

**Appendix 1: Pro-formas Used to Review Case Notes from the UK Study and the US Study.**

**[UK Study]**

**Semi-structured Implicit Pro forma for Collection of Data on  
Preventability of Mortality in Acute Medical Care in West Midlands Hospitals**

**Section 1 - Background**

- i. Case Note **Ref Number**: \_\_\_\_\_
- ii. Date of **Review**: \_\_\_\_\_
- iii. Date of **Admission**: \_\_\_\_\_
- iv. Date of **Death**: \_\_\_\_\_
- v. **Initials** of Reviewer: \_\_\_\_\_
- vi. Patient's **Age**: \_\_\_\_\_
- vii. Patient's **Sex**: \_\_\_\_\_

**Section 2 – Review of the notes**

- 1a. **Primary** working diagnoses following admission in the **case-notes**:

\_\_\_\_\_

*(Take diagnosis from the ward round in the first 48 hours post-admission when a ward round seems to have established a coherent management plan. If these do not exist take information from admission notes and tick here: )*

- 1b. **Primary** diagnosis on admission according to the **reviewer's opinion**:

- Agree with the above;
- Partially agree with the above;
- Do not agree with the above;

Please explain: \_\_\_\_\_

- 1c. **Final Primary** diagnosis after **establishment of all results**:

\_\_\_\_\_

1d. **Final Primary** diagnosis after establishment of all results according to the **reviewer's opinion**:

Agree with the above;

Partially agree with the above;

Do not agree with the above;

Please explain: \_\_\_\_\_

2a. **Known active co-morbidities** on admission according to the **case-notes**:

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2b. **Known active co-morbidities** on admission according to the **reviewer's opinion**:

Agree with the above;

Partially agree with the above;

Do not agree with the above;

Please explain: \_\_\_\_\_

3a. **New** diagnoses that post-dated admission, according to the **case-notes**:

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3b. **New** diagnoses that post-dated admission, according to the **reviewer's opinion**:

Agree with the above;

Partially agree with the above;

Do not agree with the above;

Please explain: \_\_\_\_\_

4a. **Primary** cause of **death** according to the last entry in the **notes** of doctor for cause of death:

a) GP letter - explain \_\_\_\_\_

\_\_\_\_\_

b) Post Mortem - explain \_\_\_\_\_

\_\_\_\_\_

c) Last entry in case-notes - explain \_\_\_\_\_

\_\_\_\_\_

d) Not given

4b. **Primary** cause of **death** according to **reviewer's opinion**:

Agree with the above; if not given in the notes, please give your view:

\_\_\_\_\_

Partially agree with the above;

Do not agree with the above;

Please explain: \_\_\_\_\_

5. **Please score the following**:

5a. Were there **clear management plans throughout** the admission?:

1. Definitely yes

2. Probably yes

3. Uncertain

4. Probably not

5. Definitely not

Please explain: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5b. **Appropriateness of diagnostic** work-up (investigations) for patient's problem(s) throughout the admission:

- 1. Definitely appropriate
- 2. Probably appropriate
- 3. Uncertain
- 4. Probably not appropriate
- 5. Definitely not appropriate

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5c. **Timeliness of diagnostic** procedures and evaluation for patient's problem(s) throughout the admission:

- 1. Definitely timely
- 2. Probably timely
- 3. Uncertain
- 4. Probably not timely
- 5. Definitely not timely

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5d. **Appropriateness of doctor's orders** (management and treatment) for patient's problem(s) throughout the admission, including inappropriate care / omissions / poor response to new diagnostic results:

- 1. Definitely appropriate
- 2. Probably appropriate
- 3. Uncertain
- 4. Probably not appropriate
- 5. Definitely not appropriate

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5e. **Timeliness of doctors giving their management and treatment orders** for patient's problem(s) throughout the admission, including delayed orders, delayed response to diagnostic results and delayed speciality referral visits:

- 1. Definitely timely
- 2. Probably timely
- 3. Uncertain
- 4. Probably not timely
- 5. Definitely not timely

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5f. **Errors in following** doctor's orders (timeliness and appropriateness), including administering medicines or fluids, or physician notification throughout the admission:

- 1. Definitely no errors
- 2. Probably no errors
- 3. Uncertain
- 4. Probably yes, had errors
- 5. Definitely yes, had errors

Please explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Please note any **adverse events** that were **not** the result of **poor care** (expected adverse events, for example due to expected side effects of drugs or procedures):

6a. \_\_\_\_\_

6b. \_\_\_\_\_

6c. \_\_\_\_\_

6d. \_\_\_\_\_

7. Please note any **adverse events** that **might have been** the result of **poor care**, including apparent omissions and episodes of sub-standard care in the following areas.

8a. Diagnostic results either not acted upon, or acted upon after a delay;

8b. Delay in care / inappropriate care / omission of care / poor response to direction of care;

8c. Lack of plan for care / unclear direction of care;

8d. Medication error (omissions and commissions, including fluid errors).

Adverse Event

Error that caused it

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Rate the **quality of notes** and their **completeness** in terms of your ability to extract the information required to fill this form (*please chose one*):

- 1. Definitely adequate
- 2. Probably adequate
- 3. Uncertain
- 4. Probably not adequate
- 5. Definitely not adequate

Please explain:

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9. Please give a very brief synopsis of this admission and events before death:

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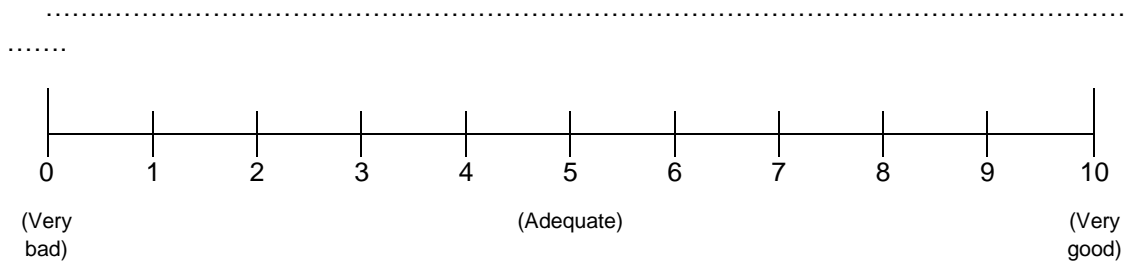
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10. Overall how would you **rank** this **patients care** during this admission on a ten point scale (*please put a clear vertical line on the line where you intend to mark*)?



11. Do you have any **further comments**? (Please write any other major concerns in care that did not lead to a particular adverse event, or is described above in other sections).

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12. On the balance of probability (>50% chance), was the patient's death **preventable** through better quality of care during this admission?

- 1. Definitely yes
- 2. Probably yes
- 3. Uncertain
- 4. Probably not
- 5. Definitely not

Please comment:

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13. Indicate on the following scale your **best estimate** of the **likelihood of preventability of death**, if care in this admission had been optimal (*please put a clear vertical line on the scale where you intend to mark*):



**If you choose 25% or less, then please go to question 16.**

14. Could this patient have **returned to their original functionality** before this episode of illness causing the admission, if **optimum care** was offered (**no errors** in care were made) and patient **had not died**?:

- 1. Definitely yes
- 2. Probably yes
- 3. Uncertain
- 4. Probably not
- 5. Definitely not



15. Please give your **best estimate** of **how long the patient would have survived** if optimum care was given (no errors in care were made) and patient had not died?:

- < 7 days       7 – 30 days       1 – 6 months       6 – 12 months       > 12 months

**Section 3 – Quality Control**

16. How **long did it take** you to review this record and complete the questions?

\_\_\_\_\_ minutes

**Further Notes**

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## [US Study]

Laboratory Indicator Study  
Abstraction Form for Review of Deaths

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### 1. Background Information

- a) Patient key: «KEY»
- b) ~~Chart ID:~~
- c) Admission Date: «ADMDATE»
- d) Discharge Date: «DISDATE»
- e) Age: «AGE» years
- f) Sex: «SEX»
- g) Discharge Status: «DISPTYPE» (1-5 Alive, 6-7 Dead)

### 2. Residence before Admission

- a)
  - 1. Home
  - 2. Board & Care
  - 3. Nursing Home
  - 4. Relatives/Friends
  - 5. Uncertain
  - 6. Other b) \_\_\_\_\_

### 3. DNR

- a)
  - 1. No
  - 2. Yes, specify on which hospital day: b) \_\_\_\_\_
  
- c) Did an hospital complication or major decline occur prior to DNR status?    1. No    2. Yes

### 4. Inpatient Errors in Management

- a) **Timeliness** of diagnostic evaluation for presenting problem(s)?
  - 1. Definitely timely
  - 2. Probably timely
  - 3. Uncertain
  - 4. Probably not timely
  - 5. Definitely not timely
  
- b) **Appropriateness** of diagnostic work-up for presenting problem(s)?
  - 1. Definitely appropriate
  - 2. Probably appropriate
  - 3. Uncertain
  - 4. Probably not appropriate
  - 5. Definitely not appropriate

c) **Timeliness** of Initiation of treatment and obtaining consultation for presenting problem(s)?

1. Definitely timely
2. Probably timely
3. Uncertain
4. Probably not timely
5. Definitely not timely

d) **Appropriateness** of doctor's orders for patient's presenting problems?

1. Definitely appropriate
2. Probably appropriate
3. Uncertain
4. Probably not appropriate
5. Definitely not appropriate

e) Errors In following doctors' orders, administering medicines, or physician notification?

1. Definitely yes
2. Probably yes
3. Uncertain
4. Probably not
5. Definitely not

f) Appropriateness of physicians' response to new In-hospital signs, symptoms, or test results?

1. Definitely appropriate
2. Probably appropriate
3. Uncertain
4. Probably not appropriate
5. Definitely not appropriate

g) Procedural/Technical Adverse Outcomes?

1. Major adverse outcome What procedure? \_\_\_\_\_
2. Moderate adverse outcome \_\_\_\_\_
3. Minor adverse outcome What adverse outcome? \_\_\_\_\_
4. No adverse outcome \_\_\_\_\_

**5. Preventable ?**

a) Was patient death preventable by better quality of care?

1. Definitely yes
2. Probably yes
3. Uncertain
4. Probably not
5. Definitely not

b) Please comment:

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c) What do you estimate the likelihood of prevention of death to be if care had been optimal? \_\_\_\_\_%

If patient had recovered from his/her acute/presenting illness (as well as could be expected), and had received optimal care, what would you rate as the probability that he/she would;

- d) 1. Have left the hospital alive \_\_\_\_\_%
- e) 2. Lived three months or more \_\_\_\_\_%
- f) 3. Lived six months or more \_\_\_\_\_%
- g) 4. Lived one year or more \_\_\_\_\_%
- h) 5. Lived five years or more \_\_\_\_\_%

If patient had recovered from his/her acute/presenting illness/complication (as well as could be expected), and had received optimal care, what do you think would be the probability of the patient returning to:

- i) 1. Good physical functioning \_\_\_\_\_%
- j) 2. Good cognitive functioning \_\_\_\_\_%

**6. Adequacy of Documentation in Medical Record**

- a) 1. Definitely adequate
- 2. Probably adequate
- 3. Uncertain
- 4. Probably not adequate
- 5. Definitely not adequate

**7. Overall Quality of Medical Care**

- a) 1. Superior
- 2. Excellent
- 3. Good
- 4. Borderline
- 5. Substandard
- 6. Poor

b) If you answered 4-6, please specify reasons:

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**8.**

a) \_\_\_\_\_  
Reviewer Initials

b) \_\_\_\_\_ c) \_\_\_\_\_  
Estimated time (in minutes) for this review

\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
Date