Variations in Hospital Mortality Project - Data Collection Tool

N.B. exclusions: Maternal deaths; <16; Psychiatric; Trauma

Please place a cross (X) in the box/es and write in the frames using BLACK BIRO.

Review date  /  /  Time taken to evaluate (hh:mm)

Reviewer ID 1  Time taken to evaluate (hh:mm)
Reviewer ID 2  Time taken to evaluate (hh:mm)

1. Overview of admission leading to death (index admission)

Weekday of admission
☐ Mon   ☐ Tues   ☐ Weds   ☐ Thurs   ☐ Fri   ☐ Sat   ☐ Sun

Date of index admission  /  /  

Time of index admission (24 hr clock)  Time first seen by consultant (24 hr clock)
   :   

Weekday death occurred
☐ Mon   ☐ Tues   ☐ Weds   ☐ Thurs   ☐ Fri   ☐ Sat   ☐ Sun

Date of in-hospital death  /  /  

Type of admission:
☐ Em   ☐ El   ☐ Other If 'Other' please state

Primary diagnosis at admission:

Previous (n) visits to A&E:  
Degree of urgency of index admission (one only) □ C  □ U  □ S  □ R

Critical (required immediate attention to stabilise airway, breathing or circulation difficulties)
Urgent (severe illness that required treatment within 2 hrs- eg moderate pain, fever / infection, conscious level, bleeding)
Semi-urgent (unwell- admitted via A&E or OPD but could wait >2 hrs to be treated without risk of deterioration)
Routine (elective admission, or for routine investigations in hospital)

LACE score (see notes for assessors):

L: length of stay (days) □ □
A: acute admission □ Yes  □ No
C: comorbidity (Charlson comorbidity score) □ □
E: emergency visits (no visits to A & E in last 6 months) □ □
LACE total □ □ □
2. Patient Information

Age (Years Months) [ ] [ ] [ ] [ ]

Gender [ ] Male [ ] Female

Postcode sector (eg PO18 8) [ ] [ ] [ ] [ ]

Smoker [ ] None [ ] <10 [ ] 10-20 [ ] >20

Was this admission alcohol-related in any way? [ ] Yes [ ] No

Was this admission substance-misuse related in any way? [ ] Yes [ ] No

Lives; (please select one only)
[ ] independently alone
[ ] own home with carer
[ ] residential home
[ ] nursing home
[ ] homeless

Disabilities; (please select all that apply)
[ ] Wheelchair user [ ] Speech
[ ] Blind/partially sighted [ ] Learning difficulties
[ ] Other sight difficulties [ ] Other (If 'Other' please state) [ ]
[ ] Deaf

Weight (kg) on admission [ ] [ ] [ ] [ ]

Height (m) on admission or elsewhere in notes [ ] [ ] [ ] [ ]

BMI [ ] [ ] [ ] [ ]

Waterlow Pressure Area Score (see notes for assessors):
[ ] <10 [ ] 10+ [ ] 15+ [ ] 20+

DNR (Do Not Resuscitate) order in notes [ ] Yes [ ] No [ ] NK
### 3. Comorbidities: (Charlson comorbidity scores)

<table>
<thead>
<tr>
<th>Comorbidities - Cardiovascular</th>
<th>Comorbidities - Endocrine</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Acute myocardial infarction (5)</td>
<td>□ Diabetes (no end organ complications) (3)</td>
</tr>
<tr>
<td>□ Congestive cardiac failure (13)</td>
<td>□ Diabetes (end organ complications) (-1)</td>
</tr>
<tr>
<td>□ Peripheral vascular disease (6)</td>
<td>□ Other</td>
</tr>
<tr>
<td>□ Other Cardiovascular Total</td>
<td>Endocrine Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comorbidities - Respiratory</th>
<th>Comorbidities - Renal</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ COPD (4)</td>
<td>□ Renal disease (10)</td>
</tr>
<tr>
<td>□ Asthma</td>
<td>□ Other</td>
</tr>
<tr>
<td>□ Other Respiratory Total</td>
<td>Renal Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comorbidities - GI</th>
<th>Comorbidities - Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Peptic ulcer (9)</td>
<td>□ HIV (2)</td>
</tr>
<tr>
<td>□ Liver disease (mild) (8)</td>
<td>□ Other chronic (specify)</td>
</tr>
<tr>
<td>□ Liver disease (severe) (18)</td>
<td>□ Other</td>
</tr>
<tr>
<td>□ Other GI Total</td>
<td>Infection Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comorbidities - Psychiatric</th>
<th>Comorbidities - Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Dementia (14)</td>
<td>□ Any solid tumour in last 5 years (specify) (8)</td>
</tr>
<tr>
<td>□ Other Psychiatric Total</td>
<td>□ Known metastatic cancer (14)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comorbidities - Neurological</th>
<th>Comorbidities - Musculoskeletal (total score 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Stroke (11)</td>
<td>□ Documented Osteoarthritis</td>
</tr>
<tr>
<td>□ Epilepsy</td>
<td>□ Documented Rheumatoid Arthritis (4)</td>
</tr>
<tr>
<td>□ Parkinson’s</td>
<td>□ Other Connective Tissue Disorder (4)</td>
</tr>
<tr>
<td>□ Paraplegia (non stroke) (1)</td>
<td>□ Other Musculoskeletal Total</td>
</tr>
<tr>
<td>□ Other Neurological Total</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL CHARLSON CO-MORBIDITY SCORE:**

In your opinion, judging by the Gold Standard Framework on End of Life care (see notes), was the patient likely to be in the last year of life?  □ Yes  □ No  □ Don’t Know

Page 4

Patient Unique Study Number □ □ □ □
4. Adverse Event Triggers (did any of these occur during index admission?)

Adverse event triggers
☐ Early warning score absent
☐ Early warning score ignored
☐ Fall
☐ Bedsores or pressure ulcers (incident during admission)
☐ Previous admission within 30 days
☐ Shock or cardiac arrest
☐ Proven DVT or PE
☐ Complication of procedure or treatment (severe enough to have potentially contributed to death)
☐ Transfer to higher level of care

If surgery took place:
☐ Return to theatre
☐ Change in planned procedure
☐ Removal / injury / repair of organ
☐ If admitted for higher dependency care (ESCU / HDU / ICU)
☐ Readmission to ESCU / HDU / ICU (delete as appropriate)
☐ Readmission to HDU
☐ Readmission to ICU
☐ Unplanned transfer to ESCU
☐ Unplanned transfer to HDU
☐ Unplanned transfer to ICU

Attempted resuscitation at terminal event?
☐ Yes  ☐ No  ☐ Not Known

Medication
☐ Vitamin K
☐ Naloxone
☐ Flumenazil
☐ Glucagon or 50% glucose
☐ Abrupt stop in medication noted
Lab tests

- INR >5
- Transfusion
- Abrupt drop in Hb or Hct (>25%)
- Urea or creatinine risen more than twice admission or baseline levels
- Na<120 or >160
- K <2.5 or >6.5
- Hypoglycaemia (<3 mmol/l)
- Raised troponin (>1.5 ng/ml)
- MRSA bacteraemia (incident during admission)
- C. difficile (incident during admission)
- Vancomycin resistant enterococcus (VRE)
- Wound infection
- Nosocomial pneumonia
- Positive blood culture

Date of death (as confirmed in notes): __ / __ / __
Time of death (as confirmed in notes): __ : __
Date of last recorded nursing observations: __ / __ / __
Time of last recorded nursing observations: __ : __
Date of last recorded medical note: __ / __ / __
Time of last recorded medical note: __ : __
5. **Avoidability: overview**

In 48 hrs prior to death, did the patient receive:

- **Physio assessment or treatment**: □ Yes □ No □ Not Known
- **SLT assessment or treatment**: □ Yes □ No □ Not Known
- **Pharmacist assessment / review**: □ Yes □ No □ Not Known
- **IV fluids**: □ Yes □ No □ Not Known
- **Any change to prescribed medication**: □ Yes □ No □ Not Known
- **ECG**: □ Yes □ No □ Not Known
- **Plain X ray (any)**: □ Yes □ No □ Not Known
- **Ultrasound scan**: □ Yes □ No □ Not Known
- **CT or MRI scan**: □ Yes □ No □ Not Known

During this admission, please describe (if this information is not clear, please say so):

- **Clinical specialty taking lead role:**

- **Most senior person making clinical decisions (level):**

- **Were there any communication difficulties noted?**

- **Any unusual factors which may have contributed to the death?**

In your opinion, was the patient's death **caused by** a problem or problems with the healthcare received? □ Yes □ No

**OR**

Did a problem or problems in healthcare **contribute** to the patient's death? □ Yes □ No

**If 'No' to both these questions, go to Page 22 and then no further information is needed**

Page 7

Patient Unique Study Number CW -
6. Contributory Factors: overview

Please note where, in care pathway, clinical deterioration (C), improvement (I) or death (D) took place: (tick all you think may apply)

Prior to admission:

- home (no involvement of clinical or paramedical teams) ☐ C ☐ I ☐ D
- primary care (in hours) ☐ C ☐ I ☐ D
- primary care (out of hours) ☐ C ☐ I ☐ D
- emergency response team ☐ C ☐ I ☐ D

Index admission:

- care during a procedure ☐ C ☐ I ☐ D
- post-operative care (gen ward) ☐ C ☐ I ☐ D
- post-operative care (critical care setting) ☐ C ☐ I ☐ D
- discharge assessment / planning ☐ C ☐ I ☐ D

In your opinion, did care received in the following categories contribute to the death:

Pre-admission ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6a
Assessment and initial diagnosis ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6b
Clinical monitoring/management/investigations ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6c
Infection screening/control ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6d
Operation or procedure- technical ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6e
Medication/hydration/nutrition/electrolytes ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6f
Resuscitation ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6g
Other ☐ Avoidable ☐ Unavoidable ☐ Go to Section 6h

For each of the above, please go to the relevant section to answer further questions
6a. Pre-admission

a) possible contributory issues
   - [ ] delay in making contact with in-hours primary care services
   - [ ] delay in making contact with out-of-hours primary care services
   - [ ] delay in making contact with ambulance services
   - [ ] delay in ambulance services reaching patient
   - [ ] other delay in hospital transfer
   - [ ] delay in A & E
   - [ ] other failure or delay (please specify)

b) Please describe relevant issue below

______________________________

b) Please describe relevant issue below

______________________________

c) are there national guidelines or standards related to the relevant factor or event?
   - [ ] Please note these guidelines / standards

d) If yes, did non-compliance contribute to the death?  [ ] Likely  [ ] Possible  [ ] Can't tell

e) Were there local guidelines related to the relevant factor or event?
   - [ ] Please note these guidelines/ standards

f) If yes, did non-compliance contribute to the death?  [ ] Likely  [ ] Possible  [ ] Can't tell

g) please note the significance of this factor or event
   - [ ] Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
   - [ ] Minor (factor was a relevant contributory factor. Different management might have made a difference, but survival was unlikely in any case)
   - [ ] Irrelevant (although lessons can be learned, it did not affect the outcome)

Go to Section 7, Page 22

Page 9

Patient Unique Study Number CW - ______
6b. Assessment and initial diagnosis

a) possible contributory issues
   i. failure to establish adequate two-way communications with patient
   ii. delay in initial assessment or evaluation of patient
   iii. initial clinician failed to obtain complete medical history
   iv. routine clinical observations not taken / not recorded
   v. routine clinical observations not acted on appropriately
   vi. other assessment issue (please specify below)
   vii. failure to recognise high-risk status at time of admission
   viii. delay in escalating to more senior clinician
   ix. failure to escalate to more senior clinician
   x. other failure or delay (please specify)

b) Please describe relevant issue below


c) are there national guidelines or standards related to the relevant factor or event?
   i. Please note these guidelines / standards


d) If yes, did non-compliance contribute to the death?  
   □ Likely  □ Possible  □ Can't tell

e) Were there local guidelines related to the relevant factor or event?
   i. Please note these guidelines/ standards


f) If yes, did non-compliance contribute to the death?  
   □ Likely  □ Possible  □ Can't tell

g) please note the significance of this factor or event
   □ Major  (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
   □ Minor  (factor was a relevant contributory factor. Different management might have made a difference, but survival was unlikely in any case)
   □ Irrelevant  (although lessons can be learned, it did not affect the outcome)

Go to Section 7, Page 22
6c. Clinical management, monitoring, investigations

a) possible contributory issues
- i. delay in instituting appropriate monitoring of clinical condition
- ii. failure to institute appropriate monitoring of clinical condition
- iii. delay in recognising abnormal vital signs / routine observations
- iv. failure to recognise abnormal vital signs / routine observations
- v. delay in ordering or checking investigations
- vi. delay in transfer for investigations
- vii. delay in recognising abnormalities in investigations
- viii. failure to recognise abnormalities in investigations
- ix. delay in recognising clinical deterioration
- x. failure to recognise clinical deterioration
- xi. delay in escalating to more senior clinician (following deterioration)
- xii. failure to escalate to more senior clinician (following deterioration)
- xiii. delay in response from more senior clinician
- xiv. specialist advice / referral not available
- xv. failure to recognise complications of surgery or other procedure
- xvi. other failure or delay (please specify) __________________________

b) Please describe relevant issue below


c) are there national guidelines or standards related to the relevant factor or event?
   - i. Please note these guidelines / standards


d) If yes, did non-compliance contribute to the death? □ Likely □ Possible □ Can't tell
e) Were there local guidelines related to the relevant factor or event?
   i. Please note these guidelines/standards

f) If yes, did non-compliance contribute to the death?  □ Likely  □ Possible  □ Can't tell

   g) please note the significance of this factor or event
      □ Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
      □ Minor (factor was a relevant contributory factor. Different management might have made a difference, but survival was unlikely in any case)
      □ Irrelevant (although lessons can be learned, it did not affect the outcome)

   Go to Section 7, Page 22
Site or nature of infection if believed contributory to death (please select all that apply)

- surgical wound
- internal invasive procedure
- urinary tract
- respiratory tract
- blood
- other (please specify)

a) possible contributory issues
- i. delay in identifying potential infection as relevant to clinical condition
- ii. delay in initiating appropriate infection screening investigations
- iii. failure to initiate appropriate infection screening investigations
- iv. failure to drain pus or other surgical management
- v. inappropriate antibiotic prescribing
- vi. failure to maintain proper care of canulae, catheters, drains etc
- vii. failure to involve appropriately senior clinician (excl CCDC)
- viii. failure to involve CCDC (if appropriate to do so)
- ix. failure to initiate appropriate non-drug management (eg physiotherapy)
- x. other failure or delay (please specify)

b) Please describe relevant issue below

- 

- 

c) are there national guidelines or standards related to the relevant factor or event?
  - i. Please note these guidelines / standards

- 

- 

d) If yes, did non-compliance contribute to the death? □ Likely □ Possible □ Can't tell
e) Were there local guidelines related to the relevant factor or event?
   i. Please note these guidelines/standards

f) If yes, did non-compliance contribute to the death? □ Likely □ Possible □ Can't tell

g) Please note the significance of this factor or event
   □ Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
   □ Minor (factor was a relevant contributory factor. Different management might have made a difference, but survival was unlikely in any case)
   □ Irrelevant (although lessons can be learned, it did not affect the outcome)

Go to Section 7, Page 22
6e. Operation or procedure

a) possible contributory issues
   - i. inappropriate delay in undertaking procedure
   - ii. inappropriate procedure in view of clinical condition
   - iii. inadequate preparation / assessment / treatment prior to procedure
   - iv. anaesthetic incident
   - v. operative incident
   - vi. inadequate monitoring during procedure
   - vii. inadequate monitoring following procedure
   - viii. other failure or delay (please specify)

b) Please describe relevant issue below

   

c) are there national guidelines or standards related to the relevant factor or event?
   - i. Please note these guidelines / standards

   

d) If yes, did non-compliance contribute to the death? [ ] Likely [ ] Possible [ ] Can't tell

e) Were there local guidelines related to the relevant factor or event?
   - i. Please note these guidelines/ standards

   

f) If yes, did non-compliance contribute to the death? [ ] Likely [ ] Possible [ ] Can't tell

   

g) please note the significance of this factor or event
   - Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
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   - Irrelevant (although lessons can be learned, it did not affect the outcome)

   

Go to Section 7, Page 22
6f. Medication / hydration / nutrition / electrolytes

a) possible contributory issues

☐ i. error in prescription of drugs (please name drug) __________________________

☐ ii. error in prescription of IV fluids (please name fluid) ____________________

☐ iii. error in prescription of blood

☐ iv. error in administering drugs

☐ v. error in administering IV fluids

☐ vi. error in administering blood

☐ vii. failure to monitor drug side effects appropriately

☐ viii. failure to monitor fluid balance appropriately

☐ ix. failure to monitor blood appropriately

☐ x. failure to ensure appropriate nutrition

☐ xi. delay in involving appropriately senior clinician

☐ xii. failure to involve appropriately senior clinician

☐ xiii. other failure or delay (please specify) _________________________________

b) Please describe relevant issue below

_______________________________________________________________________

_______________________________________________________________________

c) are there national guidelines or standards related to the relevant factor or event?

i. Please note these guidelines / standards

_______________________________________________________________________

_______________________________________________________________________

d) If yes, did non-compliance contribute to the death? ☐ Likely ☐ Possible ☐ Can't tell

e) Were there local guidelines related to the relevant factor or event?

i. Please note these guidelines/ standards

_______________________________________________________________________

_______________________________________________________________________
f) If yes, did non-compliance contribute to the death? □ Likely □ Possible □ Can’t tell

g) please note the significance of this factor or event

□ Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)

□ Minor (factor was a relevant contributory factor. Different management might have made a difference, but survival was unlikely in any case)

□ Irrelevant (although lessons can be learned, it did not affect the outcome)
6g. Resuscitation

What condition led to the resuscitation attempt? Please give clinical detail where possible

- [ ] Cardiac arrest
- [ ] Respiratory failure / arrest
- [ ] Coma
- [ ] Fits
- [ ] Bleeding
- [ ] Multiple trauma
- [ ] Metabolic disorder
- [ ] Sepsis
- [ ] Other (please specify) __________________________

a) possible contributory issues
- [ ] i. inappropriate level of seniority of person in charge of resuscitation attempt
- [ ] ii. delay in resuscitation call being made
- [ ] iii. failure to make resuscitation call
- [ ] iv. lack of availability of staff
- [ ] v. staff not apparently competent / adequately trained
- [ ] vi. lack of suitable equipment
- [ ] vii. failure of suitable equipment
- [ ] viii. poorly managed resuscitation attempt
- [ ] ix. delay in involving appropriately senior clinician
- [ ] x. failure to involve appropriately senior clinician
- [ ] xi. other failure or delay (please specify) __________________________

b) Please describe relevant issue below

[Blank space for description]
c) are there national guidelines or standards related to the relevant factor or event?
   i. Please note these guidelines / standards

   

d) If yes, did non-compliance contribute to the death? [ ] Likely  [ ] Possible  [ ] Can't tell

e) Were there local guidelines related to the relevant factor or event?
   i. Please note these guidelines/ standards

   

f) If yes, did non-compliance contribute to the death? [ ] Likely  [ ] Possible  [ ] Can't tell

g) please note the significance of this factor or event
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   [ ] Irrelevant (although lessons can be learned, it did not affect the outcome)

Go to Section 7, Page 22
a) possible contributory issues
   □ i. staff apparently working outside expertise
   □ ii. lack of knowledge / understanding- clinical staff
   □ iii. lack of knowledge / understanding- patient and family / carers
   □ iv. lack of skill- clinical staff
   □ v. staffing pressures- nursing
   □ vi. staffing pressures- clinical
   □ vii. staffing pressures- other multidisciplinary team
   □ viii. poor teamwork
   □ ix. poor communication within clinical team
   □ x. poor clinical handover- nursing
   □ xi. poor written communication (notes poor quality)
   □ xii. lack / failings of equipment
   □ xiii. lack/failings of key hospital support services
   □ xiv. bed shortages
   □ xv. poor co-ordination
   □ xvi. inadequate senior leadership

b) Please describe relevant issue below


c) are there national guidelines or standards related to the relevant factor or event?
   i. Please note these guidelines / standards


d) If yes, did non-compliance contribute to the death? □ Likely □ Possible □ Can't tell
e) Were there local guidelines related to the relevant factor or event?
   i. Please note these guidelines/standards

f) If yes, did non-compliance contribute to the death?  □ Likely  □ Possible  □ Can't tell

g) Please note the significance of this factor or event
   □ Major (factor contributed significantly to the death. Different management would reasonably have been expected to alter the outcome)
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   □ Irrelevant (although lessons can be learned, it did not affect the outcome)

Go to Section 7, Page 22
7a. Overall assessment of care

After careful consideration of the clinical details of the patient's management, irrespective of clinical preventability, how far do you think that clinical quality factors (in particular the Patient Safety domain) have contributed to this death?

Please place a cross on the Likert scale below, where

0 = virtually no evidence for system failure / quality factors in clinical care contributory
10 = virtually certain evidence of system failure / quality factors in clinical care contributory

Score=

7b. Documentation standard

Please enlarge on Section 6haii (notes) as to the notes and folders physical and /or consecutive state using the Likert scale below and listing any comments here.

Score=

0 = Hospital notes and folders (physical and consecutive state) in excellent order with virtually no evidence of significant omissions.
10 = Hospital notes and folders (physical and consecutive state) in excellent order with virtually certain evidence of significant omissions, likely to contribute to adverse outcome
8. Please summarise key learning points from this case:

The following categories are intended as a guide, but please do not necessarily be restricted by them.

- a. Referral pathway
- b. Equipment
- c. Clinical escalation
- d. Clinical leadership (once escalated)
- e. Consultant opinion /time taken to see
- f. Communication
- fi. Patient/relatives-clinical staff
  - ii. Clinical staff-clinical staff
  - iii. Multidisciplinary team
- iv. Clinical handover
- g. Diagnosis
- h. Diagnostic services
- i. Protocols
- j. Availability of suitable range of multidisciplinary skills
- k. Staffing
  - i. Suitable qualifications
  - ii. Training
  - iii. Supervision
- l. planning