Sheffield Hallam University

'Corridor care' in the emergency department: managing patient care in non-clinical areas safely and efficiently.

WILLIAMS, Christopher

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Abstract

Overcrowding in the emergency department (ED) is a significant problem in the UK and in health systems across the developed world. This often leads to nursing care being delivered in areas not originally intended for clinical use; a practice commonly labelled as 'corridor care'. Delivery of care in this way presents unique challenges to ED nurses and has been shown to have negative impacts on patient satisfaction, safety and outcomes. Contributory and consequential factors are important considerations for ED nurses to mitigate these risks and seek to improve patient safety. This article discusses these factors, provides guidance, and explores opportunities to improve safety in this challenging working environment.

Aims and intended learning outcomes

Aims: This article aims to give practical and professional guidance to nurses and involved in the care and coordination of patients experiencing 'corridor care' in an overcrowded emergency department (ED).

After reading this article and completing the time out activities you should be able to:

➢ Understand and identify the circumstances that lead to overcrowding in the emergency department.
➢ Recognise the risks associated with corridor care, and the added vulnerability of patients cared for in this way.
➢ Devise multi-disciplinary strategies to minimise risk of harm to patients in overcrowded EDs.
➢ Suggest opportunities for emergency nurses to contribute to better patient safety in an overcrowded care environment.

Introduction

Overcrowding in the emergency department (ED) is a nearly ubiquitous phenomenon throughout health systems of the developed world (Boiko et al 2021). Far from being a uniquely British or NHS problem, there is a wealth of literature from across the globe calling for systemic or governmental interventions to ease pressures and improve patient outcomes. In the United Kingdom (UK), overcrowding has been associated with poor patient outcomes, damage to staff wellbeing, and often leads to clinical care being delivered in non-clinical areas (Boyle et al 2021). The use of physical spaces not initially intended for clinical use is commonly referred to as 'corridor care'. The image of queued ED trolleys lining hospital corridors is what nurses and the public often associate with overcrowding, but care may also be delivered in waiting rooms or store rooms. The fact these areas were not intended to be used for patient care means considerations of privacy, efficiency and safety fall on the individual clinicians involved in care delivery, rather than higher strategic planning and procurement processes. According to a recent study by the Royal College of Nursing (RCN), a significant majority of the respondents (71.6%) agreed they delivered care in this way at least once a day, with almost all agreeing that the safety and efficacy of care is compromised (RCN 2023). These findings mirror a previous survey, conducted just prior to the first national COVID-19 lockdown, so this is neither a new, nor a pandemic-induced situation (RCN 2020).

Calls to action have been made and echoed from nursing and medical leaders alike to highlight what has become a routine practice in departments nationwide (Boyle et al 2021, RCN 2023). While many of the measures necessary to resolve the current situation require system-level investment and policies, the purpose of this article is to consider approaches and processes which can be implemented at an individual and departmental level in order to mitigate some of the risks associated with corridor care (Tabriz 2020).

Time Out 1

- Reflect on working practices in your own department. Compare and contrast them with care provision more widely, as just described.

How overcrowding occurs

Before discussing the opportunities for intervention, it is important to understand the circumstances which lead to overcrowding and the specific associated risks. Lindner and Woitok (2021) describe three main factors which impact overcrowding in the emergency department: input, intradepartmental flow, and outflow from the department. When deciding to attend the ED, patient attendance (the input) can be affected by knowledge of alternative services or problems accessing primary care (Whittaker et al 2016). While it is not possible at a local level to control the number of patients attending ED, how they are streamed and triaged will impact departmental crowding and the likelihood of corridor care occurring (Lindner and Woitok 2021).

The movement of patients throughout the department can create bottlenecks, or risk losing track of where a patient is at any given time, thus delaying their care and movement towards discharge (Thomas et al 2020). Many departments use electronic patient tracking to monitor this flow and determine where they can be found. With overcrowding, this may be less precise than expected. For example, a designated majors trolley bay will tell clinicians clearly where to find patients, but labelling a location as 'corridor' or even 'middle' creates more of a challenge to locate them.

Finally, patient outflow from the department has become increasingly challenging in recent years and represents the most significant factor affecting ED overcrowding the UK (Higginson and Boyle 2018). A loss of available hospital beds, combined with increasing ED attendance and inpatient admissions has led to what the literature defines as boarding; patients who have been assessed in the ED and a decision to admit has been made, but there is no inpatient bed available for them. With nowhere to go, these boarded patients are not able to receive care in the specialist setting they have been designated, and often find themselves waiting in ED corridors for an available bed on their destination ward (Boudi et al 2020). While it has been proposed that small numbers of patients are instead boarded in corridors at their destination ward instead of the ED, this is not common practice in many hospitals, despite being supported by the Royal College of Emergency Medicine (RCEM 2015). A systematic review by Rocha et al (2021) identified that all-cause mortality increases after two hours of boarding, due to a reduced quality of care and increased likelihood of missed or delayed treatments. Furthermore, these patients require a physical space to be monitored and may not be ambulatory. Trolleys may occupy ED bays, or these patients may join the mass of patients still awaiting ED assessment. Thus, creating a mix of differentiated and non-differentiated patients in the same physical area. This presents further challenges relating to accountability and visibility for ED nurses.

Managing overcrowding

At each level of these overcrowding factors, there are opportunities for nurses to mitigate risks associated with the added vulnerability of patients experiencing care in corridors. These opportunities can be realised through decision-making, communication, and multidisciplinary collaboration. Some interventions may help to ease overcrowding, while others aim to improve safety through improved working practices.

Input

As mentioned, robust triage and streaming systems are essential to determine both the level of patient acuity and the most appropriate clinical area to receive care. Streaming involves brief information gathering, and interventions are limited to basic first-aid, point of care investigations and administration of analgesia (RCEM 2017). Patients are allocated to the most appropriate physical area within the department and this may occur in tandem with triage, or by a dedicated streaming nurse with a view to triage further downstream. While 'under-triaging' of acuity can lead to treatment delays and direct patient harm, 'over-triaging', combined with misaligned streaming decisions can lead to disproportionate overcrowding in different parts of the ED (Hinson et al 2018).

Practical considerations, beyond making safe and appropriate triage and streaming decisions, represent an opportunity to further avoid unnecessary overcrowding. If patients require observation within the department (typically in majors trolley bays), consideration of whether they require a trolley or chair at the point of triage can ease their movement throughout the department and save the limited physical space. Ambulatory patients who are well enough, or mobile enough to sit in chairs, will take up less space and be more easily moved throughout the department when juggling the space required for clinical assessment and care. Many readers will appreciate it is less disruptive to allocate a patient to a chair during ambulance handover and triage, than attempting to convince them to relinquish their trolley when it is required later on. This is particularly important during less busy periods, as discipline and vigilance are just as important to ration trolleys and space when it is quiet as when the department is reaching capacity. It is also important to consider which patients are most appropriate to wait in non-clinical areas. Patients in corridors typically fall into one of the categories shown in Box 1.

Box 1. Categories of corridor patients
➢ Streamed to majors and awaiting assessment
➢ Boarded patients awaiting admission
➢ Patients awaiting a clinical decision
➢ Patients moved *Ad Hoc* to allow space for higher acuity patients, or those requiring privacy for a specific episode of care

With these circumstances in mind, it is important to consider the factors listed in Box 2 when determining if a patient can be safely cared for in a corridor.

Box 2. Factors to consider with patients nursed in corridors
➢ Level of dependence
➢ Level of acuity
➢ Routes to resuscitation and access to emergency equipment
➢ Falls risk
➢ Seizure risk

➢ Mental capacity
➢ Risk of absconding

Communication from triage and among section teams is essential to manage these risks and improve safety. This can be in the form of electronic tracking, departmental communication tools and safety huddles.

Intradepartmental flow

Structuring the team

Resuscitation departments typically have strict criteria for patient eligibility, and robust triage processes intend to safely stream low acuity, ambulatory patients to the waiting room. Overcrowding therefore has the highest impact on 'majors' sections, and patients designated to this area are most likely to experience care in corridors (Yousefi 2020).

Allocation of staff across the department may not be your personal responsibility, but agreed roles within section teams are an important part of managing overcrowding safely (Kavakli 2016). Having defined roles has long been accepted to improve patient outcomes in resuscitation and trauma care but can be applied to lower acuity care in majors sections too (Ford et al 2016). If there is not a nurse specifically allocated to corridor patients, there will always be a risk that no one in the team views themselves as being accountable to this group of patients.

Case study 1 – *review the two examples of working systems and consider the questions*

Situation:

- *16 majors trolley bays*
- *Surge capacity to 25 patients (using corridors)*
- *Three Nurses*
- *One Healthcare Support Worker*

Option 1	
Care model: Task oriented	
Nurse 1	**Initial nursing assessments** • Reviews triage notes • Set of observations, initial assessment and care plan
Nurse 2	**Treatments** • Doctor/practitioner leave patient notes in box on the wall • Picked up in order by nurse to give treatments
Nurse 3	**Transfers/corridor** • Monitors corridor patients • Notes for patients admitted to inpatient care reviewed and SBAR handover prepared • RN accompanies patient to ward/inpatient area and gives handover to receiving nurse

Healthcare Support Worker (HCSW)	• Personal care • Observations • Venepuncture and cannulation • Electrocardiography

Option 2	
Care model: Area oriented	
Nurse 1	• Allocated 5 trolley bays • All assessment, treatment and transfer tasks for assigned bays
Nurse 2	• Allocated 5 trolley bays • All assessment, treatment and transfer tasks for assigned bays
Nurse 3	• Allocated 6 trolley bays • All assessment, treatment and transfer tasks for assigned bays
HCSW	• Personal care • Observations • Venepuncture and cannulation • Electrocardiography

Time Out 2

1. Reflect on the model used by your own department to nursing care. How does this compare to either of the two approaches above?
2. What are the benefits and limitations of the two approaches?
3. How could you change staff allocation for Option 2 when the patients outnumber the available assessment bays?
4. Are there trust-wide protocols for staffing escalation when nurse to patient ratios become unsafe? If not, how could you organise more support from the wider department?

Communication

As well as being the most likely to experience corridor care, patients streamed to majors sections are likely to be diverse in their level of acuity. Elderly patients for example may be of relatively low acuity, but require a physical space to lie down, and patients who are normally ambulatory may be too unwell to sit on a chair or in a waiting room. As such, further refinement beyond initial triage is often required, in order to allocate resources effectively. A structured and systematic approach to this refinement will improve outcomes and ensure patients with the most need receive timely recognition of deterioration and delivery of care (Cole 2017). Following the introduction of a new initial assessment tool, one ED in Kent reduced their mortality rate by half, and their overall incidence of patient harm by 70%. Prior to this in a single 24-hour period, patients were observed being left in corridors with time-critical presentations such as stroke and sepsis (Cole 2017). By identifying where the need is most and following as efficient and meaningful a process as possible, investigations and interventions can be implemented in a safer and more impactful manner.

This approach is of particular importance when the nursing workforce is comprised of those not routinely familiar with working in the ED. Internal responses to a surge in ED demand may involve the redeployment of nursing staff from other clinical areas and staffing deficits may be reinforced by agency staff. In order to address this multi-factorial contribution to risk development, an ED safety checklist was developed by Bristol Royal Infirmary. Known initially as the SHINE safety checklist, this approach has been shown to improve mean Key Performance Indicators (KPI) by five-fold in six emergency departments across the west of England (West of England Academic Health Science Network 2019).

Time Out 3

- Reflect on how you prioritise Majors patients in your own department.
- Do you use any validated tools or checklists, such as SHINE to improve safety and efficiency?
- If you don't, think about how you could integrate the key points above into your own patient assessment approach.

Safety huddles

Patient safety huddles are a common method of improving situational awareness and identifying patients at risk of deterioration or adverse outcomes (McBeth et al 2017). This tactic has been implemented in various ward and ED settings in the UK, with huddles typically conducted at set times. This approach can also be utilised at the ED section-level in an *Ad Hoc* way to respond to surges in workload or attendance (White et al 2018).

When confronted with a challenging or overwhelming workload, it may be the furthest from a nurse's mind to stop what they are doing to discuss the work state and formulate action plans. However, assembling the section team for a brief huddle can ensure important information is communicated and the workload more effectively allocated. In addition to improving patient safety, this informal discussion among a team can reduce boarding times and actually ease overcrowding (McBeth et al 2017).

Any member of the nursing team should feel free to call for a brief huddle with their section team to plan effective and safe care, and should follow a non-hierarchical and non-judgemental approach, with the focus on team effectiveness and patient safety (Lamming et al 2021). This will not only serve to alleviate concerns around accountability and avoid missing or delayed treatment, but also to strengthen team dynamics and improve staff wellbeing (Fitzgerald 2022).

Outflow

Checklists can also be used to reduce the time nurses spend accompanying patients to their destination wards. Locally agreed eligibility criteria for written or even electronic handovers can be an effective way to improve the efficiency of ED nurses' time (Robertson et al 2014). Traditionally, handover of patients from ED to their destination ward requires nurses to escort their patient and deliver a face-to-face handover of any patients being admitted into the main hospital. If patients have been adequately assessed, then a standardised handover tool could be used, possibly accompanied by a telephone handover for low acuity patients being transferred out of the department. In these cases, support staff may transport the patient to their destination ward without the need for ED nurses to leave the department. There is little supporting evidence to validate any specific checklist or eligibility criteria for this approach, so local agreements would be needed to

balance safety and efficiency. The National Institute for Health and Care Excellence (NICE) have, however, published a literature review with recommendations for standardised patient transfer systems (NICE 2018). These guidelines provide a valuable overview of the evidence to consider when developing local transfer protocols. Despite a lack of validated tools, it has been argued that leaving potentially unstable patients unattended in the department, to transport a stable patient to a ward, conveys a greater overall risk of harm (Schram et al 2016). Furthermore, if it is unsafe to leave the department, as the remaining nurses are unable to attend to the volume of unstable patients, transfer will be delayed and further exacerbate overcrowding.

Time Out 4

- Reflect on how handovers are managed in your department? Is there scope to reduce the amount of time nursing staff have to leave the department to deliver a handover?

Equipment

Clinical departments are stocked with equipment based on the expected need. When care is being delivered beyond that capacity and in unexpected physical spaces, there may not to be adequate equipment for certain tasks. Many readers will have experienced frustration with the delays caused by trying to locate a drip stand to deliver prescribed treatments. Mitchell (2023) highlights that some nurses are being asked to procure makeshift drip stands in the form of an adhesive hook to place on the corridor wall. While this may seem a practical solution to a challenging situation, it is important to consider the implications of using untested or unauthorised equipment on professional accountability.

Oxygen

If a simple wall-mounted hook presents risks to patients and professionals, the risks associated with improper use of other medical devices cannot overstated. A key safety consideration for patients in corridors - who are often out of sight, is the need for oxygen. It is important to remember that even the large oxygen cylinders on ED trolleys are a finite resource. If it is not possible to move patients to a designated bay with a central oxygen supply, nurses must be confident that cylinders are adequately filled, and these patients are prioritised to move to a secure supply as soon as possible. Suppliers of oxygen cylinders in ED vary but cylinder size is designated by a letter, or combination of letters. The National Association of Medical Device Educators and Trainers (NAMDET 2023) has published an oxygen cylinder duration chart to quickly estimate how long is left on a range of cylinder sizes. This is a valuable resource when determining a plan for patient movements in the department.

Overcrowding can lead not only to a lack of space to fit trolleys, but also a lack of trolleys themselves. In this event, ambulatory patients who require oxygen may be administered oxygen via a more portable cylinder with a smaller capacity. In these cases, it is important when forming a plan to move these patients to a secure oxygen supply, the remaining time be calculated as accurately as possible. The majority of portable oxygen cylinders the NHS procures is from the British Oxygen Company (BOC). The manufacturers have created a remaining time estimator in the form of a smartphone app for many of their integral valve cylinders. The use of such tools is supported by NHS England (2023) and allows for more precise calculations of how long is left on a cylinder.

Time Out 5

- Identify the sizes of oxygen cylinders used in your area
- If your department uses BOC integral valve cylinders, review the uses and limitations of the BOC app
- Review the NAMDET chart by following this link
- Consider how you could use these tools in your department

Care

Privacy and dignity

Preserving patients' right to privacy and our professional responsibilities to maintain dignity can be a particular challenge when care is being delivered in areas not designed for clinical use (Moskop et al 2019). Patients are less likely to be as open and frank about their presentation or medical history, but so too are clinicians in how they communicate with patients (Stoklosa et al 2018). While altering communication approaches on the nurse's part may help to preserve privacy, important information can be missed due to a lack of specific clarity with what is being asked. This can limit how effective information gathering is; a factor that is essential to ED practice. It is important to be mindful that determining a clear picture of acuity, beyond objective observations, may not be practical with patients in corridors. A balance may be necessary to consider the practicalities of moving a patient to a private area (and then returning them to a corridor), and the urgency that comprehensive patient information is needed.

Maintaining dignity can also be a challenge in overcrowded departments, particularly for those patients requiring supportive hygiene care (Zamani 2019). Discussing hygiene needs may be just as difficult for patients and nurses as disclosing personal medical information. Anticipating patients who will require regular personal care is therefore necessary and can be achieved by ensuring pertinent information is collected during an initial assessment (in private), then prioritising a private area for ongoing patient care where needed. For those patients who aren't able to communicate their needs, routine checks or position changes are likely to be impossible in corridors while preserving dignity. One option is to designate a single majors bay to be free to take patients in for any nursing care or exposing investigations. While this increases the number of corridor patients, those in this position could be better cared for.

Medicines management

As pain is associated with a myriad of emergency presentations, it is an important consideration for patients who may spend a long time waiting for definitive treatment, or who are out of view in corridors. There are many adverse consequences associated with poor pain management, including an increased risk of post-traumatic stress disorder and depression (Castillo et al 2017). In the often-chaotic environment found within overcrowded majors areas, it is important to ensure when requesting a prescription for pain relief that all the information has been gathered to make a safe decision. Patients may not recall analgesia already given by paramedics or may answer to the wrong name, and this can lead to overdose drug errors. Furthermore, it is important to determine the appropriateness of administering certain treatments if patients are treated in corridors. Patients receiving intravenous morphine, or certain infusions containing potassium for example, should not be left in corridors without adequate monitoring (Sur and Mohiuddin 2022, Murphy et al 2023).

Some departments utilise patient group directives (PGD) for certain analgesics, allowing nurses to dispense treatment for mild to moderate pain either at triage or within majors. While this can improve initial treatment, it is important to remember that the need for pain management may continue in boarded patients awaiting admission. Depending on the length of time a patient is awaiting an inpatient bed, follow up doses of antibiotics or other treatments may also be needed. It is important therefore that at the time of a decision to admit, nurses anticipate this need to avoid missed treatments. Further practical considerations needed to preserve safe and effective medicines management are outlined in Box 3.

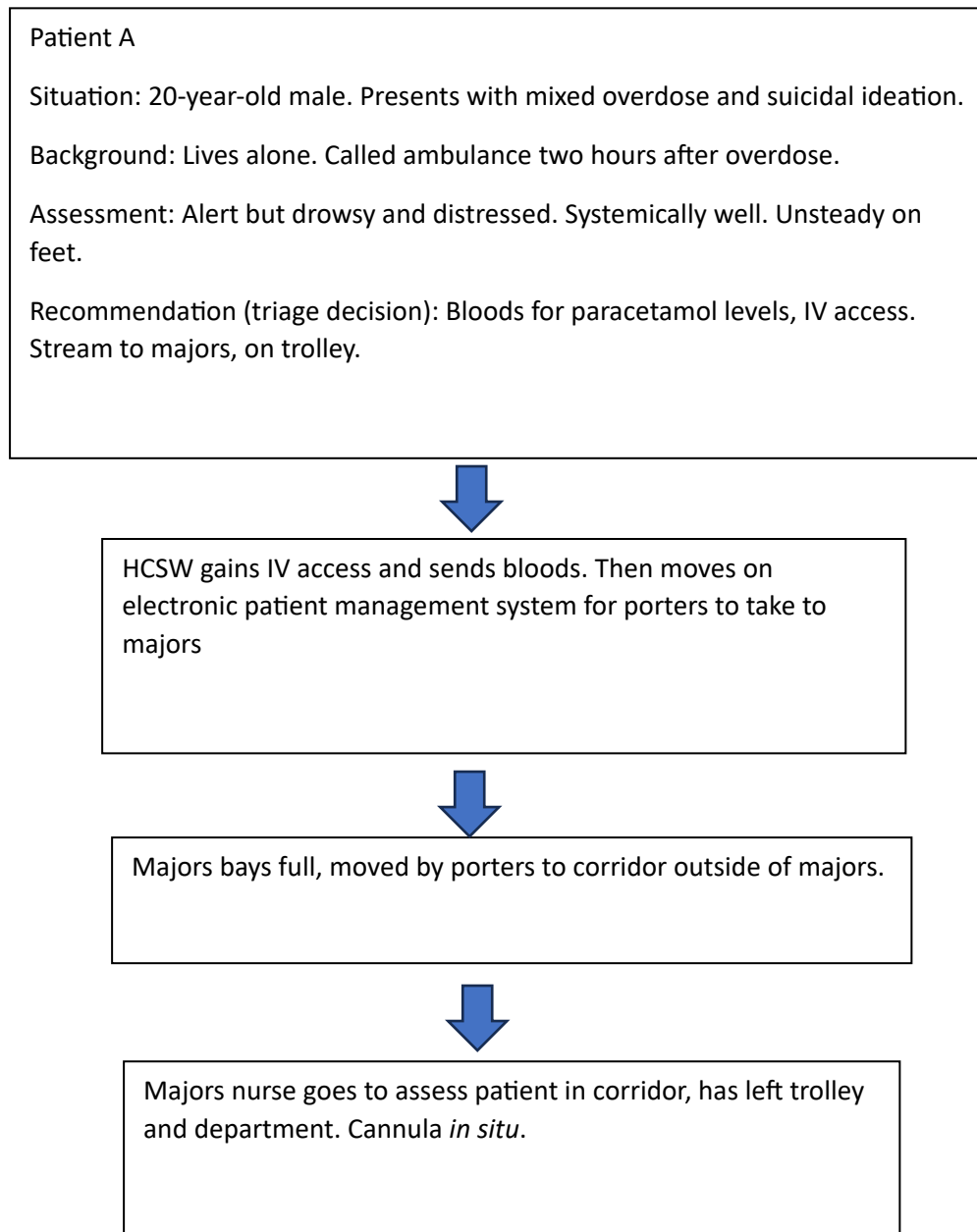| Box 3. Things to consider for safe medicines management with boarded patients |
| --- |
| ➤ Different drug charts for ED and ward care
➤ If treatments intended to be given on a destination ward are given in ED, they must be effectively recorded and communicated
➤ Risk of exceeding maximum daily doses when the patient does arrive on the ward |

Special considerations

Children

Children may present an additional challenge if waiting in corridors with family members. It is important to consider the needs of any accompanying parents and be mindful of safety implications for children being left unattended in less visible areas, should a parent need to use the toilet or make a telephone call. Developing a therapeutic relationship with both the child and caregiver must not be overlooked, regardless the abnormal physical area the patient occupies (Roberts et al 2015). Issues around privacy are also present when determining safeguarding need or questioning current provision of child and family services.

Mental health or diminished mental capacity

Making decisions about where to place patients, based on physical acuity alone could present an increased risk of absconding or self-harm should patients with mental health or diminished capacity presentations be viewed in the same way. They may be ambulatory and medically well but require observation in the main department nonetheless (Mackway-Jones and Mackway-Jones 2020). Many departments will have an observable room specifically for mental health presentations, but with overcrowding this capacity is likely to be exceeded, potentially leaving vulnerable patients at risk. Communicating which patients require observation not only to other nurses, but to support staff involved in their care is important to reduce these risks. Processes for movement within the department can also present their own risks with monitoring and accountability of these patients. An example of the implications of this is given in Case study 2.

Case study 2 – The problems with accountability in an overcrowded department

Patient A

Situation: 20-year-old male. Presents with mixed overdose and suicidal ideation.

Background: Lives alone. Called ambulance two hours after overdose.

Assessment: Alert but drowsy and distressed. Systemically well. Unsteady on feet.

Recommendation (triage decision): Bloods for paracetamol levels, IV access. Stream to majors, on trolley.

HCSW gains IV access and sends bloods. Then moves on electronic patient management system for porters to take to majors

Majors bays full, moved by porters to corridor outside of majors.

Majors nurse goes to assess patient in corridor, has left trolley and department. Cannula *in situ*.

Time Out 6

- Consider who might be accountable in this situation?
- Ask your colleagues what they think.
- What could have been done to avoid this incident?

Conclusion

This article has highlighted that the need to care for patients in non-clinical areas presents unique challenges to ED nurses. While many have written about the need to minimise or eliminate this common occurrence, it is prudent to consider pragmatic and systematic approaches to improve patient safety and departmental efficiency. Clarity of roles and responsibilities, structured communication and effective resource management are essential to mitigate some of the professional and clinical risks associated with care in this environment. Consideration of the factors and implications discussed in this article, along with flexible and adaptable team approaches will improve the safety, satisfaction and outcomes of ED patients.

Time Out 7

Identify how corridor care in the emergency care setting applies to your practice and the requirements of your regulatory body

Time Out 8

Now that you have completed the article, reflect on your practice in this area and consider writing a reflective account: rcni.com/reflective-account

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