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### Ambulatory emergency care

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# Ambulatory emergency care:

how should acute generalists manage risk in undifferentiated illness?

Nationally, emergency departments (EDs) are increasingly congested from rising demand and high hospital bed occupancy limits flow through the acute care pathway, leading to inefficiency, increases in breaches of the 4-hour ED target,<sup>1</sup> and is associated with clinical risk to patients and staff as well as financial penalties for trusts.

Ambulatory emergency care (AEC) offers one solution, to provide an appropriate support to primary care when escalation is needed, and to reduce the use of the inpatient bed-base,<sup>2,3</sup> thereby facilitating more treatment of acute illness from a community setting. AEC is described as ‘... *diagnosis, observation, treatment and rehabilitation, not provided within the traditional hospital bed base ... and provided across the primary-secondary care interface*,<sup>3</sup> which means that ‘*patients ... are ... diagnosed and treated on the same day and then sent home with ongoing follow-up as required*’.<sup>4</sup>

AEC manages acutely unwell patients, often with undifferentiated illness, to establish a diagnosis or a point of clinical stability that enables patients to return to primary care. Use of the ED and potentially short admissions are avoided, while, possibly, improving the patient experience.<sup>2</sup> While GPs are experienced in risk management with undifferentiated illness, AEC differs in that the acuity of illness is greater than in primary care and familiarity with intravenous (IV) treatment and interpretation of cross-sectional imaging are needed. But AEC models are relatively new, heterogeneous, and not fully understood. Here we conceptualise the role and position of AEC by considering patient journeys through the service and highlighting the areas in need of address to maximise its value moving forwards.

### A PROCESS-DRIVEN SERVICE

AEC departments must rapidly differentiate syndromes in acutely unwell patients after referral from primary care, EDs, or the ambulance service. While protocolised condition- or symptom-specific services exist (for example, suspected pulmonary embolism pathways), the often stringent referral criteria are poorly aligned to the reality of complex acutely unwell primary care patients. AEC is a process-driven service;<sup>4</sup> that is, at referral, patients are considered ambulatory unless there is evidence otherwise. The consensus-based AEC directory<sup>4</sup> contains common conditions determined to be both appropriate

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for AEC services and commonly associated with short admissions. The current fifth edition has been refined using real-life data to reflect current perceptions of best practice. However, this directory may inadvertently undermine process-driven approaches, particularly if it is interpreted as being prescriptive of the conditions suited to AEC. Given the frequency of diagnostic uncertainty at referral, reliance on the directory to shape AEC services risks limiting the volume of appropriate patients and underestimates the breadth of diagnostic challenges that AEC services can manage.

### ACCESS TO AMBULATORY EMERGENCY CARE

‘Step-up’ and ‘step-down’ functions of AEC are illustrated by the variable routes into AEC; from primary care, emergency departments, paramedics, hospital specialties, and inpatient providers. Identification of patients’ ambulatory potential is also inconsistent within and between AEC services; from a clinical conversation to determine any prespecified exclusions, use of dedicated questions to identify those particularly suited to ambulatory care,<sup>3</sup> through to the use of specific scores.<sup>3,5-7</sup> But these scores have limited sensitivity and specificity across multiple service providers.<sup>8</sup> To optimise patient experience and improve efficient use of AEC services, improved evidence-based patient selection tools demonstrating consistency across health economies are required.

### ACUTE GENERALISTS

There are varying models of AEC and AEC clinicians must be ‘acute generalists’; able to holistically assess acutely unwell patients and manage acute undifferentiated and/or emerging illness and its associated (often ambiguous) risk. Appropriate clinicians could include advanced nurse practitioners, hospital clinicians (often with acute medicine or ED background), and GPs with additional hospital experience. The individual clinician’s skills are key, rather than their exact clinical

background. For acute frailty syndromes, AEC models including geriatric medicine expertise, occupational therapists, physiotherapists, and social workers are necessary. To build capacity for the future, healthcare educators must develop training solutions to match the needs of such ‘acute generalists’, who straddle the primary- and secondary-care interface.

### OPTIMISING DIAGNOSTIC CAPABILITIES

To streamline diagnoses and manage acute undifferentiated illness, AEC heavily relies on diagnostic support; point of care testing (POC) can complement laboratory-based testing and direct access to radiology. But the evidence-base for using biomarkers to support safe out-of-hospital care pathways is limited. For example, the NICE sepsis guideline<sup>9</sup> recommendations to support discharge using clinical and biomarker parameters have not been formally tested in this setting.

### IDENTIFYING SAFE DISCHARGES

Risk is inherent within the work of AEC clinicians. Both clinicians and patients will vary in their thresholds of acceptable risk for discharge, but there is little empirical evidence to quantify and describe this. Few tools exist to support a shared discharge decision and different guidelines determine safe discharge at different mortality rates. For example, home-based care could be considered for patients with a pulmonary embolism with the lowest risk Pulmonary Embolism Severity Index (PESI) score (3.5% mortality over 30 days)<sup>10</sup> and for those with community-acquired pneumonia (CAP) with a CURB-65 up to two (3–15% risk of death over 30 days).<sup>11</sup> While 30-day mortality scores can identify higher-risk patients, they do not identify the riskiest periods during which location of care could mitigate that risk.

### ACUTE CARE EPISODES OR ONGOING CARE?

AEC models include varying levels of ongoing

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care, ranging from same-day diagnostics, for example to rule in/out diagnoses (such as venous thromboembolism), through to longer-term ambulatory care. Ongoing AEC care may take the form of scheduled follow-up of patients further to planned investigations (such as imaging for underlying malignancy) or a course of IV treatment (such as antibiotic or diuretic). Further, AECs have supported specialty pathways as the care platform accommodates urgent interventions such as peritoneal/pleural drainage or blood transfusions. While AEC may be convenient for such interventions there is a tension between development of semi-planned specialty services and the use of easy-to-access acute care.

#### IDENTIFYING AEC SUCCESS

Successes and unintended consequences of AEC should be clearly identified to determine its value. This is complicated by the heterogeneity and dynamic nature of AEC care models and their surrounding acute and primary care systems. Demonstrating reductions in ED attendances and patients breaching 4- and 12-hour waits in the ED can be challenging in the context of rising demand. Furthermore, patients now seen in AEC were not all previously admitted via the ED, thus reduced medical bed days, particularly for short admissions may be better measures of AEC's impact.

Patient satisfaction is an indicator of improved patient experience, but questionnaire-based methodologies to elicit this have limitations. Objective measures such as mortality and readmission rates are blunt tools which provide no experience of a patient's care journey. An outcome set, measuring clinically meaningful outcomes and aligned with patient priorities, which is suitable for use across varying models of AEC is required to facilitate system learning, particularly in the New Models of Care programme.

#### MOVING FORWARD

A key role for AEC is in providing a credible care model for acutely unwell patients while decongesting the ED, reducing the pressure on limited inpatient beds and addressing patients' preferences to remain at home as much as possible. Empirical

work is needed to develop sensitive, specific, and generalisable mechanisms to identify which patients are suitable for AEC and to provide accurate risk stratification in the initial phase of illness. This may be achieved with reliable POC biomarkers to support flow through AEC units, particularly for high-volume conditions. Commissioners should identify situations in which AEC is currently underused but may ease pressure on the ED, or inpatient services.

Finally, while AEC units require 'acute generalist' clinicians, to be 'fit for frailty', AEC must contain a multidisciplinary skill mix to undertake comprehensive assessment. The nature of overlap and interaction between AEC and existing urgent care community services, whether they be the registered practice, out-of-hours primary care service, or ambulance service depends on how elements of the processes of care outlined previously can be delivered.

Dedicated training efforts across the disciplines are required to develop expertise across this acute primary- and secondary-care interface, including experience of community practice for those with predominantly acute training.

As our population continues to age, this will help ensure that we can meet its changing needs with a sustainable acute care pathway.

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