



Acute care toolkit 10

Ambulatory emergency care

October 2014

Across the UK, emergency systems are under considerable pressure, with emergency department (ED) attendances and the conversion rate to hospital admission both rising. Some clinical teams across England have recognised that a new approach is needed, and have successfully redesigned their systems to manage demand by implementing ambulatory emergency care (AEC) as part of the solution.^{1,2} AEC has the potential to have a similar impact on emergency care as day surgery has had on planned care.

What is AEC?

*'Ambulatory care is clinical care which may include diagnosis, observation, treatment and rehabilitation, not provided within the traditional hospital bed base or within the traditional outpatient services, and that can be provided across the primary/secondary care interface.'*³

Royal College of Physicians (RCP) Acute Medicine Task Force, and endorsed by The College of Emergency Medicine, 2012.

Implementing AEC ensures that, where appropriate, emergency patients presenting to hospital for admission are rapidly assessed and streamed to AEC, to be diagnosed and treated on the same day with ongoing clinical care. Processes are streamlined, including review by a consultant, timely access to diagnostics and treatments all being delivered within one working day. This has improved both clinical outcomes and patient experience, while reducing costs.

Effective implementation requires a whole-system approach to include primary care, and community and ambulance services working with the acute site to establish patient pathways.⁴

This approach is based on the *Directory of Ambulatory Emergency Care for Adults*, which was first published by the NHS Institute for Innovation and Improvement in December 2007: version 3 was published in 2012 www.ambulatoryemergencycare.org.uk/directory.⁵

Clinical teams using this approach report managing significant numbers of emergency patients quickly, without the need for full admission, converting at least 20–30% of emergency admissions to AEC. Pioneers of AEC have achieved good results, with growing evidence of the impact.

Ambulatory emergency care shares many parallels with day surgery, which has experienced enormous growth, achieved predominantly by changes in mindset and simple alterations to the patient pathway, resulting in safer and higher-quality care. Ian Smith, past president of the British Association of Day Surgery

The principles of AEC

- 1 Senior clinical input is needed at the point of referral, to redirect suitable patients to ambulatory care.
- 2 Clear exclusion criteria based on the National Early Warning Score (NEWS) should be developed to maximise patient flow to ambulatory care.
- 3 Where possible, the AEC service should be located close to accident and emergency (A&E).
- 4 Staffing and resources should be organised to provide rapid assessment, diagnosis and treatment on the same day.
- 5 The time standards in AEC should match the clinical quality indicators for ED, ie time to initial assessment – 15 minutes, time to medical assessment – 60 minutes and completion of 95% of episodes within 4 hours.
- 6 Patients should be informed early in their journey (ideally in the ED or by the GP) that they are likely to receive treatment that day and are unlikely to be admitted overnight, to manage their expectations and those of their family.
- 7 Secondary and primary care services should be geared around patient needs and work together to provide ongoing care outside of hospital, to avoid a full admission.
- 8 Staff training is needed across the local healthcare system to ensure that appropriate patients are streamed to ambulatory care.
- 9 Comprehensive records must be kept and discharge summaries sent to primary care within 24 hours.
- 10 Providers must work with commissioners to agree how AEC activity will be recorded, reported and funded.
- 11 Clear measures must be adopted and monitored to assess the impact, quality and efficiency of AEC.

Models of AEC

Several models of AEC are emerging. These models can be described as one of the following:

- > **Passive** – patients are referred to AEC from ED or primary care
- > **Pull** – clinical staff working in ED identify patients for AEC
- > **Pathway** – patients are managed according to an agreed clinical pathway with inclusion criteria
- > **Process** – AEC is an integral part of the emergency care system with direct acceptance of all clinically appropriate patients.

An example of a process model is illustrated in Fig 1 overleaf, and an AEC pathway is in Appendix A (available online at www.rcplondon.ac.uk/resources/acute-care-toolkits).

The most effective model starts with a clinical conversation between senior clinicians in the referring and receiving teams. A pathway approach can be exclusive, as it often depends on pre-specified clinical criteria that can exclude many patients, especially when the diagnosis is uncertain or the patient has multiple comorbidities.

Maintaining time standards is important to reduce risk through delayed identification of sick patients and to enhance the patient experience. It is expected that some clinical scenarios will require longer than 4 hours for completion, but these must be audited and attempts must be made to achieve earlier turnaround and completion times.⁶

Clinical pathways can be helpful for high-volume clinical scenarios such as deep vein thrombosis (DVT), cellulitis, chest pain, pulmonary embolism (PE) and heart failure, but are less helpful for less common presentations or those of diagnostic uncertainty.

Ongoing ambulatory care may be provided either directly through the AEC unit or by community services, primary care or hospital-at-home. Examples include self-administration of low molecular weight heparins, community intravenous (IV) antibiotics and hospital-at-home for chronic obstructive pulmonary disease (COPD). It is important that the design of local processes and pathways includes these services when they are available.⁷

AEC can include personalised care for known patients seeking emergency care that often does not require admission, eg patients with non-epileptic attacks, adrenal insufficiency or acute intermittent porphyria.

AEC can be particularly valuable in the assessment and management of frail, older patients being managed with pathways supported by a multidisciplinary team with good links to services in primary care, the community and local authorities. These links can offer rapid assessment and interventions for older people, which can avoid an inpatient stay. For older people, access to these services is important to maintain them safely at home and avoid unnecessary readmission.⁸

One of the clear benefits of implementing AEC for acute trusts and commissioners is that they should expect a reduction in the number of emergency bed days used.

Beyond the directory

An AEC facility can extend services to patients to support discharge by ensuring that a follow-up plan is in place to monitor a patient's progress. Another option is to carry out procedural interventions that typically require admission on the emergency pathway. Examples of scenarios that could be provided, and are being provided in some units, include:

- > clinical review to support discharge, eg heart failure
- > monitoring of blood tests, eg acute kidney injury and hyponatraemia
- > follow-up of radiology, eg ultrasound and computerised tomography (CT) reports
- > clinical review of patients being managed by community services, eg IV antibiotics
- > emergency day procedures, eg pleural aspiration and paracentesis.

Practical tips on setting up an AEC service

The important elements of a highly functioning AEC system are:

- > **Culture** – the enthusiasm and belief that AEC offers a timely, high-quality clinical service
- > **Communication** – early provision of accurate information for patients
- > **Staffing** – clinical staff providing high-quality clinical assessments; this is best delivered by senior doctors (usually consultants) and senior nurses as nurse practitioners with clinical and prescribing skills
- > **Collaboration** – this is related to culture, and describes how the AEC service links with referral departments (ED and primary care), diagnostics and specialist services
- > **Location** – co-location of AEC services with an ED or acute medical unit (AMU) improves collaborative working with the AEC team, with a reported increase in throughput of 50%
- > **Facilities** – this will vary depending on the number of patients and the case mix
- > **Partners** – including the wider healthcare system (eg community services, local authorities and social services) in the planning and organisation of AEC to meet the needs of older patients.

Identification of suitable patients

Effective patient selection and streaming is central to ensuring that all appropriate patients are directed to AEC. Ideally, all referred patients would be streamed to AEC based on a clinical conversation between the referring and receiving senior medical staff. However, the number of emergency referrals to acute medicine and other services would require a senior doctor to do this full time, which may not be the optimal use of their time. An alternative is that a senior nurse performs this role, which can be a more effective use of senior doctor time because the nurse acts as a filter, only involving senior medical staff when there is uncertainty about the optimal service for patients.

A process model can be designed that is based on clinical criteria or a scoring system such as the ambulatory care score (AMB score): see Fig 2 overleaf. This AMB process indicates patients suitable for AEC based on seven patient characteristics. It is important to note that this simple process does not replace clinical judgement, and is simply an *aide-mémoire* to help with streaming patients to AEC. Trusts using the AMB score have reported up to 90% accuracy in patient identification for AEC.⁹

The decision about a patient's suitability for AEC at the point of referral should be based on the following four questions:

1 Is the patient clinically stable?

Typically, this would be a patient with a NEWS of <4 who does not require oxygen and does not have an acute coronary syndrome, but it may be possible to manage patients with higher scores if it is clinically appropriate. Ongoing monitoring of NEWS is important to identify deterioration and to re-evaluate management.

2 Is the patient functionally capable of being managed in AEC?

For example, nurse staffing levels and facilities available for patient care may be a consideration; it may be required that patients are able to attend to their toileting and feeding needs.

3 Would this patient have been admitted to hospital before AEC existed?

If no, they should not be referred to AEC.

4 Could the patient's clinical needs be met better by another service?

This is dependent on access to other specialist clinics, specialist nurses or community services that could meet an individual patient's needs.

Nursing roles

Advanced nurse practitioners are emerging in this field and are proving very effective, autonomously managing approximately 30% of AEC clinical scenarios (where the nurse has acquired the appropriate further education and training to undertake this role).

Written information for patients

It is very important to provide up-to-date and accurate information for patients being treated in AEC. Many emergency patients attend hospital expecting to be admitted, and it is important to set the expectation for discharge that day as early in the patient journey as possible.

Maintaining quality and safety

Clinical confidence in a service is based on whether or not it is delivering high-quality clinical care in terms of patient experience and clinical outcomes. A high-quality AEC service will measure the following:

- > reduction in the number of emergency bed days used
- > reduction in the number of patients admitted to hospital for >1 night
- > improved experience for patients
- > improved staff experience
- > improved quality of care
- > improved safety
- > improved patient flow
- > improved ambulance turnaround
- > reduction in readmissions
- > reduction in incidents in emergency care.

Generalists or specialists

The range of patients presenting to AEC requires good generalist skills. For the majority of hospitals in the UK, a consultant with an acute or general medicine background will be the backbone of this service. Links to specialist services are important, as many patients following initial investigation will require specialist advice, treatment or interventions.

Early adopters' achievements

A wide range of acute hospitals have now developed AEC processes and pathways, although there is a wide variation in models and the stages of implementation. Several sites have demonstrated considerable progress in a variety of process and system metrics, for example:

- > over 30% of emergency referrals managed through AEC in some units
- > reductions in medical outliers
- > improvement in the 4-hour standard
- > closure of escalation beds
- > improved patient experience.

Trusts that have adopted a process model (see Fig 1) appear to have made the biggest improvement; there are examples where such a service has been implemented rapidly within a 4–6 week timescale.

Challenges

- > Data collection, analysis and reporting vary across the NHS, as there is no clear data definition or dataset for AEC. It is important that commissioners and providers of AEC work together to agree recording, reporting and funding of this service at the outset.
- > A change in mindset and culture is required for physicians and patients who are out of their comfort zone of traditional care through inpatient observation. Ambulatory care has its own inherent risk, which can be mitigated through appropriate patient selection.
- > There is a need for ambulatory care outcome data and safety data collection.
- > There could be an impact of ambulatory care on duration of management as well as clinical progression, resolution or worsening (eg does cellulitis take longer to treat when the patient is ambulant or less time if there is a degree of bed rest in hospital?).
- > There needs to be a mechanism for documenting and communicating with other practitioners, primary care or specialists in real time, because the patient is neither admitted nor an outpatient in the traditional sense and most patients leave with a 'discharge' summary, which is not entirely appropriate.

The future of AEC

While the need to ensure efficiency has been a driver for the development of AEC, technology has facilitated it. For example, low molecular weight heparins have enabled pathways for DVT and PE, and highly sensitive troponin assays for low-risk chest pain, near-patient testing and bedside monitoring equipment are all contributing to the delivery of care in non-bed settings. In the near future, emerging technologies for physiological monitoring and drug delivery are likely to offer more options for managing patients in an AEC setting. Near-patient testing could offer more timely diagnostics for patients, thus improving their experience of care.

A passion to improve the quality of emergency care for patients has been the driving force behind the development of AEC so far. Although it is estimated that there could be considerable financial and productivity gains in rolling out AEC, quality must be the main driver if we are to deliver an excellent patient experience.¹⁰ ■

Figure 1: Example of an AEC process model

Overarching principle: treat all emergency patients as ambulatory until proven otherwise

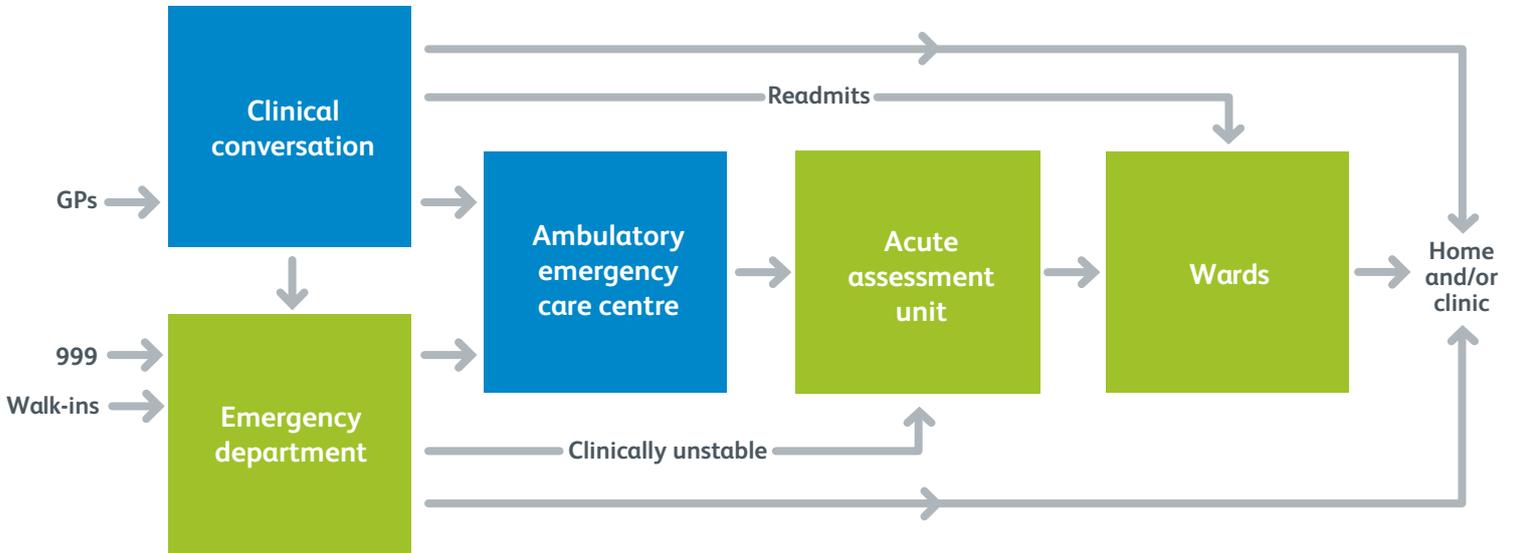


Figure 2: Ambulatory care score (AMB score)¹¹

			Score
Sex	Female	0	
	Male	-0.5	
Age	<80 years	0	
	≥80 years	-0.5	
Access to transport	Yes	2	
	No	0	
Will likely need IV Rx	Yes	0	
	No	2	
Acutely confused	Yes	0	
	No	2	
NEWS	NEWS=0	1	
	NEWS ≥1	0	
Discharged last 30 days	Yes	0	
	No	1	
Total			

If the AMB score is ≥ 5 , consider ambulatory care.

Further reading

Future Hospital Commission. *Case study: Ambulatory emergency care*. London: RCP, 2013. www.rcplondon.ac.uk/projects/case-study-ambulatory-emergency-care [Accessed 19 December 2013].

Acknowledgements

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Useful links

www.ambulatoryemergencycare.org.uk

www.acutemedicine.org.uk/index.php?option=com_docman&task=cat_view&gid=42&Itemid=21

www.nursingtimes.net/nursing-practice/clinical-zones/accident-and-emergency/using-ambulatory-ae-care-to-cut-admissions/5043313.article

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Royal College of Physicians
11 St Andrews Place
Regent's Park
London NW1 4LE

Tel: +44 (0)20 3075 1649
Fax: +44 (0)20 7487 5218

www.rcplondon.ac.uk

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