

The acute medical take: an outpatient specialty

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ABSTRACT – The traditional model of acute medical care involves the admission of patients to hospital to be assessed by a consultant and facilitate access to investigation and treatment. This model has, however, led to a number of problems. Firstly, there is high bed occupancy which restricts access and increases the risk of healthcare-acquired infection. Secondly, only limited training opportunities are offered for junior medical staff in this setting. Thirdly, patients often receive care from a ‘generalist’ rather than a ‘specialist’ although there is increasing evidence that the most appropriate specialist provides the best patient care. Many medical emergencies could be managed in the outpatient (ambulatory) setting if the appropriate facilities were available including staff, environment and access to investigations. Emergency outpatient clinics can provide gold standard emergency care by providing structure to the acute take, ensuring access to the most appropriate specialist and training opportunities for junior medical staff.

KEY WORDS: acute, ambulatory, emergency, outpatient, training

Introduction

The evolution of general medicine to acute medicine brings with it many opportunities, the most important being to improve emergency care for patients. The evolution is being driven by the demand for emergency care, financial pressures, and hospital bed occupancy and has led to the development of ambulatory emergency care (also known as outpatient emergency care) which encompasses emergency outpatient clinics, home from hospital schemes and early discharge treatment plans.

Over the last 20 years the demand for acute medical beds has increased. This increase in patient numbers has been matched by a decline in length of stay which has helped to roughly keep the required number of beds available for these patients. The demand for acute medical beds, however, remains high and patients are often admitted to areas with less experience of managing acute medical emergencies. Medical wards operate at high occupancy which impairs their efficiency, blocks access and increases the risk of healthcare-acquired infection.

A period of unparalleled investment in the NHS is coming to an end and it now seems unlikely that there will be an increase in the number of emergency medicine beds. If the best possible patient care is to be provided the model of care needs to be restructured. The current model of admitting all medical emergencies is unsustainable and may exacerbate the existing problems. There needs to be a paradigm shift in our thinking about how the acute medical take can be managed.

Why outpatient emergency care?

Examples already exist which demonstrate how experienced front line healthcare staff can provide excellent emergency care without using inpatient facilities. For example, a 21-year-old male with long-standing type 1 diabetes presents with symptoms of hyperglycaemia, fatigue and flu-like symptoms. The initial blood results are normal apart from a blood glucose of 28 mmol/l. There is one plus of urinary ketones. If this patient presented to the accident and emergency (A&E) department of most hospitals he would be sent to the acute assessment unit (AAU) and started on a treatment regime for diabetic ketoacidosis or glucose–potassium–insulin (GKI) regime. Many patients with diabetes often experience poor inpatient management of their condition by hospital staff. If this patient contacted the local diabetes team, however, he would be assessed before the decision to admit is made. In the absence of any indication for admission the situation above could be managed in an outpatient setting by following the diabetes sick day rules which require regular blood glucose monitoring, increased insulin, monitoring of ketones and, importantly, education about the future management of such an episode. The availability of specialist opinion and a facility in which to see the patient means that the 21 year old could be effectively managed as an outpatient. This raises the question of whether other emergency medical presentations could be managed in the same way if the expertise and environment are available. Examples are listed in Box 1.

It is apparent from the many possible emergency medical presentations that there is a need for a variety of clinics: emergency specialist, general and follow-up clinics. These clinics all need to be accessible and accept referrals from the emergency

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medical team (EMT). A patient may present to the EMT, for example, with a transient ischaemic attack (TIA) at 7 pm and a computed tomography scan rules out a bleed. The patient is discharged with aspirin and a statin to attend the TIA clinic the next morning where a specialist in stroke medicine will review the diagnosis, plan further investigations to be carried out that day, for example carotid Doppler or echocardiography, and modify the treatment plan. The patient has therefore received healthcare from the appropriate specialist, accessed investigations in a timely fashion, received optimal treatment and has avoided a hospital admission.

It is also feasible to set up services which support and expedite a patient's discharge from hospital. An example of this is an outpatient parenteral antibiotic service. In practice, for example, a patient presenting with sepsis secondary to cellulitis would be admitted and after 48 hours, when the features of sepsis have

largely resolved, they would be prescribed a prolonged course of intravenous (iv) antibiotics delivered by a trained nurse in the outpatient setting using a once daily iv antibiotic via a long line. A consultant would be available to follow up on the patient's progress and arrange further management as required. Examples of services which can be used to support outpatient emergency care are listed in Box 2.

Developing an outpatient emergency care service

For these clinics to be effective, access to investigations must be as available to the emergency clinics as to inpatients. Often this will require considerable reorganisation of how these investigations are accessed but it is absolutely necessary for the effective functioning of the service.

It is clear that outpatient services supported by medical specialists may not be sufficient to meet the needs of older patients who may also have difficulty with the activities of daily living. These everyday activities must also be addressed and require the support of a dedicated team situated and working with the EMT. The team at the James Cook University Hospital has seven-day cover and provides nursing, physiotherapy, occupational therapy and social services for patients requiring support from these disciplines. An available stock of equipment can be made immediately available to assist with mobility, toileting and feeding. Access to rapid response services in the community can provide visits from district nurses and home helps, for example, thus supporting the discharge process.

These services should not be viewed as secondary to inpatient care. In fact one could argue that being managed through specialist emergency clinics is optimal patient care. These services are complex to establish and require resourcing in terms of staff, estate, training and drug costs. They are not a cheap alternative to inpatient care but a gold standard of emergency care if they are properly resourced.

Clear referral criteria are required for these clinics to ensure they are effectively used and their resources need to be readily available to the EMT. Members of the emergency team should be able to book the patients directly in to the clinic and letters sent to the referring doctors could be used to assist in training. The

Box 1. Medical emergencies which can be managed in an ambulatory setting.

- Respiratory
 - Community-acquired pneumonia with low CURB-65 score
 - Small pneumothorax
 - Asthma following British Thoracic Society guidance
 - Chronic obstructive pulmonary disease with supported home care
 - Asymptomatic pleural effusion
- Cardiology
 - Cardiac failure
 - Atrial fibrillation
- Neurology
 - Transient ischaemic attack
 - Stroke with good function and not suitable for thrombolysis
 - Epilepsy after postictal phase
- Gastroenterology
 - Upper gastrointestinal (GI) bleed with Rockall score of 0
 - Lower GI bleed with no haemodynamic compromise
 - Painless obstructive jaundice
 - Non-acute abdominal pain
 - Diarrhoea and vomiting
- Endocrinology
 - Hyperglycaemia without ketosis
 - Hypoglycaemia with full recovery
 - Type 1 diabetes without ketosis
 - Electrolyte imbalances
 - Thyroid disease
- Infectious diseases
 - Cellulitis
 - Osteomyelitis
- Renal
 - Haematuria without acute renal failure
- Psychiatric
 - Deliberate self harm
- General medicine
 - Deep venous thrombosis
 - Pulmonary embolism
 - Anaemia with no haemodynamic compromise
 - Syncope with low cardiac risk
 - Urinary tract infections
 - Palliative care

Box 2. Services which can support ambulatory emergency care.

- Chronic obstructive pulmonary disease outreach
- Pleural diseases clinics
- Rapid access chest pain clinics
- Transient ischaemic attack/stroke clinics
- Epilepsy clinic
- Pain management service
- Functional assessment and support teams
- Diabetes nurse specialist
- Falls clinic
- Macmillan nurses
- Outpatient parenteral antibiotics team
- Endoscopy services
- Heart failure team

consultants providing these clinics should be supported by trainees who will in turn receive training and education. This would apply to foundation year, core medical and higher trainees all of whom would benefit from working closely with senior medical staff to appreciate the management of medical emergencies.

Planning these clinics need not be unduly complex. The use of hospital episode statistics or local surveys can be used to identify the number of outpatient slots required for a particular specialist clinic. Appropriate time should be allocated for the assessment of the patients and investigations should be readily available with results reported promptly to the consultant so that management decisions can be made. Secretarial and administrative support are prerequisites for the effective functioning of any clinical service of this type.

What are the advantages of structuring emergency care around an outpatient setting?

- It appears to be more acceptable for the majority of patients who do not desire admission unless it is absolutely necessary.
- By providing specialist clinics patients can be treated by consultants who are best qualified to manage their illness.
- It provides more structure and predictability to the somewhat chaotic arrangements in most institutions for managing medical emergencies.
- The emergency medical clinic would be an excellent opportunity for the training of under- and postgraduates.
- The current pressures of the acute medical take would be reduced.

The emergency medical clinic should be in close proximity to the AAU and formed of consultation rooms, a trolley area and a waiting room. It is important, however, that consideration is given to the necessary administrative support for booking appointments, reception staff, secretarial support and case note storage. The key requirements for developing an emergency clinic are listed in Box 3.

Box 3. Ambulatory care requirements.

- Medical staff
 - Acute physician
 - Specialist consultant
 - Junior medical staff
- Nursing staff
 - Nurse practitioner
 - Healthcare assistant
- Administration and clerical
 - Receptionist
 - Secretary
- Environment
 - Consulting rooms
 - Waiting area
 - Procedure area
- Diagnostic support
 - Access to imaging
 - Rapid pathology results

The effective functioning of such a facility requires access to diagnostics. The availability of diagnostics should be similar to that for patients attending A&E or admitted to the AAU. This is important clinically but also to reassure patients that the care they will receive will be as thorough and professional as any inpatient care. This is key to ensuring patients enjoy the full benefits. Discussion and negotiation with the relevant departments are necessary before establishing an emergency care facility to ensure that access to these investigations can be delivered. As a minimum these include pathology, imaging, echocardiogram, exercise tolerance testing, pulmonary function tests and endoscopy.

Finally, the most important part of developing and establishing this facility is ensuring that enthusiastic, trained staff are involved. In our experience, dedicated consultant time spent in the outpatient clinic is essential. The amount of consultant time will be a reflection of the time required, for a standard district general hospital a guide is 35 hours, but this would depend on the exact configuration of services delivered by the clinic. Junior medical support is vital. The timetable of emergency care clinics provided at the James Cook University Hospital are listed in Table 1. General practice vocational training scheme and A&E trainees can particularly benefit but all medical specialties will profit from working in these clinics. The nursing team is also key. A nurse practitioner and healthcare assistant are a minimum requirement. They should have skills in phlebotomy and be able to request investigations.

Table 1. Ambulatory emergency care clinics at the acute assessment unit, James Cook University Hospital. Clinics organised elsewhere in the hospital include a diabetes drop-in clinic and an outpatient parenteral antibiotic clinic.

	AM	PM	
		Clinic I	Clinic II
Monday	Gastroenterology	TIA Clinic Follow-up clinic	Thromboembolic disease and acute medicine clinic
Tuesday	Thromboembolic disease and acute medicine clinic	TIA clinic	Echocardiography and follow-up clinic
Wednesday	Thromboembolic disease and acute medicine clinic	TIA clinic Follow-up clinic	Respiratory clinic
Thursday	Echocardiography clinic Pleural disease clinic	TIA clinic	Thromboembolic disease and acute medicine clinic
Friday	Thromboembolic disease and acute medicine clinic	Follow-up clinic	NA

NA = not applicable; TIA = transient ischaemic attack.

A training opportunity

As mentioned above, structured clinics involving specialist teams working with emergency patients provide excellent training opportunities for undergraduates. The inclusion of these clinics in undergraduate curricula would allow teaching to be delivered by experts rather than by junior medical staff. Similarly for postgraduates in foundation programs or specialist training the experience of observing and being trained by physicians working in the front line is a superb teaching opportunity. Trainees will then get training in how to manage patients as outpatients rather than the emphasis on an 'admit everyone' approach.

As the junior medical staff training programme evolves, with the emphasis on the service being delivered by competent specialists while junior medical staff focus on training, the development of outpatient emergency care will provide the necessary focus. The real change in training is that the consultant would see the patient first or jointly with the trainee leading them through the assessment, investigative and treatment processes. This type of facility will enable the trainee to complete case-based discussion, directly observed practice and other important stages of competency under the watchful eye of the consultant.

The signs of a successful service

The success of outpatient emergency care can be measured and monitored. During 2006, at the James Cook University Hospital 4,600 patient episodes occurred in the setting of outpatient emergency care. This does not include those patients who had ongoing emergency care in other departments working closely with the AAU. This data shows very low levels of readmission and mortality. The number of bed days saved can be used as part of an economic analysis to support investment in this type of service. Quality indicators such as the rate of conversion to inpatient care, seven-day readmission, adverse events and mortality can be crucial in ensuring the service meets the needs of patients. Increasingly patients are looking for rapid access to emergency services and expert opinion, outpatient emergency care is an opportunity to improve care for patients while meeting the professional needs of training and job satisfaction.