

Navigating 'deterioration in mental state' – from recognition to response in general hospitals to satisfy 'National Standards': a discussion paper

Scott Lamont, Nikita Donnelly & Scott Brunero

To cite this article: Scott Lamont, Nikita Donnelly & Scott Brunero (11 Dec 2024): Navigating 'deterioration in mental state' – from recognition to response in general hospitals to satisfy 'National Standards': a discussion paper, Contemporary Nurse, DOI: [10.1080/10376178.2024.2438628](https://doi.org/10.1080/10376178.2024.2438628)

To link to this article: <https://doi.org/10.1080/10376178.2024.2438628>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 11 Dec 2024.



[Submit your article to this journal](#)



[View related articles](#)



[View Crossmark data](#)

DISCUSSION

Navigating ‘deterioration in mental state’ – from recognition to response in general hospitals to satisfy ‘National Standards’: a discussion paper

Scott Lamont ^{a,b,c,*}, Nikita Donnelly^{d,e} and Scott Brunero ^{a,c}

^aMental Health Liaison Nursing, Prince of Wales Hospital, Sydney, Australia; ^bImplementation and Capacity Building Team, Health Technology Assessment Unit, University of Central Lancashire, Brook Building BB444, Preston PR1 2HE, UK; ^cSchool of Nursing & Midwifery, University of Technology, Sydney, Australia; ^dClinical Emergency Response Systems, Prince of Wales Hospital, Sydney, Australia; ^eClinical Excellence Commission, Sydney, Australia

(Received 9 August 2024; accepted 29 November 2024)

Background: The Australian Commission on Safety and Quality in Health Care ‘National Standards’ require general hospitals to have systems for clinicians to recognise and respond to patients’ deteriorating mental state. The lack of an evidence-based operational definition and clear guidance challenges this requirement.

Objective: To review governance mechanisms and assessment processes for deteriorating mental state in a metropolitan general hospital and propose an organisational framework.

Methods: A qualitative document analysis using the READ approach systematically reviewed hospital committee reports, health district policies, and training programs to identify and synthesise key assessment points and processes.

Findings: The study mapped assessment points for recognising and responding to deteriorating mental state across patient journey stages. An organisational systems infographic provides a blueprint for meeting National Standards accreditation criteria.

Conclusions: Hospitals should establish comprehensive systems to observe, monitor, assess, and refer individuals with deteriorating mental state, involving multiple governance processes and frameworks.

Keywords: acute deterioration; clinical deterioration; deteriorating mental state; mental health deterioration; mental state examination; assessment processes; governance mechanisms; National Standards

Impact statement

Our paper maps governance and assessment processes to enhance deteriorating mental state recognition in general hospitals, aligning with National Standards.

Plain English Summary

General Hospital staff often need to recognise and respond to patients whose mental health is getting worse. This problem is serious because a worsening mental state can lead to harmful behaviours, such as self-harm or violence, and can result in poor healthcare experiences for

*Corresponding author. Email: slamont@uclan.ac.uk

patients. Our paper aimed to find ways to help hospital staff better identify and manage these situations. We looked at the systems and processes currently in place in hospitals to see how they could be used to meet national healthcare standards for mental health care. We created a detailed plan that hospitals can follow to improve their mental health responses. This plan includes steps for governance, assessment, and clinical pathways, ensuring that all parts of the hospital system work together to support patients with deteriorating mental states. Our findings suggest that using existing hospital processes, rather than creating new tools, can help staff more effectively recognise and respond to mental health issues. This approach not only meets accreditation requirements but also enhances patient safety and care quality. This paper provides valuable insights for healthcare practitioners and policymakers, showing that with the right systems in place, general hospitals can better manage mental health care, ultimately leading to better outcomes for patients.

Introduction

The Australian Commission on Safety and Quality in Health Care (ACSQHC) ‘National Standards’ mandate that general hospital settings establish ‘processes’ that enable clinicians to recognise and respond to acute deterioration, including deteriorating mental state (DMS) (Australian Commission on Safety and Quality in Health Care, 2017). Specifically, healthcare organisations are required to screen for those patients ‘at risk’ of a DMS, conduct a mental state examination when a DMS is detected, be alert for acute changes in DMS for patients who are not identified as high risk, and develop systems for ongoing monitoring. This DMS addition to ‘Standard Eight – Recognising and Responding to Acute Deterioration’ (National Safety and Quality Health Service Standards, 2017) consequently presented a paradigm shift and challenge in non-mental health settings as it required generalist healthcare practitioners to develop the capacity to recognise and respond to a DMS, in the absence of any professionally agreed upon or standardised measure for tracking this. This was further compounded by the broad and arguably absent well-defined concept of a ‘deteriorating mental state’ at the time (Gaskin, 2019).

Background

A DMS is not mutually exclusive to that of mental illness. It can be associated with a wider range of disease morbidities such as, but not limited to pain, stroke, traumatic brain injury, substance withdrawal, delirium, dementia, social problems, grief and receiving poor diagnostic outcomes (Gaskin, 2019; McGorry et al., 2018). A DMS can be an antecedent to self/harm/suicidal behaviours, aggression/violence, treatment non-adherence, and poor healthcare experience. Thus, a healthcare imperative exists for general hospital settings in ensuring systems and processes are in place to expedite screening, assessment, escalation, and specialist referral in reducing DMS-related morbidity and mortality (Lamont et al., 2024). However, they are required to do so with little, and at times abstract, guidance on how. These issues relating to DMS are not unique to Australian healthcare organisations and are arguably a global concern (Dziruni et al., 2024).

A scoping review commissioned by the ACSQHC, subsequent to the release of the inaugural ‘National Standards’ in 2012, proposed that generalist settings could adopt a similar conceptual framework for recognising and responding to DMS to that of physiological deterioration (Craze et al., 2014). However, the lack of agreed-upon markers to quantify DMS posed a challenge in this regard, as did the absence of an established evidence base, validated instruments and tools, pathways and clinical guidelines, or educational systems in support of DMS recognition and response. In a subsequent review commissioned by the ACSQHC, Gaskin attempted to

operationally define DMS to include domains such as: reported change, distress, loss of touch with reality, consequences of behaviours, loss of function, and elevated risk to self, others, or property (Gaskin, 2019). The same review was unsurprisingly unable to locate any validated instruments or tools specifically for the purpose of recognising DMS.

Although validated instruments exist in various mental health diagnostic contexts (delirium, depression, and anxiety for example) (Jones et al., 2019), they are not designed specifically for recognising DMS. The empirical literature relating to DMS recognition, although limited and in its infancy, reports recent attempts to use a 'distress' framework for quantifying and tracking deterioration, although the authors recommend further testing in this area (Forster et al., 2023). Efforts in this regard are however hindered by the idiosyncratic factors and absence of established parameters and norms present within this concept (Lamont et al., 2024). We propose that efforts move from single point DMS assessment or the development of instruments and tools, to that of multiple processes which already exist and are embedded in the patient's hospital journey.

Methods

This discussion paper is based on a qualitative document analysis to explore how governance mechanisms and assessment processes support the recognition and response to DMS in a general hospital setting. We began by identifying relevant governance structures, including hospital committees, policies, guidelines, and training programs that align with DMS management. We subsequently employed qualitative document analysis methods to examine policy and guidance documents and identify assessment processes for DMS recognition and response. This process was informed by the READ approach (1. ready your materials, 2. extract data, 3. analyse data, and 4. distil your findings) to document analysis (Dalglish et al., 2021)

Documents were selected by hospital clinical leads from clinical emergency response and mental health liaison from local and state-wide databases, based on their perceived relevance to DMS recognition and response. Key information was extracted, focusing on standard assessment points in the patient care trajectory, the roles of different assessors, and the various assessment frameworks employed. Four assessment time-points in the patient journey were identified: Pre-hospital; Presentation to emergency department; Specialty ward admission; and During hospital stay. We used a deductive lens to map specific assessments and relevant frameworks to each of these, in illustrating chronologically, DMS recognition and response throughout the patient hospital journey.

Discussion

The National Standards emphasise the importance of organisational-wide governance and quality improvement to promote DMS recognition and response. Governance incorporates identifying and managing risks, escalation systems, education, and training of the workforce.

Governance

Relevant committees, as well as local, district, and state-wide policy documents and guidelines that contain assessment, escalation, and referral for issues consistent with DMS were identified, as were education and training programs relevant to DMS. The implementation of policy and guidance, education and training, screening and assessment, clinical pathways and frameworks encourages escalation of care and referral to appropriate services.

Existing hospital governance processes of reporting clinical incidents associated with DMS create an opportunity to review systems and processes for DMS recognition and response. For example, the hospital has monthly Clinical Emergency Response Systems and bi-monthly Violence Prevention and Management Committee meetings, where quality and safety components of DMS recognition and response, and relevant incidents, education and training are discussed. A Comprehensive Care Committee (National Standard 5) also meets monthly to discuss similar quality and safety aspects in relation to delirium and cognitive impairments, self-harm/suicide, and aggression/violence.

Policy and guidance are important components of the local governance mechanisms, helping establish expectations for clinical staff in assessment and screening, education and training, and operational review, whilst promoting a consistent approach to practice. Several state-wide (Clinical Deterioration; Violence Prevention), and local health district (Clinical Deterioration; Violence Prevention) policies exist for this purpose. Likewise, various hospital policies (Clinical Deterioration; Violence Prevention; Delirium; Self-Harm/Suicide; Patient and Family Escalation) provide similar guidance.

Similarly, education and training programs provide awareness of DMS contexts with an aim to improve recognition via assessment, screening, and ongoing monitoring. They can also guide and clarify escalation systems and response, clinical pathways, and referral processes relating to DMS. Relevant education and training programs facilitated at the hospital include Between the Flags; Advanced Life Support; Violence Prevention & Management; Delirium-recognition and management; Dementia Experience; De-escalation; and Code Black-emergency response – threat to personal safety (Brunero et al., 2021).

The above committees, policy and guidance, and education and training provide an overview of governance mechanisms for DMS recognition and response. This overview is presented in [Table 1](#). The hospital committees highlighted in [Table 1](#) are integral components of the governance and oversight relating to DMS recognition and response. These committees are highly representative of nursing staff and essential to the development and review of policy, guidance, training, and education, as well as quality improvement aspects such as audit. In the broader literature, nurse engagement with organisational decision-making peak bodies and committees is recommended for increasing point of care patient safety and influencing related policy (Brooks Carthon et al., 2019) and thus essential in this DMS context.

The articulation of clear policy and guidance and staff training ([Table 1](#)) are key components of risk mitigation and safe healthcare provision (Vaismoradi et al., 2020). Policy and guidance ensures uniformity with obligations in relation to DMS recognition and response, and ensures that screening, assessment, and response approaches are evidence-based. Education and training provide clinicians with requisite knowledge to effectively understand and recognise a DMS, awareness of processes for escalation and referral, and finally skills in expediting DMS response.

The READ approach (1. Ready your materials, 2. Extract data, 3. Analyse data and 4, distil your findings) subsequently informed an examination of patient assessment processes relevant to DMS recognition and response. This systematic approach provided a comprehensive understanding of how DMS recognition and response processes are integrated into various stages of patient care: Pre-hospital; Presentation to emergency department; Speciality ward admission; and During hospital stay.

Pre-hospital setting

The pre-hospital setting has a diverse range of assessment points and junctures for DMS recognition and response. For example, these are found in general practitioner referral letters;

Table 1. Governance components of deteriorating mental state.

Committees	Policy & Guidance	Education & Training
Clinical Emergency Response Systems Committee (<i>system activation & response, incidents, education & training</i>) Violence Prevention and Management Committee (<i>system activation & response, incidents, education & training</i>) Comprehensive Care Committee (<i>system activation & response, incidents, education & training</i>)	Recognition and management of patients who are deteriorating/ Management of deteriorating Adult inpatient/ Management of deteriorating patient – Clinical Emergency Response Systems Violence Prevention and Management Training Framework for NSW Health Organisations Violence Prevention and Management Procedure Code Black – Activation, Response and Management Delirium Assessment, Prevention and Management in the Older Person Management of patients/ persons with possible self-harming / suicidal behaviour in a general hospital setting REACH – patient and family escalation system	Between the Flags (DETECT) (<i>recognition, escalation, response – acute deterioration, including DMS</i>) Advanced Life Support (ALS) Violence Prevention & Management (VPM) (<i>recognition, escalation, response</i>) Delirium- recognition and management (<i>recognition, response, referral</i>) Dementia Experience (<i>recognition, response, referral</i>) De-escalation (<i>recognition, response</i>) Code Black (<i>escalation, response, referral</i>)

ambulance and police admission notes; community mental health and crisis team referrals/ mental health act forms; outpatient and perioperative clinic assessment and referrals; private practice referrals; and family/carer/friend collateral information. Consequently, emergency department presentations and/or referral to specialist mental health or aged care services may follow, in response to recognition of DMS.

Emergency department

The primary point for DMS recognition and response is during triage. A triage nurse assesses initial concerns, assigns a triage category, and checks electronic medical records for any alerts relating to previous aggression, delirium, or history of self-harm/suicide. Following triage, a comprehensive medical assessment is conducted to identify signs of physiological deterioration and DMS, as well as pre-existing mental health conditions and risk factors. During this process, emergency department nurses also complete admission documentation, which includes a thorough physical and psychological assessment. Various assessment frameworks and screening tools such as A-G physical assessment, vital signs monitoring, HIRAID (History, Identify Red flags, Assessment, Interventions, Diagnostics), AVCPU (awake, verbal, new onset confusion and changes in behaviour, pain, unresponsive), and/or the Glasgow Coma Scale are utilised, where symptoms of DMS can be recognised and responded to.

Two key inquiry assessment questions relating to DMS are undertaken with all presentations: (1) is the patient confused, disorientated, or agitated? And (2) has the patient had a recent change in behaviour? For all elderly patients aged 65 and over and for Aboriginal and Torres Strait Islander populations aged 45 years and over, validated cognitive and delirium screening

instruments are routinely utilised (mini mental state examination (MMSE; Folstein & McHugh, 1975) confusion assessment method (CAM; Inouye et al., 1990) abbreviated mental test score (AMTS; Hodkinson, 1972) and rapid delirium screen (4AT) (Bellelli et al., 2014)). Consequently, aspects consistent with DMS are recognised during these assessments and responded to accordingly.

Responses include determining potential DMS causation, and management which may include 1:1 nurse specialising; pharmacological agents; and specialist referral (Aged Care Services Emergency Team (ASET) for additional cognitive and delirium screening, and liaison mental health teams for comprehensive assessment and diagnosis of DMS). Specialty disposition may occur, with patients discharged for follow-up by crisis and community mental health services or admitted to mental health or general hospital inpatient specialties. Finally, patients' family/carers/friends can escalate concerns relating to DMS using a dedicated telephone escalation service known in NSW as REACH (Recognise, Engage, Act, Call, Help), which has 24-hour coverage and response.

Specialty ward admission

All hospitalised patients are screened for DMS as part of the adult admission assessment (AAA) process using the two assessment questions described previously. Assessments of patients aged 65 and over and Aboriginal and Torres Strait Islander populations aged 45 years and over again occur using the validated cognitive and delirium screening instruments identified earlier. The AAA also assesses aspects of social history which may indicate risk factors for DMS such as history of domestic violence; presence of underlying mental health conditions; smoking; and alcohol or substance misuse (with certain responses triggering a local assessment using the Alcohol Withdrawal Scale, and/or referral for specialist assessment by drug and alcohol services). The A-G physical assessment, vital signs, AVCPU and/or GCS screening are repeated during this process. An initial ward medical assessment will also note any indicators for DMS, and the REACH Program is reaffirmed at this stage via verbal conveyance and written information.

During hospital stay

If a DMS develops during admission, the following assessment points, monitoring and processes can capture this: A-G physical assessment; vital signs monitoring; routine medical reviews; and acute deterioration escalations of care. The screening measures and monitoring for new onset confusion, changes in behaviour and delirium mentioned previously (MMSE, AMTS, CAM, 4AT) occur if any acute change in behaviour is evident. Routine monitoring of AVCPU captures any acute changes in mental state or behaviour suggestive of DMS, and the above assessments are repeated throughout the care trajectory, where indicated. Outcomes of the AVCPU assessment may prompt further care escalation and screening for DMS using validated measures and behaviour monitoring. Referrals for DMS and escalations of care routinely happen through various processes including medical reviews, ISBAR clinical handover framework (Introduction, Situation, Background, Assessment, Recommendation), Structured Interdisciplinary Bedside Rounds (SIBR), case conferences, morbidity and mortality meetings, safety huddles, and post-incident debriefing.

Clinicians can also escalate care for any new and acute signs of DMS through the hospital's 'Between the Flags' (BTF) clinical emergency response system, which leads to specialist referral for a comprehensive mental state assessment and management plan. This may include the involvement of allied health professionals such as social workers and clinical psychologists, as well as drug and alcohol services, in addressing underlying psychosocial and substance-related contributors to DMS. Clinicians who deem staff or patient safety is compromised due to an acute DMS

can activate organisational response teams for management of persons with acute behavioural disturbance (Code Black). During acute deterioration episodes, additional care resources such as one-to-one nurse specials, and chemical or physical restraint pathways are considered in line with established hospital guidance to ensure patient and staff safety. The REACH Program also remains active throughout the trajectory of care. These assessment points identified above with their relevant assessment frameworks are presented in Table 2.

As can be seen, a multitude of governance mechanisms including governance committees and incident review; policy and guidance; education and training programs; and routine clinical assessment points and frameworks exist, which speak to DMS recognition and response, and National Standards requirements. These were subsequently used to develop an illustrative organisational systems map (hereafter map).

Organisational systems map of DMS recognition and response

A draft map was generated from the various data sources relating to governance mechanisms, assessment points and frameworks for DMS recognition and response. The map's components align with existing literature on acute deterioration, particularly Smith's seminal 'chain of

Table 2. Deterioration in mental state assessment points and frameworks.

Pre-hospital setting	Emergency Department	Specialty ward admission	During hospital stay
GP referrals	Triage assessment	Adult Admission	Routine clinical interactions
Ambulance & Police response (<i>admission notes / mental health act schedule forms</i>)	(<i>Patient alerts / presenting problem of DMS</i>)	assessment (AAA)	(<i>A-G physical assessment / vital signs / AVCPU / GCS / MMSE, AMTS, CAM, 4AT</i>)
Community health team referrals (<i>mental health act schedule forms</i>)	ED medical & nursing (<i>Hx of DMS / medication history indicating DMS / A-G physical assessment / vital signs / HIRAID / AVCPU / GCS / MMSE, AMTS, CAM, 4AT / Two assessment questions</i>)	(<i>Two assessment questions / MMSE, AMTS, CAM, 4AT</i>)	Medical reviews
Outpatient / perioperative clinic screening & referrals	Aged Care Services	Ward nursing assessment (<i>A-G physical assessment / vital signs, AVCPU, GCS</i>)	Clinical handover (<i>ISBAR</i>)
Specialist private practice referrals	Emergency Team (ASET) (<i>MMSE, AMTS, CAM, 4AT</i>)	Ward medical assessment	Structured
Family/Carer/Friend concerns	Medical assessment (Specialty)	Family/Carer/Friend concerns (<i>REACH</i>)	Interdisciplinary Bedside Rounds (SIBR)/ case conferences / morbidity & mortality meetings
	Mental Health		Safety huddles / Post incident debriefing & reviews
	Nursing assessment (<i>Mental health assessment tool</i>)		Emergency response system activations
	Mental Health medical assessment (<i>Mental health assessment tool</i>)		(Between the flags (BTF) / Code Blue / Code Black)
	Family/Carer/Friend concerns (<i>REACH</i>)		Mental health assessments (Mental State Examination (MSE))
			Family/Carer/Friend concerns (<i>REACH</i>)

prevention’ framework, which includes education, monitoring, recognition, calling for help, and response (Smith, 2010). These five domains are consistent with National Standard Eight requirements and the broader physical and mental state clinical deterioration literature (Craze et al., 2014; Gill et al., 2022; Padilla & Mayo, 2018; Smith, 2010). The final map was subsequently visually represented as a process flow infographic (see Figure 1). The map has provided a tool to explicitly identify the ‘what’ ‘who’ ‘when’ ‘where’ and ‘how’ of DMS recognition and response and was utilised in July 2022 during successful National Standards accreditation. It guided auditors in locating and sighting relevant committee minutes, policy and guidance, education and training records, assessment frameworks, and finally activation and response data. The resulting map breaks down the individual governance mechanisms, and that of patient assessment points and frameworks, providing generalist healthcare organisations a foundation from which to consider DMS recognition and response, and National Standards obligations.

Stakeholder engagement

Identifying key stakeholders to generate the map was key to its development. The meaningful engagement of key stakeholders is integral to maximising the success of complex interventions or developments and is best undertaken by clinicians who have intimate knowledge of organisational governance mechanisms, and those directly affected by the outcomes of development and implementation guidance (Petkovic et al., 2020; Skivington et al., 2021). Therefore, healthcare

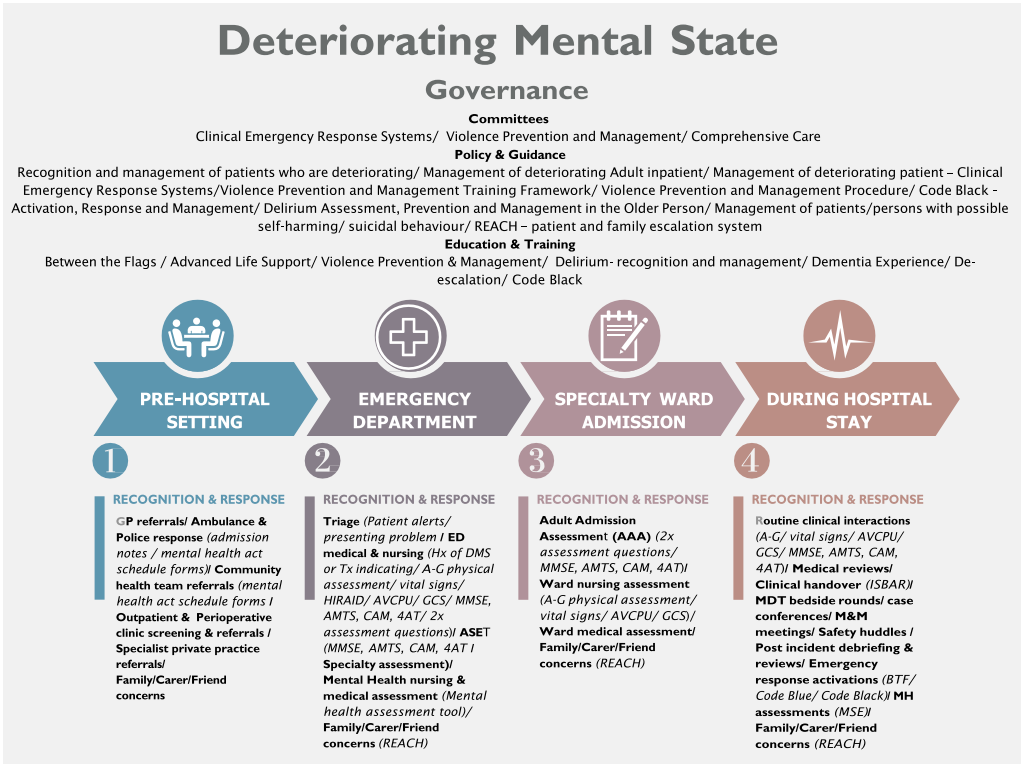


Figure 1. DMS systems map.

services should identify key clinical staff from specialties where the likelihood of a DMS is high for similar local systems maps endeavours.

The data sources within the map provide local stakeholders with a visual representation and understanding of governance activities, assessment points and frameworks relevant to DMS recognition and response and enables cross-specialty uniformity in meeting obligations within (Joseph et al., 2020). Consequently, an understanding of how systems and processes interconnect is transparent to all relevant stakeholders responsible for DMS recognition and response. The map can also provide opportunities for seamless orientation, education, and transition of new staff in relation to DMS obligations, and for identifying gaps and actioning improvement initiatives.

Clinical implications and future directions

Early intervention is crucial in reducing DMS-related morbidity and mortality, (Ricciardi & Boccia, 2017) but early warning signs may go unnoticed and/or not acted upon (Rees, 2021). Clinician recognition of acute deterioration in the broader literature is based upon ‘noticing’ and ‘accurately apprehending’ relevant clinical cues of variance, but various factors may inhibit this (Al-Moteri et al., 2020). Future research, in the first instance, should seek to operationalise DMS as a concept, via concept mapping or concept analysis methods, examining key indicators and factors contributing to its progression. Elucidation of this may help clinicians move from mere descriptions of behaviour, cognitions, or mood, consistent with DMS, to positioning them within a DMS which requires assessment and response. A shift in behaviour may be required in non-specialist settings for some whom may rely on psychiatry liaison teams for assessment, and others who may not perceive mental health related care as their responsibility (Brunero et al., 2018). Future endeavours should also assess the completion and effectiveness of assessments through medical record review, and explore staff and patient experiences in DMS recognition and response.

This paper has several limitations to consider. Firstly, it reflects a single healthcare organisation in a specific location, limiting the generalisability of its findings. Additionally, the authors have dual roles as clinical leads and researchers, which could introduce bias. We also gathered information primarily from a distance from frontline care delivery, excluding input from those stakeholders responsible for assessment processes. Finally, it was beyond the scope of this paper to examine if DMS recognition and response was optimal in terms of patient interventions and outcomes; rather, we’ve identified components which ultimately underpin and enable efficient and timely DMS recognition and response. Therefore, our findings should be interpreted as a reflection of what should happen, not necessarily what is happening in practice.

Impact

This study addresses the critical gap in effectively managing deteriorating mental states in general hospital settings. By mapping existing governance mechanisms and assessment processes, it provides a practical framework aligned with National Standards, enhancing patient safety and compliance. The proposed organisational systems map offers actionable strategies for hospitals to adopt a consistent, scalable approach to deteriorating mental state recognition and response. By integrating established practices, this work fosters multidisciplinary alignment, ensuring timely interventions and safe patient outcomes in non-specialist environments.

Conclusion

A DMS is a relatively new and evolving concept for generalist healthcare practitioners to consider, so far as understanding and detecting its presence routinely. This paper examined a novel context for non-mental health organisations yet to be reported in the literature. The use of existing systems and processes to align DMS alongside physical health deterioration requirements is arguably where general hospital settings should focus their attention. We recommend identifying these for this purpose, as opposed to attempts to quantify, aggregate, or score what is currently a complex and somewhat abstract concept, the latter of which being arguably misguided. Healthcare organisations can utilise similar methods for greater clarity of what is occurring, when, and with whom, in relation to DMS recognition and response obligations.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Data availability statement

The data that support the findings of this study are available from the corresponding author, [SL], upon reasonable request.

ORCID

Scott Lamont  <http://orcid.org/000-0003-2497-1314>

Scott Brunero  <http://orcid.org/0000-0003-4156-7014>

References

- Al-Moteri, M., Cooper, S., Symmons, M., & Plummer, V. (2020). Nurses' cognitive and perceptual bias in the identification of clinical deterioration cues. *Australian Critical Care*, 33(4), 333–342. <https://doi.org/10.1016/j.aucc.2019.08.006>
- Australian Commission on Safety and Quality in Health Care. (2017). Retrieved October 20, 2023, from <https://www.safetyandquality.gov.au/standards>
- Bellelli, G., Morandi, A., Davis, D. H., Mazzola, P., Turco, R., Gentile, S., Ryan, T., Cash, H., Guerini, F., Torpilliesi, T., Del Santo, F., Trabucchi, M., Annoni, G., & MacLulich, A. M. J. (2014). Validation of the 4AT, a new instrument for rapid delirium screening: A study in 234 hospitalised older people. *Age and Ageing*, 43(4), 496–502. <https://doi.org/10.1093/ageing/afu021>
- Brooks Carthon, J. M., Hatfield, L., Plover, C., Dierkes, A., Davis, L., Hedgeland, T., Sanders, A. M., Visco, F., Holland, S., Ballinghoff, J., Del Guidice, M., & Aiken, L. H. (2019). Association of nurse engagement and nurse staffing on patient safety. *Journal of Nursing Care Quality*, 34(1), 40–46. <https://doi.org/10.1097/NCQ.0000000000000334>
- Brunero, S., Dunn, S., & Lamont, S. (2021). Development and effectiveness of tabletop exercises in preparing health practitioners in violence prevention management: A sequential explanatory mixed frameworks study. *Nurse Education Today*, 103, 104976. <https://doi.org/10.1016/j.nedt.2021.104976>
- Brunero, S., Ramjan, L. M., Salamonson, Y., & Nicholls, D. (2018). A constructivist grounded theory of generalist health professionals and their mental health work. *International Journal of Mental Health Nursing*, 27(6), 1816–1825. <https://doi.org/10.1111/inm.12489>
- Craze, L., Mc George, P., Holmes, D., Bernardi, S., Taylor, P., Morris-Yates, A., & McDonald, E. (2014). *Recognising and responding to deterioration in mental state: A scoping review*. Australian Commission on Safety and Quality in Health Care (ACSQHC). Retrieved April 12, 2023, from <https://www.safetyandquality.gov.au/our-work/mental-health>
- Dalglis, S. L., Khalid, H., & McMahon, S. A. (2021). Document analysis in health policy research: The READ approach. *Health Policy and Planning*, 35(10), 1424–1431. <https://doi.org/10.1093/heapol/czaa064>

- Dziruni, T. B., Hutchinson, A. M., Keppich-Arnold, S., & Bucknall, T. (2024). A realist evaluation protocol: Assessing the effectiveness of a rapid response team model for mental state deterioration in acute hospitals. *Frontiers in Health Services*, 4, 1400060. <https://doi.org/10.3389/frhs.2024.1400060>
- Folstein, M., & McHugh, P. (1975). Mini mental state a practical method for grading the cognitive state of patients for the clinician. *Journal of Psychiatric Research*, 12(3), 189–198. [https://doi.org/10.1016/0022-3956\(75\)90026-6](https://doi.org/10.1016/0022-3956(75)90026-6)
- Forster, J. A., Coventry, A. A., & Daniel, C. (2023). Optimizing the response to mental health deterioration: Nurses experiences of using a mental health observation response chart. *International Journal of Mental Health Nursing*, 32(1), 95–105. <https://doi.org/10.1111/inm.13062>
- Gaskin, C. (2019). *Recognising signs of deterioration in a person's mental state: An updated literature review*. Retrieved October 20, 2023, from https://www.safetyandquality.gov.au/sites/default/files/2019-11/recognising_signs_of_deterioration_in_a_persons_mental_state_an_updated_literature_review_0.pdf
- Gill, F. J., Cooper, A., Falconer, P., Stokes, S., & Leslie, G. D. (2022). Development of an evidence-based ESCALATION system for recognition and response to paediatric clinical deterioration. *Australian Critical Care*, 35(6), 668–676. <https://doi.org/10.1016/j.aucc.2021.09.004>
- Hodkinson, H. M. (1972). Evaluation of a mental test score for assessment of mental impairment in the elderly. *Age and Ageing*, 1(4), 233–238. <https://doi.org/10.1093/ageing/1.4.233>
- Inouye, S. K., van Dyck, C. H., Alessi, C. A., Balkin, S., Siegel, A. P., & Horwitz, R. I. (1990). Clarifying confusion: The confusion assessment method: A new method for detection of delirium. *Annals of Internal Medicine*, 113(12), 941–948. <https://doi.org/10.7326/0003-4819-113-12-941>
- Jones, R. N., Cizginer, S., Pavlech, L., Albuquerque, A., Daiello, L. A., Dharmarajan, K., Gleason, L. J., Helfand, B., Massimo, L., Oh, E., Okereke, O. I., Tabloski, P., Rabin, L. A., Yue, J., Marcantonio, E. R., Fong, T. G., Hsieh, T. T., Metzger, E. D., Erickson, K., ... Inouye, S. K. (2019). Assessment of instruments for measurement of delirium severity: A systematic review. *JAMA Internal Medicine*, 179(2), 231–239. <https://doi.org/10.1001/jamainternmed.2018.6975>
- Joseph, A. L., Kushniruk, A. W., & Borycki, E. M. (2020). Patient journey mapping: Current practices, challenges and future opportunities in healthcare. *Knowledge Management & E-Learning: An International Journal*, 12(4), 387–404. <https://doi.org/10.34105/j.kmel.2020.12.021>
- Lamont, S., Donnelly, N., & Brunero, S. (2024). Deterioration in mental state: A national standards conundrum. *International Journal of Mental Health Nursing*, 33, 192–194. <https://doi.org/10.1111/inm.13225>
- McGorry, P. D., Ratheesh, A., & O'Donoghue, B. (2018). Early intervention – an implementation challenge for 21st century mental health care. *JAMA Psychiatry*, 75(6), 545–546. <https://doi.org/10.1001/jamapsychiatry.2018.0621>
- National Safety and Quality Health Service Standards. (2017). *Recognising and responding to acute deterioration standard*. Retrieved October 20, 2023, from <https://www.safetyandquality.gov.au/standards/nsqhs-standards/recognising-and-responding-acute-deterioration-standard>
- Padilla, R. M., & Mayo, A. M. (2018). Clinical deterioration: A concept analysis. *Journal of Clinical Nursing*, 27(7-8), 1360–1368. <https://doi.org/10.1111/jocn.14238>
- Petkovic, J., Riddle, A., Akl, E. A., Khabsa, J., Lytvyn, L., Atwere, P., Campbell, P., Chalkidou, K., Chang, S. M., Crowe, S., Dans, L., Jardali, F. E., Ghersi, D., Graham, I. D., Grant, S., Greer-Smith, R., Guise, J.-M., Hazlewood, G., Jull, J., ... Tugwell, P. (2020). Protocol for the development of guidance for stakeholder engagement in health and healthcare guideline development and implementation. *Systematic Reviews*, 9(1), 1–11. <https://doi.org/10.1186/s13643-020-1272-5><http://doi.org/>
- Rees, H. (2021). Identifying people with deteriorating mental health using a mental state assessment. *Nursing Standard*, 36(6), 62–69. <https://doi.org/10.7748/ns.2021.e11612>. PMID:33843167.
- Ricciardi, W., & Boccia, S. (2017). New challenges of public health: Bringing the future of personalised healthcare into focus. *European Journal of Public Health*, 27(suppl_4), 36–39. <https://doi.org/10.1093/eurpub/ckx164>
- Skivington, K., Matthews, L., Simpson, S. A., Craig, P., Baird, J., Blazeby, J. M., Boyd, K. A., Craig, N., French, D. P., McIntosh, E., Petticrew, M., Rycroft-Malone, J., White, M., & Moore, L. (2021). A new framework for developing and evaluating complex interventions: Update of medical research council guidance. *BMJ*, 374, n2061. <https://doi.org/10.1136/bmj.n2061>
- Smith, G. B. (2010). In-hospital cardiac arrest: Is it time for an in-hospital 'chain of prevention'? *Resuscitation*, 81(9), 1209–1211. <https://doi.org/10.1016/j.resuscitation.2010.04.017>
- Vaismoradi, M., Tella, S., Logan, P. A., Khakurel, J., & Vizcaya-Moreno, F. (2020). Nurses' adherence to patient safety principles: A systematic review. *International Journal of Environmental Research and Public Health*, 17(6), 2028. <https://doi.org/10.3390/ijerph17062028>