley, H., Jones, D., Tee, A., & Liaw, S. Y. (2017, December 1). Factors influencing the activation of the rapid response system for clinically deteriorating patients by frontline ward clinicians: A systematic review. *International Journal for Quality in Health Care*. Oxford University Press. https://doi.org/10.1093/intqhc/mzx149

Churpek, M. M., Edelson, D. P., Lee, J. Y., Carey, K., & Snyder, A. (2017). Association between survival and time of day for rapid response team calls in a national registry. *Critical Care Medicine*, *45*(10), 1677–1682. https://doi.org/10.1097/CCM.0000000000002620

Craig, P., Dieppe, P., Macintyre, S., Mitchie, S., Nazareth, I., & Petticrew, M. (2008). Developing and evaluating complex interventions: The new Medical Research Council guidance. *BMJ*, *337*(7676), 979–983. https://doi.org/10.1136/bmj.a1655

Credland, N., Dyson, J., & Johnson, M. J. (2018). What are the patterns of compliance with Early Warning Track and Trigger Tools: A narrative review. *Applied Nursing Research*, *44*, 39–47. https://doi.org/10.1016/j.apnr.2018.09.002

De Vries, E. N., Ramrattan, M. A., Smorenburg, S. M., Gouma, D. J., & Boermeester, M. A. (2008). The incidence and nature of in-hospital adverse events: A systematic review. *Quality and Safety in Health Care*, *17*(3), 216–223. https://doi.org/10.1136/qshc.2007.023622

DeVita, M. A., Bellomo, R., Hillman, K., Kellum, J., Rotondi, A., Teres, D., … Galhotra, S. (2006). Findings of the First Consensus Conference on Medical Emergency Teams*. *Critical Care Medicine*, *34*(9), 2463–2478. https://doi.org/10.1097/01.CCM.0000235743.38172.6E

Dixon-Woods, M., & Pronovost, P. J. (2016). Patient safety and the problem of many hands. *BMJ Quality and Safety*, *25*(7), 485–488. https://doi.org/10.1136/bmjqs-2016-005232

Downey, C. L., Tahir, W., Randell, R., Brown, J. M., & Jayne, D. G. (2017, November 1). Strengths and limitations of early warning scores: A systematic review and narrative synthesis.

International Journal of Nursing Studies. Pergamon. https://doi.org/10.1016/j.ijnurstu.2017.09.003

Fernando, S. M., Reardon, P. M., Bagshaw, S. M., Scales, D. C., Murphy, K., Shen, J., … Kyeremanteng, K. (2018). Impact of nighttime Rapid Response Team activation on outcomes of hospitalized patients with acute deterioration. *Critical Care*, *22*(1), 67. https://doi.org/10.1186/s13054-018-2005-1

Field, A. (2013). *Discovering Statistics using IBM SPSS Statistics* (4th ed.). SAGE Publications: Los Angeles, CA.

Francis, J. J., O'Connor, D., & Curran, J. (2012). Theories of behaviour change synthesised into a set of theoretical groupings: introducing a thematic series on the theoretical domains framework. *Implementation Science*, *7*(1), 35. https://doi.org/10.1186/1748-5908-7-35

Gould, N. J., Lorencatto, F., Stanworth, S. J., Michie, S., Prior, M. E., Glidewell, L., … Francis, J. J. (2014). Application of theory to enhance audit and feedback interventions to increase the uptake of evidence-based transfusion practice: An intervention development protocol. *Implementation Science*, *9*(1), 92. https://doi.org/10.1186/s13012-014-0092-1

Grol, R., Dalhuijsen, J., Thomas, S., Rutten, G., & Mokkink, H. (1998). Attributes of clinical guidelines that influence use of guidelines in general practice: observational study. *British Medical Journal*, *317*, 858–861. https://doi.org/10.1136/bmj.317.7162.858

Hands, C., Reid, E., Meredith, P., Smith, G. B., Prytherch, D. R., Schmidt, P. E., & Featherstone, P. I. (2013). Patterns in the recording of vital signs and early warning scores: Compliance with a clinical escalation protocol. *BMJ Quality and Safety*, *22*(9), 719–726. https://doi.org/10.1136/bmjqs-2013-001954

Hsieh, H.-F., & Shannon, S. E. (2005). Three Approaches to Qualitative Content Analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Jarvis, S., Kovacs, C., Briggs, J., Meredith, P., Schmidt, P. E., Featherstone, P. I., … Smith, G. B. (2015). Aggregate National Early Warning Score (NEWS) values are more important than high scores for a single vital signs parameter for discriminating the risk of adverse outcomes. *Resuscitation*, *87*, 75–80. https://doi.org/10.1016/j.resuscitation.2014.11.014

Johnston, M., Arora, S., King, D., Stroman, L., & Darzi, A. (2014). Escalation of care and failure to rescue: A multicenter, multiprofessional qualitative study. *Surgery (United States)*, *155*(6), 989–994. https://doi.org/10.1016/j.surg.2014.01.016

Kause, J., Smith, G., Prytherch, D., Parr, M., Flabouris, A., & Hillman, K. (2004). A comparison of Antecedents to Cardiac Arrests, Deaths and EMergency Intensive care Admissions in Australia and New Zealand, and the United Kingdom—the ACADEMIA study. *Resuscitation*, *62*(3), 275–282. https://doi.org/10.1016/J.RESUSCITATION.2004.05.016

Kolic, I., Crane, S., McCartney, S., Perkins, Z., & Taylor, A. (2015). Factors affecting response to National Early Warning Score (NEWS). *Resuscitation*, *90*, 85–90. https://doi.org/10.1016/j.resuscitation.2015.02.009

Liaw, S. Y., Wong, L. F., Ang, S. B. L., Ho, J. T. Y., Siau, C., & Ang, E. N. K. (2016). Strengthening the afferent limb of rapid response systems: An educational intervention using web-based learning

for early recognition and responding to deteriorating patients. *BMJ Quality and Safety*, *25*(6), 448–456. https://doi.org/10.1136/bmjqs-2015-004073

Lyons, P. G., Edelson, D. P., & Churpek, M. M. (2018, July). Rapid response systems. *Resuscitation*. https://doi.org/10.1016/j.resuscitation.2018.05.013

Mackintosh, N., Humphrey, C., & Sandall, J. (2014). The habitus of "rescue" and its significance for implementation of rapid response systems in acute health care. *Social Science and Medicine*, *120*, 233–242. https://doi.org/10.1016/j.socscimed.2014.09.033

Mackintosh, N., & Sandall, J. (2010). Overcoming gendered and professional hierarchies in order to facilitate escalation of care in emergency situations: The role of standardised communication protocols. *Social Science and Medicine*, *71*(9), 1683–1686. https://doi.org/10.1016/j.socscimed.2010.07.037

Massey, D., Chaboyer, W., & Aitken, L. (2014). Nurses' perceptions of accessing a Medical Emergency Team: A qualitative study. *Australian Critical Care*, *27*(3), 133–138. https://doi.org/10.1016/j.aucc.2013.11.001

Massey, D., Chaboyer, W., & Anderson, V. (2017). What factors influence ward nurses' recognition of and response to patient deterioration? An integrative review of the literature. *Nursing Open*, *4*(1), 6–23. https://doi.org/10.1002/nop2.53

McComb, S., & Simpson, V. (2014). The concept of shared mental models in healthcare collaboration. *Journal of Advanced Nursing*, *70*(7), 1479–1488. https://doi.org/10.1111/jan.12307

McEwen, M. (2004). Analysis of spirituality content in nursing textbooks. *The Journal of Nursing Education*, *43*(1), 20–30.

McGraw, C., & Drennan, V. M. (2015). Evaluation of the suitability of root cause analysis frameworks for the investigation of community-acquired pressure ulcers: a systematic review and documentary analysis. *Journal of Clinical Nursing*, *24*(3–4), 536–545. https://doi.org/10.1111/jocn.12644

McQuillan, P., Pilkington, S., Allan, A., Taylor, B., Short, A., Morgan, G., … Collins, C. H. (1998). Confidential inquiry into quality of care before admission to intensive care. *BMJ (Clinical Research Ed.)*, *316*(7148), 1853–1858. https://doi.org/10.1136/BMJ.316.7148.1853

Michie, S. (2004). Changing clinical behaviour by making guidelines specific. *BMJ*, *328*(7435), 343–345. https://doi.org/10.1136/bmj.328.7435.343

Michie, S., Atkins, L., & West, R. (2014). The Behaviour Change Wheel Book - A Guide To Designing Interventions. Retrieved July 5, 2018, from http://www.behaviourchangewheel.com/about-book

Michie, S., & Lester, K. (2005). Words matter: Increasing the implementation of clinical guidelines. *Quality and Safety in Health Care*, *14*(5), 367–370. https://doi.org/10.1136/qshc.2005.014100

Murray, C. (2013). Sport in Care: Using Freedom of Information Requests to Elicit Data about Looked After Children's Involvement in Physical Activity. *British Journal of Social Work*, *43*(7), 1347–1363. https://doi.org/10.1093/bjsw/bcs054

NHS statistics, facts and figures. (2017).

Presseau, J., Mutsaers, B., Al-Jaishi, A. A., Squires, J., McIntyre, C. W., Garg, A. X., … Grimshaw, J. M. (2017). Barriers and facilitators to healthcare professional behaviour change in clinical trials

using the Theoretical Domains Framework: a case study of a trial of individualized temperature-reduced haemodialysis. *Trials*, *18*(1), 227. https://doi.org/10.1186/s13063-017-1965-9

Ridley, S., & Morris, S. (2007). Cost effectiveness of adult intensive care in the UK. *Anaesthesia*, *62*(6), 547–554. https://doi.org/10.1111/j.1365-2044.2007.04997.x

Royal College of Physicians. (2012). *National Early Warning Score (NEWS) - Standardising the assessment of acute-illness severity in the NHS.*

Royal College of Physicians. (2017). *National Early Warning Score (NEWS) 2 - Standardising the assessment of acute-illness severity in the NHS.*

Shearer, B., Marshall, S., Buist, M. D., Finnigan, M., Kitto, S., Hore, T., … Ramsay, W. (2012). What stops hospital clinical staff from following protocols? An analysis of the incidence and factors behind the failure of bedside clinical staff to activate the rapid response system in a multi-campus Australian metropolitan healthcare service. *BMJ Quality & Safety*, *21*(7), 569–575. https://doi.org/10.1136/bmjqs-2011-000692

Smith, D. J., & Aitken, L. M. (2016). Use of a single parameter track and trigger chart and the perceived barriers and facilitators to escalation of a deteriorating ward patient: A mixed methods study. *Journal of Clinical Nursing*, *25*(1–2), 175–185. https://doi.org/10.1111/jocn.13104

Smith, D. J., & Aitken, L. M. (2016). Use of a single parameter track and trigger chart and the perceived barriers and facilitators to escalation of a deteriorating ward patient: A mixed methods study. *Journal of Clinical Nursing*, *25*(1–2). https://doi.org/10.1111/jocn.13104

Smith, G. B., Osgood, V. M., & Crane, S. (2002). ALERT^{TM}—a multiprofessional training course in the care of the acutely ill adult patient. *Resuscitation*, *52*(3), 281–286. https://doi.org/10.1016/S0300-9572(01)00477-4

Smith, G. B., Prytherch, D. R., Meredith, P., Schmidt, P. E., & Featherstone, P. I. (2013). The ability of the National Early Warning Score (NEWS) to discriminate patients at risk of early cardiac arrest, unanticipated intensive care unit admission, and death. *Resuscitation*, *84*(4), 465–470. https://doi.org/10.1016/J.RESUSCITATION.2012.12.016

Smith, G. B., Prytherch, D. R., Schmidt, P. E., & Featherstone, P. I. (2008). Review and performance evaluation of aggregate weighted 'track and trigger' systems. *Resuscitation*, *77*(2), 170–179. https://doi.org/10.1016/J.RESUSCITATION.2007.12.004

Smith, G. B., Prytherch, D. R., Schmidt, P., Featherstone, P. I., Knight, D., Clements, G., & Mohammed, M. A. (2006). Hospital-wide physiological surveillance-A new approach to the early identification and management of the sick patient. *Resuscitation*, *71*, 19–28. https://doi.org/10.1016/j.resuscitation.2006.03.008

Sniehotta, F. F., Presseau, J., Allan, J., & Araújo-Soares, V. (2016). "You Can't Always Get What You Want": A Novel Research Paradigm to Explore the Relationship between Multiple Intentions and Behaviours. *Applied Psychology. Health and Well-Being*, *8*(2), 258–275. https://doi.org/10.1111/aphw.12071

Sprogis, S. K., Currey, J., Considine, J., Baldwin, I., & Jones, D. (2017). Physiological antecedents and ward clinician responses before medical emergency team activation. *Critical Care And Resuscitation: Journal Of The Australasian Academy Of Critical Care Medicine*, *19*(1), 50–56.

Subbe, C. P., Duller, B., & Bellomo, R. (2017). Effect of an automated notification system for deteriorating ward patients on clinical outcomes. *Critical Care*, *21*(1). https://doi.org/10.1186/s13054-017-1635-z

Tannas, A. (n.d.). Basics Of Healthcare Policy Management. Retrieved April 3, 2019, from https://www.policymedical.com/basics-of-healthcare-policy-management/

Tirkkonen, J., Ylä-Mattila, J., Olkkola, K. T., Huhtala, H., Tenhunen, J., & Hoppu, S. (2013). Factors associated with delayed activation of medical emergency team and excess mortality: An Utstein-style analysis. *Resuscitation*, *84*(2), 173–178. https://doi.org/10.1016/j.resuscitation.2012.09.021

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*, *19*(6), 349–357. https://doi.org/10.1093/intqhc/mzm042

Tracy, S. J. (2013). *Qualitative Research Methods: Collecting evidence, crafting analysis, communicating impact*.

Trinkle, R. M., & Flabouris, A. (2011). Documenting Rapid Response System afferent limb failure and associated patient outcomes. *Resuscitation*, *82*(7), 810–814. https://doi.org/10.1016/j.resuscitation.2011.03.019

Vincent, C., Neale, G., & Woloshynowych, M. (2001). Adverse events in British hospitals: preliminary retrospective record review. *BMJ (Clinical Research Ed.)*, *322*(7285), 517–519. https://doi.org/10.1136/bmj.322.7285.517

Table 1 – Frequencies and proportions of TACTA elements for the entire sample of deteriorating patient policies (n=919 behavioural statements)

TACTA element	Frequency (%) of behavioural statements in policies containing each TACTA element	Median (IQR) of behavioural statements in policies containing each TACTA element	Range of behavioural statements in policies containing each TACTA element	Proportion of behavioural statements in policies where the TACTA element was reported specifically (scored 2 during coding)
Target	658 (72%)	72 (61-81) %	37-97 %	87%
Action	865 (94%)	96 (89-100) %	68-100 %	89%
Context	343 (37%)	31 (26-43) %	14-65 %	
Timing	342 (37%)	36 (29-47) %	0-69 %	79%
Actor	305 (33%)	31 (24-43) %	0-71 %	86%

IQR: Interquartile Range

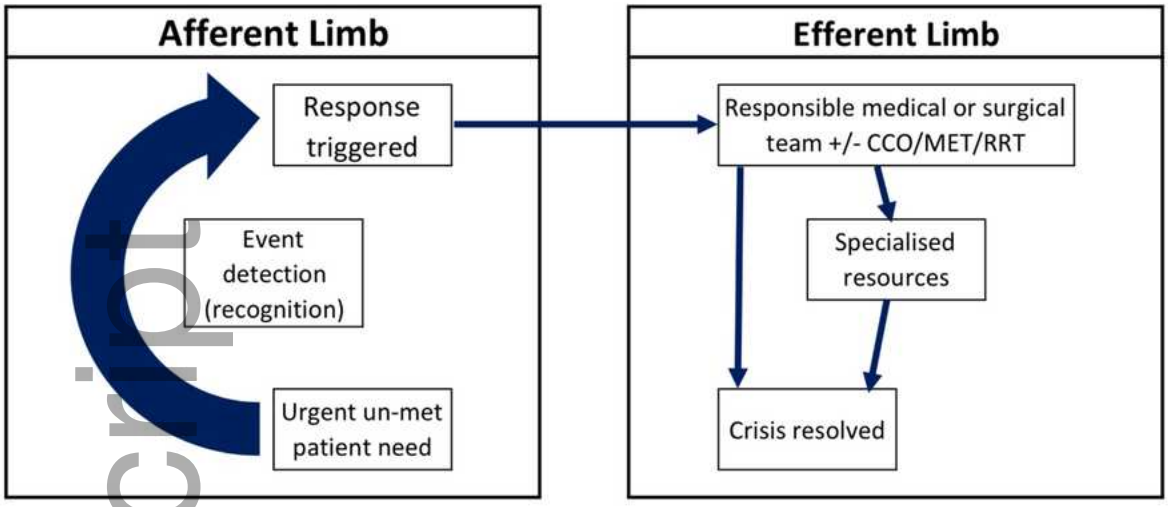
TACTA: T – target, A – action, C – context, T – timing, A – actor

Table 2 – Exemplar behavioural statements extracted from local policy documents with Target, Action, Context, Timing and Actor elements labelled and scored (1 or 2) according to level of specificity

Statement as extracted from local policy	Statement with TACTA and level of specificity scores (1 or 2) highlighted in bold font	Explanation for level of specificity scores of 1	Recommended re-wording (highlighted in bold font) to increase specificity from a score of 1 to 2
"If the FY2 doctor does not respond, the registered nurse responsible for the patient must contact senior medical staff in accordance with the escalation process." Policy 02	"If the FY2 doctor does not respond **(context – circumstances),** the registered nurse responsible for the patient **(actor-2)** must contact **(action – 2)** senior medical staff **(target – 1)** in accordance with the escalation process."	Whilst it is implied that the **target** should be more senior than an FY2 doctor, the actual grade of doctor to be contacted is not clearly specified. In addition, **the timing** of the behaviour has not been included.	"If the FY2 doctor does not **respond within 15 minutes**, the registered nurse responsible for the patient must then contact the **specialist registrar from the parent team** in accordance with the escalation process."
"Once a nurse has identified that a patient requires a medical review, the patient must be reviewed within 20 minutes. The minimum grade of doctor responding must be	"Once a nurse has identified that a patient requires a medical review **(context-circumstances)**, the patient **(target-2)** must be reviewed **(action-1)** within 20 minutes	The use of the verb 'reviewed' is potentially an unclear **action** in this context.	"Once a nurse has identified that a patient requires a medical review, **the patient must be examined** within 20 minutes. The minimum grade of doctor responding must be

an FY2." Policy 02	**(timing-2).** The minimum grade of doctor responding must be an FY2 **(actor-2)."**		an FY2."
"Total 5-6 or any single score of 3 = medium risk – RN to urgently inform patient's medical or surgical team (night nurse practitioner at night), and critical care outreach team." Policy 04	"Total 5-6 or any single score of 3 = medium risk **(context-circumstances)** – RN **(actor-2)** to urgently **(timing-1)** inform **(action-2)** patient's medical or surgical team (night nurse practitioner at night), and critical care outreach team **(target -2)**."	The specification of **timing** is reported as 'urgent'. Whilst this term suggests that the behaviour is time critical, it is potentially ambiguous and open to varied interpretation.	"Total 5-6 or any single score of 3 = medium risk (context-circumstances) - RN to urgently inform patient's medical or surgical team (night nurse practitioner at night), and critical care outreach team **within 15 minutes of recording the NEWS."**
"If a clinical professional (chiefly Doctors, Advanced Nurse Practitioners and Outreach Team Members) is requested to attend but unable to do so, they must immediately inform the referrer (usually the nurse in charge of the ward)".	"If a clinical professional (chiefly Doctors, Advanced Nurse Practitioners and Outreach Team Members) **(actor-2)** is requested to attend but unable to do so **(context-circumstances)** they must immediately **(timing -1)** inform **(action -2)** the referrer (usually	The specification of **timing** is reported as 'immediate'. Whilst this term suggests that the behaviour is time critical, it is potentially ambiguous and open to varied interpretation.	"If a clinical professional (chiefly Doctors, Advanced Nurse Practitioners and Outreach Team Members) is requested to attend but unable to do so they must inform the referrer (usually the nurse in charge of the ward) **within 5 minutes of the initial**

Policy 07	the nurse in charge of the ward) **(target -2)".**		**referral**."
"Regardless of the National Early Warning Score or single parameter triggers clinical staff may increase the frequency of observations if they are concerned about a patient for any reason. This takes into account good clinical judgement in identifying deterioration." Policy 19	"Regardless of the National Early Warning Score or single parameter triggers clinical staff **(actor-1)** may increase the frequency of observations **(action-2)** if they are concerned **(context–circumstances)** about a patient **(target-2)** for any reason **(context–circumstance)**. This takes into account good clinical judgement in identifying deterioration."	The specification of the **actor** is broad and non-specific. The term 'clinical staff' could be interpreted as any member of the clinical work-force, including non-registered personnel, who may not have the requisite knowledge and skills to make this decision	"Regardless of the National Early Warning Score or single parameter triggers **registered nurses** may increase the frequency of observations if they are concerned (context – circumstances) about a patient for any reason. This takes into account good clinical judgement in identifying deterioration."



Adapted from: DeVita MA, Bellomo R, Hillman K, Kellum J, Rotondi A, Teres D, et al. (2006) Findings of the first consensus conference on medical emergency teams. *Critical Care Medicine*. 34(9):2463

Figure 1 – Conceptual model of the Rapid Response System (RRS)

jocn_15005_f1.jpg

Author/s:
Smith, D;Sekhon, M;Francis, JJ;Aitken, LM

Title:
How actionable are staff behaviours specified in policy documents? A document analysis of protocols for managing deteriorating patients

Date:
2019-11-01

Citation:
Smith, D., Sekhon, M., Francis, J. J. & Aitken, L. M. (2019). How actionable are staff behaviours specified in policy documents? A document analysis of protocols for managing deteriorating patients. JOURNAL OF CLINICAL NURSING, 28 (21-22), pp.4139-4149. https://doi.org/10.1111/jocn.15005.

Persistent Link:
http://hdl.handle.net/11343/286254