How To Implement Ambulatory Emergency Care (Emergency Day Care)
Background
How to use this Guide

This Guide complements the Directory of Ambulatory Emergency Care for Adults (published in December 2007, updated March 2010 which identifies 49 emergency conditions and clinical scenarios (eg cellulitis) that have the potential to be managed on an ambulatory basis ie, as an emergency day case). The underlying principle is that admission to a hospital bed should only take place in the context of an acute illness that requires inpatient care.

This guide offers practical steps and case study evidence on how to implement Ambulatory Emergency Care.

We strongly recommend that you use the directory and this guide together to help you achieve the best possible results.

Growing demand for emergency care

The demand for adult emergency care in England continues to rise, placing increasing pressure on all emergency services. England has an ageing population – by 2025 the number of people aged over 80 will have increased by 50% and the number aged over 90 will have doubled since 1995. Elderly people form the largest group of adult emergency patients – in 2008/09, 40% of emergency admissions were patients over the age of 65 and 27% were patients over the age of 75. Frail older people are among the patient groups facing the greatest risk of institutionalisation caused by longer lengths of stay in hospital.

The clinical and financial incentives to avoid inpatient admissions

Ill health is distressing without the additional disruption of an inpatient admission. Lord Darzi’s review found that people want increased control and influence over their health and healthcare (Darzi 2008). Costs can be reduced and quality of care enhanced by decreasing the number of patients who are admitted into inpatient beds; many problems and complications, such as healthcare-acquired infections, delirium, pressure sores, malnutrition, dehydration and side effects of medication, which are associated with inpatient admission, are preventable through more timely management of patients’ conditions.

The NHS needs to identify an estimated £15–20 billion of efficiency savings by the end of 2013/14 (The NHS Quality, Innovation, Productivity and Prevention Challenge: an introduction for clinicians Department of Health 2010). The NHS Operating Framework 2010/11 sets out a number of changes to national policies that aim to increase quality and productivity and support the quality, innovation, prevention and productivity (QIPP) agenda, including a national urgent care workstream (Department of Health 2010). The Operating Framework also restricts the amount of income that can be earned from emergency activity levels above those contracted, in order to support the shift of care out of hospital settings and to encourage closer working between providers and commissioners.
How to reduce inpatient Length of Stay (LOS) in emergency care

Inpatient LOS for emergency care patients can be approached by segmenting patients into three key streams (note that whole system working is needed, not just attention within the acute trust):

1. Short stay (0–2 night LOS) – ensure that all potential short stay patients are streamed to this pathway at the point of admission, and optimise ambulatory emergency care. Failure to recognise the short stay stream results in potential short stay patients moving to downstream wards with a reduced pace for their case management. It has to be recognised that a proportion of those patients in the following two groups can be managed within a short stay process.

2. Sick general versus sick specialty – sicker patients requiring longer in hospital can be considered in two sub-groups, sick general and sick specialty. ‘Sick general’ are those patients who are acutely sick but do not have specific specialty requirements. This group’s progress is delayed by unnecessary handover. Maintaining the appropriate balance between acute general and acute specialty management with the minimisation of unnecessary handovers supports effective case management. In both sick general and sick specialty, there is the potential, with early identification and effective case management for these patients to effectively move in to the short stay stream.

Variation in short stay emergency care provision in England

There is large variation in acute trusts in England (from 25–55%) in the proportion of patients admitted via emergency departments requiring a short stay (less than two nights), which is not attributable to demographic differences between regions or the patients’ presenting conditions. Some of this variance between trusts may be owing to differing admissions criteria or improved primary care responsiveness to urgent care needs or preventative care. However, the majority of the variance is likely to be due to differences in case management delivery between hospitals with significantly increased length of stay for potentially short stay patients.
3. Complex patients – frequently older people with multiple co-morbidities, often including dementia, and social support that require early identification (at the time of admission) by clinical teams with the appropriate skills to implement assertive case management plans. Coordinated effective discharge planning commencing at the point of admission with community health and social services aligned to pull these patients back into the community is crucial to delivery. By very early identification and coordinated care, a proportion of this group can be managed as short stay.

If this group of patients is not proactively managed from the point of admission, they decompensate rapidly with resultant prolonged lengths of stay and poor outcomes. A significant proportion of patients who are considered to be ‘delayed transfers of care’ have, in effect, decompensated as a result of their hospitalisation rather than as a direct result of their admitting illness.

Figure 1: Bed days for adult emergency admissions 2008/09; Source: Dr Foster Intelligence
What is Ambulatory Emergency Care?
(Emergency Day Care)
What is Ambulatory Emergency Care? (Emergency Day Care)

The underlying principle is that a significant proportion of emergency adult inpatients can be managed safely and appropriately on the same day without admission to a hospital inpatient bed.

**Ambulatory emergency care is a transformational change in care delivery, similar to that seen with the development of elective day surgery.**

Ambulatory models create a ‘virtual ward’ of patients under ongoing clinical supervision but staying overnight within their usual place of residence, and have the potential to transform emergency care as profoundly as day surgery has impacted elective care. The avoidance of unnecessary overnight stays for emergency patients (similar to day surgery for elective care) not only improves the quality of patient care and experience but also reduces occupied bed days in hospitals.

Ambulatory emergency care is defined by the Royal College of Physicians as:

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

Royal College of Physicians 2007

The benefits of ambulatory care include:

- improved patient experience and outcomes
- transformed emergency care processes
- released acute care beds.

In 2008/09 there were 5,451,133 emergency admissions to acute hospitals in England, costing the NHS non elective tariff in excess of £9 billion. Of these, 1,502,591 (27%) had a LOS of zero (an admission without an overnight stay). In the same year, 1,734,590 (31%) emergency admissions had a LOS between one and two days, and 2, 213,952 (40%) had a LOS of over two days (Dr Foster Intelligence). This suggests that there is the potential for a significant proportion of these patients to be managed on an ambulatory pathway.

The most direct financial benefits that can be realised are through reduced tariff payments. An analysis of 2006/07 activity in the South East Coast SHA found that 8.5–12.5% of unscheduled care admissions could be managed in an ambulatory pathway SHA-wide, through full implementation of the Directory of Ambulatory Emergency Care for Adults. This reduction in overnight admissions would greatly reduce occupied bed days in acute trusts. In financial terms, this means that up to £21 million savings in overall commissioner payments to providers.

Potential savings of £268 million would be realised if this was extrapolated nationally. Based on our experiences working with NHS trusts as well as those of early implementers, this guide provides a step-by-step approach of the stages you would need to consider when developing your own ambulatory emergency care service.
1. Directory of Ambulatory Emergency Care for Adults

As referred to on page 1, the Directory of Ambulatory Emergency Care for Adults identifies 49 conditions and clinical scenarios from across a range of specialties, with their potential for ambulatory emergency care. It highlights any key associated considerations or risks, and provides links to further clinical evidence. The directory describes how implementation needs to involve looking at new ways of working across traditional health and social care structures, focusing on the patient’s safety, outcomes and experience.

The conditions found in the directory are currently predominately admitted to acute hospital bed-based care.

The percentage opportunity ranges for ambulatory emergency care for each condition or clinical scenario within the directory are based on clinical practice observed at various NHS sites over years of observation, co-production with NHS sites, discussions with colleges (e.g., the Royal College of Physicians’ Acute Medicine Task Force) and published condition-specific guidance.

2. Film clip

A five-minute film introduces the concept of ambulatory emergency care. In the film Dr Ian Sturgess, national clinical lead for emergency care staff from two NHS trusts, and a patient introduce the concept and describe its impact on patients, staff and overall health system quality and efficiency. To view go to: http://www.institute.nhs.uk/quality_and_value/introduction/ambulatory_emergency_care_explained.html

3. Better Care, Better Value Indicator

The indicator for increasing day case rates for emergency care is intended to give acute providers and their local commissioners an understanding of their current level of delivery of ambulatory emergency care and what the remaining potential is. It identifies this potential for each condition within the directory.
Current Level of Practice
Current Level of Practice

The NHS Institute for Innovation and Improvement undertook a questionnaire-based study in June 2009 with the Society for Acute Medicine (SAM UK) to understand the existing level of ambulatory emergency care provision in the UK. Responses from clinicians representing 113 acute sites across the UK were analysed.

Key requirements or considerations for delivering ambulatory emergency care that emerged were:

- staffing resources to lead and deliver ambulatory emergency care services
- involvement of primary care and commissioners
- buy-in and integration between acute medical units and the specialties
- advanced skills for nursing staff
- improved planning of pathways
- financial incentives for ambulatory care
- seven-day working to improve access
- a ‘can-do’ organisational culture.

The study suggests that although ambulatory emergency care is being provided in the acute context and is supported by national recommendations, it is not yet routine in the UK.
How to Implement Ambulatory Emergency Care (Emergency Day Care)
How to Implement Ambulatory Emergency Care (Emergency Day Care)

Project Set-up Activities

Based on our experiences working with trusts in the South East Coast area, as well as those of early implementers, we recommend that you consider the following stages in developing your own ambulatory emergency care services.

<table>
<thead>
<tr>
<th>Project Set-up – Activities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pick conditions</td>
<td></td>
</tr>
<tr>
<td>Identify team</td>
<td></td>
</tr>
<tr>
<td>Establish measures and objectives</td>
<td></td>
</tr>
</tbody>
</table>

1: Pick conditions

Identify what you want to achieve or acknowledge where there are problems.

a) Brainstorm problem areas.
b) Use the directory to identify pathways likely to make the greatest impact.
c) For each potential condition, consider the factors opposite:

<table>
<thead>
<tr>
<th>Impact</th>
<th>High / Medium / Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complexity of change</td>
<td>Complex / Average / Easy</td>
</tr>
</tbody>
</table>

Completion of the following table will help you.

<table>
<thead>
<tr>
<th>Total patients per week</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed days utilised (per month)</td>
<td></td>
</tr>
<tr>
<td>Potential percentage suitable for ambulatory care</td>
<td></td>
</tr>
<tr>
<td>Average length of stay at present</td>
<td></td>
</tr>
<tr>
<td>Percentage presenting during office hours</td>
<td></td>
</tr>
<tr>
<td>Resources to implement change</td>
<td></td>
</tr>
<tr>
<td>Resources saved by change</td>
<td></td>
</tr>
<tr>
<td>Potential opposition</td>
<td></td>
</tr>
<tr>
<td>Potential champions</td>
<td></td>
</tr>
<tr>
<td>Stakeholders</td>
<td></td>
</tr>
</tbody>
</table>

High-impact and easy projects are often the best place to start to help your team gain confidence.
2: Identify team

The following roles should be considered for your project team – note the importance of executive sponsorship of your project.

- **Clinical lead(s):** Clinicians should be willing to take the lead and to think beyond their own specialties.
- **Nursing lead:** The lead nurse should work closely with the lead doctor to develop and implement new processes.
- **Senior manager support, preferably at executive level:** Dynamic management is invaluable in coordinating supporting processes.
- **Primary care** and/or commissioner representation.
- **Assessment unit:** If you have an assessment unit, be sure to have at least one representative from this unit in your group.

Identifying clinical champions at an early stage who can secure support at an executive level and engage with clinicians to promote and sell the project is essential.

Also consider representatives from other departments, including:
- diagnostics
- junior doctors
- physiotherapy
- pharmacy
- patients.

It is helpful to identify the right people/stakeholders on the project group from the start (eg, diagnostics, haematology).

Informing a lead from other areas that the project is underway can be sufficient – with agreement that further input will be sought when required.

**Nursing leadership**

Eastbourne DGH found that nursing leadership on the Medical Assessment Unit (MAU) is pivotal in highlighting potential ambulatory patients and bypassing the challenge posed by the high turnover among junior doctors.
3a: Establish measures

Quantitative measures

It is useful to have three types of quantitative measures: outcome, process and balancing measures, to track progress and impact.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Example – ambulatory pulmonary embolism treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome measure</td>
<td>What was the result of the change?</td>
<td>The number of patients being managed as a 0-day length of stay (ie, without an overnight stay)</td>
</tr>
<tr>
<td>Process measure</td>
<td>What you need to measure to know you are making a change</td>
<td>The number of CT Pulmonary Angiogram (CTPA) results reported on the same day as the request</td>
</tr>
<tr>
<td>Balancing measure</td>
<td>What are the unintended consequences of making the change?</td>
<td>Unexpected readmissions to hospital within seven days</td>
</tr>
</tbody>
</table>
**Key outcome measure: Percentage of patients with a 0-day LOS**

The key outcome measure for ambulatory emergency care is the percentage of the identified patient cohort that has a 0-day LOS.

<table>
<thead>
<tr>
<th>Introduction</th>
<th>The primary outcome measure is the percentage of patients admitted to the hospital that do not stay overnight (ie, have a 0-day length of stay)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time range</td>
<td>The previous financial year and this year to date, comparing performance on a monthly basis from year to year</td>
</tr>
</tbody>
</table>
| Indicators   | 1. Total number of patients discharged with the relevant HRG/ICD-10 code combinations  
               2. **Percentage of patients with the relevant HRG and ICD-10 codes (in the primary position) discharged in the month with a 0-day length of stay** (ie, were admitted but did not stay overnight)  
               3. You may also want to track average length of stay for these patients |
| Suggested data source | Patient Administration System (PAS) |

All other measures should identify the relevant patient group in the same way ie, based on the relevant HRG and ICD-10 code as found in the directory.
Qualitative measures

Questions for patients/carers to consider, using surveys and/or interviews including:

1. Can you please provide an overview of your visit to the hospital – why you came and what happened?
2. If you can remember, how did you feel about the following aspects of your care (and why)?
   a. When you arrived at the hospital
   b. Were you informed at each stage what was going to happen to you?
   c. Did anybody inform you that you may be going home on the same day?
   d. How did you feel about that?
   e. At what stage(s) did you feel most supported (and why)?
   f. At what stage(s) did you feel least supported (and why)?)
   g. Any other comments or suggestions about how your experience could be improved

For more details on how to incorporate patient and staff experience into your service development work, visit www.institute.nhs.uk/ebd
### 3b: Set project objectives

<table>
<thead>
<tr>
<th>Project Set-up – Activities</th>
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<tr>
<td>Identify team</td>
</tr>
<tr>
<td>Establish measures and objectives</td>
</tr>
</tbody>
</table>

**3b: Set project objectives**

**a) What do you want to achieve?**

Think about how an excellent system would work from a number of perspectives, including:

- patients
- staff
- organisation
- commissioner.

**b) Identify what percentage of patients will have a 0-day LOS (use the ranges provided in the directory as a guide) AND the timeline for this ie, WHAT by WHEN.**

**c) Complete a project charter, including objectives, measures and team structure. Ensure the project charter (or other terms of reference) is signed off by an executive.**

<table>
<thead>
<tr>
<th>Objectives and timeline (phase 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 30% of pulmonary embolism patients with a 0-day LOS by April 2010</td>
</tr>
<tr>
<td>• Reduction of overall LOS to a mean of 3 days for PE with no complications</td>
</tr>
</tbody>
</table>

**Scope and governance**

- Scope: Princess Royal Hospital (PRH) and Royal Sussex County Hospital (RSCH)
- Reports to: BSUH Thrombosis Committee

**Deliverables/End products**

- PE proforma and associated patient information – adopted widely for all patients at both sites

**Measures**

**Outcome measures**

- PE: 0-LOS for HRGs (plotted as run charts); mean occupied bed days/LOS

**Process measures**

- PE: positive CTPA or V/Q rate; **clinical diagnosis of PE with confirmed DVT**

**Balancing measures**

- PE: mortality
- Both: 7 day readmission rates (expected/unexpected)

**Team structure and roles**

- Project Lead • Clinical Leads • PCT Lead • GP Lead
- Diagnosis Lead • Pharmacy Lead • Executive Lead
- Other group members

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*Figure 2: Ambulatory Emergency Care – Project Charter, Brighton and Sussex University Hospitals NHS Trust*
Planning and implementation

Consider using the following high-level approach to designing and implementing each new ambulatory care pathway:

<table>
<thead>
<tr>
<th>High-level Implementation Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Map current process</td>
</tr>
<tr>
<td>Identify barriers to 0-day LOS</td>
</tr>
<tr>
<td>Design future state</td>
</tr>
<tr>
<td>Develop action plan</td>
</tr>
<tr>
<td>Implement plan</td>
</tr>
<tr>
<td>Achieve objectives/close project</td>
</tr>
</tbody>
</table>

2: Identify barriers to a 0-day LOS

Identify which stage of the process represents the greatest block to a 0-day LOS:

a) assessment  

b) diagnosis  

c) treatment  

<table>
<thead>
<tr>
<th>The Eastbourne team initially thought that delays in accessing CTPA results (the radiology test used to diagnose pulmonary embolism) were the greatest block to an ambulatory PE pathway (i.e., the assessment phase). However, once the team completed an audit of CTPA turnaround times in radiology, staff realised that there were fewer delays than they thought, and that the treatment phase was actually the greatest block. This allowed them to focus initial improvement efforts on how to deliver the treatment phase in an ambulatory manner (i.e., by accessing the existing outpatient anticoagulation clinic for PE patients).</th>
</tr>
</thead>
</table>

Taking this approach allows you to more systematically prioritise your pathway redesign.

1: Map your current process

While you may think you already know how the current process works, it’s important not to skip this step. Bring a group of multidisciplinary colleagues together for one hour to agree how the current pathway works.

For a guide on how to do this and other service improvement tools, such as Matching Capacity to Demand, see Organising for Quality work on how to process map at www.institute.nhs.uk/quality
3: Design future state

(a) Review best practice
- Review links to best practice in the directory.
- Review protocols from other sites
  [www.institute.nhs.uk/quality_and_value/high_volume_care/ambulatory_care_protocols](www.institute.nhs.uk/quality_and_value/high_volume_care/ambulatory_care_protocols)
- Organise a site visit to see how others have implemented a similar pathway.

(b) Eliminate barriers to ambulatory management

Having identified the barriers at Stage 2, identify the options for ensuring that key stages in the pathway are ambulatory.

For example, a cellulitis pathway for Class II patients with a treatment phase of four-times-daily IV antibiotics will require an inpatient admission. New ways of managing stable patients with this condition include:

- patients return to hospital four-times-daily to receive IV antibiotics
- patients are prescribed once-daily IV antibiotics and they return to hospital daily to receive it
- patients are prescribed once-daily IV antibiotics and these are delivered by community nursing services or specialised other providers eg, at the patient’s home, in an urgent treatment centre or GP surgery.

Once the preferred option is identified, test it out on a small scale eg, the first ten patients on a Monday, all patients in a week, or one patient on one day. Be sure that any new process is clinically effective and patient-focused.

Once the first ‘block’ to ambulatory care is eradicated, move on to the second block using the same approach. Continue until you have streamlined the whole pathway to be delivered without an overnight inpatient stay (where appropriate).

The following page is an example which illustrates how one site chose to test their new process.

(c) Develop criteria for ambulatory management

A key part of an ambulatory protocol is the criteria agreed to identify whether a patient is suitable for that pathway.
EXAMPLE: Plan, Do, Study, Act (PDSA) cycle

**Question:** Can we deliver ambulatory anticoagulation for one patient on one day in the medical assessment unit (MAU)?

**Describe your first (or next) test of change**

<table>
<thead>
<tr>
<th>Ensure identification of a patient suitable for ambulatory anticoagulation, initiate anticoagulation and monitor anticoagulation</th>
<th>Person Responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL</td>
<td>11-11-08</td>
<td>MAU</td>
<td></td>
</tr>
</tbody>
</table>

**PLAN**

**List the tasks needed to set up this test of change**

<table>
<thead>
<tr>
<th>1. Talk to MAU charge nurse and MAU doctor to agree to test</th>
<th>Person Responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Talk to pharmacy to get warfarin pack</td>
<td>DL, JK</td>
<td>7-11-08</td>
<td>MAU</td>
</tr>
<tr>
<td>3. Talk to anticoagulation service to obtain yellow book</td>
<td>JD</td>
<td>10-11-08</td>
<td>Pharmacy</td>
</tr>
<tr>
<td>and accept patient at end of process</td>
<td>JD</td>
<td>10-11-08</td>
<td>AC/MAU</td>
</tr>
<tr>
<td>4. Identify suitable patient on Tuesday</td>
<td>LCA/SG</td>
<td>11-11-08</td>
<td>MAU</td>
</tr>
<tr>
<td>5. Return booking, space, hold notes and contact details</td>
<td>DD</td>
<td>10-11-08</td>
<td>MAU</td>
</tr>
</tbody>
</table>

**Predict what will happen as a result of this test**

<table>
<thead>
<tr>
<th>1. Was the warfarin available?</th>
<th>What measures will help evaluate results compared to prediction?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Was the yellow book available?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>3. Was a suitable patient identified?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>4. Did we use the booking process and space, and provide the patient the contact phone number?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>5. Did the patient receive their anticoagulation and achieve appropriate INR?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>6. Were we able to transfer care to the anticoagulation service?</td>
<td>Yes / No</td>
</tr>
<tr>
<td>7. How did it feel to everyone?</td>
<td>Comment</td>
</tr>
</tbody>
</table>

**DO:** Describe what actually happened when you ran the test.

**STUDY:** Describe the measured results and how they compared to the predictions, and what you learned from the cycle.

**ACT:** Describe modifications for the next cycle based on what you have learned.
4: Ambulatory emergency care facilities

In order to deliver a coordinated service for ambulatory emergency care, space is needed within the acute trust eg, through the conversion of a six-bedded bay into a clinic. Clinics will include a mix of trolleys and chairs.

- Ambulatory emergency care facilities should be close to both A&E and an assessment unit as part of an integrated emergency department.
- Waiting facilities should also be considered.
- The clinical decision unit (CDU) in A&E may also be used to deliver ambulatory pathways.

At James Cook University Hospital, ambulatory emergency care services are provided through a funded clinic facility that contains:

- four trolleys
- four consulting rooms
- a discharge lounge.

The acute admissions unit (AAU) treats an average of 23 patients per day. Patients on an ambulatory pathway can call the AAU directly at any time (24/7).
How Organisations Have Implemented the Directory of Ambulatory Emergency Care (Emergency Day Care)
How Organisations Have Implemented the Directory

In order to support the adoption of ambulatory emergency care, the NHS Institute and NHS South East Coast initiated a 12-month project to test the implementation of the directory across acute trusts and PCTs. The project has identified key success factors, risks and barriers to implementation, all of which are described in this guide.

Acute trusts and PCTs that have embarked upon implementing ambulatory emergency care in the South East Coast are shown in the table.

We have also gathered information from early implementers of ambulatory emergency care, including:
- James Cook Hospital, South Tees NHS Foundation Trust
- Salford Royal NHS Foundation Trust
- Birmingham Heartlands Hospital, Heart of England NHS Foundation Trust

<table>
<thead>
<tr>
<th>Trust</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eastbourne District General Hospital,</td>
<td>• Pulmonary embolism&lt;br&gt;• Cellulitis</td>
</tr>
<tr>
<td>East Sussex Hospitals NHS Trust</td>
<td></td>
</tr>
<tr>
<td>St Peter’s Hospital, Ashford and</td>
<td>• Pulmonary embolism&lt;br&gt;• Community-acquired pneumonia (CAP)</td>
</tr>
<tr>
<td>St Peter’s Hospitals NHS Trust</td>
<td></td>
</tr>
<tr>
<td>East Surrey Hospital, Surrey and</td>
<td>• Supraventricular tachycardias (SVT)&lt;br&gt;• Cellulitis&lt;br&gt;• Abscesses</td>
</tr>
<tr>
<td>Sussex Healthcare NHS Trust</td>
<td></td>
</tr>
<tr>
<td>Medway Primary Care Trust</td>
<td>• Falls</td>
</tr>
<tr>
<td>Frimley Park NHS Foundation Trust</td>
<td>• Pulmonary embolism&lt;br&gt;• Pleural effusions</td>
</tr>
<tr>
<td>Brighton and Sussex University NHS Trust</td>
<td>• Pulmonary embolism</td>
</tr>
<tr>
<td>St Richard’s Hospital, Western Sussex</td>
<td>• Falls&lt;br&gt;• Supraventricular tachycardias (SVT)</td>
</tr>
<tr>
<td>Hospitals NHS Trust</td>
<td></td>
</tr>
<tr>
<td>Maidstone Hospital, Maidstone and</td>
<td>• Pulmonary embolism&lt;br&gt;• Cellulitis</td>
</tr>
<tr>
<td>Tunbridge Wells Hospitals NHS Trust</td>
<td></td>
</tr>
</tbody>
</table>
Case Study: East Sussex Hospitals NHS Trust

Eastbourne District General Hospital
Implementing ambulatory pathways for PE and cellulitis

Eastbourne assembled a project team to work on the respiratory bundle of the directory, starting with cellulitis (aiming for 70% ambulatory) and pulmonary embolism (PE) (aiming for 50% ambulatory). These conditions were chosen because the team wanted to build experience and confidence by going for ‘quick wins’ and build on links already established with community services. There is also now a dedicated ambulatory emergency care base (with chairs and trolleys) for managing these patients in the Medical Assessment Unit (MAU).

The implementation process – pulmonary embolism

Blocks to ambulatory PE care: The Eastbourne team mapped the existing process and found delays in arranging the necessary tests (x-rays and lung scans) early in the day. Patients were kept in hospital for the daily anticoagulant injections required whilst the effect of oral warfarin treatment built up.

New PE processes

New processes were developed both for query PE patients (who can’t have their diagnostic on the first day) and for confirmed stable PE patients:

Query PE patients: Patients attending the MAU in the evening who, after initial assessment and screening, are classified as having a high probability of PE but are clinically stable, are treated with a dose of the injected anticoagulant enoxaparin and allowed home, returning the following day for CT scanning (CT pulmonary angiography) and review on the MAU.

Confirmed PE patients: The outpatient management of PE patients is coordinated initially through the MAU and then, once patients are fully established on warfarin, they are transferred to outpatient or community (GP) warfarin clinics.

Results

The average 0-day LOS has increased from 5% in 2008/09 to 22.5% in 2009/10.

The implementation process – cellulitis

Blocks to ambulatory cellulitis care: The traditional inpatient choice of intravenous flucloxacillin/benzylpenicillin requires six-hourly dosing, which is usually not practical for community treatment, necessitating inpatient admission.

Marion Dixon 124.493.47145
mariondixon@macatube.co.uk
Caudiles Consortium Pty Ltd
New process

The team worked with pharmacy, the PCT and microbiology to develop exceptions to the trust’s antibiotic policy to enable the prescription of the once-daily IV antibiotic ceftriaxone for these patients. The entire antibiotic course and all the necessary equipment to give it are provided from MAU. Patients are discharged into the care of district nursing (DN) services. The service assesses progress during their daily visits. Those living in areas where the DN service is unable to support home IV treatment attend MAU daily for the whole course.

The availability of a hospital intravenous team that can place mid-length lines has reduced the need to replace cannulae in the community or for patients to return to hospital for this.

Next steps

East Sussex NHS Hospitals Trust is now developing a broader strategy for delivering ambulatory emergency care services across both sites as a priority for operational management within emergency care.

Eastbourne Ambulatory Care Project Team are proud of what they have achieved

“What has been achieved is practical, not theoretical.”
Jim Davey, director of operations

“This is good news from an organisational development perspective.”
Michelle Small, project lead

“The success of this project gives confidence about changes to improve services.”
James Wilkinson

Key contact: Dr James Wilkinson, consultant in respiratory and general medicine (divisional director, medicine and emergency care)
james.wilkinson@esht.nhs.uk
Case Study: Frimley Park NHS Foundation Trust

A multidisciplinary team decided to start development of ambulatory emergency care with pulmonary embolism (PE). The principles underpinning the project, are a focus on quality of care (clinical safety) and patient experience, ensuring patients understand their condition and remain well-informed throughout their episode of care. This by default results in more efficient care.

The implementation process

Baseline data was drawn for patients discharged with PE in 2008/09. Out of 122 patients identified, one patient had a zero length of stay and the total occupied bed days were 1,066. The team’s objectives are to achieve 50% zero day length of stay for confirmed PEs and to reduce overall length of stay.

An audit was carried out to establish the current inpatient journey; a total of 15 sets of notes with a confirmed discharge diagnosis of PE were reviewed. The 15 patients occupied a total of 91 bed days.

Out of these patients they identified 58 unnecessary occupied bed days (excluding those who were too ill to be discharged home). The predominant reason was that patients were kept in hospital for the daily anticoagulant injections whilst the effect of oral warfarin treatment built up.

Blocks to ambulatory care: The next step was to ‘unpick’ the patient journey and concentrate on the two further areas where significant delays occurred:

1. The CTPA procedure incurred delays throughout the process from ordering the test, to making a decision, to the patient receiving the procedure.
2. The INR testing also revealed delays ranging from the pathology form being completed, too many tests being requested, bloods taken at varying times, lengthy waits for results, delays in retrieving results by the appropriate people, and alerting teams to write an INR script accordingly.

The new process

The ambulatory emergency care meetings provided the opportunity to standardise practice. This required agreement to change culture and encourage challenge of current practice. At the time of publication the ambulatory emergency care project team has achieved improved working across departments (A&E, MAU, respiratory department); a new process for PE patients and a standardised pathway have been introduced, resulting in increased ambulatory management of stable PE patients. An education leaflet for patients on PE’s was also launched.

Next steps

• Out-of-hours process to be implemented for diagnosing PE, allowing stable query PE patients presenting out of hours and weekends to return via A&E the following morning for CTPA

Key contact: Fiona Sayers, head of nursing cardiology and acute services fiona.sayers@fph-tr.nhs.uk
Delivering ambulatory acute medical services: developing a seamless consultant-led service that defines ambulatory care as patients who are inpatients but use their own beds.

“We have been treating some patients with pulmonary embolism as outpatients for five years, successfully and without adverse events. Over the last three years we have decided to develop a team of acute medicine consultants to see all new patients prior to general medical involvement. We now have a team of seven acute medical consultants, each giving at least 50% of their clinical time to acute medicine activity. This allows us to push ambulatory care to the forefront of patient management.”

To be effective the consultants carry bleeps which allows them to have direct access to primary care and junior staff. This enables early senior decision-making. For example, when GPs request to speak to a medical registrar, the hospital switchboard, at the request of the consultants, will bleep the acute medical consultant. This allows for consistent advice, as the consultants are aware of the wide range of alternative services available for patients, such as heart failure clinics or community intravenous therapy service.

The acute medical consultants speak to consultant-level staff, often through mobile phones, when they require an investigation or opinion, and have eradicated previous processes such as making a request via a fax. This has ensured timely and effective decisions are made for the patients, who previously would have been delayed by at least one bed day.

“We have banned the fax. Collecting the mobile phone numbers of your colleagues helps.”

The implementation process

Diagnostics plays a critical role in ensuring prompt clinical decisions are made for the patients. The concept of managing emergency patients in their own beds as opposed to the hospital beds was explained to colleagues in imaging and endoscopy. They began to understand that the acute medical consultants could help by prioritising and organising the current emergency workload. This has not resulted in more work for diagnostics, just planned work. This suited everyone. There is a good relationship with the CT department, and the acute medical consultants value their hard work.

The consultant team has developed direct consultant referral pathways for upper GI endoscopy and CTPA, meaning requests do not need to be approved by the departments in question. This reduces the delay, while junior doctors look for an endoscopist or radiologist just to say yes to a scope or a scan.

Endoscopy and radiology colleagues had thought they were easily available, as no one had ever previously raised this as an issue or complained.
Challenges

It has remained difficult to convince leaders that the ambulatory care is offering something different from standard outpatient care. The acute medical unit currently has very limited administrative support, which puts a strain on junior staff. Very close control of how patients enter the ambulatory service must be maintained to ensure that patients sent home out-of-hours return at appropriate times with diagnostics arranged.

Currently most primary care referrals are received via a single telephone access service. Although this makes transport arrangement easy, it does have limitations in reducing clinician-to-clinician communication when it would aid the acute medical unit’s ability to provide ambulatory care.

Next steps

Development of administrative assistance to maintain good clinical governance is essential. Development of electronic episode summaries for rapid GP communication is expected. Discussions with primary care to commission services for virtual ward environments remain a priority. Once the virtual ward concept has been understood and embraced by local health partners, the Royal Sussex County Hospital hopes to be able to develop services throughout the trust.

Key contact: Dr Steven Barden, lead consultant for acute medicine, Brighton and Sussex University Hospitals NHS Trust

steven.barden@bsuh.nhs.uk
Case Study: East Kent University NHS Foundation Trust: Kent and Canterbury Hospital

An integrated emergency care centre has delivered ambulatory emergency care (with a significant increase in 0-day admissions and decreased overall LOS).

The A&E and clinical decision unit (CDU) were merged into an emergency care centre (ECC) in 2005. An integrated model of care was implemented, with specialty consultants working directly in the ECC to undertake assessment alongside two ECC-based acute physicians. This innovative model has eliminated a step in the pathway, effectively reducing assessment and treatment times. The ECC implementation was then followed by the implementation of a nurse-led deep vein thrombosis (DVT) clinic, which has acted as a starting point for the implementation of further ambulatory emergency care pathways.

Physiotherapy cover has been increased in the ECC, radiology offers 24/7 coverage for most modalities, and the local authority has provided an additional dedicated social services resource for the ECC.

DVT, pulmonary embolism and cellulitis are the conditions most commonly managed on an ambulatory basis, although some consultants also manage COPD, pleural effusions, low risk gastrointestinal bleeding, and patients from psychiatric units and nursing homes in the same way.

The implementation process

Clinicians directly involved in the implementation of ambulatory emergency care describe a very informal process evolving out of the DVT service through trial and error, while managers were also involved in a variety of committees and national or regional service improvement initiatives.

Cooperation between the multidisciplinary ECC team and supporting departments has progressively changed mindsets about the purpose of an acute setting. It has also created a positive new emphasis on avoiding unnecessary admissions through more timely services for potentially ambulatory patients.

Results

It is not possible to clearly differentiate between the impact of the ECC integrated model of care, ambulatory emergency care, and the other streams of LOS reduction work at Kent and Canterbury Hospital, particularly as they are mutually reinforcing processes and consultant practice varies. However, the cumulative impact on LOS and bed occupancy is widely acknowledged.

Key Contact: Ian Sturgess, associate medical director patient safety
ian.sturgess@ekht.nhs.uk
Birmingham Heartlands Hospital has avoided admissions and saved bed days through the implementation of ambulatory emergency care pathways in the A&E clinical decision unit in 2007/08.

Ambulatory emergency care services are provided through the clinical decision unit (CDU) at Birmingham Heartlands Hospital according to a set of proformas (pathways) for an agreed list of conditions, see table below:

<table>
<thead>
<tr>
<th>Secondary diagnosis</th>
<th>Secondary diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anaphylaxis</td>
<td>Head injury</td>
</tr>
<tr>
<td>Asthma</td>
<td>Hypoglycaemia</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>Low back pain (non-ambulant)</td>
</tr>
<tr>
<td>Chest pain, rule out ACS</td>
<td>Procedures</td>
</tr>
<tr>
<td>Deliberate self-harm (DSH)</td>
<td>Renal colic</td>
</tr>
<tr>
<td>DVT</td>
<td>Rule out PE</td>
</tr>
<tr>
<td>Elderly care – safe discharge</td>
<td>Transient ischaemic attack</td>
</tr>
<tr>
<td>First fits</td>
<td>Urinary retention</td>
</tr>
<tr>
<td>GI bleed</td>
<td></td>
</tr>
</tbody>
</table>

The CDU has eight beds and four patient chairs; a consultant (or middle grade doctor) has to approve a patient being admitted to CDU, with the care plan based on the appropriate pathway (proforma). For added patient safety and for expediting care, a ward round is done at 8am every morning as well as 2pm (most days); however, decisions about patients are not centred on ward rounds.

Appropriately stable patients are admitted to CDU for rapid diagnostics, a period of observation or expedited treatment, and then rapidly discharged home, preventing unnecessary inpatient admissions.

There is also a mental health pathway for deliberate self-harm supported by two mental health liaison nurses working as part of the A&E team (daytime only). Some patient groups are fast-tracked through A&E to appropriate specialists, including stroke and acute myocardial infarction patients.
The implementation process

At the initial phase, the emergency department (ED), led by the clinical director and the lead clinician for CDU, commenced the CDU model on a limited basis as a ‘proof of concept’. The team, including the nurse consultant, then developed a business case for the trust board, predicting how many admissions could be avoided through an expanded CDU function. The ED consultant team works well together and set up the service, expanding their expertise to allow them to care for patients for a longer period (as required by the CDU pathways).

One ED consultant has taken the lead on developing many of the pathways, always in collaboration with the relevant specialties for a specific condition. When a new pathway is being developed, they try to build on work from other sites where possible. The new pathway is circulated, discussed and agreed by the consultant body. The clinical leads make an effort to circulate and speak to multi-disciplinary staff in person to ensure they are aware. All proformas are designed to include patient inclusion and exclusion criteria, along with a flow chart.

Next steps

The trust is developing a hip pain pathway, and exploring how to implement ambulatory management of end of life care. They were constrained by a lack of additional capacity in the current CDU, but an additional bay is now completed and will be opened, once extra nursing staff are in place.

Key Contact: Olaolu Erinfolami, consultant in emergency medicine and associate md (EWTD) HEFT foundation programme director, Heartlands & Solihull Hospitals ola.erinfolami@heartofengland.nhs.uk
The acute admissions unit ambulatory emergency care services improve patient care and reduce pressure on inpatient beds.

Although originally provided through the conversion of an old store room, ambulatory emergency care services are now provided through a properly resourced clinic facility that contains four trolleys, four consulting rooms and a discharge lounge.

The acute admissions unit (AAU) treats an average of 23 patients per day, primarily through scheduled follow-up clinics with ambulatory patients who have arrived through A&E or been referred directly by their GP. Patients can call the AAU directly at any time (24/7) if they have concerns, and any patient can request to be seen by a doctor if they remained concerned.

Strong support from diagnostics helps enable ambulatory emergency care.

Nurses requesting x-rays and ultrasounds, four morning scan slots for DVT (for A&E and GP referrals), completion and reporting of all head CTs and ultrasounds occur the same day as the request. Pathology results are received within two/three hours and CTPA requests are given the same priority as inpatient requests.

Typical weekly AAU ambulatory emergency care clinic schedule

<table>
<thead>
<tr>
<th>Day</th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>1. Nurse-led DVT / PE clinic 2. Thromboembolic disease and heart failure clinic</td>
<td>1. TIA clinic 2. Pleural disease clinic</td>
</tr>
<tr>
<td>Friday</td>
<td>1. Nurse-led DVT / PE clinic 2. GM clinic</td>
<td>1. TIA clinic 2. GM clinic</td>
</tr>
</tbody>
</table>

The AAU coordinates patient management by community-based teams from primary care or other clinical teams working in the hospital, including the parental antibiotic team (OHPAT), the heart failure team, diabetes nurse specialists, the COPD team, rapid access clinics and the palliative care team.

Case Study: **South Tees NHS Foundation Trust: James Cook Hospital**
The implementation process

Ambulatory emergency care began at James Cook Hospital in 1998 when the need for both improved clinical quality and for increased efficiency (owing to a shortage of emergency care beds) coincided.

The model evolved from the DVT pathway, on which additional pathways were then ‘bolted’.

The implementation of ambulatory emergency care was led by an AAU consultant and senior nurse, working closely with a senior manager.

Local GPs are supportive of the pathways, as they value having a central contact point at the hospital and improved direct access to care for their emergency patients. The lead AAU consultant has a strong network of contacts who can help inform GPs of changes where required.

All documented pathways are available electronically in a central location in the trust (see Appendix 1 for the list of clinical conditions). New pathways are developed by email circulation to staff groups to review.

Next steps

The AAU is now planning to support early discharge for other patient groups from inpatient wards.

Key Contact: Dr Vincent Connolly, consultant physician/chief of service, medicine, The James Cook University Hospital, Middlesbrough

vincent.connolly@stees.nhs.uk

Figure 3: Ambulatory emergency care model at James Cook Hospital
Salford's acute physicians have seen a decrease in clinically unnecessary overnight stays through a 'virtual' emergency admissions ward and released £600,000 through additional surgical capacity.

The Salford Royal Foundation NHS Trust emergency assessment unit (EAU) coordinates the provision of ambulatory emergency care through the use of an electronic or 'virtual' ward. This allows patients to be discharged home but remain under the care of the hospital, with their diagnostic appointments and other specialist referrals coordinated and tracked remotely through the electronic patient record system (iSOFT™). The system includes laboratory and radiology orders and results, medical records, notes on actions taken and care planning, and nursing documentation.

The basic premise guiding clinical decision-making in the EAU is that any patient who doesn’t need to be in hospital but requires urgent investigation under specialist supervision is admitted to the virtual ward on the electronic patient record system. The principle is to avoid having any well patients kept unnecessarily in hospital.

Every day the acute physicians do a virtual round on these patients – reviewing their progress and what remains outstanding (eg, diagnostics, referrals). A minimum of one junior doctor and one consultant spend 30 minutes each day (from 11–11.30am) reviewing patients on the virtual ward.

The benefits of ambulatory emergency care identified by EAU staff include:

**Patient experience:** Any resistance from patients to going home is not an issue, as patients ‘love it’. A postal survey of 40 patients discharged from the virtual ward found that 72% found it more convenient than being in hospital and only one patient (3%) felt it was less convenient. The survey also found that the vast majority of respondents were either ‘happy’ or ‘very happy’ with the way in which information was relayed to them.

**Increased patient safety:** The virtual ward provides a mechanism for tracking patients’ care and ensuring they receive required investigations and assessments.

**Reduced bed occupancy:** The virtual ward has decreased clinically unnecessary overnight stays. In 2007, when the virtual ward first opened, from May – October, 94 patients were admitted to the virtual ward with an estimated 475 bed days saved. In addition, releasing acute care beds has decreased the need for medicine patients to occupy surgical beds, generating an estimated additional £600,000 in surgical activity over these six months.

**Next steps**

The virtual ward is only used at the moment within acute medicine. A trust-wide integrated virtual ward is possible and this will be the next phase.
Key Principles for Developing Ambulatory Emergency Care (Emergency Day Care)
Key Principles for Developing Ambulatory Emergency Care (Emergency Day Care)

Do

• **Start somewhere:** Get one or two pathways up and running first – start with the easier pathways eg, cellulitis, DVT, atrial fibrillation, and then move on to others.

• **Be willing to try:** Have the confidence to try out your ideas – start with just one patient if need be. You must be willing to accept hiccups and issues along the way rather than planning and thinking about improvements for too long without taking action.

• **Focus on what can be directly influenced by your group:** There are many changes that will lie outside your remit – do not be discouraged by these but focus on what you can influence directly.

• **Speak to people face-to-face:** Emails are no substitute for face-to-face communication – speak directly with the people you’re asking to change or to contribute to your pathway redesign.

“Going along to other departments or key individuals to communicate directly with them about what you’re trying to achieve is simple but highly effective.”

Dr Anu Trehan, consultant in acute medicine, The Salford Royal Foundation NHS Trust

Don’t

• **Don’t focus on job titles:** Focus on the clinical skills required to provide care across the pathway.

All James Cook AAU staff members are trained to be experts in ambulatory care – they have completed clinical nurse skills training and can insert cannulas, take blood etc.

• **Don’t start with pre-existing solutions:** Learn from mapping the current processes, testing changes and working with colleagues.
Payment by Results (PbR) Tariff
Payment by Results (PbR) Tariff

The 2010/2011 Payment by Results (PbR) tariff allocates less for patients staying zero or one night (based on bed occupancy at midnight) than for patients staying two or more nights (standard spell tariff). For example, the non-elective standard spell tariff for HRG D Z09C, ‘pulmonary embolus without complications’, is £1,681, while the reduced short stay emergency tariff is £420 (25% of the standard tariff). Reimbursement for follow-up attendances can be captured as ‘ward attendances’.

Why should you implement ambulatory emergency care?

(1) Delivering ambulatory emergency care improves all emergency care flow, speeding up treatment across all streams of emergency care patients.

The changes in process required to deliver ambulatory emergency care include:

• timely diagnostics
• early senior clinical decision-making
• agreed diagnostic and treatment pathways of care for common conditions
• a mindset among clinicians to continually seek opportunities to more effectively manage patients’ care and to avoid clinically unnecessary overnight stays.

These changes are also good practice across all emergency care. The implementation of ambulatory emergency care services, therefore, improves the effectiveness of emergency care for short-stay, general and complex emergency patients, reducing length of stay for ALL emergency care patients.

(2) Lower bed occupancy levels reduce the risks associated with overloading the health system.

Maintaining bed occupancy levels of 85–90% in medicine and across hospital wards is recommended in order to:

• manage variation in demand and capacity
• reduce ‘firefighting’, freeing management time to think strategically
• eliminate emergency outliers to elective beds
• reduce sickness absence and improve staff morale
• reduce the need for opening overflow wards.

Many trusts manage bed occupancy levels above 100%. Releasing acute care beds through ambulatory emergency care is one approach for tackling overly high bed occupancy levels.

(3) Lower bed occupancy reduces outliers and presents new choices.

The elimination of outliers to elective beds has several important benefits:

• increased patient safety – there is evidence that outliers are at a greater risk of harm
• increased productivity – clinical teams will not have to undertake ward rounds in various physical locations across the hospital
• reduced elective cancellations – the lack of inpatient beds is a common cause of elective procedure cancellations.

Lower bed occupancy presents new opportunities:

• closure of acute beds (assuming occupancy levels can still remain at 85%)
• elimination of the sub-contraction elective activity to the private sector
• increased elective capacity.

Note: Some health systems have negotiated local ambulatory tariffs for specific conditions that still cover the acute trust’s costs in providing ambulatory services but are a saving for the PCT compared to what would traditionally be paid.
Success Factors
Success Factors

Staff involvement

- **Key players:** Key people in the trust need to be on board to make ambulatory emergency care work, including the right physician and the management team.

- **Collaboration with multiple departments and across health and social care organisations:** Ambulatory emergency care implementation requires input from across the whole patient pathway, including diagnostics – it can’t be done in isolation.

- **Teamwork:** An effective team can have frequent short informal conversations to resolve issues (rather than relying solely on scheduled meeting times). A strong sense of teamwork and communication among clinicians is invaluable to promoting innovation like ambulatory emergency care.

- **A trust management culture that supports quality improvement:** A supportive trust management structure encourages staff to test out new ideas.

- **Proactive ward clerks:** Excellent ward clerk support underpins the smooth functioning of ambulatory clinics eg, by coordinating patient records and referrals.

Governance

- **Shared ownership of successful unit working:** All staff members on an assessment unit should take responsibility for trying to resolve even small problems eg, making sure that phone calls are followed up, that tests are ordered and chased up, and that all patients attend appointments as scheduled.

- **Consistency of clinical process:** It is critical that all clinicians access the same pathways for patients.

Nursing staff – It is imperative to engage nursing staff from the ground floor and recruit them to the project team.

“Once we got nurses in, everything started to work.”

“MAU nurses are pivotal right at the beginning.”

Nursing staff involvement is important not only because of their contribution to the design of pathways, but in helping implement them. With the rotation of junior doctors, nursing staff are a crucial link in supporting the continuity of the project by informing and reminding junior doctors of the pathways.

- **Robust patient follow-up:** The key is an ability to keep an eye on patients so they don’t get lost. Patient cooperation in attending follow-up appointments is essential, as elsewhere in the health system. Effective ambulatory emergency care is based on ensuring appropriate follow-up.

- **Printed information for patients** is a vital component of ambulatory emergency care so patients are clearly guided about their follow-up care.

- **Access to electronic pathway and patient information:** Salford Royal NHS Foundation Trust uses their PAS system to ‘track’ the management of ambulatory patients, while Birmingham Heartlands Hospital provides universal electronic access to proformas and pathways on their IT system.
Culture and mindsets

• **Changing mindsets:** Changing mindsets about how the hospital functions is fundamental to successfully delivering ambulatory emergency care eg, eliminating the assumption that diagnostics can be obtained more quickly if a patient is admitted.

• **Engaging staff:** Frequent communication is important for embedding pathways in the day-to-day operations of a trust. Clinicians have a major influence over patient care and determining the pathway; it is therefore essential that junior doctors are involved from the start of the project to join the project team and participate in meetings to increase ownership and support.

“A lot of time was spent trying to engage doctors, and in this time the project team came to realise the importance of the nurses’ role. With junior doctors changing posts at four- to six-month intervals it was difficult to train, update and fully engage successive cohorts. Medical assessment unit nursing staff are far more constant and, once they were fully involved in the project, proved a vital resource, alerting medical staff to ambulatory care opportunities.

“Get junior doctors on board right away.”

James Wilkinson, consultant in respiratory and general medicine (Divisional Director, Medicine and Emergency Care) East Sussex Hospitals NHS Trust

• **Teaching programmes for junior medical staff:** On the first day of Birmingham Heartlands teaching programme for junior doctors, they review the ambulatory proformas and teach the protocols.

• **Avoiding silo thinking:** Working on ambulatory emergency care encouraged St Peter’s Hospital to stop thinking about pulmonary embolism as a ‘respiratory’ responsibility but rather to think about the requirements for delivering the entire patient pathway.
Acknowledgements, Further Information & Resources
Acknowledgements

We wish to thank everyone who has shared with us their expertise and experience which has enabled us to produce this guide.

In particular all the teams at:

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Brighton and Sussex Hospitals

University Hospitals NHS Trust
Royal Sussex County Hospital

East Kent University NHS Foundation Trust
Kent and Canterbury Hospital

Heart of England NHS Foundation Trust
Birmingham Heartlands Hospital

South Tees NHS Foundation Trust
James Cook Hospital

We would also like to thank the following for their contribution:

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Director of Emergency Care and Systems Improvement Group, Warwick Medical School.
Emergency Medicine Consultant, Heart of England NHS Foundation Trust, UK.

Professor Derek Bell,
Professor of Acute Medicine, Director NIHR CLAHRC for NW London, Imperial College London.

NHS Alliance

Department of Health

Improvement Foundation

British Geriatric Society

NHS Interim Management and Support Emergency Services Intensive Support Team
Further Information and Resources

Focus on: Short Stay Emergency Care
www.institute.nhs.uk/qualityandvalue

Focus on: Frail Older People
www.institute.nhs.uk/qualityandvalue

Directory of Ambulatory Emergency Care for Adults
www.institute.nhs.uk/qualityandvalue

Experience Based Design (EBD)
www.institute.nhs.uk/ebd

Fundamentals for Quality Improvement
www.institute.nhs.uk/qualitytools

Improvement Leaders’ Guide: Improvement, Knowledge and Skills
www.institute.nhs.uk/qualitytools

High Quality Care for All (2008)
Appendices
# Appendix 1: Clinical Conditions

South Tees NHS Foundation Trust: James Cook Hospital

<table>
<thead>
<tr>
<th>Patient groups</th>
<th>Conditions</th>
</tr>
</thead>
</table>
| Diagnostic exclusion group | Patients who need urgent investigations eg:  
  - **Acute headaches** (requiring CT scan)  
  - **Abnormal liver tests or vague abdominal pain** (requiring ultrasound)  
  - Follow-up blood tests |
| Low-risk stratification group | Where there is a low measure of risk for an adverse outcome, including:  
  - **Upper gastrointestinal bleeding** (low Rockall score)  
  - **Community-acquired pneumonia** (low CURB 65 score): follow-up through a specialist clinic  
  - **People who fainted but regained consciousness quickly**  
  - **Asthma**: follow-up provided through a chest clinic |
| Specific procedure group | **Pleural effusions**: follow-up provided at a specialist clinic |
| Infrastructure - required group/ outpatient group with supporting infrastructure following appropriate risk stratification | **Deep vein thrombosis (DVT)**:  
  - GPs risk score patients and initiate pathology tests (D Dimer)  
  - Follow-up provided by AAU (nurse-led)  
  **Pulmonary embolism (PE)**:  
  - Both diagnostic (ie, pre-conclusive CT Pulmonary Angiogram) and early treatment  
  - Follow-up provided by AAU  
  **Cellulitis and antibiotic therapy for Trauma and Orthopaedic patients**: follow-up provided by the OHPAT – IV antibiotics service |
Appendix 2: Clinical Conditions

The Salford Royal Foundation NHS Trust

The most commonly treated patients are pulmonary embolism (PE), cardiac and malignancy investigation, patients requiring a follow-up CT or x-ray, or patients where the differential diagnosis is unclear but the patient is unwell. The Salford Royal Foundation NHS Trust has the following ambulatory emergency care services in place:

<table>
<thead>
<tr>
<th>Patient groups</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnostic exclusion group</td>
<td>First fits: admit to the VW while awaiting a CT scan</td>
</tr>
<tr>
<td>Low-risk stratification group</td>
<td><strong>Upper gastrointestinal haemorrhage (GI):</strong> stable patients (based on risk score)</td>
</tr>
<tr>
<td></td>
<td><strong>Community-acquired pneumonia (CAP):</strong> some CAP patients are sent directly home while others are managed on the ‘virtual ward’ where acute physicians have a question to discuss with radiology (and send patients home in advance of their radiology test)</td>
</tr>
<tr>
<td></td>
<td><strong>Transient ischaemic attack (TIA):</strong> the stroke team manages patients in an ambulatory way based on the ABCD score; patients are then followed up by the stroke service</td>
</tr>
<tr>
<td></td>
<td><strong>Chest pain:</strong> nurse-led rapid access chest pain clinics (RAC) are in place. PCTs refer patients for rapid assessment; and A&amp;E refers low risk patients. The EAU also offers an RAC where patients can access nurse and/or exercise tests</td>
</tr>
<tr>
<td></td>
<td><strong>Obstructive jaundice</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Anaemia</strong></td>
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</tbody>
</table>

Continued on next page
### Appendix 2: Clinical Conditions (cont.)

<table>
<thead>
<tr>
<th>Patient groups</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific procedure group</td>
<td><strong>Pleural effusions</strong>: once the effusion is drained, clinicians send for investigations and forward referrals (eg, cancer multidisciplinary team) and track through the virtual ward</td>
</tr>
<tr>
<td></td>
<td><strong>Pneumothorax</strong>: have managed pneumothorax patients after an aspiration (but if they need a chest drain, patients do not go home)</td>
</tr>
<tr>
<td></td>
<td><strong>Esophageal stenosis</strong></td>
</tr>
<tr>
<td>Infrastructure-required group/outpatient group</td>
<td><strong>Anticoagulation services (general)</strong>: in the past, the need for anticoagulation had been a reason for inpatient admission. The anticoagulation service is now PCT-led with SRFT providing patients with low molecular weight heparin, and the PCT service then providing the warfarin</td>
</tr>
<tr>
<td>with supporting infrastructure following</td>
<td><strong>COPD</strong>: the percentage of ambulatory COPD patients is quite high; these patients are managed by the nurse-led team (from the Respiratory Department), a designated team of nurses that discharge patients home with nebulisers and visit them at home, and includes physiotherapy and pharmacy</td>
</tr>
<tr>
<td>appropriate risk stratification</td>
<td><strong>Pulmonary embolism</strong>: approximately 90% of PE and suspected PE patients are managed on an ambulatory basis</td>
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<tr>
<td></td>
<td><strong>Gastroenteritis</strong></td>
</tr>
</tbody>
</table>

Some other patient groups are ambulatory but are not managed through the virtual ward, including asthma (well patients are managed through primary care), DVT (the ambulatory care pathway for 90% of patients managed by A&E) and hypoglycaemia and new onset diabetes (managed by the diabetic service through the A&E).