[EDITING AUTHORS NAME/S]

[hospital name] [TRUST NAME]

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Patient/relative activated critical care outreach service: project proposal

**Call 4 Concern© (C4C) [*or alternative name of service*]: Patient and relative activated Critical Care Outreach**

**Service Project Proposal**

**Project Leads:**

[*Name of persons leading*]

[*Trust/ Site address*]

[*Contact emails*]

**Project Team:**

[*Name of team i.e UHB Critical Care Outreach Team*]

**Summary of project**

The aim of the project is to introduce and evaluate the Call for Concern**©** (C4C) [*or alternative* name] service that will provide patients and relatives with direct access to the Critical Care Outreach (CCO) team, to give patients and relatives more choice about who they can consult with about their care and facilitate the early recognition of the deteriorating ward patient.

The concept of ‘Call for Concern’ (C4C) introduced to the UK by Royal Berkshire Hospital in 2009 was inspired by Condition H(elp) system at the University of Pittsburgh’s Medical Centre (UPMC) in the United States. Condition H(elp)was set up in 2005 (Greenhouse et al., 2006) as a result of the case of an 18-month-old child, Josie King who died in 2001 due to hospital errors and poor communication (www.josieking.org). C4C allows patients and their relatives to directly contact the Critical Care Outreach Team, using an in-hospital dedicated number when they have concerns about the patients’ condition. Similar tragic cases in the USA & UK have prompted vigorous campaigning by affected families resulting in widespread adoption of comparable services (Victoria’s legacy, Alison Phillips, Martha’s Rule and more).

The project will be rolled out trust wide, available for all adult in-patients [*amend for paediatrics/maternity*]. There will be a [*2 week*] implementing phase to raise awareness and education through communications and advertisement to trust staff members, patients and the public. After a year of implementation, the service will be evaluated through collection of multi-faceted data and feedback.

**Introduction**

Patients on hospital wards can experience unexpected physiological deterioration that can lead to critical illness, intensive care unit (ICU) admission, cardiac arrest and/or death.

Much of this deterioration can be signalled in the patient’s physiological signs, such as pulse, blood pressure and respiratory rate: or symptoms, such as a deteriorating mental state (Schein et al., 1990; Bedell et al., 1991; Franklin and Mathew, 1994). Studies have reported that ward staff can often miss, mis-interpret or mis-manage patient deterioration (McQuillan et al., 1998; Smith and Wood, 1998; McGloin et al., 1999; Hodgetts et al., 2002). In order to try and address these issues, initiatives such as rapid response systems (RRS) that consist of early warning scoring and pre-emptive critical care teams, medical emergency teams and critical care outreach (CCO), have been developed and implemented in acute hospital settings (DeVita et al., 2006). However, even when these RRSs are in place, ward staff do not necessarily comply with the referral criteria protocols and continue to fail to note or adequately manage the patients’ deterioration (NICE, 2007; NPSA, 2007). One resource in the early detection of deterioration that has been largely overlooked to date is the contribution that patients and relatives can make. The involvement of patients and their families in deterioration, recognition and escalation could address some of these professional barriers. As well as having an intimate knowledge of a patient's ‘normal’ demeanor, families and the patients have a unique and singular interest in their wellbeing that is unaffected by professional constraints (Miceli and Clark, 2005).

**Background**

The concept of ‘Call for Concern©’ (C4C) was inspired by Condition H(elp) system at the University of Pittsburgh’s Medical Centre (UPMC) in the United States. Condition H(elp) was set up in 2005 (Greenhouse et al., 2006) as a result of the case of an 18-month-old child, Josie King, who died in 2001 due to hospital errors and poor communication (www.josieking.org). The H(elp) system allows patients and their relatives to directly summon the rapid response team, using an in-hospital 911 call when they have concerns about the patients’ condition. Similar tragic cases in the USA have prompted vigorous campaigning by affected families (www.lewisblackman.net) resulting in widespread adoption of comparable H(elp) systems, recognition by the Institute of Health Improvement and Patient Safety Agencies, and in some cases, state legislation that require hospitals to provide a mechanism that enables patients to access prompts assistance for resolution of medical care concerns (The Lewis Blackman Hospital Patient Safety Act, Massachusetts, 2005).

In the UK, there have been similar tragic cases that have prompted campaigns led by patients and relatives. In 2013, Alison Phillips was involved in a head on collision and airlifted with suspected internal injuries. She was admitted to a surgical assessment ward for further observations. Despite reporting excruciating uncontrolled pain, tachycardia and vomiting, the ward team treated her for constipation due to opioids. The ward nurses, Alison’s family and friends all raised concerns to the surgical team however no further investigations were sought. After a long period without senior review and delayed escalation, Alison’s deterioration had failed to be recognised and treated. She suffered multi-organ failure and severe sepsis, requiring emergency surgery and a long-complicated stay in intensive care. Alison Phillips survived her ordeal and now regularly speaks at patient safety conferences about her story, campaigning for patient/ relative triggered escalation.

Martha Mills died in 2021 after developing sepsis in hospital, where she had been admitted with a pancreatic injury after falling off her bike. Martha’s family’s concerns about her deteriorating condition were not responded to promptly, and in 2023 a coroner ruled that Martha would probably have survived had she been moved to intensive care earlier. Martha’s family have dedicated their time campaigning ‘Martha’s Rule’ and collaborating to help the NHS improve the management of patients experiencing acute deterioration.

Patient/ relative triggered rapid response is being widely adopted within NHS trusts although the availability of this service varies across the UK. There is increasing recognition and recommendation for the service in several reputable publications such as-

**Resuscitation Journal, 2019: Quality Metrics for the Evaluation of Rapid Response Systems: Proceedings from the third international consensus conference on Rapid Response Systems.**

‘It is recommended that hospitals have means by which patients, family members, visitors, or others not directly responsible for a patient’s care can activate the RRT when they are concerned about the clinical status of a ward patient.’

**Intensive Care Society, 2022: Guidelines for the provision of Intensive Care service**s.

‘As part of a multi-trigger system, other triggers such as urine output/ acute kidney injury alerts, cause for concern and patient/carer Call 4 Concern, should be considered as they will enhance the recognition of the deteriorating patient.’

**National Outreach Forum: Quality and Operational Standards for the Provision of Critical Care Outreach Services**

‘A system for patient and carers (patient/family-activated escalation) to trigger a review if any concern should be implemented’

**NHS England 2024**

In response to Martha Mills death and other cases related to the management of deterioration, the Secretary of State for Health and Social Care and NHS England committed to implement ‘Martha’s Rule’; to ensure the vitally important concerns of the patient and those who know the patient best are listened to and acted upon. The implementation of Martha’s Rule in the NHS will take a phased approach at initial provider sites which will inform the development of wider national policy proposals for Martha’s Rule that can be expanded in a phased way across the NHS.

**Project Outline**

The service will cover all adult inpatient’s (over 18 years old) [*amend for paediatrics/maternity*] admitted to the hospital. The patient or relative/ loved one can call Critical Care Outreach directly on a dedicated mobile phone. If unavailable at that time, the referrer will be able to leave a voicemail with contact details which the team will return the call when able. When the Critical Care Outreach team receive the call, they will obtain the patient’s details, as well as a brief description of the problem. The team will then triage the call, following the referral flow chart (draft in appendix), ensuring the referrer has first contacted the ward team or signpost if a non-deteriorating call to appropriate services such as ward manager and/ or PALs. They will prioritise the urgency of the problem, the team will visit the ward to discuss the concerns with patient +/or relative and assess the situation. The Critical Care Outreach team will liaise with the ward team and other healthcare professionals as needed, ensuring a robust plan is in place, aiding communication and clear documentation of the interactions. Patient consent must be obtained prior to communication with family/ relative, if patient lacks capacity this should be assessed and documented as per trust guidelines and communication should be directed through the documented next of kin.

Every C4C call taken will be documented on the patient’s electronic record [*amend as per system* used] regardless of whether a review was needed, or advice/signposting given to aid documentation. CCOT will document, as per routine practice, in the patients notes when a review has taken place. CCOT will also use ‘Medicus Outreach’ [*amend as per system used for CCOT data* reporting] as a secure data recording system which assists with real-time quality-indicators, in-depth data analysis and reports.

It is anticipated that ward staff may have concerns about C4C. The aims and objectives of the project will be widely disseminated before its commencement, and ward staff could be given the opportunity to raise their concerns through Q+A/ Sister’s forums etc [*add/ delete as appropriate*]. We will give staff assurance that C4C is an enhancement to patient care, and not aimed at uncovering poor practice or to undermine the parent team or overturn plans/ decisions of care.

We will evaluate and disseminate findings using the data collected, sharing with trust staff to hopefully aid engagement and support of the service.

A referral to C4C is not an automatic request for a Critical Care admission; the referral will be taken and followed as per the flow chart attached. If the reviewed patient is considered by CCOT to require high levels of care they will be escalated to the ITU doctor as per routine process.

**Data Reflections and Predictions**

Data was reviewed from a large general hospital in Southern England and from a district general hospital in the Midlands. The larger of the two hospitals has an established C4C service of over 10 years, covering adult, obstetric and paediatric in-patients with a 700-bed capacity. The smaller hospital has a relatively newer established C4C service of 2 years, covering only adult in-patients with a 600-bed capacity.

In comparison, [*enter hospital/site name*] which provides approximately [*enter hospital in-patient bed capacity*].

[Delete as appropriate]

The provision of CCO service is adult based and therefore predominately practitioners are adult trained. Although all members the team are equipped to respond to paediatric emergencies, there would need to be further formal paediatric training and experience to ensure adequate competence and knowledge prior to considering offering C4C to paediatrics. And therefore, this will be taken into consideration when collating predictive activity. Provision of patient/ relative activated second review service in paediatrics should be considered by the trust separately.

*Or*

The provision of CCO service covers adult, paediatric and obstetric inpatients. And therefore, this will be taken into consideration when collating predictive activity.

**Volume of calls**

The larger general hospital receives approximately 10,000 referrals a year, this includes those from clinicians and health care professionals reporting early warning score breaches or concern about the patient and were dealt with in the usual way by the CCO team. Of all the calls, 534 (0.8%) were C4C referrals, involving 312 patients.

In comparison to the smaller district general hospital, who over the period of a year received a total 1827 referrals. Of all the calls, 39 (2.13%) were C4C referrals, relating to 33 patients.

Using these services as an example, the predicted percentage of C4C calls in addition to usual activity is between 0.8-2.13%.

[*Enter hospital/site name*] receive on average [*number of referrals*] per year. Using the data presented, we would expect to receive between [*0.8% of total number of referrals – 2.13% total number of referrals*]. Therefore, C4C would probably impact CCO on a miniscule level.

**Time of day**

As could be expected, the greatest number of referrals occurred during the day between 8am and 9pm, which correlates with when referrers are expected to be awake or have visitors. CCO are an established 24 hour, 7 days a week service and so would be able to accommodate referrals from patients/ relatives out of hours.

**Reasons for receiving C4C referral**

Data collected by the hospital as to reasons for receiving C4C referrals were categorised into themes. For both, the most common was for clinical condition. Which fits with the aims of the C4C service.

**Potential Costs**

Staffing resources-
• The CCOT are already established as a 24/7 service. If predicted activity only increases by 0.8-2.1% as predicted, this could be absorbed into current activity with little impact.

Bed costs-
• There are no anticipated additional costs for high level care beds as referral to C4C service does not equate to automatic review from Critical Care or admission to ITU. As with any referral to CCOT, reviewed patients considered to require higher level care will be escalated as per routine process.

Equipment resources-

•  The CCOT will require a Trust mobile phone which can facilitate voicemail messages; this would be used to take C4C referrals. [*amend if CCOT already have trust mobile phone with appropriate facilities to receive calls and voicemails*]

•  There are no anticipated addition costs for further equipment resources.

Communications/ advertisement resources-

•  There would be some costs required for service leaflets, stands and banners. However, this virtual advertisement could be explored further.

•  Service promotion will be published virtually which will be undertaken by the CCOT and trust communications team

The second highest C4C category was communication issues, which was as expected. Often this related to the absence of more senior medical teams to provide relatives with the information they requested, whereas, on other occasions, the referral could have been to seek a second opinion or extra reassurance.

**Referral Outcomes**

The majority of patients seen by the CCO teams at the two hospitals following a C4C referral were discharged from their services with an appropriate plan in place. Followed by a smaller number that had interventions initiated by the CCOT practitioner that improved the patient’s condition and/or further specialist review. Only 1-3% of C4C required admission to higher levels of care. A number of patients referred, reviewed by CCOT who initiated treatments, improved as a direct result of the C4C referral.

Other NHS trusts with established Call 4 Concern services report comparable data.

Assessing the value and impact of C4C as a resource and service is complex and therefore it cannot be solely measured quantitatively. One of the key aims for the service is to improve patient and relative experience. Other forms of evaluation have been through service user feedback. The feedback has been largely positive. Some typical phrases used by respondents included ‘wonderful service’,‘ listened to my concerns’, ‘kind, positive and efficient’ and ‘helped us at a difficult time’.

Despite initial reservations, there has been positive feedback from the medical workforce, reporting that C4C helps them to manage patient/relative concerns.

**Discussion**

Implementation of change initiatives are notoriously challenging within health care. Multiple factors can influence the success of changes, including leadership, motivation, timescales, organisational cultures and finance, among others (Carvalho et al, 2019; NICE, 2023). For healthcare-based change initiatives to succeed, it is vital to ensure there is a shared vision throughout the organisation, preventing resistance from members of the workforce that may jeopardise the success of the project (Ogbonna and Wilkinson, 2003).

Predicted activity is based upon data provided by other hospitals, however this may differ due to local demographics, organisational, structural and cultural factors. Despite these potential limitations, the evaluation of the service is mirrored by others who have either studied this type of service or have adopted it within their own trusts, who agree that services such as C4C are essential tools that enhance patient safety (Miceli and Clark, 2005; Greenhouse et al, 2006; Ray et al, 2009; Vorwerk and King, 2016; Odell, 2019; Bucknall et al, 2021; Cornell and Datson, 2023).

**Conclusion**

Drawing on the intimate knowledge of patients’ relatives to help identify the subtle and early signs of deterioration and empowering them to call for help is an important element of patient safety. The need for healthcare settings to be able to offer patient-and-relative-activated critical care outreach services has been recommended by many organisations and is growing in importance on the national agenda.

The data and evaluation of the service in other trusts validates the feasibility of implementing a C4C service in an acute hospital setting. It has been demonstrated that C4C provides patients and their family members with much needed reassurance and improves their overall hospital experience. Furthermore, services such as C4C have a proven record of improving the clinical condition of patients. They are essential tools to enhance patient safety and to empower patient and relatives.

**Evaluation of service effectiveness**

The service will be reviewed after one year; this is in order to gain enough calls and data to have insight into the effectiveness of the service. Data will be obtained from the following sources –

1. ‘Medicus Outreach’ [*amend as per system used for CCOT data* reporting], secure data system, will be used obtain quantitative data on the following categories.

* Total number of C4C calls, type of referrer (patient/relative etc.), patient age, patient location, category of C4C referral (clinical review and intervention, communication and information issues, support, advice and reassurance, non C4C concerns (hygiene, food etc) requiring signposting to ward manager or PALs)

2. Patient/relative/referrer feedback will be obtained digitally through the trust public website and a digital survey directly to referrer’s email or text message using contact details that were provided.

3. PALs will provide data on number of complaints related to clinical condition and/or communication concerns. A reduction of these complaints after the service launch will be used as an indicator for service effectiveness.

Call 4 Concern Referral Flow Chart

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Take referral from caller:

 Name of referrer

 Contact details of referrer

 Relation of referrer to patient

 Location of patient

 Brief description of concerns

**Have these concerns been raised with the ward or parent team yet?**

 Advise referrer to contact ward team.

(Contact details overleaf)

 Update nurse in charge

 Make entry on electronic record for the patient

Yes

No

Is the concern related to a patient’s clinical condition and/or unclear plan of care?

Yes

No

If the concern is regarding unresolved non-clinical issues, consider signposting to PALS

[Add PALS telephone number and email]

 Update nurse in charge

 Make entry on electronic record for the patient

Assess whether-

Telephone advice

OR

If a physical review is needed

Inform the referrer of your plan

Advice Only

Physical review of patient

Establish consent from patient to disclose information to C4C referrer.

If patient lacks capacity to consent, ensure you are speaking to the documented NOK.

(If C4C referrer not NOK, direct them to discuss concerns with NOK first.)

Once advice given please ensure you;

 Call nurse in charge on ward to update them

 Make entry on electronic record for the patient

 Enter details on CCOT data system

 Give C4C referrer the link to provide feedback, either via text or email (use work phone)

Establish consent from patient to disclose information to C4C referrer.

If patient lacks capacity to consent, ensure you are speaking to the documented NOK.

(If C4C referrer not NOK, direct them to discuss concerns with NOK.)

Conduct a physical review of the patient, review of notes and investigations. Complete the following action points:

 Document review and findings in medical notes

 Update nurse in charge

 Update C4C referrer

 Enter details on CCOT data system

 Give C4C referrer the link to provide feedback, either via text or email (use work phone)

If patient is in maternity/paediatric redirect to appropriate team

[delete if CCOT cover obstetrics/paediatrics]

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