Critical Care Outreach Community of practice 2024

Mark Wilson
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Critical Care Outreach

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Session Plan

- Overview of Critical Care Outreach Services
- Future Directions and Innovations
  - Competencies, Enhanced to Advanced practice
  - NEWS 3
  - Palliative care in CCOT
  - Communication
  - POCUS
  - Martha’s rule, Call 4 Concern
  - Debrief
  - Paediatrics
- Q&A

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What does Critical Care Outreach mean to you?

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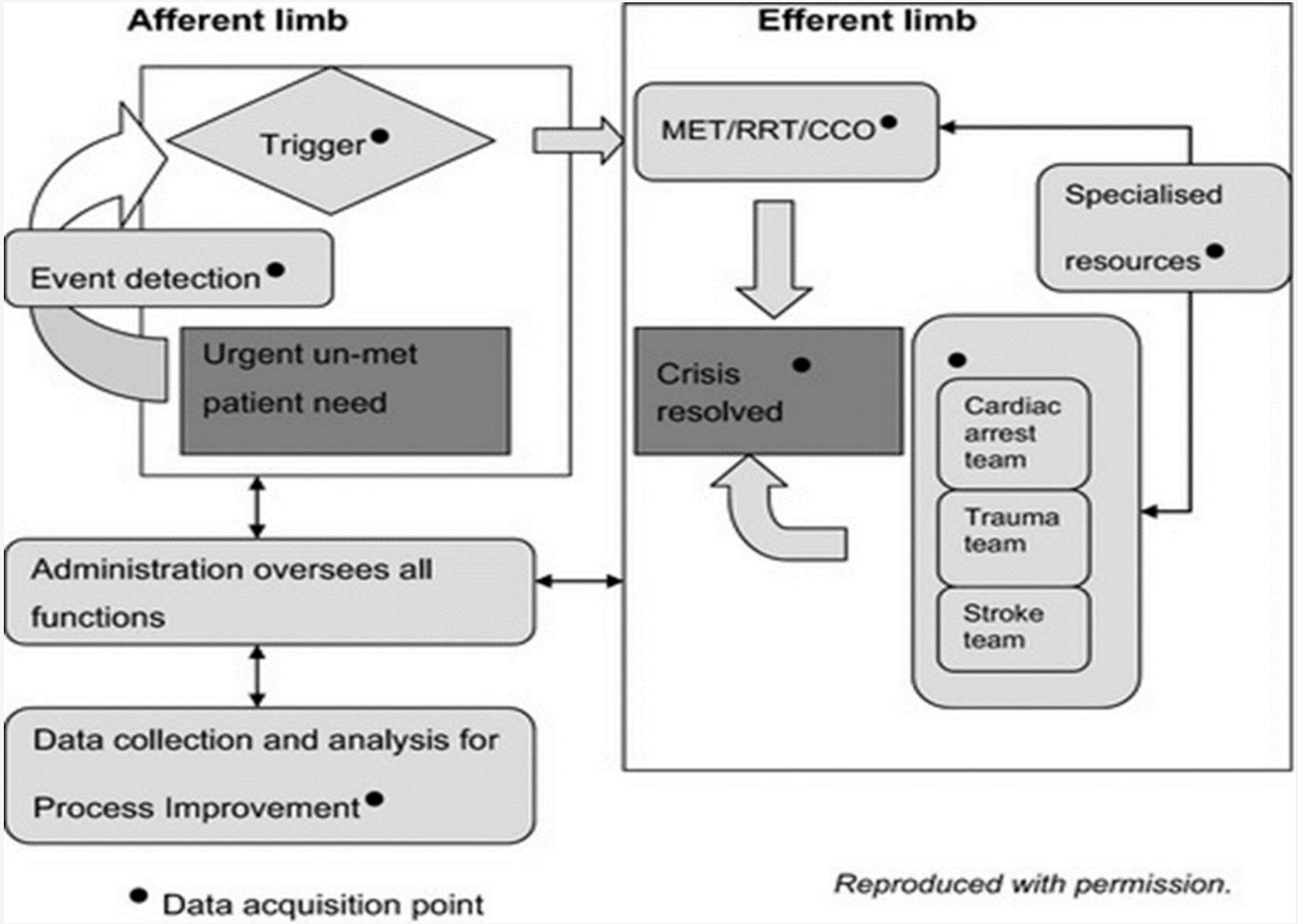

(DeVita, Hillman and Bellomo, 2011)

Critical care outreach teams: a service without walls

Natasha Trenchard-Turner[1], Nishita Desai[2] and Victoria Metaxa[3*]

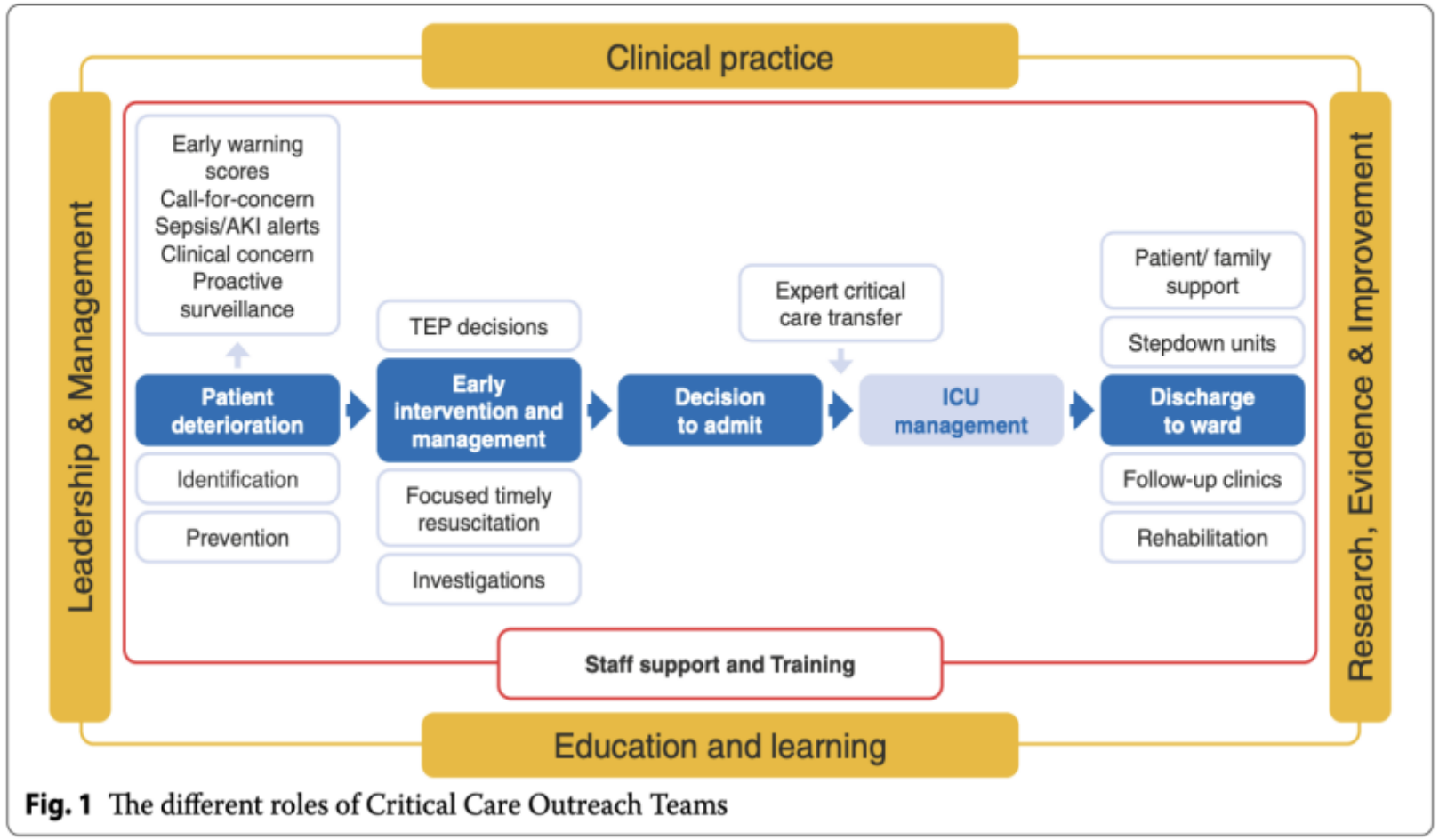

Fig. 1 The different roles of Critical Care Outreach Teams

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Setting up a team

Key components

- Approaches to service delivery,
  - EWS
  - Nurse concern
  - ICU follow up
  - C4C
  - Proactive rounding
- Education and training,
- Organisational engagement,
- Clinical governance,
- Monitoring and evaluation

Australian Critical Care 36 (2023) 151–158

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journal homepage: www.elsevier.com/locate/aucc

Review paper

A practical approach to establishing a critical care outreach service: An expert panel research design

Ged Williams, RN, MHA, LLM [a, b, *], Alison Pirret, NP, PhD [c, d], Nicki Credland [e, f], Mandy Odell, RN, PhD [g], Chris Raftery, RN, MBA (HSM) [h, i], Duncan Smith, RN, MSc, MN (Hons) [j, k], Fiona Winterbottom, RN, DNP [l], Debbie Massey, RN, PhD [m, n]

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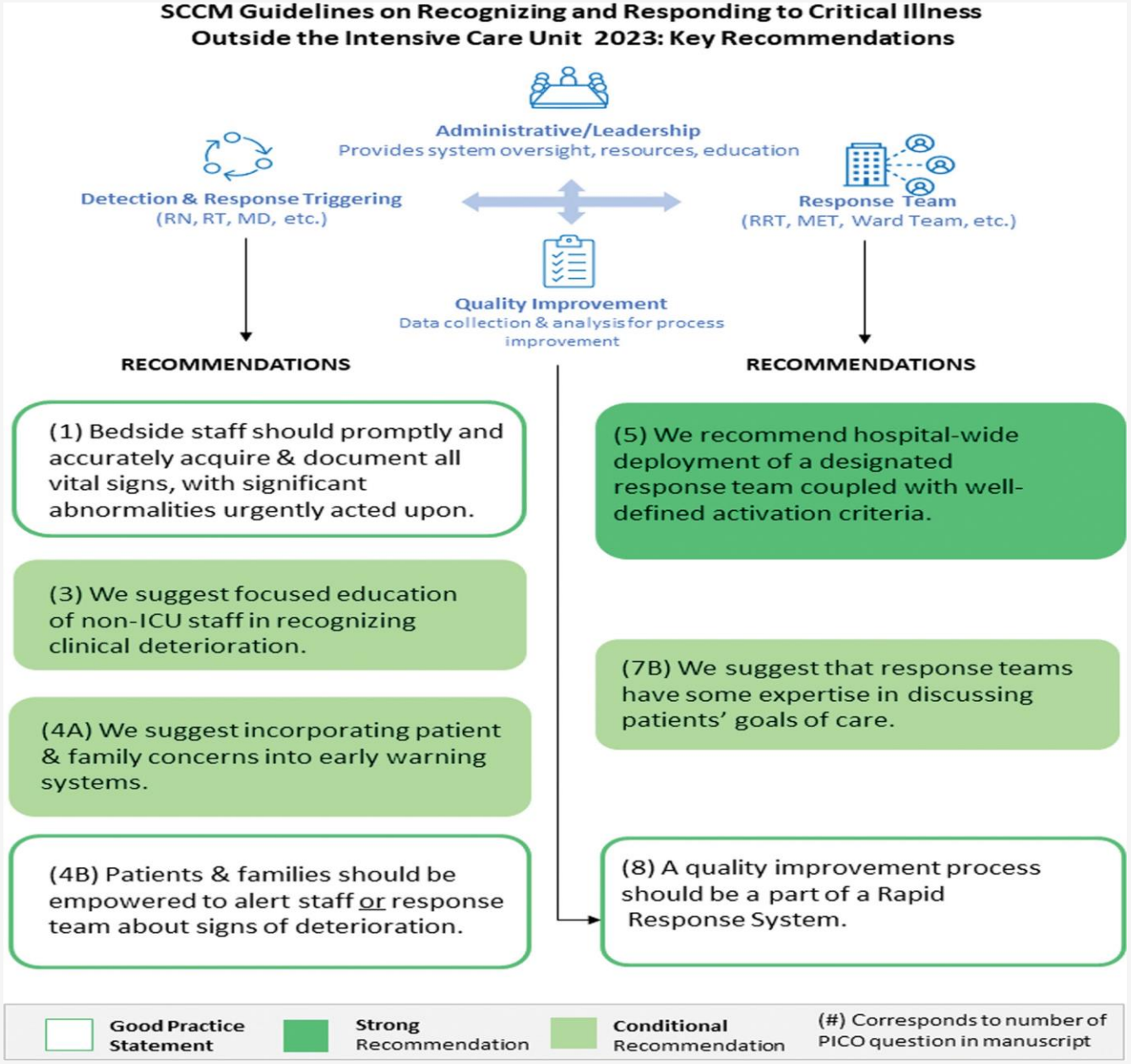

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SPECIAL ARTICLES

Executive Summary: Society of Critical Care Medicine Guidelines on Recognizing and Responding to Clinical Deterioration Outside the ICU

Kimia Honarmand, MD, MSc[1,2]
Randy S. Wax, MD, MEd, FRCPC, FCCM[3,4]
Daleen Penoyer, PhD, RN, CCRP, FCNS, FCCM[5]

RATIONALE: Clinical deterioration of patients hospitalized outside the ICU is a source of potentially reversible morbidity and mortality. To address this, some acute care facilities have implemented systems aimed at detecting and responding to such patients.

Honarmand K, Wax RS, Penoyer D, et al. Society of Critical Care Medicine guidelines on recognizing and responding to clinical deterioration outside the ICU: 2023. Crit Care Med. 2024 Feb;52(2):314-330.

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CCOT in England

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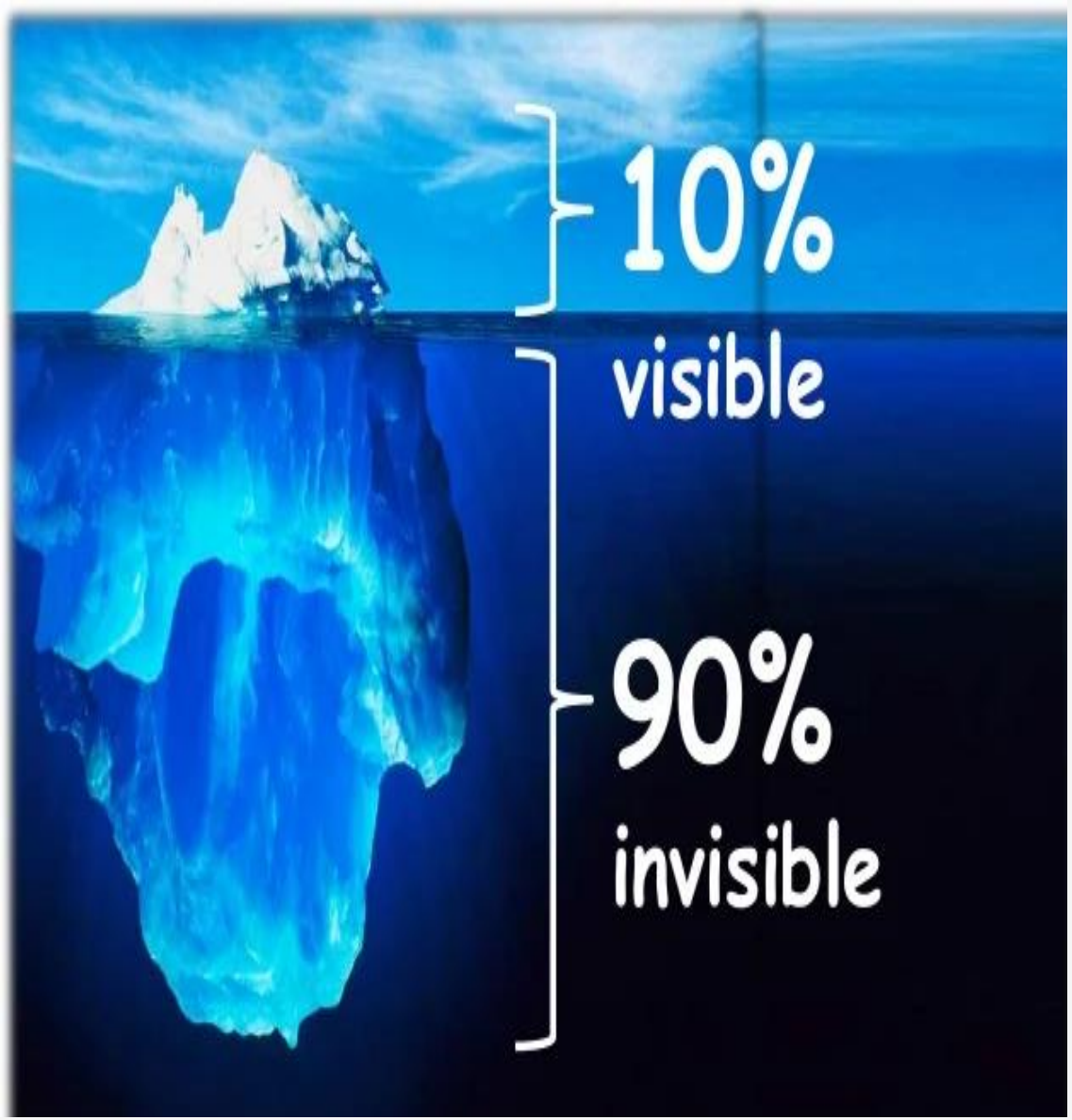
- 1442 Outreach health professionals and 76 support staff now in England. NHS E Stocktake 2022

- NOrF survey 2023(48% response rate UK*):
  - 16.5% do not have a 24/7 team
  - 2% do not have a dedicated team
  - 30.6% off CCOTs had independent medical prescribers

NOrF Survey data

- Activation trigger
  - 98.8% = NEWS 5-6
  - 16.4% >3 in one parameter
  - 15.3% Also clinical concern

- Interventions provided
  - 97.6% Tracheostomy management
  - 87% High Flow nasal oxygen
  - 93% CPAP/ NIV



- Transferring patients-CT/ICU
- Set up NIV/CPAP/NHFL
- Setting up ans managing infusions
- Vascular access

- Clinical reasoning on clinical situations
- Analysing risk vs benefit
- Providing cognitive ‘offload’
- Managing and carrying risk

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What are the current challenges and future opportunities?

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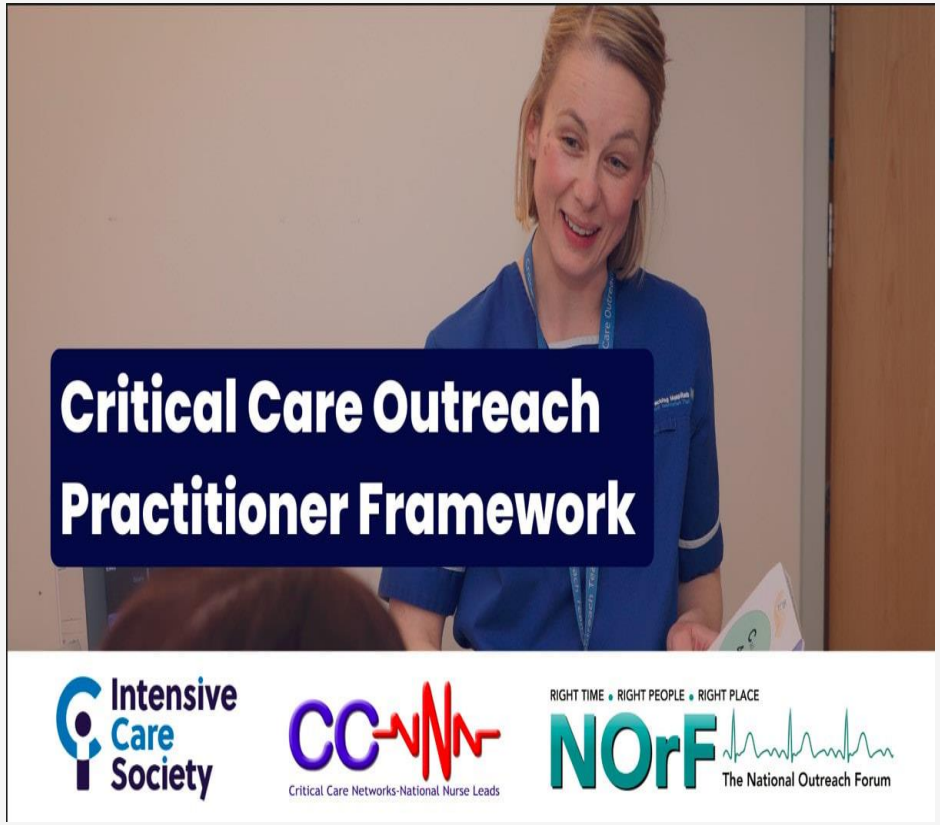
Enhanced to Advanced



[Critical Care Outreach Competencies (cc3n.org.uk)]

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NEWS 3?

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Palliation

Received: 12 February 2018 | Revised: 29 June 2018 | Accepted: 3 July 2018
DOI: 10.1111/jocn.14618

ORIGINAL ARTICLE

WILEY Journal of Clinical Nursing

Managing clinical uncertainty: An ethnographic study of the impact of critical care outreach on end-of-life transitions in ward-based critically ill patients with a life-limiting illness

Natalie Pattison[1] | Jude Mclellan[2] | Lara Roskelly[1] | Kirsty McLeod[2] | Theresa Wiseman[1,3]

End-of-Life Care

Negotiating Transitions: Involvement of Critical Care Outreach Teams in End-of-Life Decision Making

By Natalie Pattison, RN, DNSc, Geraldine O'Gara, RN, BSc, and Timothy Wigmore, MA, FRCA

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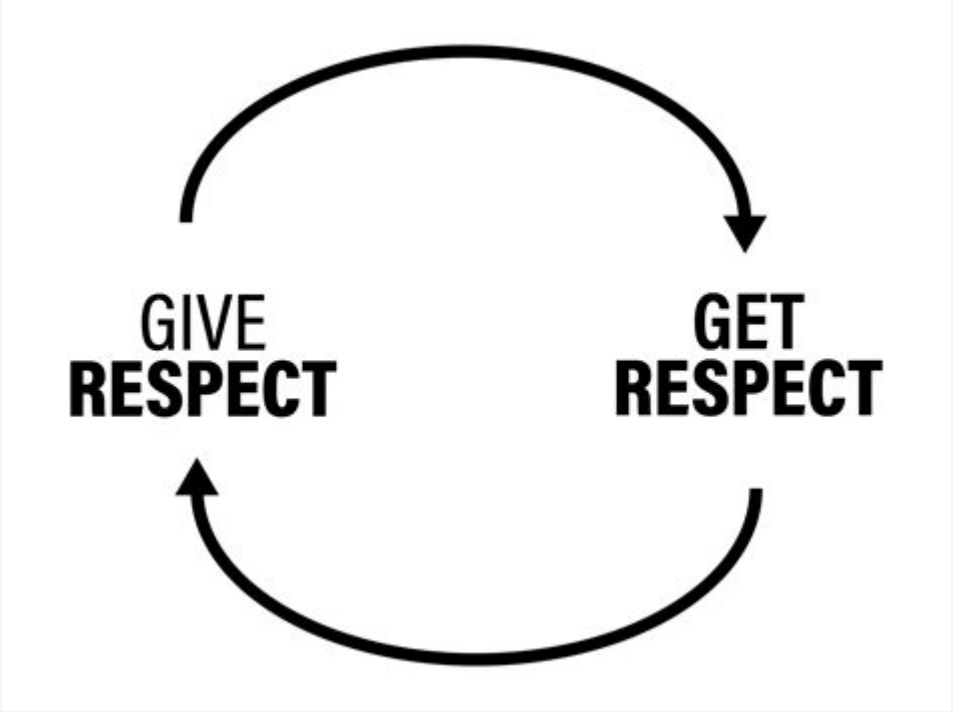
Communication



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Critical Care Outreach and POCUS: a case of shock

Mark Wilson Advanced Nurse Practitioner Critical Care Outreach MSc Advanced Practice, ACCP

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Background

- A 74-year-old man with a National Early Warning Score (NEWS) of 12
- Referred to the Critical Care Outreach (CCO) practitioner at 01:00.
- He had a respiratory rate of 30 bpm, a heart rate of 130 bpm, was confused, and a 4L/min oxygen requirement.
- Multimorbid gentleman, who had been admitted to hospital six days previously from the elderly care rapid access clinic with worsening confusion and shortness of breath.
- He had a chronic right sided pleural effusion of unknown aetiology that had been drained twice previously and was negative for any cytology.

Assessment

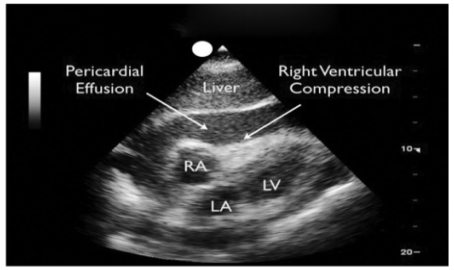
- Treated for community acquired pneumonia but continued to have a persistent tachycardia and an oxygen requirement during admission.
- Started on treatment dose tinzaparin and a CTPA requested by team.
- Thought to have an element of fluid overload and was started on furosemide
- Heart rate was 130 bpm and regular. No ischaemic changes on ECG
- He was cold peripherally to his upper arms, clammy with mottled legs.
- ABG: lactate of 11.1
- His abdomen was soft, and no tenderness was noted.
- Started on treatment dose tinzaparin by ward team that day
- Given 40mg IV Furosemide by an oncall SHO 2 hours before

POCUS

https://cloud.butterflynetwork.com/-/shared/gPrMQkEpS5ik9qaluYar9Q

Findings

- My FICE report
  - Difficult views to obtain
  - Moderate views
  - LV not enlarged, or severely impaired
  - RV not enlarged, degree of collapse in systole
  - Pericardial effusion noted in A4ch and subcostal views
  - Fixed IVC
- Was able to upload images to Butterfly Cloud and share an anonymous link via WhatsApp to the cardiology consultant on-call
- Cardiologist bedside ECHO: large circumferential pericardial effusion, IVC not easily seen, marked respiratory variation of LVOT and mitral inflow, RV collapse in diastole.



Echo and Cardiac Tamponade

- Early diastolic RV collapse
- RA collapse in atrial diastole (or ventricular systole)
- LA collapse in atrial diastole
- Dilated IVC with loss of respiratory collapse
- Ventricular interdependence
- Swinging heart
- LV "pseudohypertrophy" (LV wall thickening that resolves following pericardiocentesis and is hypothesized to be due to myocardial venous congestion in the setting of increased pericardial pressure) [1] [2]
- Duration of RA collapse associated with presence of tamponade.
- Collapse for >1/3 cardiac cycle is 100% sensitive and specific [3]

Outcome

- Transferred to Cardiac Catheter Lab for emergent pericardiocentesis
- Pericardial pressure was measured at 25mmHg and 700mls of blood-stained fluid was drained and the patient rapidly improved.
- Cytology from the drained fluid only showed neutrophils and no malignant cells were found.
- By 06:00 the patient's lactate was normal
- The cause for his pericardial and right pleural effusion were not found during his admission.
- Patient gradually improved and was eventually discharged back to his residential home seventeen days later.
- At the time of writing patient still alive and well

RIGHT TIME • RIGHT PEOPLE • RIGHT PLACE

NOrF The National Outreach Forum

Conclusions

- Easy, inexpensive, non-invasive, and portable technique, which can be rapidly performed at bedside.
- Critical Care Nurses with POCUS training can facilitate rapid diagnosis and treatment of patients who are shocked
- Training and opportunities for supervision are limiting factors

1. Veerasamy, M., 2016, 'Role of Echocardiography in the Critically Ill Patients', in U. Lakshmanadoss (ed.), Echocardiography in Heart Failure and Cardiac Electrophysiology, IntechOpen, London. 10.5772/65068.
2. CORDOC 2022 [Online] Cardiac Tamponade – Echo Findings https://cordoc.com/cardiac-tamponade-echo-findings/
3. Gillam LD, Guyer DE, Gibson TC, et al (1983) Hydrodynamic compression of the right atrium: a new echocardiographic sign of cardiac tamponade. https://doi.org/10.1161/01.CIR.68.2.294 Circulation;68:294–301

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Questions?

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Call4Concern (C4C)©: The RBH experience

Mark Wilson ACP, Alison Schofield ACP, Alicia Parker CNS and Jodie Williams CNS

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Background

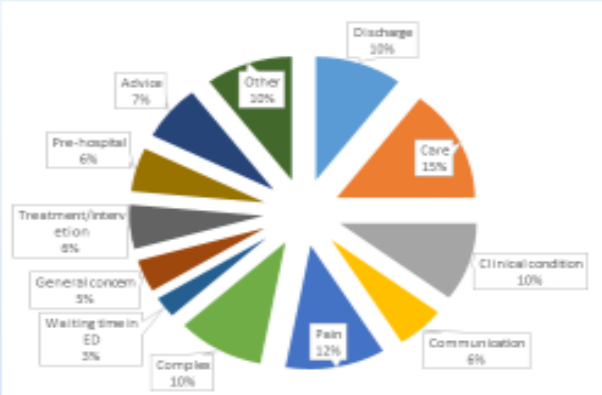
- C4C© is a patient safety service incorporated into the Critical Care Outreach Team (CCOT) at the Royal Berkshire Hospital established in 2009.
- C4C enables patients, their families or friends to call for immediate advice when they feel concerned about their own or a loved one's changing health condition or care.
- One call or text initiates an independent clinical review by CCOT, the priority of which is judged against our CCO caseload.
- Over past sixth months C4C© has undergone rebranding with a focus on improved signposting throughout the Trust to coincide with introduction of Martha's Rule.
- This included increasing the awareness and visibility of the service within the emergency department

Chart 1: C4C© Referrals 2017-24

Data analysis

- C4C referrals have increased annually by over 50% since 2021 (see Chart 1).
- In the first quarter of 2024, referral rate has increased by 91% compared to Q1 2023 with an increasing volume of paediatric C4C calls and calls from ED.
- This increase may be in response to press surrounding Martha's Rule and increased signposting within Trust.
- C4C referrals are made for a broad range of reasons (see Chart 2), patient care and pain are most common causes of referral to C4C.
- 50% of C4C referrals are made out of hours (evenings/nights/weekends) .
- C4C referrals accounted for 2.4% of all CCO referrals for Q1 2024. Historically (2010-2016), C4C accounted for <1% of all CCO referrals.
- C4C referrals accounted for 1.2% CCO clinical hours for Q1 2024 – approximately 10 hours per month - demonstrating that C4C does not contribute significantly to work volume.
- Limitations of our auditing – we are not measuring all C4C referral outcomes therefore it is difficult to analyse impact or effectiveness of service.

Chart 2: Reason for referral to C4C©



Service user feedback

"My daughter was so sick I thought she was going to die. I called C4C and within 5 mins CCO reviewed my child and her care was escalated quickly to ICU. I believe that had she not been attended to by C4C she would have had an cardiac arrest. I recommend the C4C service as it can save lives"
– parent of a child referred to C4C

Case Study 1

S: Call from patient's sister with concern for pt condition
B: Adult repatriated from ITU overseas to renal ward at RBH
A: Pt appeared to have PTSD post ITU admission overseas
R: Referred to and seen by RBH Rehabilitation After Critical Illness service for support and advice

Case Study 2

S: Call from patient's parents with concern over pain and treatment plan
B: Paediatric pt under care of surgeons and paeds on paediatric ward
A: Pain poorly controlled, unclear Tx plan, lack of communication between services and family
R: Analgesia and hydration prescribed, liaison between teams and family provided, family reassured

Case Study 3

S: Call from patient's daughter, worsening confusion since admission, FY1 reviewing, giving haloperidol for agitation.
B: Elderly care patient with mild cognitive impairment, admitted with worsening heart failure
A: Suprapubic pain, anuric, bladder scan >1000ml, Δ urinary retention
R: Catheterised , agitation settled.

Summary

- C4C is a patient safety initiative incorporated into the Critical Care Outreach service
- Referrals to the service are increasing following the introduction of Martha's Rule and improved signposting around the Trust
- Despite this, C4C referrals represent only a small proportion of overall CCO activity
- A service review measuring outcomes from referrals would enable us to evaluate the impact of the service

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Odell, M.; Gerber, K. and Gager, M. (2010) Call 4 Concern: patient and relative activated critical care outreach. British Journal of Nursing, 19 (22): 1390–5.
Odell, M (2019) Patient and relative activated critical care outreach: a 7 year service review. British Journal of Nursing, 28(2). Available online at: https://doi.org/10.12968/bjon.2019.28.2.116. [accessed on: 21/02/2024].
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