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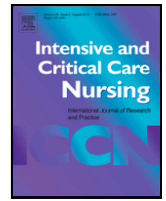

Current insights in intensive & critical care nursing

Critical care outreach and rapid response teams: Are they the panacea to all hospital patient deterioration problems?

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Critical care outreach (CCOT) and rapid response teams (RRT) were established in the early 2000 s in the UK and Australia, in the absence of evidence, like much in healthcare. The premise was that a hospital-wide team with a specific remit to manage medical emergencies, would help prevent avoidable (or facilitate timely) critical care admissions (McQuillan et al., 1998). In the UK, CCOT was established nationally, to support the delivery of 'critical care without walls', a now well-worn phrase (Department of Health, 2000). Evidence for CCOT services remains equivocal, partly due to lack of intervention studies (McGaughey et al., 2021), and observational studies seeking to evaluate a nebulous and nascent practice in the early 2000 s.

The evolution of these teams globally has seen a skilled workforce emerge, alongside structural solutions initiated to manage patient deterioration, including track and trigger systems, and technological innovations (e.g. wearable monitoring technology, and artificial intelligence to alert for sepsis and acute kidney injury). With only professional guidance to shape how to operationalise CCOT/RRT and the quality indicators needed for effectiveness (Honarmand et al., 2024; National Outreach Forum, 2020), it is unsurprising that a heterogeneous RRT/CCOT/MET workforce now exists in the UK (NHS England, 2022), and beyond. (Honarmand et al., 2024).

The CCOT Practitioner Framework sought to address some of these issues, seeking to further professionalise the CCOT and RRT workforces (National Outreach Forum, 2022). However, professionalisation requires investment and commitment from organisations to see value in senior practitioners providing optimal care to prevent patient deterioration and understand their contribution to wider hospital systems in managing acutely unwell patients. It also requires commitment to developing staff including aspiring to have senior, independent roles, such as consultant practitioner (National Outreach Forum, 2022). The recognition of autonomy and critical thinking skills is not always borne out in the level of responsibility given to these practitioners, nor in the remuneration and banding or grading. Furthermore, there is no clear recommendation around whether CCOT/RRT/METs should be physician-led, and evidence points to more resource expenditure in physician-led services, suggesting investment in nurses is practicable option, especially in resource-limited settings (Honarmand et al., 2024).

Rapid response systems are at a pivotal point in this evolution; this workforce is related to, but often independent from, critical care and are at risk of being used to 'mop up' all hospital safety concerns. These services could potentially become so stretched that they cannot meet the basic core functions of the service, especially as services move to 24/7 (Batchelor, 2021). So, how do CCOT and RRT practitioners remain the safety engine of the hospital without being a panacea for every single deteriorating patient issue that needs addressing in a hospital-wide system?.

System-wide solutions are vital in this; with sophisticated, nationally-recognised track and trigger systems for all patient groups, including children and maternity. Alongside, there should be professional judgment, good governance, processes (such as policies that include board-level reporting and overall corporate responsibility), and mechanisms to ensure sufficient resources, education and training. A multidisciplinary approach facilitates the breadth of activities expected to be supported by CCOT/RRS/MET services. This includes post-ICU discharge liaison, recognition and response of deterioration, patient identification (track and trigger), education around recognition and management of deterioration, service review and improvement (National Outreach Forum, 2020).

It is crucial to have benchmarks, including a national minimum dataset (National Outreach Forum, 2023), for what services should deliver (National Outreach Forum, 2020), for patient and service outcomes, and to capture impacts of different services and activities. Aggregation of data across services is needed to understand the impact of rapid response systems at a national level (Batchelor, 2021), alongside local reporting, and to advance patient outcomes by highlighting areas for focus and development.

To ensure the discipline of CCOT/RRT remains responsive to the increasing acuity of patients seen in acute hospitals (Lilly et al., 2017; Watt et al., 2023; Wu et al., 2023), a greater skill set is required including focused ultrasound, radiology interpretation, independent prescribing (National Outreach Forum, 2022). Yet, it remains unclear how this skill expansion impacts on patient outcomes and should be measured. Most ward staff providing direct patient care, will be at a junior grade, and face increasing pressures in caring for many patients, leading to un-

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precedented challenges for these nurses. A range of human factors are known to affect ward nurses' ability to escalate concerns about deteriorating patients, but CCOT/RRT-delivered education is important in addressing escalation (Ede et al., 2021; Smith et al., 2021).

At the centre of these pressures sit the patients. Care conversations or escalation conversations are sometimes reduced to narratives around their illness rather than considering them as a person. CCOT/RRT play crucial roles in ensuring patient voices are carried through, even when acutely unwell and where patients are not able to advocate for themselves. Initiatives such as Call 4 Concern, now recommended and being initiated globally (Honarmand et al., 2024), will help patients and families to be empowered and better listened to. Martha's Rule, is now a formal requirement and mechanism for families to escalate concerns in the UK (Haskell, 2023), following on from the death of a 13 year-old child, Martha Mills, who deteriorated and died in a clear case of failure to rescue. The family were ignored, and the voices of people who know patients best were not listened to. These families understand nuances in facial expressions, subtle skin and voice changes, fatigue levels, alertness, cognition and behaviour, which no early warning score system can capture. Focusing solely on early warning scores risks compartmentalising people into a set of observations, capturing only part of what is happening. Instead, staff need to listen to people's worries, be they staff, family or patients, who know when something is wrong.

CCOT/RRT play a pivotal part and should be leading the way. A systems approach is essential, addressing both resources and human factors. While these teams are not the sole answer to patient deterioration, they provide necessary and expert knowledge to address ongoing failures in escalating care and rescuing patients.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Batchelor, A. 2021. Adult Critical Care GIRFT Programme National Specialty Report. https://www.gettingitrightfirsttime.co.uk/wp-content/uploads/2021/08/Adult-Critical-Care-Aug21L.pdf.

Department of Health. 2000. Comprehensive critical care : a review of adult critical care services. Department of Health.

Ede, J., Petrinic, T., Westgate, V., Darbyshire, J., Endacott, R., Watkinson, P.J., 2021. Human factors in escalating acute ward care: a qualitative evidence synthesis. BMJ Open Qual 10 (1). https://doi.org/10.1136/bmjoq-2020-001145.

Haskell, H., 2023. Martha's rule presents a unique opportunity for improving patient care. BMJ 383, 2331. https://doi.org/10.1136/bmj.p2331.

Honarmand, K., Wax, R.S., Penoyer, D., Lighthall, G., Danesh, V., Rochwerg, B., Cheatham, M.L., Davis, D.P., DeVita, M., Downar, J., Edelson, D., Fox-Robichaud, A., Fujitani, S., Fuller, R.M., Haskell, H., Inada-Kim, M., Jones, D., Kumar, A., Olsen, K.M., Sebat, F., 2024. Society of critical care medicine guidelines on recognizing and responding to clinical deterioration outside the ICU: 2023. Crit Care Med 52 (2). https://journals.lww.com/ccmjournal/fulltext/2024/02000/society_of_critical_care_medicine_guidelines_on.14.aspx.

Lilly, C.M., Swami, S., Liu, X., Riker, R.R., Badawi, O., 2017. Five-year trends of critical care practice and outcomes. Chest 152 (4), 723–735. https://doi.org/10.1016/j.chest.2017.06.050.

McGaughey, J., Fergusson, D.A., Van Bogaert, P., Rose, L., 2021. Early warning systems and rapid response systems for the prevention of patient deterioration on acute adult hospital wards. Cochrane Database Syst Rev 11 (11), Cd005529. https://doi.org/10.1002/14651858.CD005529.pub3.

McQuillan, P., Pilkington, S., Allan, A., Taylor, B., Short, A., Morgan, G., Nielsen, M., Barrett, D., Smith, G., Collins, C.H., 1998. Confidential inquiry into quality of care before admission to intensive care. BMJ 316 (7148), 1853–1858. https://doi.org/10.1136/bmj.316.7148.1853.

National Outreach Forum, 2020. Quality and operational standards for the provision of critical care outreach services. National Outreach Forum.

National Outreach Forum, I. C. S., CC3N. 2022. Critical Care Outreach Practitioner Framework. https://www.cc3n.org.uk/uploads/9/8/4/2/98425184/critical_care_outreach_practitioner_framework.pdf.

National Outreach Forum. 2023. Critical Care Outreach National Minimum Dataset v0.6 www.norf.org.uk.

NHS England. 2022. Adult Critical Care Stocktake 2022.

Smith, D., Cartwright, M., Dyson, J., Hartin, J., Aitken, L.M., 2021. Barriers and enablers of recognition and response to deteriorating patients in the acute hospital setting: A theory-driven interview study using the Theoretical Domains Framework. J Adv Nurs 77 (6), 2831–2844. https://doi.org/10.1111/jan.14830.

Watt, T. R. A., Rachet-Jacquet, L., Head, A., Kypridemos, C., Kelly, E., Charlesworth, A. 2023. Health in 2040: projected patterns of illness in England. https://www.health.org.uk/publications/health-in-2040.

Wu, N., Xie, X., Cai, M., Han, Y., Wu, S., 2023. Trends in health service needs, utilization, and non-communicable chronic diseases burden of older adults in China: evidence from the 1993 to 2018 national health service survey. Int. J. Equity Health 22 (1), 169. https://doi.org/10.1186/s12939-023-01983-7.

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