Acute Heart Failure

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

CLINICIAN QUESTIONNAIRE

The aim is to explore the overall management of patients diagnosed with acute heart failure and to look for remediable factors in the care of these patients.

Inclusions
Patients aged 16 years or older who were admitted as an emergency with a primary diagnosis of acute heart failure between 01/01/16 - 31/12/16 inclusive and died within 7 days of admission.

Eligible cases were identified from the hospital central record system (using ICD10 codes). Up to 6 cases per hospital have been selected for review.

Information will be collected using two methods; box cross and free text, where your opinion will be requested.

This form will be electronically scanned. Please use a black or blue pen. Please complete all questions with either block capitals or a bold cross inside the boxes provided e.g.

Was a treatment escalation decision made?

☑ Yes ☐ No

If you make a mistake, please “black-out” the incorrect box and re-enter the correct information, e.g.

☐ Yes ☑ No

Questions or help?

If you have any queries about this study or this questionnaire, please contact:
heart@ncepod.org.uk or telephone: 020 7251 9060

Further details available on our study web page:
http://www.ncepod.org.uk/hf.html

Thank you for taking the time to complete this questionnaire. The findings of the study will be published in summer 2018.

If you (the clinician completing the questionnaire) would like email confirmation of the completion of this questionnaire for your records, please clearly supply your email address below.

NCEPOD number:
<table>
<thead>
<tr>
<th>CODES FOR SPECIALTY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SURGICAL SPECIALTIES</strong></td>
</tr>
<tr>
<td>100 = General Surgery</td>
</tr>
<tr>
<td>107 = Vascular Surgery</td>
</tr>
<tr>
<td>173 = Thoracic Surgery</td>
</tr>
<tr>
<td>101 = Urology</td>
</tr>
<tr>
<td>110 = Trauma &amp; Orthopaedics</td>
</tr>
<tr>
<td>180 = Accident &amp; Emergency</td>
</tr>
<tr>
<td>104 = Colorectal Surgery</td>
</tr>
<tr>
<td>150 = Neurosurgery</td>
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<tr>
<td>190 = Anaesthetics</td>
</tr>
<tr>
<td>105 = Hepatobiliary &amp; Pancreatic Surgery</td>
</tr>
<tr>
<td>170 = Cardithoracic Surgery</td>
</tr>
<tr>
<td>192 = Critical/Intensive Care medicine</td>
</tr>
<tr>
<td>106 = Upper GI Surgery</td>
</tr>
<tr>
<td>172 = Cardiac Surgery</td>
</tr>
<tr>
<td><strong>MEDICAL SPECIALTIES</strong></td>
</tr>
<tr>
<td>300 = General Medicine</td>
</tr>
<tr>
<td>306 = Hepatology</td>
</tr>
<tr>
<td>320 = Cardiology</td>
</tr>
<tr>
<td>370 = Medical Oncology</td>
</tr>
<tr>
<td>301 = Gastroenterology</td>
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<tr>
<td>307 = Diabetic Medicine</td>
</tr>
<tr>
<td>326 = Acute Internal Medicine</td>
</tr>
<tr>
<td>430 = Geriatric Medicine</td>
</tr>
<tr>
<td>302 = Endocrinology</td>
</tr>
<tr>
<td>314 = Rehabiliation</td>
</tr>
<tr>
<td>340 = Respiratory Medicine</td>
</tr>
<tr>
<td>800 = Clinical Oncology</td>
</tr>
<tr>
<td>303 = Clinical Haematology</td>
</tr>
<tr>
<td>315 = Palliative Medicine</td>
</tr>
<tr>
<td>361 = Nephrology</td>
</tr>
<tr>
<td>823 = Haematology</td>
</tr>
<tr>
<td><strong>STAFF CODES</strong></td>
</tr>
<tr>
<td>01 - Consultant (medical/surgical specialties)</td>
</tr>
<tr>
<td>02 - Staff grade/Associate specialist/Speciality Doctor</td>
</tr>
<tr>
<td>03 - Trainee with CCT</td>
</tr>
<tr>
<td>04 - Senior specialist trainees (ST3+ or equivalent)</td>
</tr>
<tr>
<td>05 - Junior specialist trainees (ST1 &amp; ST2 or CT equivalent)</td>
</tr>
<tr>
<td>06 - Basic grade (HO/FY1, SHO/FY2, or equivalent)</td>
</tr>
<tr>
<td>07 - Specialist Nurse (Nursenurse consultant,Nurse practitioner,Clinical nurse specialist)</td>
</tr>
<tr>
<td>08 - Senior staff nurse, enrolled nurse (EN) etc</td>
</tr>
<tr>
<td>09 - 1st level nurse, staff nurse (RGN)</td>
</tr>
<tr>
<td>10 - Physiotherapist</td>
</tr>
<tr>
<td>11 - Non-registered staff (HCA, therapy assistant etc)</td>
</tr>
<tr>
<td><strong>DEFINITIONS</strong></td>
</tr>
<tr>
<td><strong>Levels of ward care</strong></td>
</tr>
<tr>
<td>LEVEL 0: Patients whose needs can be met through normal ward care in an acute hospital.</td>
</tr>
<tr>
<td>LEVEL 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care whose needs can be met on an acute ward with additional advice and support from the critical care team.</td>
</tr>
<tr>
<td>LEVEL 2: (e.g. HDU) Patients requiring more detailed observation or intervention including support for a single failing organ system or post operative care, and those stepping down from higher levels of care. (NB: When Basic Respiratory and Basic Cardiovascular support are provided at the same time during the same critical care spell and no other organ support is required, the care is considered to be Level 2 care).</td>
</tr>
<tr>
<td>LEVEL 3: (e.g. ICU) Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organs. This level includes all complex patients requiring support for multi-organ failure. (NB: Basic Respiratory and Basic Cardiovascular do not count as 2 organs if they occur simultaneously (see above under Level 2 care), but will count as Level 3 if another organ is supported at the same time).</td>
</tr>
<tr>
<td><strong>Karnofsky Performance Status Scale (KPS)</strong></td>
</tr>
<tr>
<td>100% – Normal; no complaints; no evidence of disease.</td>
</tr>
<tr>
<td>90% – Able to carry on normal activity; minor signs or symptoms of disease.</td>
</tr>
<tr>
<td>80% – Normal activity with effort; some signs or symptoms of disease.</td>
</tr>
<tr>
<td>70% – Cares for self; unable to carry on normal activity or to do active work.</td>
</tr>
<tr>
<td>60% – Requires occasional assistance, but is able to care for most of their personal needs.</td>
</tr>
<tr>
<td>50% – Requires considerable assistance and frequent medical care.</td>
</tr>
<tr>
<td>40% – Disabled; requires special care and assistance.</td>
</tr>
<tr>
<td>30% – Severely disabled; hospital admission is indicated although death not imminent.</td>
</tr>
<tr>
<td>20% – Very sick; hospital admission necessary; active supportive treatment necessary.</td>
</tr>
<tr>
<td>10% – Moribund; fatal processes progressing rapidly.</td>
</tr>
<tr>
<td>0% – Dead</td>
</tr>
<tr>
<td><strong>New York Heart Association Functional Classification</strong></td>
</tr>
<tr>
<td>I Cardiac disease, but no symptoms and no limitation in ordinary physical activity, e.g. no shortness of breath when walking, climbing stairs etc.</td>
</tr>
<tr>
<td>II Mild symptoms (mild shortness of breath and/or angina) and slight limitation during ordinary activity.</td>
</tr>
<tr>
<td>III Marked limitation in activity due to symptoms, even during less-than-ordinary activity, e.g. walking short distances (20–100 m). Comfortable only at rest.</td>
</tr>
<tr>
<td>IV Severe limitations. Experiences symptoms even while at rest. Mostly bed bound patients.</td>
</tr>
<tr>
<td><strong>Rockwood clinical frailty scale</strong></td>
</tr>
<tr>
<td>1 VERY FIT - people who are robust, active, energetic, and motivated. These people commonly exercise regularly. They are among the fittest for their age.</td>
</tr>
<tr>
<td>2 WELL - people who have no active disease symptoms but are less than fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.</td>
</tr>
<tr>
<td>3 MANAGING WELL - people whose medical problems are well controlled, but are not regularly active beyond routine walking.</td>
</tr>
<tr>
<td>4 VULNERABLE - while not dependent on others for daily help, often symptoms limit activities. A common complaint it being 'slowed up', and/or being tired during the day.</td>
</tr>
<tr>
<td>5 MILDLY FRAIL - these people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.</td>
</tr>
<tr>
<td>6 MODERATELY FRAIL - people need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.</td>
</tr>
<tr>
<td>7 SEVERELY FRAIL - completely dependent for personal care from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within 6 months of life).</td>
</tr>
<tr>
<td>8 VERY SEVERELY FRAIL - completely dependent, approaching the end of life. Typically they could not recover even from a minor illness.</td>
</tr>
<tr>
<td>9 TERMINALLY ILL - approaching the end of life. This category applies to people with a life expectancy &lt;6 months, who are not otherwise evidently frail.</td>
</tr>
</tbody>
</table>
A. CASE SUMMARY

1. Please use the box below to provide a brief summary of this case, adding any additional comments or information you feel relevant. You may also continue on the back page of this form.

NCEPOD attaches great importance to this summary. Please give as much information as possible about the care of this patient.
B. PATIENT DETAILS

2. Age at time of admission: _______ years

3. Gender □ Male □ Female

4. BMI at time of admission: _______.

□ Not recorded

5a. Did the patient have any known comorbidities on admission? □ Yes □ No □ Unknown

5b. If Yes, please indicate which of the following comorbidities pre-dated this admission

- Myocardial infarction
- Chronic pulmonary disease
- Mild liver disease
- Congestive heart failure
- Connective tissue disease
- Diabetes without end-organ damage
- Cerebrovascular disease
- Peptic ulcer disease
- Hemiplegia
- Dementia
- Moderate or severe liver disease
- Tumour without metastasis
- Moderate or severe renal disease
- Metastatic solid tumour
- Leukemia (acute or chronic)
- Diabetes with end-organ damage
- AIDS (not just HIV +ve)
- Lymphoma

□ Other

6a. Was the patient's mental health considered on admission? □ Yes □ No □ Unknown

6b. Did the patient have a known or newly diagnosed mental health condition on admission? □ Yes □ No □ Unknown

6c. If Yes what?

7. Rockwood clinical frailty scale score on admission (see definitions on page 2) - please estimate from your review of the casenotes:

□ 1 - very fit □ 2 - well □ 3 - managing well □ 4 - vulnerable □ 5 - mildly frail

□ 6 - moderately frail □ 7 - severely frail □ 8 - very severely frail □ 9 - terminally ill

8a. What was the patient's New York Heart Association Functional Classification Score prior to admission? (see definitions on page 2)

□ recorded in the notes □ estimated

8b. Was this documented in the patients notes or estimated during this review of the case? □ recorded in the notes □ estimated

9a. What was the patient's Karnofsky score? (see definitions on page 2)

□□□% □□□%

9b. Was this documented in the patients notes or estimated during this review of the case? □ recorded in the notes □ estimated

10a. Was the patient previously diagnosed with heart failure? □ Yes □ No □ Unknown

10b. If Yes what was the underlying cause?

□ Valvular □ Ischaemic cardiomyopathy □ Non ischaemic cardiomyopathy □ Hypertensive □ Tachyarrhythmia/tachycardia

□ Other

□ Unknown

10c. If previously diagnosed, how long prior to the final admission was the diagnosis made?

□ < 3 months □ 3-6 months □ >6-9 months □ >9-12 months □ >12 months
11a. Was the patient under the care of the hospital heart failure team prior to this admission?

☐ Yes  ☐ No  ☐ Unknown

☐ No heart failure team in this hospital

☐  No  20 ☐ Unknown
d d m m y y y y

11b. If Yes what was the date of the last heart failure team follow up appointment prior to this admission?

Grade ☐ ☐ Speciality ☐ ☐

11c. Who saw the patient at this appointment? (please use the codes on page 2)

12a. What was the date of the last cardiology follow up (if different from above)?

☐  No  20 ☐ Unknown
d d m m y y y y

12b. Who saw the patient at this appointment? (please use the codes on page 2)

13. Was the patient under the care of community heart failure team?

☐ Yes  ☐ No  ☐ Unknown

14. Was the patient known to the palliative care team?

☐ Yes  ☐ No  ☐ Unknown

15a. Did the patient have any hospital attendances in the 6 months prior to their final admission (If Yes please indicate number in the relevant box)?

☐ Yes outpatient ☐ Yes inpatient episode ☐ None

☐ Yes ED attendance ☐

15b. If Yes please complete the table for the most recent outpatient, ED attendance and/or inpatient episode

<table>
<thead>
<tr>
<th>Date</th>
<th>Reason for attendance</th>
<th>Length of stay</th>
<th>Elevated BNP</th>
<th>Elevated NT-proBNP</th>
<th>Pulmonary oedema (CXR)</th>
<th>Pleural effusions</th>
<th>Breathlessness</th>
<th>Creatinine if known</th>
<th>Did the patient have CKD and/or AKI?</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ ☐ ☐ 20 ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
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<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency department</th>
<th>Inpatient admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ ☐ ☐ 20 ☐ ☐ ☐ ☐ ☐ ☐</td>
<td>☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>Speciality</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ ☐</td>
<td>☐ ☐</td>
</tr>
</tbody>
</table>

15c. Were any important medication changes made or omitted at any of these hospital contacts?

☐ Yes  ☐ No  ☐ Unknown
16a. Had the patient previously been referred for and/or undergone any procedure/therapy for heart failure?  
☐ Yes  ☐ No  ☐ Unknown

16b. If Yes please complete the table below. If the patient underwent a particular procedure or therapy more than once please provide the date of the most recent occasion.

<table>
<thead>
<tr>
<th>Procedure/therapy</th>
<th>Referred</th>
<th>Underwent procedure/therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transcatheter Aortic Valve Implantation</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>Assessment at specialist centre for transplantation</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>Mechanical Support Device</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>CRT/CRT-D (cardiac resynchronization therapy defibrillator)</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
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<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>ICD (Implantable cardioverter defibrillator)</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>Coronary revascularisation (most recent)</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td>Yes surgical</td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td>Yes percutaneous</td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>No ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other cardiac surgery (valvular)</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>Device extraction</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
<tr>
<td>Other (please state)</td>
<td>Yes ☐</td>
<td>Yes ☐ d d m m y y y y</td>
</tr>
<tr>
<td></td>
<td>No ☐</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unknown ☐</td>
<td></td>
</tr>
</tbody>
</table>
# C. ADMISSION

If admitted via the Emergency Department, this is the time/date they were formally admitted on to a ward

17. Time/date of admission to hospital: 2016-02-07

Time unknown

18. What was the mode of admission?

- Emergency department (self referral)
- Emergency department (arrived by ambulance)
- GP referral to assessment unit
- From outpatient clinic
- Via community heart failure team
- Other (please state):

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## Ambulance Patient Report Form (PRF)

Please answer the following questions if the patient arrived to hospital by ambulance

19a. What was the presenting complaint as detailed by the person that called the ambulance?

19b. What was the presenting complaint as detailed by the ambulance crew?

20. Onset of symptoms

Time of call

Time at patient

Time at hospital

21. Did the patient receive prehospital CPR?  

- Yes
- No
- Unknown

22. Initial observations

Respiratory rate

Heart rate

GCS or AVPU

SpO2

Blood pressure

Temperature

23a. Was an ECG done?  

- Yes
- No
- Unknown

23b. If Yes what was the rate?  

23c. If Yes what was the rhythm?  

23d. If Yes was left bundle branch block present?  

- Yes
- No

24. Which of the following treatments were given in the ambulance?

- Oxygen
- Salbutamol
- Aspirin
- IV fluids

- Furosemide/diuretics
- GTN/Nitrates
- Opioids
- Other

- oral
- IV

- oral
- sublingually
- IV

25. Was a pre alert sent?  

- Yes
- No
- Unknown
EMERGENCY DEPARTMENT

Please omit this section if the patient did not attend the emergency department

26a. Time/date of ambulance arrival or arrival in ED:

[ ] [ ] 24 hr clock [ ] Time unknown [ ] [ ] 2016 [ ] Date unknown

26b. Time/date of initial triage assessment:

[ ] [ ] 24 hr clock [ ] Time unknown [ ] [ ] 2016 [ ] Date unknown

26c. Initial triage observations:

Respiratory rate [ ] [ ] [ ] Not documented Heart rate [ ] [ ] [ ] Not documented

GCS or AVPU [ ] [ ] [ ] Not documented SpO2 [ ] [ ] [ ] Not documented

BP [ ] [ ] [ ] / [ ] [ ] [ ] Not documented Temperature [ ] [ ] [ ] Not documented

27. Initial inspired oxygen concentration (%): [ ] [ ] [ ] [ ] or litres/minute: [ ] [ ] [ ] Not given

28. Oxygen delivered by: [ ] Nasal cannulae [ ] Non re-breath device [ ] Venturi

[ ] Not given [ ] Other [ ] Not documented

29. Initial NEWS score: [ ] [ ] [ ] or [ ] NEWS score not used

30. Time/date of first clinical assessment after triage:

[ ] [ ] 24 hr clock [ ] Time unknown [ ] [ ] 2016 [ ] Date unknown

31. Healthcare professional who made initial assessment (please see page 2 for codes):

Grade: [ ] [ ] Specialty: [ ] [ ]

32. Which of the following investigations were undertaken in ED?

[ ] BNP [ ] U+E [ ] Blood gas [ ] ECG [ ] Echo [ ] LFTs [ ] CRP [ ] INR

[ ] arterial [ ] venous

[ ] Chest X-ray [ ] FBC [ ] lactate [ ] Troponin [ ] USS chest/heart [ ] Cardiac enzymes

33a. Which of the following treatments/interventions were undertaken in ED?

[ ] Oxygen [ ] CPAP [ ] NIV [ ] intubation [ ] oral diuretics [ ] opioid

[ ] inotropes [ ] urinary catheter [ ] cardioversion [ ] IV diuretics [ ] oral digoxin

[ ] s/l nitrates [ ] IV fluids [ ] antibiotics [ ] bronchodilators [ ] beta blockers [ ] IV digoxin

[ ] IV nitrates [ ] Others (please specify)

33b. In your opinion were any important investigations, treatments or interventions omitted in ED?

[ ] Yes [ ] No [ ] Unknown

33c. If Yes please provide details
D. INPATIENT CARE

34a. What ward was the patient first admitted to?
- Medical Assessment Unit
- General Medical Ward
- Speciality Cardiology Ward
- Other (please specify): ____________________________
- Coronary Care Unit
- Care of the Elderly
- Renal ward
- Level 2 (e.g. HDU)
- Level 3 (e.g. ICU)
- Combined level 2/3 (e.g. HDU/ICU)

34b. In your opinion was this the right location?
- Yes
- No
- Unknown

35. Grade and specialty of admitting doctor (please see page 2 for codes):
  - Grade: ________________________
  - Specialty: _______________________  Not documented

36. Date and time of the first consultant review:
  - Date unknown
  - 24 hr clock
  - Time unknown
  - Specialty of consultant (please see page 2 for codes): ____________________________  Not documented

37a. Date and time of first assessment by specialist heart failure team
  - Date unknown
  - 24 hr clock
  - Time unknown

37b. Who assessed the patient from the heart failure team (please tick all that apply, see page 2 for codes)?
- Doctor
- Grade: ________________________
- Specialty: _______________________  Not documented

- Non specialist pharmacist
- Other (please specify)

38a. Date and time of first assessment by a cardiology doctor?
  - Date unknown
  - 24 hr clock
  - Time unknown

38b. Grade of cardiology doctor (please see page 2 for codes): ________________________  Grade of doctor unknown

39a. Which of the following investigations were carried out during the inpatient stay?
- BNP
- NT proBNP
- U&E
- Fasting glucose
- Troponin
- MRI
- Transthoracic Doppler/2D ECHO
- CTPA
- d dimer
- FBC
- eGFR
- Thyroid function
- Liver function
- Other (please specify)
- CXR
- ECG
- Renal US

39b. In your opinion were any investigations that should have been undertaken, omitted?
- Yes
- No
- Unknown

39c. If Yes which investigation(s)?
- BNP
- NT proBNP
- U&E
- Fasting glucose
- Troponin
- MRI
- Transthoracic Doppler/2D ECHO
- CTPA
- d dimer
- FBC
- eGFR
- Thyroid function
- Liver function
- Other (please specify)
- CXR
- ECG
- Renal US
40a. Which of the following treatments/interventions did the patient receive?

- [ ] Oxygen
- [ ] CPAP
- [ ] NIV
- [ ] ACEI
- [ ] IV diuretics
- [ ] oral diuretics
- [ ] IV fluids
- [ ] bronchodilators
- [ ] oral beta blockers
- [ ] IV beta blockers
- [ ] mineralocorticoid antagonist
- [ ] Other

40b. In your opinion were any important treatments/interventions omitted?

- [ ] Yes
- [ ] No
- [ ] Unknown

40c. If Yes which treatments/interventions:

- [ ] Oxygen
- [ ] CPAP
- [ ] NIV
- [ ] ACEI
- [ ] IV diuretics
- [ ] oral diuretics
- [ ] IV fluids
- [ ] bronchodilators
- [ ] oral beta blockers
- [ ] IV beta blockers
- [ ] mineralocorticoid antagonist
- [ ] Other

40d. Please explain your answer:

41a. In your opinion were appropriate changes made to the patient's diuretic treatment?

- [ ] Yes
- [ ] No
- [ ] Unknown

41b. If No please expand upon your answer:

42a. In your opinion were any medications stopped that should not have been?

- [ ] Yes
- [ ] No
- [ ] Unknown

42b. In your opinion were any medications continued that should not have been?

- [ ] Yes
- [ ] No
- [ ] Unknown

42c. In your opinion were medications started that should not have been?

- [ ] Yes
- [ ] No
- [ ] Unknown

42d. In your opinion were medications not started that should have been?

- [ ] Yes
- [ ] No
- [ ] Unknown

42e. If you answered Yes to any part of Q42 please provide details:

43a. Did the patient undergo a procedure in the cardiac cath lab?

- [ ] Yes
- [ ] No
- [ ] Unknown

43b. If Yes what procedure?
44a. Did the patient undergo any ward transfers during their inpatient stay?  
☐ Yes  ☐ No  ☐ Unknown

44b. If Yes which wards were they transferred to (please select all that apply)?
- ☐ Medical Assessment Unit
- ☐ General Medical Ward
- ☐ Speciality Cardiology Ward
- ☐ Coronary Care Unit
- ☐ Care of the Elderly
- ☐ Renal ward
- ☐ Level 2 (e.g. HDU)
- ☐ Level 3 (e.g. ICU)
- ☐ Combined level 2/3 (e.g. HDU/ICU)
- ☐ Other (please state):

45a. Please provide details of the clinical specialties that were involved with the ongoing care of this patient?

45b. In your opinion was the level of specialist input appropriate for this patient?  
☐ Yes  ☐ No  ☐ Unknown

45c. If No please expand upon this?

46a. Was a treatment escalation decision made?  
☐ Yes  ☐ No  ☐ Unknown

46b. If Yes, what was the date and time of this decision?

- ☐ Date unknown
- ☐ Time unknown

46c. Please indicate what escalation decisions were made:
- ☐ For CPR  ☐ Not for CPR
- ☐ For invasive ventilation  ☐ Not for invasive ventilation
- ☐ For critical care referral  ☐ Not for critical care referral
- ☐ For Renal Replacement Therapy  ☐ Not for Renal Replacement Therapy
- ☐ For vasopressor support  ☐ Not for vasopressor support
- ☐ For inotropic support  ☐ Not for inotropic support
- ☐ Other (please state):

47a. Was escalation of treatment discussed with the patient?  
☐ Yes  ☐ No  ☐ Unknown

47b. If not discussed, was the reason for this documented?  
☐ Yes  ☐ No

47c. If not discussed, was this due to the patient’s medical condition?  
☐ Yes  ☐ No

47d. If Yes, please expand upon your answer:
48a. Was treatment escalation discussed with the patient's family (or other/next of kin?)
   □ Yes □ No

48b. Doctor who made decision: (please see page 2 for codes): Grade: □□ Specialty: □□□

48c. If decision made by non-consultant, was the decision confirmed by a consultant?
   □ Yes □ No

49a. Was the patient referred for Level 2/3 (e.g. HDU/ICU) admission?
   □ Yes □ No

49b. If No, in your opinion, do you think the patient should have been referred?
   □ Yes □ No

49c. If Yes, please expand on your answer

50a. Was the patient admitted to:
   □ Level 3 □ Level 2 □ Mixed Level 2/3 □ CCU □ Not admitted

50b. If Yes, please provide the date and time of this level 2/3 admission: (if the patient had more than one admission to level 2/3 please put the date of the first admission)
   [ ] [ ] 24 hr clock □ Time unknown [ ] [ ] [ ] [ ] □ Date unknown

50c. If No, in your opinion, should the patient have been admitted?
   □ Yes □ No

50d. If Yes, please expand on your answer:

If the patient was not admitted to level 2/3 care please go to question 53a

51. Which interventions/monitoring did the patient receive in the level 2/3 ward? (If the patient had more than one admission to a level 2/3 ward please answer the question for the first admission)
   □ Respiratory □ Cardiovascular support
   □ CPAP □ NIV □ Invasive ventilation □ IABP □ ECMO □ Vasopressors □ Inotropes □ Mechanical support
   □ RRT □ Cardiac output monitoring □ Other

52a. What was the outcome of the level 2/3 stay?
   □ Discharged to ward □ Died

52b. For patients discharged to a ward, what was the date/time of discharge?
   [ ] [ ] [ ] [ ] □ Date unknown [ ] [ ] 24 hr clock □ Time unknown

52c. Was the patient discharged under the care of a cardiology specialist team?
   □ Yes □ No □ Not applicable

52d. Was the patient discharged to a cardiology specialist ward?
   □ Yes □ No □ Not applicable

52e. For patients not discharged to a cardiology ward or under the cardiology team, please describe arrangements for post level 2/3 care:

52f. Was the patient discharged for palliative care?
   □ Yes □ No

52g. Was the patient readmitted to a level 2/3 ward?
   □ Yes □ No
E. DEATH

53a. What was the date and time of death?

[ ] Date unknown  [ ] 24 hr clock  [ ] Time unknown

d d m m y y y y h h m m

53b. Speciality of consultant responsible at time of death (please see page 2 for codes):

54. Was death anticipated?  [ ] Yes  [ ] No  [ ] Not documented

55a. Was treatment withdrawn?  [ ] Yes  [ ] No  [ ] Not documented

55b. If Yes, was treatment withdrawal discussed with (please select all that apply):

[ ] Patient  [ ] Relatives  [ ] Consultant physician

55c. If not discussed, please provide reasons:

56. Was the patient referred to / discussed with the palliative care team?  [ ] Yes  [ ] No  [ ] Not documented

57. Was CPR attempted?  [ ] Yes  [ ] No

58. What level ward was the patient on when they died (see page 2 for definitions)?

[ ] Level 0  [ ] Level 1  [ ] Level 2  [ ] Level 3  [ ] Not documented

59. What was the cause of death recorded as?

1a)

1b)

1c)

2)

60. Was this case reported to the coroner/procurator fiscal?  [ ] Yes  [ ] No  [ ] Unknown

61. Was a hospital or coronial/fiscal autopsy performed?  [ ] Yes  [ ] No  [ ] Unknown

62a. Was the death discussed in an M & M meeting?  [ ] Yes  [ ] No  [ ] Not documented

62b. If Yes, were remediable factors in the care of this patient identified?  [ ] Yes  [ ] No

62c. If Yes, what were the remediable factors and what action was taken?

63a. If the patient was not discussed at an M & M meeting, having now reviewed the case, in your opinion were there lessons to be learned?  [ ] Yes  [ ] No  [ ] Not documented

63b. If Yes, please describe these:

Thank you for taking the time to complete this questionnaire
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