Developing Ambulatory Care

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Emergency Care is a ‘wicked problem’

A social or cultural problem that is difficult or impossible to solve because:

- of incomplete or contradictory knowledge;
- of the number of people/opinions involved;
- of the large economic burden; and
- of the interconnected nature of this and other problems.
Acute Admission Timeline

- Patient Calls
- GP Assess Call
- Visit Patient
- Ambulance Transport
- Arrive Hospital

3 Hours: 8.30
2 Hours: 11.30
2 (often 4) Hours: 13.30
15 Minutes: 8.45
1 Hour: 09.45
1 Hour: 10.45

Just as hospital staff go home!
In time to set up alternative to hospital
Early enough to avoid risk of deterioration

© Primary Care Foundation
1. ED as place of differential diagnosis
2. ED as place of “clinical screening” for destination/disposition

Supported by – high level speciality input OR APs/Gen Med

**Types of Service Models**

- **GP referral**
- **ED**
  1. ED as place of differential diagnosis
  2. ED as place of “clinical screening” for destination/disposition
  
  Supported by – high level speciality input OR APs/Gen Med

- **Ambulatory care unit**
  1. Closed model – all patients under care of Acute Team, with invited specialist review
  2. Open model – Specialist and Acute teams care for patients triaged to their teams

- **AMU**

- **Frailty unit**

- **WARD**
  1. Bed-based model (bed determines who owns patient)
     - general medical wards + specialist wards
     - general medical beds in specialist wards
     - no general medical beds
  2. Team-based model (consultant/team owns patient regardless of location)

- **Other assessment areas**

- **Community**

- **Home**
Ideal Service Model

Walk-in
- Registration and wait
- Triage nurse

A&E
- mino rs
- AAA

GP Referrals

Admissions Avoidance Programme

Ambulance
- ‘Medically expected’ patients can go straight to AMU

Majors

ACU

AMU

Specialties/Downstream wards

Frailty Service
- Very poorly patients

Home

Very poorly patients
ACU – A whole systems approach  

• Ambulatory emergency care or same day emergency care is achieved by creating a whole system approach across primary and secondary care.

• This ensures that, where appropriate, emergency patients presenting to hospital for admission are rapidly assessed and streamed to ambulatory emergency care to be diagnosed and treated on the same day and then sent home with ongoing clinical supervision as needed.

• Clinical teams adopting this new way of working can convert at least 20-30 per cent of emergency admissions to 0 LOS.
Ambulatory Emergency Care

- **Ambulatory Emergency Care** is defined as: “clinical care that is not provided within the traditional bed-base or OP services and can be provided across the primary / secondary care interface.”

- **Ambulatory Emergency Care Pathways**: These are case sensitive pathways for selective conditions that have been recognised under the NHS outcome Framework.

- **50 pathways recognised** by NICE, Dept. Of Health, The Royal Colleges, AEC committee. These include Medical, Surgical & Gynae stream.
ACU - AMB Score as enabler

**AMB score**: a simple test that is sensitive in predicting discharge within 12 hours of hospital assessment & identifies patient suitable for the Ambulatory Care Pathways:

- Identifies patient suitable for AEC.
- Enable pathway efficiencies.
- Helps GP’s predict the likelihood of same day discharge.
- Help Bed managers plan the daily general medical in-take.
ACU – The AMB Score

- Female sex: 1
- Age < 80yrs: 1
- Access to transport: 1
- Intravenous Rx not anticipated: 1
- Not acutely confused: 1
- MEWS score 0: 1
- No recent Hosp. d/c within 30 days: 1

“AMB >5 = suitable for Ambulatory Emergency Care (AEC) pathway”
“AMB <5= senior r/v & decide AEC suitability”
ACU – East Kent: early actions

• Developed a *membership structure* with key stakeholders with T.O.R

• Fostered *strong relationships* & *effective communication* within network.

• Assessed *access* within boundaries i.e. rapid diagnostics.

• Assessed *equity of provision* i.e. skill set, external partnership’s.

• Defined *pathways* of care based on local demographics & disease status.
## ACU – East Kent Hospital Pathways

<table>
<thead>
<tr>
<th>Ambulatory Case Sensitive Pathways:</th>
<th>Rapid Access Chest pain pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute asthma</td>
<td>First Seizure</td>
</tr>
<tr>
<td>Ambulatory management of diabetes</td>
<td>Headache</td>
</tr>
<tr>
<td>Anaemia</td>
<td>Painless jaundice</td>
</tr>
<tr>
<td>Bronchiectasis</td>
<td>Low risk GI bleed</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>Pulmonary Embolus</td>
</tr>
<tr>
<td>Community Acquired Pneumonia</td>
<td>Pleural effusion</td>
</tr>
<tr>
<td>COPD</td>
<td>Syncope pathway</td>
</tr>
<tr>
<td>DVT</td>
<td>Giant cell arteritis pathway</td>
</tr>
</tbody>
</table>
ACU - East Kent 1 year Audit (Oct 2015)

- Successfully identified preventable admissions with 0% 30 day re-admit rate, if AMB score > 6.

- Reduction in LOS: 1 year Audit of 1641 patients - 53 admitted for specialist care, 30 day re-admission: 151 (if AMB < 6)

- AMB score seen as a pathway enabler with rapid turn around: score > 6 strong indicates the likelihood of being in the Ambulatory group.

- Improved quality of care & patient experience.

- SeCAMB to use AMB score to facilitate direct patient transfers to EACU
RCP – Future Hospitals Recommendation

- Moving away from a pathway approach and adopting a process method.

- This means creating a system where all patients are considered for ambulatory care, unless clinically unstable or until proven otherwise. This approach ensures the maximum number of patients benefit from rapid access to the right treatment.

- The principles of ambulatory emergency care are transferable to any setting and can be implemented rapidly.

• All clinically stable patients (EWS <3) deemed suitable for AEC
• AEC should be available 14 hrs/day, 7 days to receive pts. from ED / GP
• Ideally co-located near the ED
• Selection of pts maximised by AP in-reach into ED – ‘pull patients’
• Display a list of common conditions with exclusion criteria – ED Triage
• Immediate access to Senior Decision maker agreeing case management plan
• The 4 - hour time frame for initial assessment & review similar to ED
• Access to diagnostics within the 4 – hour time frame
• AEC must not be used as escalation area for bedded pts. when site under pressure
• Shared clinical governance with AEC & other specialities to promote ‘in-reach’
ACU : From Pathway to Process - 2017

- Patients “pulled” by clinician/Nurse – ED in-reach or GP direct referrals

- Early active identification of potential ACU patients at initial assessment / Triage using defined inclusion criteria’s

- Rapid Turnaround, quality benefit to the patient – streamlined diagnostics to suit new process.

- 7 Day Service - Average Time to Discharge approx. 3 hours as opposed to the previous A&E to CDU would be 12 hours.

- GP friendly process – 77% reduction in referrals to CDU.

- Designing a process for clinical conversations between senior decision- makers at the point of referral.
Overarching principle: Treat all emergency patients as ambulatory until proven otherwise.

Process model
# Ambulatory Acute Assessment Unit

**INCLUSION CRITERIA**

<table>
<thead>
<tr>
<th>ACCEPTED COMPLAINTS</th>
<th>INCLUSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acute Asthma</strong></td>
<td>PEFR &gt;80% &amp; SpO₂ &gt;92% (on air).</td>
</tr>
<tr>
<td><strong>Anaemia</strong></td>
<td>No Active Bleeding</td>
</tr>
<tr>
<td><strong>Atrial Fibrillation / Palpitations</strong></td>
<td>No hemodynamic compromise</td>
</tr>
<tr>
<td></td>
<td>HR &lt; 160/min</td>
</tr>
<tr>
<td><strong>Acute Infections</strong></td>
<td>Cellulitis, Rash, LRTI, UTI, Pyelonephritis.</td>
</tr>
<tr>
<td><strong>CAP (Pneumonia)</strong></td>
<td>CRB &lt; 3 (≥ 3 needs admission to CDU)</td>
</tr>
<tr>
<td><strong>COPD</strong></td>
<td>SPO₂ &gt; 85%, Not needing BiPAP</td>
</tr>
<tr>
<td><strong>Heart Failure</strong></td>
<td>No hemodynamic compromise, No STEMI</td>
</tr>
<tr>
<td><strong>First Seizure</strong></td>
<td>Non-Known Epilepsy, Not Alcohol related, No Head injury</td>
</tr>
<tr>
<td><strong>Headache</strong></td>
<td>GCS 15, No Red Flag (as per NICE criteria)</td>
</tr>
<tr>
<td><strong>Upper GI Bleed (Low Risk)</strong></td>
<td>Only Low risk Blatchford Score 0-1 (*see criteria for Blatchford score)</td>
</tr>
<tr>
<td><strong>Painless Jaundice</strong></td>
<td>No acute abdomen, No Pregnancy, No Encephalopathy</td>
</tr>
<tr>
<td><strong>PE</strong></td>
<td>SpO₂ &gt; 92%, No hemodynamic compromise, HR &lt; 110</td>
</tr>
<tr>
<td><strong>Pleural Effusion</strong></td>
<td>No hemodynamic compromise, SpO₂ &gt; 88%</td>
</tr>
<tr>
<td><strong>Syncope</strong></td>
<td>No arrhythmia on ECG / No dynamic ST changes</td>
</tr>
<tr>
<td><strong>Chest Pain</strong></td>
<td>Cardiac sounding chest pain &amp; hemodynamically stable ECG verifying no acute MI</td>
</tr>
<tr>
<td></td>
<td>*HEART score applies to AAU treatment stratification</td>
</tr>
<tr>
<td><strong>Diabetes</strong></td>
<td>Only Type 2 Non-Ketotic glycaemic exacerbation. BM &gt; 25 needs admission for Diabetes In-reach</td>
</tr>
</tbody>
</table>
Results of Pilot study: QEQM (Combined AAU +ACU)

Figure 1: Flow of patients through the new front door pathways. Detailing how the new pathways (blue) fit around the old model of medical admissions (purple). Numbers shown are the breakdown of medically referred patients throughout the trial period within 24 hours of presentation.
## ACU Data – March ‘17 to July ‘18

<table>
<thead>
<tr>
<th>Month</th>
<th>AAU</th>
<th>HOT Clinics (re-attend)</th>
<th>DVT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar-17</td>
<td>172</td>
<td>109</td>
<td>101</td>
</tr>
<tr>
<td>Apr-17</td>
<td>118</td>
<td>101</td>
<td>76</td>
</tr>
<tr>
<td>May-17</td>
<td>194</td>
<td>92</td>
<td>98</td>
</tr>
<tr>
<td>Jun-17</td>
<td>212</td>
<td>64</td>
<td>116</td>
</tr>
<tr>
<td>Jul-17</td>
<td>190</td>
<td>77</td>
<td>103</td>
</tr>
<tr>
<td>Aug-17</td>
<td>236</td>
<td>74</td>
<td>91</td>
</tr>
<tr>
<td>Sep-17</td>
<td>184</td>
<td>71</td>
<td>98</td>
</tr>
<tr>
<td>Oct-17</td>
<td>193</td>
<td>120</td>
<td>94</td>
</tr>
<tr>
<td>Nov-17</td>
<td>125</td>
<td>105</td>
<td>105</td>
</tr>
<tr>
<td>Dec-17</td>
<td>254</td>
<td>77</td>
<td>73</td>
</tr>
<tr>
<td>Jan-18</td>
<td>374</td>
<td>111</td>
<td>93</td>
</tr>
<tr>
<td>Feb-18</td>
<td>260</td>
<td>89</td>
<td>87</td>
</tr>
<tr>
<td>Mar-18</td>
<td>384</td>
<td>128</td>
<td>97</td>
</tr>
<tr>
<td>Apr-18</td>
<td>293</td>
<td>119</td>
<td>95</td>
</tr>
<tr>
<td>May-18</td>
<td>276</td>
<td>89</td>
<td>107</td>
</tr>
<tr>
<td>Jun-18</td>
<td>190</td>
<td>113</td>
<td>94</td>
</tr>
<tr>
<td>July-18 (pred)</td>
<td></td>
<td>284</td>
<td>92</td>
</tr>
</tbody>
</table>
ACU: cumulative data 2017 - 2018

Graph showing cumulative data from March 2017 to July 2018 with categories EAC (AAU), Re-attenders, DVT, and DVT Ward-attenders.
<table>
<thead>
<tr>
<th>Financial Year</th>
<th>QEHL Zero Length of Stay</th>
<th>Change</th>
<th>WHH Zero Length of Stay</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
<td>3,244</td>
<td>4,104</td>
<td>Change</td>
<td>Change</td>
</tr>
<tr>
<td>2016-2017</td>
<td>3,701</td>
<td>+457</td>
<td>4,394</td>
<td>+290</td>
</tr>
<tr>
<td>2017-2018</td>
<td>6,436</td>
<td>+2735</td>
<td>6,455</td>
<td>+2061</td>
</tr>
</tbody>
</table>

QEH has an estimated increase of 74% in zero length of stay.
<table>
<thead>
<tr>
<th>Discharge Ward</th>
<th>2016/17 Zero Length of Stay</th>
<th>2017/18 Zero Length of Stay</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>QCDU</td>
<td>608</td>
<td>2,722</td>
<td>+2,114</td>
</tr>
<tr>
<td>QACU</td>
<td>1773</td>
<td>2,190</td>
<td>+417</td>
</tr>
<tr>
<td>WEAC</td>
<td>2295</td>
<td>4,272</td>
<td>+1,977</td>
</tr>
</tbody>
</table>

The vast majority of increases came from these wards.

QCDU had incorporated the AAU model.
When comparing the two six month period there was an average nation-wide increase of about 1.72% for zero length of stay patients.

However, EKHUFT saw an increase of 7.22% (QEH + WHH)

The Top 5 Trusts in 2017-2018:

- Royal Surrey – 52.5%
- Mid Cheshire – 52.4%
- North Midlands – 51.1%
- UCLH – 50.6%
- Royal Liverpool and Broadgreen – 49.9%
- EKHUFT (QEH + WHH) – 44.4%
Summary – Impact of Amb.Care

1) The number of overnight spells has dropped

2) The number of zero length of stay spells has increased cost effectively

3) This had led to considerably fewer beds being used

4) Despite all this good work Medicine has still not achieved its bed base target

5) Zero length of stay seems to have scope to expand with a same day emergency care Model.
SDEC report – AEC network & NHSI (June 2018)

• Same day emergency care is a new model of care that enables services to process patients considered for emergency admission within the same day… inclusive of acute Frailty.

• It describes senior clinical input at the point of referral to redirect suitable patients to same day emergency care services.

• Continued access to senior clinical staff is key for the service to work effectively.

• The location of same day emergency care services is important, ideally located close to the emergency department.
SDEC – red, amber, green flow codes
## Optimising correct processes

<table>
<thead>
<tr>
<th>Managed in AEC</th>
<th>Not managed in AEC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate for AEC</strong></td>
<td></td>
</tr>
<tr>
<td>Box 1: Success (expect around 10-15% conversion)</td>
<td>Box 2: Missed opportunity (clinically conservative / AEC capacity)</td>
</tr>
<tr>
<td><strong>Not appropriate for AEC</strong></td>
<td></td>
</tr>
<tr>
<td>Box 3a: Wasted capacity (Non-urgent case)</td>
<td>Box 4: Appropriate inpatient / outpatient care</td>
</tr>
<tr>
<td>Box 3b: Potential clinical risk (Patient too acute ± too complex)</td>
<td></td>
</tr>
</tbody>
</table>
SDEC – metrics

SDEC is not an extension of the ED - The case mix and intention to discharge most patients mean the A&E four-hour standard does not apply.

3 Key performance metrics

• **Process/activity measure**: the number of new non-elective presentations seen and treated in SDEC

• **Impact measure**: the number of new non-elective presentations of patients who convert to an admission of at least one night

• **Balancing measure**: the number of unplanned re-presentations of patients who had been managed by the SDEC unit within the previous 7 days.
AEC / SDEC – ‘Blue Sky’ Unit…

• Quality standards to be developed with the CCG, to include best tariff

• Closer working with Primary Care to set up a collaborative Integrated service to enable a Frailty Day Unit within Emergency Ambulatory.

• Discussion underway with Specialists in-reach to enable Heart Failure & Arrhythmia Clinic, Monoarthritis Clinic, Pleural service, COPD/NIV Clinic & Ambulatory ILR / Syncope Unit
ACU – Ideal Footprint: Functional Co-adjacency
ACU - Issues with Best Practice Tariff

ISSUES (recent survey in April 2017)

• An organisation doesn’t need an ambulatory care unit to get the best practice payment
• The BPT doesn’t capture patients who were treated in an ambulatory manner, but were diagnosed with something else.
• Only 19 clinical scenarios are recognised, but many more are used in practice.
• An emergency admission is needed to obtain the BPT.
• Treatment of subsequent ward attenders are not reflected.
• Commissioner challenge

SOLUTIONS

• Clarity over recording and collecting data
• National price to reflect the cost of treatments provided
• Standardised coding for Admitted care, Out patient care & Ward attenders
5 Key Principles of ACU

• Senior clinical input is needed at the point of referral to redirect suitable patients to ambulatory care.

• Clear exclusion criteria incorporating national EWS should be developed to maximise patient flow to ambulatory care.

• Staffing and resources should be organised to provide rapid assessment, diagnosis and treatment on the same day. Ideally the AEC should be closely located to the A&E.

• The time standards for time to initial assessment, and management should match the AEC clinical quality indicators.

• Clear measures must be adopted and monitored to assess the impact, quality and efficiency of ambulatory emergency care.
ACU – Take Home Message

• A combination of strong clinical leadership and managerial support is needed to be successful implementing ambulatory emergency care.

• It is very important to analyse your data to understand how patients flow through your emergency system. This analysis will reveal the potential demand for the model in your local health community & ensure right Tariff’s.

• It is important that you work in partnership with primary care and CCG colleagues to make sure there is a good understanding of services available.

• Creation of an ambulatory emergency care model may be slightly different in each health community, but the principles remain the same – ‘Assess To Admit … not admit to assess’
The Perfect ACU – Shared Values & Purpose