EMA Emergency Medicine Australasia

*Emergency Medicine Australasia* (2025) **37**, e70009 doi: 10.1111/1742-6723.70009

REVIEW ARTICLE

# Review article: Somatization Disorders in emergency department: A critical overview of current challenges and future directions

Vidula GARDE [1,2,3] Meryl CHURCHILL,[2] Jaimi GREENSLADE,[4,5] Kerrianne WATT,[2] Andrew J MALLETT[1,6,7] and Douglas MOREL[8]

[1]Townsville Hospital and Health Service, Townsville, Queensland, Australia, [2]College of Public Health, Medical and Veterinary Science, James Cook University, Townsville, Queensland, Australia, [3]College of Healthcare Sciences, James Cook University, Townsville, Queensland, Australia, [4]Emergency and Trauma Centre, Royal Brisbane and Women's Hospital, Brisbane, Queensland, Australia, [5]Australian Centre for Health Services Research, School of Public Health and Social Work, Faculty of Health, QUT, Brisbane, Queensland, Australia, [6]College of Medicine and Dentistry, James Cook University, Townsville, Queensland, Australia, [7]Institute for Molecular Bioscience and Faculty of Medicine, The University of Queensland, Brisbane, Queensland, Australia, and [8]Emergency Department, Redcliffe Hospital, Redcliffe, Queensland, Australia

## Abstract

Individuals with Somatization Disorders present frequently to the ED with non-cardiac chest pain, non-specific abdominal pain, headaches and a range of other non-specific symptoms. Somatization Disorder presentations are ubiquitous within the healthcare system. Seen as belonging to 'no man's land', these disorders, are often diagnosed and treated by different medical sub-specialities. This characteristic of Somatization Disorders creates challenges regarding their diagnosis and management across emergency care settings. The current review explores the scope of the problem and, the challenges inherent in diagnosing and treating these disorders in ED environments. Based on available evidence and the essential character of these disorders, future directions are suggested for more effective emergency management and possible referral from ED.

**Key words:** *diagnostic algorithm for somatization, functional somatic symptoms, high value care, somatic symptoms in ED, somatization in ED.*

## Key findings

- Somatization disorder presentations to ED, are at risk for high morbidity, iatrogenic harm, and avoidable and inappropriate healthcare utilization.
- There are multiple challenges to managing somatization disorder presentations to ED including the lack of ED appropriate diagnostic criteria and management guidelines.
- There is a compelling case for creation of consensus guidelines and care pathways for management of somatization disorder presentations to ED, through healthcare reform, in order to reduce healthcare burden.

## Introduction

Somatization Disorders (SD) are a consequence of modern medicine's inability to bridge the Cartesian mind-body dichotomy where disorders are seen as being either of the mind or of the body. These are often described as 'no man's land'[1] and, across various healthcare settings, subject to both lack of diagnostic clarity and appropriate therapeutic intervention.

This article uses the term Somatization Disorders as a descriptive rather than a diagnostic entity, encompassing all functional disorders that present to an ED. These presentations have been variously described in literature as *Functional Somatic Symptoms, Medically Unexplained Symptoms, Somatic Symptoms Disorder, Conversion Disorder, Persistent Physical Symptoms*.

The term 'somatization' – an accident of history – is a mis-translation of the German term '*organsprache*' or 'organ language' first used by Stekel (1943). Possibly referring to

Correspondence: Ms Vidula Garde, Department of Psychology, Townsville Hospital and Health Service, 100 Angus Smith Drive, Douglas, Townsville, QLD 4814, Australia. Email: vidula.garde@health.qld.gov.au

Vidula Garde, BA, MA, M.Phil, MHA, Director Psychology; Meryl Churchill, BSc (Hons), MSc, MPHTM, PhD, Adjunct Associate Professor; Jaimi Greenslade, B.Psych (Hons), M. Sci (Stats), PhD, Associate Professor; Kerrianne Watt, BSc (Hons), PhD, Adjunct Professor; Andrew J Mallett, MBBS, MMed, PhD, CF, AFRACMA, FASN, FRCP, FRACP, Professor of Medicine; Douglas Morel, MBBS, FACEM, FCHSM, CHE, Sr Staff Specialist.

Andrew J Mallett and Douglas Morel are joint senior co-authors.



*Accepted 22 January 2025*

Freud's concept of Conversion Hysteria, Stekel defined '*organsprache*' as a bodily disorder that arises as the expression of a 'deep seated neurosis…'.[2]

The most accepted definition of somatization comes from Lipowski[1,3,4] who defines somatization as '*a tendency to experience and communicate psychologic distress in the form of physical symptoms*' or '*experience and communicate somatic distress in response to psychosocial stress*' and '*seek medical help*'.

Since SDs mimic various high acuity medical conditions, individuals with SD often present to the ED.[5] However, there is a lack of understanding regarding these presentation and management pathways for appropriate care. This article aims to review the challenges inherent in management of SD presentations to the EDs across medical specialities and propose a potentially viable model for managing such disorders in ED environments.

## The scope of the problem

SDs are some of the most frequently encountered disorders in healthcare, in inpatient,[6] outpatient[7] and emergency care[8,9] settings. Individuals with SDs present frequently to the ED as non-cardiac or non-specific chest pain,[10,11] non-specific abdominal pain,[11] headache,[12] functional neurological disorder[13] or other non-specific presentations oftentimes across medical specialities.[11] Despite a degree of consensus within individual specialities regarding their presentation, there are no adequate guidelines for their diagnosis and management in EDs where the focus is more on *ruling out* life threatening emergencies rather than *ruling in* a relatively benign disorder, despite its high psychological morbidity.

SDs are expensive for any healthcare system.[14–18] Affected patients are often frequent attenders and health service utilisers in both standard and after hours care.[19] SDs are estimated to account for 10% of the annual expenditure of the National Health Service (NHS).[20]

The cost of the disorder, as well as poorer patient outcomes (such as anxiety, depression and reduced quality of life),[21] and iatrogenic harm[22] provide a sound rationale for developing effective management approaches and guidelines for patients presenting with SDs to the ED settings.

## Current challenges

### *The challenge presented by the biomedical model*

The Biomedical Model in Medicine under the impact of Cartesian mind-body dualism conceptualises the disorders as being of the body or being of the mind.[23] This conceptualization has implications for how SDs are seen by medical practitioners and other clinicians.[24,25] SDs fall in the '*borderland between medicine and psychiatry*'[1] or body and mind, since they are seen as being both psychogenic in origin, and physical in their manifestation. Patients affected by these disorders are treated symptomatically through various medical specialities, resulting in fragmentation of care,[26] including the diagnosing of a condition by one speciality and treatment by another (e.g. Functional Neurological Disorder which could be diagnosed in a neurology clinic and treated through psychiatry service). This model of management can create a schism in care, both for patients, and for the treating clinicians. The schism is further impacted by the fact that individuals with SDs often present with symptoms that mimic more than one medical condition or symptoms that generate multiple specialist referrals with multiple lines of investigation and biomedical treatment, with concomitant increase in the risk of iatrogenic harm.[22]

### *The challenge of high acuity presentations*

High acuity somatization presentations such as non-specific chest pain create a significant challenge for ED clinicians. Such presentations require extensive investigations to rule out acute and potentially life-threatening conditions such as Acute Coronary Syndrome (ACS), Ischemic Heart Disease (IHD), and other serious cardiac, pulmonary and vascular diseases. This gets more challenging when SD co-occurs with a related physical condition, such as pseudo-seizures in a patient with epileptic seizures.

Given the high acuity demands on ED clinicians, there may be limited time available to document a patient's detailed psycho-social history. Consequently, patients with SD presenting to the ED feel poorly understood. Despite overt acceptance of the biopsychosocial model, the explanations given to patients are in various variants of the dialogue: '*there is nothing wrong with you – it's all in your head*'.[24,25] Individuals who present with SD thus struggle to find legitimacy.[27] Patients report feelings of stigmatisation and blame for the disorder, which may resultantly limit their engagement with the healthcare system and exacerbate their psychological morbidity.

### *The challenge presented by a lack of cohesive diagnostic criteria*

'A precondition for an appropriate management of patients with functional somatic symptoms is a valid taxonomy common for all medical specialities facilitating cooperative care'.[28]

Diagnosis of SD has always been plagued by controversies and ambiguity.[26,29–32] The lack of a cohesive framework for conceptualising SD is a source of confusion for clinicians who work in the field.[26]

Historically conceived as being a result of intrapsychic conflict,[33,34] the diagnostic focus, more recently, has shifted to phenomenological aspects of symptom presentation and the absence of adequate medical explanation.[35] Conventional models for diagnosing SDs have limited applicability in ED since the aetiology cannot be established, duration (6 months for Somatic Symptom Disorder) is difficult to verify and extensive investigations cannot be carried out to rule out all medical explanation/s for symptom

presentation. To make matters more complex, SDs are known to manifest differently across different healthcare settings[28,36] and specialities.[11,37] While ICD 11 has specific criteria for classification of SDs designed for primary care settings,[38] there have been no specific criteria developed for diagnosing SDs in emergency care settings. This lack of criteria makes diagnosis of SDs in the ED particularly challenging.

## Future directions

Since one of the issues that impact SDs is the lack of nosological clarity, a prerequisite for effective management would be the *development of ED-appropriate diagnostic criteria*. To this end, the ICD diagnosis of Bodily Distress Disorder (BDD) could be an option if this is found appropriate for ED clinicians. If BDD is not found to be appropriate, another uniform nomenclature such as 'Functional Organ/System Disorder' – where the term 'Functional' is a reference to a 'disorder of a function' rather than an attribution of psychological genesis[31] – could be appropriate. Such a diagnostic entity would take away the pressure on the ED clinician to make any definitive decision regarding the aetiology of the symptoms, duration of symptoms, and whether or not they have a medical explanation. The diagnosis of Functional Disorder could then be purely a phenomenological/symptomatic diagnosis. Sharpe *et al.*[30] propose '*a paradigm shift in which unexplained symptoms are remedicalized around the notion of a functional disturbance of the nervous system and treatments currently considered "psychiatric" are integrated into general medical care*'. We believe that this paradigm shift could be relevant for diagnosing SDs in ED.

In those cases where there is a pressure on the ED clinician to discern the aetiology of the symptoms, such as unexplained chest pain, effective ED based symptom profiles, screening systems or algorithms require development and refinement. Possibly universal vigilance with *screening of high-risk cases* could be helpful in identifying these disorders as screening has been found useful in paediatric populations.[39] Additionally, training ED physicians in better recognition of the symptoms of psychological distress and conditions such as anxiety, depression or PTSD, which might present as a somatic condition, could be helpful in early identification of SD. Further, development of diagnostic algorithms and screening systems could be used to identify those at risk of re-presenting for SDs.

We propose that the diagnosis of SD in ED could involve ruling out of acute life-threatening condition followed by ruling in of current and active psychological distress, as a viable diagnostic algorithm for identifying Somatization Disorders in ED (Fig. 1).

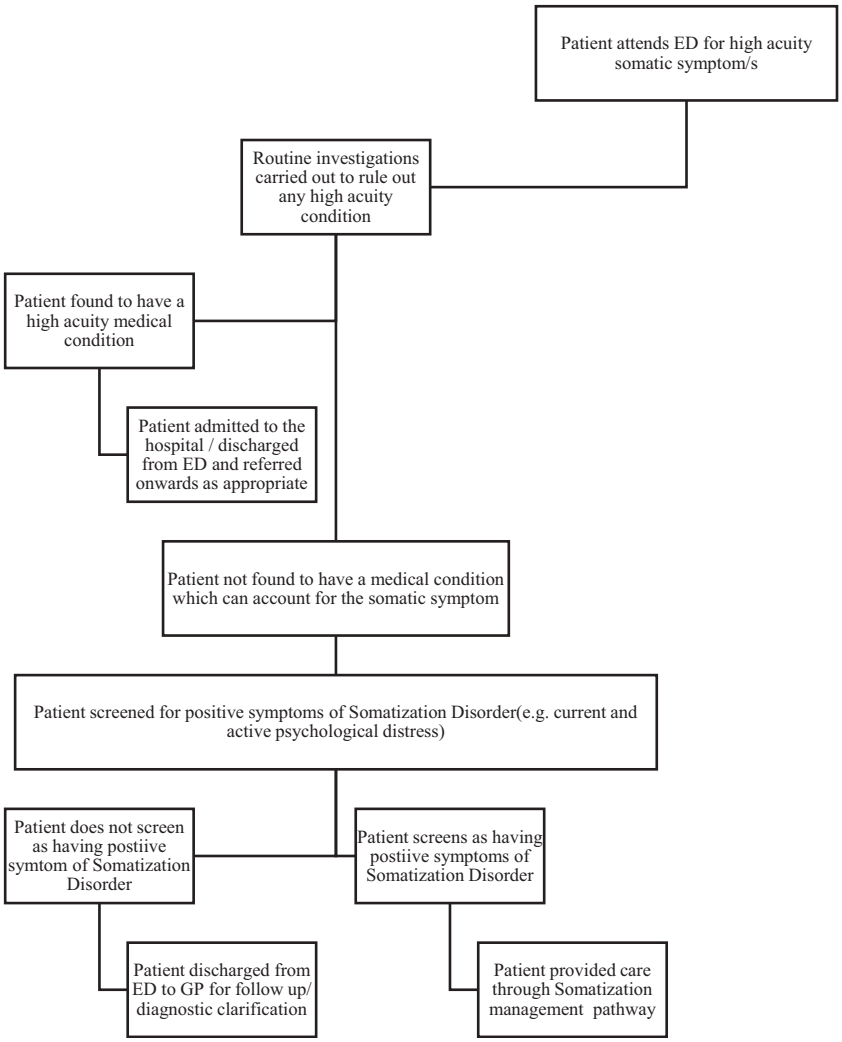


**Figure 1.** *Patient journey flow chart for Somatization Disorders presenting to the ED.*

This proposal is in keeping with evidence base,[40] existing diagnostic guidelines and makes allowances for diagnostic challenges particular to the emergency setting. Once SD is identified in ED, there needs to be a *management pathway* referring patients to appropriate services. Following effective diagnosis/identification in ED, referring these individuals to specialist clinicians such as psychologists/psychiatrist for further assessment and management could create one such management pathway. There could be other pathways following discussions with key stakeholders such as consumer/family/cultural advocates bearing in mind the role of cultural impact on phenomenology and manifestation of SD.[41] Equally importantly, the pathway leads to the GP in all those cases

where, while there might be no obvious medical reason for symptoms at the time of presentation to the ED, there is also no positive indication (such as high anxiety) for ruling in SD. This arm of the pathway takes into consideration the progression of science and possibility that there might be medical reason that underlies apparently medically unexplained symptoms.

Expert opinion unequivocally supports the provision of patient-centred services, using biopsychosocial explanatory models. Expert opinion also contends that such a model should be needs based, accessible to patients, and have patient recovery as its primary goal.[42–44] Expert guidance in the field strongly suggests that management of SDs should be carried out by multidisciplinary teams, either independently or as part of primary care[20,43] or in ED through incorporating a broader range of healthcare professionals in EDs.[45] The latter suggestion has been made in recognition of persons presenting with co-morbid conditions such as anxiety or panic disorder presenting and re-presenting to the ED when a core symptom is not recognised. Since both anxiety and depression tend to present as SD in ED, experts suggest the incorporation of management models based on co-morbid conditions.[46–48]

Focussing extensively on Functional Neurological Disorder (FND) and its relationship with Somatic Symptom Disorder (SSD), Onofrj *et al.*[49] suggest that in the future we focus on a '*…conceptual framework to encourage a multidisciplinary and versatile approach. Instead of a single disease model, our approach aims at bridging the gap between different cultures and disciplines like psychiatry, psychology, neurology, and clinical neurosciences*'. In the case of conditions which have a recognised component of psychological distress, experts might need to develop ED specific guidelines to treat conditions known to have a high component of anxiety or somatization and which tend to re-present to the ED.[50]

German Clinical Practice Guidelines[44] suggest that management of SDs needs to follow a staged approach, with an initial focus on basic investigations, reassurance and advice, followed by a comprehensive physical and psychosocial 'work up' and finally, in the most severe and chronic cases, providing the patient with intensive multi modal treatment. Likewise, other experts[43] also suggest a stepped care approach in their management of SD.

A *model that seamlessly integrates psychological and medical care* is therefore best suited for SDs. Such a model could provide care for individuals who present to the ED with Somatization Disorders and provide throughcare and shared care with GPs to seamlessly integrate the care of patients with SD in their overall healthcare (Fig. 1).

We propose that the patient who has been positively identified as having SD then be referred from ED through a somatization management pathway.

In order to provide appropriate care through acute care and ED settings, primary healthcare services, and secondary healthcare services, there is now an urgent *need to develop Australasian guidelines for management* of SDs which take into account the unique nature of Australasian healthcare and the service needs of its multicultural clientele. As a first step for developing effective Australasian management guidelines, it is an opportune time to *create an Australasian consortium for integrating care of somatization disorders* across healthcare services both, for research translation and developing standards of care. Such a model has been suggested by Pepper *et al.*[42] in the context of FND and could have wider application to SDs overall.

In conclusion, SDs are expensive for the healthcare system and result in excess morbidity for those affected. Individuals with SDs present across all healthcare settings including EDs where there are multiple challenges to effective identification and management of SD. Future directions for effective management of SDs in acute care and ED settings need to focus on timely identification through clearer diagnostic guidelines and ED specific algorithms. For effective management of SD presentations in ED we need to develop a series of effective and adaptable ED specific management models. Effective management would involve multidisciplinary care, seamlessness integrated through all levels of healthcare to provide wrap-around holistic care for affected patients. Such models would provide effective pathways for ongoing management through primary care integrated with multidisciplinary care as appropriate. The first step in developing such models in an Australasian context, would be the development of a regional consortium of SDs which would be tasked with developing guidelines and monitoring the success of ongoing care. There is urgent and compelling need to progress this agenda and effect policy reform that translates to optimised clinical care. This is in the interest of optimising patient outcomes, improving clinician confidence in managing these conditions and, reducing healthcare burden and costs associated with avoidable and inappropriate healthcare utilisation.

## Acknowledgement

Open access publishing facilitated by James Cook University, as part of the Wiley - James Cook University agreement via the Council of Australian University Librarians.

### *Data availability statement*

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

## References

1. Lipowski ZJ. Somatization: a borderland between medicine and psychiatry. *CMAJ* 1986; **135**: 609–14.
2. Kellner R. Somatization: theories and research. *J. Nerv. Ment. Dis.* 1990; **178**: 150–60.
3. Lipowski ZJ. Somatization: the experience and communication of psychological distress as somatic symptoms. *Psychother. Psychosom.* 1987; **47**: 160–7.
4. Lipowski ZJ. Somatization: the concept and its clinical application. *Am. J. Psychiatry* 1988; **145**: 1358–68.

5. Ravindranath D. Somatic symptom and related disorders in the emergency department. In: *Behavioral Emergencies for Healthcare Providers*, 2nd edn. Cham, Switzerland: Springer Nature; 2021; 107–13.
6. Stieler M, Pockney P, Campbell C *et al*. Somatic symptom severity association with healthcare utilization and costs in surgical inpatients with an episode of abdominal pain. *BJS Open* 2022; **6**: 1–8.
7. Carson AJ, Ringbauer B, Stone J, McKenzie L, Warlow C, Sharpe M. Do medically unexplained symptoms matter? A prospective cohort study of 300 new referrals to neurology outpatient clinics. *J. Neurol. Neurosurg. Psychiatry* 2000; **68**: 207.
8. Theadom A, Dupont S, Byron K. Functional somatic symptoms in accident and emergency – an exploratory study. *Accid. Emerg. Nurs.* 2006; **14**: 171–7.
9. Alsma J, Wouw J, Jellema K *et al*. Medically unexplained physical symptoms in patients visiting the emergency department: an international multicentre retrospective study. *Eur. J. Emerg. Med.* 2019; **26**: 249–54. https://doi.org/10.1097/MEJ.0000000000000536
10. McDevitt-Petrovic O, Kirby K, Shevlin M. The prevalence of non-cardiac chest pain (NCCP) using emergency department (ED) data: a Northern Ireland based study. *BMC Health Serv. Res.* 2017; **17**: 549.
11. Stephenson DT, Price JR. Medically unexplained physical symptoms in emergency medicine. *Emerg. Med. J.* 2006; **23**: 595–600.
12. Doretti A, Shestaritc I, Ungaro D *et al*. Headaches in the emergency department – a survey of patients' characteristics, facts and needs. *J. Headache Pain* 2019; **20**: 100.
13. Finkelstein SA, Cortel-LeBlanc MA, Cortel-LeBlanc A, Stone J. Functional neurological disorder in the emergency department. *Acad. Emerg. Med.* 2021; **28**: 685–96.
14. Barsky AJ, Orav EJ, Bates DW. Somatization increases medical utilization and costs independent of psychiatric and medical comorbidity. *Arch. Gen. Psychiatry* 2005; **62**: 903–10.
15. Konnopka A, Schaefert R, Heinrich S *et al*. Economics of medically unexplained symptoms: a systematic review of the literature. *Psychother. Psychosom.* 2012; **81**: 265–75.
16. Bermingham SL, Cohen A, Hague J, Parsonage M. The cost of somatisation among the working-age population in England for the year 2008-2009. *Ment Health Fam Med* 2010; **7**: 71–84.
17. Shaw J, Creed F. The cost of somatization. *J. Psychosom. Res.* 1991; **35**: 307–12.
18. Jadhakhan F, Romeu D, Lindner O, Blakemore A, Guthrie E. Prevalence of medically unexplained symptoms in adults who are high users of healthcare services and magnitude of associated costs: a systematic review. *BMJ Open* 2022; **12**: e059971.
19. Leutgeb R, Berger S, Szecsenyi J, Laux G. Patients with somatoform disorders: more frequent attendance and higher utilization in primary out-of-hours care? *PLoS One* 2018; **13**: e0202546.
20. AC-G C, H S, K T *et al*. Medically unexplained symptoms: continuing challenges for primary care. *Br. J. Gen. Pract.* 2017; **67**: 106.
21. Webster R, Norman P, Goodacre S, Thompson AR, McEachan RRC. Illness representations, psychological distress and non-cardiac chest pain in patients attending an emergency department. *Psychol. Health* 2014; **29**: 1265–82.
22. Rosendal M, Fink P, Bro F, Olesen F. Somatization, heartsink patients, or functional somatic symptoms? Towards a clinical useful classification in primary health care. *Scand. J. Prim. Health Care* 2005; **23**: 3–10.
23. Thibaut F. The mind-body Cartesian dualism and psychiatry. *Dialogues Clin. Neurosci.* 2018; **20**: 3.
24. Burke MJ. It's all in your head-medicine's silent epidemic. *JAMA Neurol* 2019; **76**: 1417–8.
25. Robson CM, Lian OS. "Are you saying she's mentally ill then?" Explaining medically unexplained seizures in clinical encounters. *Forum: Qual. Soc. Res* 2015; **17**: Art. 2.
26. Löwe B, Toussaint A, Rosmalen JGM *et al*. Persistent physical symptoms: definition, genesis, and management. *Lancet* 2024; **403**: 2649–62.
27. Peacock M, Bissell P, Ellis J *et al*. 'I just need to know what they are and if you can help me': medicalization and the search for legitimacy in people diagnosed with non-epileptic attack disorder. *Epilepsy Behav.* 2023; **148**: 109485.
28. Fink P, Rosendal M, Olesen F. Classification of somatization and functional somatic symptoms in primary care. *Aust. N. Z. J. Psychiatry* 2005; **39**: 772–81.
29. Kroenke K, Sharpe M, Sykes R. Revising the classification of somatoform disorders: key questions and preliminary recommendations. *Psychosomatics* 2007; **48**: 277–85.
30. Sharpe M, Mayou R, Walker J. Bodily symptoms: new approaches to classification. *J. Psychosom. Res.* 2006; **60**: 353–6.
31. Sharpe M, Carson A, Sharpe M, Carson A. "Unexplained" somatic symptoms, functional syndromes, and somatization: do we need a paradigm shift? *Ann. Intern. Med.* 2001; **134**: 926–30.
32. De Gucht V, Maes S. Explaining medically unexplained symptoms: toward a multidimensional, theory-based approach to somatization. *J. Psychosom. Res.* 2006; **60**: 349–52.
33. Moldovan R, Radu M, Băban A, Dumitraşcu DL. Evolution of psychosomatic diagnosis in DSM. Historical perspectives and new development for internists. *Rom. J. Intern. Med.* 2015; **53**: 25–30.
34. Bogousslavsky J. The mysteries of hysteria: a historical perspective. *Int. Rev. Psychiatry* 2020; **32**: 437–50.
35. Mewes R. Recent developments on psychological factors in medically unexplained symptoms and somatoform disorders. *Front. Public Health* 2022; **10**: 1033203.
36. Budtz-Lilly A, Schröder A, Rask MT, Fink P, Vestergaard M, Rosendal M. Bodily distress syndrome: a new diagnosis for functional disorders in primary care? *BMC Fam. Pract.* 2015; **16**: 180.
37. Martin A, Van den Bergh O. Medically unexplained symptoms and bodily distress. *Zeitschrift für Psychologie.* 2020; **228**: 65–7.
38. Fortes S, Tófoli LF, Gask L. New categories of bodily stress syndrome

and bodily distress disorder in ICD-11. *J. Bras. Psiquiatr* 2018; **67**: 211–2.
39. Virk P, Ellis J, Dhariwal A, Chapman A, Doan Q. The utility of universal screening for somatization in a pediatric emergency department: a prospective evaluation. *Clin. Child Psychol. Psychiatry* 2021; **26**: 1035–45.
40. Rief W, Mewes R, Martin A, Glaesmer H, Braehler E. Are psychological features useful in classifying patients with somatic symptoms? *Psychosom. Med.* 2010; **72**: 648–55.
41. Kirmayer LJ, Young A. Culture and somatization: clinical, epidemiological, and ethnographic perspectives. *Psychosom. Med.* 1998; **60**: 420–30.
42. Pepper E, Mohan A, Butcher K, Parsons M, Curtis J. Functional neurological disorders: an Australian interdisciplinary perspective. *Med. J. Aust.* 2022; **216**: 501–3.
43. Fink P, Rosendal M. Recent developments in the understanding and management of functional somatic symptoms in primary care. *Curr. Opin. Psychiatry* 2008; **21**: 182–8.
44. Roenneberg C, Sattel H, Schaefert R, Henningsen P, Hausteiner-Wiehle C. Functional somatic symptoms. *Dtsch. Arztebl. Int.* 2019; **116**: 553–60.
45. Harvison KW, Woodruff-Borden J, Jeffery SE. Mismanagement of panic disorder in emergency departments: contributors, costs, and implications for integrated models of care. *J. Clin. Psychol. Med. Settings* 2004; **11**: 217–32.
46. Musey PI Jr, Patel R, Fry C, Jimenez G, Koene R, Kline JA. Anxiety associated with increased risk for emergency department recidivism in patients with low-risk chest pain. *Am. J. Cardiol.* 2018; **122**: 1133–41.
47. Perez DL. The CODES trial for dissociative seizures: a landmark study and inflection point. *Lancet Psychiatry* 2020; **7**: 464–5.
48. Lee S, Creed FH, Ma YL, Leung CM. Somatic symptom burden and health anxiety in the population and their correlates. *J. Psychosom. Res.* 2015; **78**: 71–6.
49. Onofrj M, Ajdinaj P, Digiovanni A *et al*. Functional neurologic disorders, disorders to be managed by neurologists, or are neurologists wandering in a dangerous field with inadequate resources? *Front. Psychiatry.* 2023; **14**: 1120981.
50. Musey PI Jr, Bellolio F, Upadhye S *et al*. Guidelines for reasonable and appropriate care in the emergency department (GRACE): recurrent, low-risk chest pain in the emergency department. *Acad. Emerg. Med.* 2021; **28**: 718–44.