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Dear Colleague

ACCURATE RECORDING OF DEATHS FROM HEALTHCARE ASSOCIATED INFECTION AND ACTION

Background

We are all working towards a robust death certification process which is essential for monitoring trends in the cause of death. These are not only important for epidemiological reasons, but can also have a considerable impact on public health, health protection, and other healthcare service planning and delivery. We know that everyone concerned aims to make the process of death certification as accurate, swift and as empathetic as possible, whilst being sensitive to the feelings and emotions of the bereaved. However, sometimes and for various reasons, these processes are not as consistent as we all would wish them to be.

To assist colleagues in this, guidance on completion of medical certificates of the cause of death was issued on 29 September 2009 [http://www.sehd.scot.nhs.uk/cmo/CMO\(2009\)10.pdf](http://www.sehd.scot.nhs.uk/cmo/CMO(2009)10.pdf). We now enclose supplementary guidance clarifying the process for deaths from Healthcare Associated Infection (HAI). This will assist colleagues in recording the cause of death in the appropriate place in the medical certificate of the cause of death (MCCD), when the death is directly caused by HAI or it is a contributing factor. We hope that you will find this helpful.

Further guidance will be developed for the implementation of the Certification of Death (Scotland) Act 2011, around 2013-14.

Action

For Health Boards

- Ensure that systems are in place whereby deaths where an HAI is recorded on the MCCD are reported to the Infection Control Manager
- Ensure consistent and reliable systems to identify, as a minimum, *C. difficile* and MRSA associated deaths

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Addresses

For action

Chief Executives, NHS Boards and Special Health Boards
Medical Directors of NHS Boards and Special Health Boards (for circulation to all registered medical practitioners within your Board area)

For information

HAI Executive Leads in NHS Boards
Infection Control Managers
Infection Control Doctors
Directors of Public Health, NHS Boards
Chairs, NHS Boards
Directors of Pathology
National Records of Scotland
The Crown Office and Procurator Fiscal Service, Scottish Fatalities Investigation Unit
Central Legal Office
General Medical Council
Academy of Medical Royal Colleges and Faculties in Scotland
The Medical and Dental Defence Union of Scotland
The Medical Defence Union
Medical Protection Society
BMA Scotland
National Association of Funeral Directors
Care Inspectorate (for circulation to all registered medical practitioners in independent hospitals and hospices)

Further Enquiries

Policy Issues

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Medical Issues

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- Conduct rapid event investigation, as a minimum, for all deaths where *C. difficile* or *Staphylococcus aureus* bacteraemia (SAB) contributed to the death
- Develop and implement processes to convey timeously the weekly and quarterly death data for, at a minimum, *C. difficile* and MRSA, from National Records of Scotland (formerly General Register Office for Scotland) to the Infection Control Manager
- NHS Boards may find it helpful to establish liaison with the local Procurator Fiscal for more co-ordinated action
- Assure themselves that all doctors employed by Health Boards are appropriately trained in completion of MCCDs.

For Doctors

To take account of the guidance provided in the Annex when completing the MCCD, and work with their Health Boards, participating in agreed processes to protect and improve public health and patient safety.

We are very grateful for your continued support in this matter.

Yours sincerely

Harry Burns

Ros Moore

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DEATHS FROM HEALTHCARE ASSOCIATED INFECTION

Supplementary Guidance for Boards

Completion of death certificates

1. All doctors should follow: **Guidance for medical staff completing medical certificates of the cause of death. Advice from the Chief Medical Officer September 2009.** [http://www.sehd.scot.nhs.uk/cmo/CMO\(2009\)10.pdf](http://www.sehd.scot.nhs.uk/cmo/CMO(2009)10.pdf)

The pages specific to healthcare associated infection (HAI) are attached in Appendix 1.

2. Death certificates must be completed accurately. It is a matter of clinical judgement as to whether an HAI contributed to the death. If the patient had an HAI **and it contributed to the death then it should be recorded on the appropriate part of the certificate.** If the patient had an HAI **but it did not contribute in any way to the death then it should not be recorded.** Failure to complete part 1 fully can occasionally, through international coding rules, result in conditions, such as *Clostridium difficile* if included in part 2 of the certificate, being coded as the underlying cause of death. The attached algorithm may be of value in determining whether HAI contributed to the death (Appendix 2).
3. The definition of what constitutes an HAI can be difficult. HAI includes meticillin resistant *Staphylococcus aureus* (MRSA) and *C. difficile* infections but it can be much wider than this. Appendix 2 may help in this regard. Further advice may be obtained from Infection Control Doctors.
4. Death certificates for patients who have died in hospital should only be completed **after discussion with a consultant.** Ideally this will be the patient's named consultant: if unavailable then the discussion should be had with the on call or other consultant. The patient's named consultant should be recorded on the certificate.
5. **Wherever possible,** medical staff should discuss the death certificate with the relatives of the deceased. Discussing the death and its causes with the family and issuing the death certificate should be regarded as separate but complementary activities. Both are the responsibility of the consultant who was responsible for the care of that patient, and should be regarded as part of that care. Ideally, both activities should take place at the same time. The discussion should include an explanation of the requirements of death certification, that it is an important statistical record and that it records those illnesses which, in the judgement of the certifying doctor, contributed to the patient's death. The discussion should be open and sensitive and allow time and opportunity for the family to ask questions, make comments and express concerns.
6. **Boards should ensure systems are in place whereby deaths where HAI is recorded on the death certificate are reported to the Infection Control Manager** (contactable via the Board switchboard).

Death and the Procurator Fiscal

1. All doctors must follow the Crown Office and Procurator Fiscal Service guidance ***Death and the Procurator Fiscal October 2008***.
<http://www.copfs.gov.uk/sites/default/files/Publications/Resource/Doc/13546/0000506.pdf> Revised guidance is expected to be issued.
2. One of the indications for reporting a death to the Procurator Fiscal is where the death occurs as a result directly/indirectly of an infection acquired while under medical or dental care while on NHS premises (section 6 (v) (h)). It may be helpful for Boards to have discussions with their local Fiscal. Investigations by the group developing this guidance established that Fiscals generally interpret HAI as referring to MRSA or *C. difficile* related deaths. Deaths arising from an outbreak must always be reported to the Fiscal.
3. At the time of contacting the Procurator Fiscal, it is helpful wherever possible to have full details to hand including **information about a planned rapid event investigation or other structured review and action plan** as this may aid the Fiscal in deciding whether any investigation is required on their part. It is helpful to discuss with the Infection Control Manager beforehand (contactable via the Board switchboard).
4. NHS Boards may find it helpful to establish a liaison with the local Procurator Fiscal. Each Procurator Fiscal area either has a dedicated Deaths Unit or an Area Deaths Specialist responsible for the investigation of deaths in their area following the receipt of death reports (Appendix 3). It would be advisable to make contact with the relevant personnel in the first instance.

Training

1. **Boards should ensure all doctors employed by them are appropriately trained in completion of death certificates.** This is key for accurate recording of HAI deaths and will also contribute to the training which will be necessary for the Certification of Death (Scotland) Act 2011 once implemented. The new Act will result in the scrutiny of both death certificates and case notes of a proportion of deaths, by independent assessors.
2. Training should include the points in the sections above.
3. Training is available on the DOTS website.
<https://www.nhsdots.org/DOTS/login/login.aspx>

Follow up of a death

1. A rapid event investigation should be conducted, as a minimum, for all deaths where *C. difficile* or *Staphylococcus aureus* bacteraemia (SAB) contributed to the death and results taken through the appropriate internal governance mechanisms.

National Records of Scotland data

- 1. All Boards should ensure National Records of Scotland (formerly General Register Office for Scotland) weekly and quarterly death data for, at a minimum, *C. difficile* and MRSA are conveyed in a timely manner to the Infection Control Manager.** These data should be checked against data already held by the Board.
- 2. Boards should ensure they have reliable systems to identify, as a minimum, *C. difficile* and MRSA associated deaths.**

Appendix 1

Guidance on completion of medical death certificates - Healthcare Associated Infections (extract from *Advice from the Chief Medical Officer September 2009*)

It is a matter for your clinical judgment whether a condition the patient had at death, or in the preceding period, contributed to their death, and if so, whether it should be included on the MCCD. While families may be surprised if you do not include something that they believe contributed to their relative's death, it is your clinical judgment that must be recorded.

Where infection does follow treatment, including surgery, radiotherapy, antineoplastic, immunosuppressive, antibiotic or other drug treatment for another disease, remember to specify the treatment and the disease for which it was given.

If a Healthcare Associated Infection was part of the sequence leading to death, it should be in part I of the certificate, and you should include all the conditions in the sequence of events back to the original disease being treated.

It is important to emphasise that all deaths where an HAI is recorded as the underlying or contributory cause must be reported to the Procurator Fiscal (section 9 of the guidance "Death and the Procurator Fiscal", October 2008

<http://www.copfs.gov.uk/sites/default/files/Publications/Resource/Doc/13546/0000506.pdf> refers).

Reporting of an HAI related death will not necessarily lead to action on the part of the Procurator Fiscal; but will allow local Area Procurator Fiscal offices to identify any clusters of HAI related deaths that may imply an acute serious public health risk in addition to the monitoring undertaken by Health Boards, supported by Health Protection Scotland (HPS), General Register Office for Scotland (GROS) (*now National Records of Scotland*) and Information Services Division (ISD).

Example:-

I (a) Clostridium difficile pseudomembranous colitis

I (b) Multiple antibiotic therapy

I (c) Community acquired pneumonia with severe sepsis

II Immobility, Polymyalgia Rheumatica, Osteoporosis

Example:-

1(a) Bronchopneumonia (hospital acquired meticillin resistant Staphylococcus aureus)

1 (b) Multiple myeloma

II Chronic obstructive airways disease

If your patient had an HAI which was not part of the direct sequence, but which you think contributed at all to their death, it should be mentioned in part II.

I (a) Carcinomatosis and renal failure

I (b) Adenocarcinoma of the prostate

II. Chronic obstructive airways disease and catheter associated Escherichia coli urinary tract infection.

Appendix 2

Why is it so important to complete death certificates accurately?

1. Allows statistics to be accurately compiled to determine contribution of different causes of death to mortality
2. Monitors the health of the population
3. Allows design and evaluation of health interventions
4. Contributes to determining priorities for medical research and for health services
5. Contributes to planning health services
6. Contributes to assessment of effectiveness of health services
7. Failure to complete part 1 fully can occasionally, through international coding rules, result in conditions in part 2 of the certificate being coded as the underlying cause of death.

A document that describes the use of Vital Events statistics can be found at <http://www.gro-scotland.gov.uk/statistics/theme/vital-events/general-bckgr-info/index.html>

Why is surveillance of death due to infection important?

1. Protects public health (notifiable diseases and organisms)
2. Is a legal requirement if a serious communicable disease contributed to death.

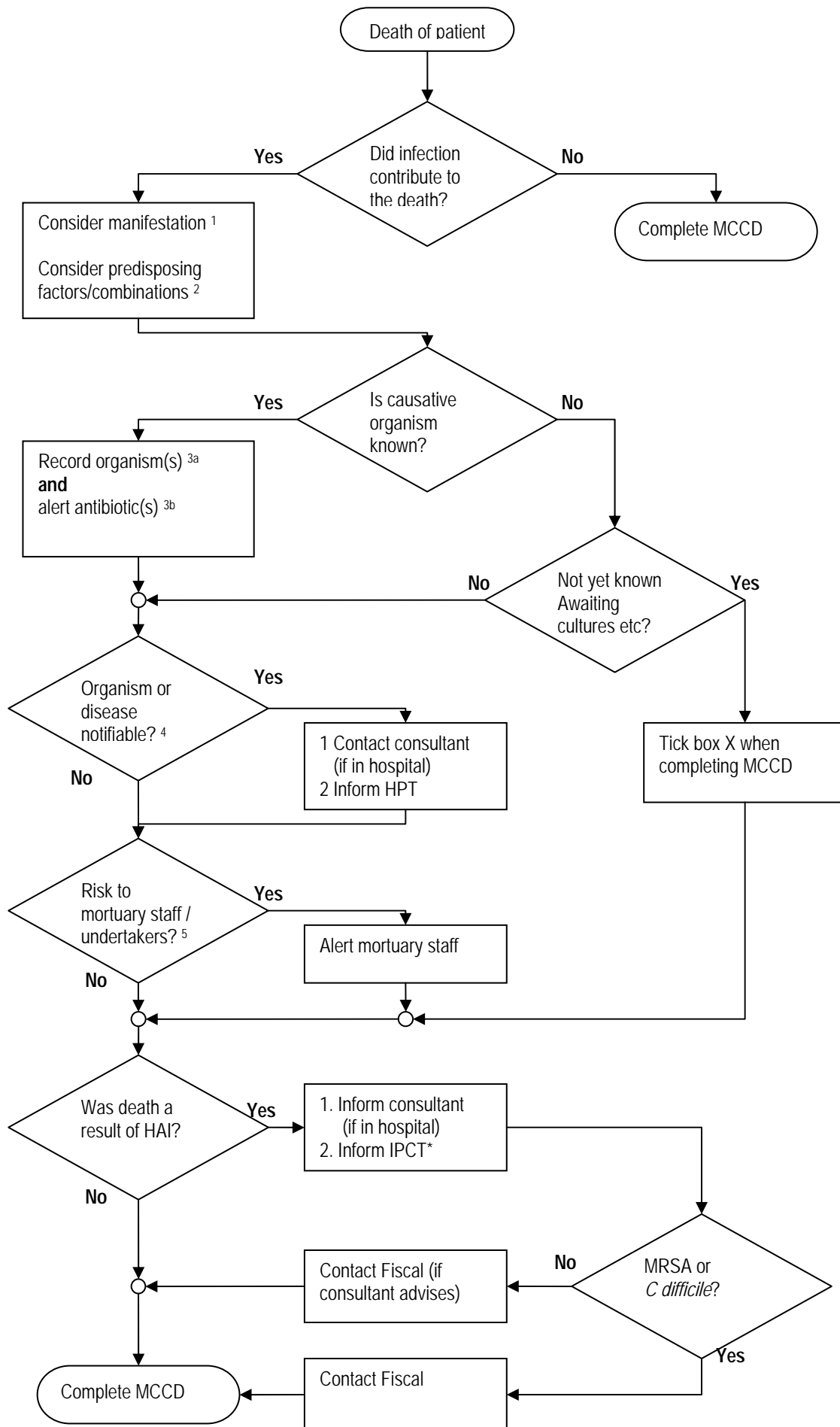
Abbreviations in this document

MCCD : Medical Certificate of Cause of Death

HPT: Health Protection Team

IPCT: Infection Prevention and Control Team

* The Infection Control Manager is contactable via the Board switchboard



1. Manifestation: Examples include

- Septicaemia
- Pneumonia
- Meningitis/encephalitis
- Pyelonephritis
- Skin/soft tissue
- Deep organ infection
- Colitis
- Endocarditis
- Necrotising fasciitis

2. Predisposing factors: Examples include

- Cancer or its treatment (radiotherapy/chemotherapy)
- Immunosuppression
- Immunological
- Disease process e.g. HIV
- Medical devices
- Diabetes

3a Examples of pathogens include

- MRSA (Meticillin resistant *Staphylococcus aureus*)
- *Clostridium difficile*
- *Streptococcus pneumoniae*
- *S. aureus* - PVL producer
- *Escherichia coli*
- *Streptococcus pyogenes*
- *Mycobacterium tuberculosis*
- *Neisseria meningitidis*
- CJD/vCJD

3b Examples of antibiotic resistance alerts include

- Group A strep (*S. pyogenes*)
 - Group B strep
 - Group C strep
 - *S. pneumoniae*
- } Penicillin resistant
- Meticillin resistant *S. aureus* (MRSA)
 - Vancomycin/Teicoplanin resistant *S. aureus*
 - Vancomycin/Teicoplanin resistant Enterococci (VRE)
- *Klebsiella pneumoniae*
 - *E. coli*
- } Imipenem/Meropenem resistant
Carbapenemase producer
Tigecycline resistant

Acinetobacter
Pseudomonas aeruginosa

Imipenem/Meropenem resistant
}

- Gram negative bacilli resistant to > 3 different antibiotic classes
- Multidrug resistant TB

4. Notifiable diseases and organisms: see annex A from Implementation guidance for part 2 of Public Health etc. (Scotland) Act 2008

<http://www.scotland.gov.uk/Topics/Health/NHS-Scotland/publicact/Implementation/Timetable3333/Part2Guidance/Q/EditMode/on/ForceUpdate/on>

5. Guidance on risks to mortuary staff/undertakers. Sections 90-93 of part 6 of Public Health etc. (Scotland) Act 2008: paras 233 – 247 from Implementation guidance

<http://www.scotland.gov.uk/Topics/Health/NHS-Scotland/publicact/Implementation/Timetable3333/GuidanceParts3-6/Q/EditMode/on/ForceUpdate/on>

6. Examples of HAI on MCCDs from: SGHD/CMO(2009)10 *Guidance for medical staff completing medical certificates of the cause of death. Advice from the Chief Medical Officer September 2009*

[http://www.sehd.scot.nhs.uk/cmo/CMO\(2009\)10.pdf](http://www.sehd.scot.nhs.uk/cmo/CMO(2009)10.pdf)

a) If an HAI was part of the sequence leading to death it should be in part I of the MCCD and you include all the conditions in the sequence of events back to the original disease being treated. In all cases of HAI as underlying or contributory cause the Procurator Fiscal must be informed

Example:

Ia *Clostridium difficile* pseudomembranous colitis

Ib Multiple antibiotic therapy

Ic Community acquired pneumonia with severe sepsis

II Immobility, osteoporosis

Example

1a Bronchopneumonia (hospital acquired meticillin resistant *Staphylococcus aureus*)

1b Multiple myeloma

II Chronic obstructive airways disease

b) If the patient had an HAI which was not part of the direct sequence but which you think contributed to their death it is recorded in part II

Example

1a Carcinomatosis and renal failure
1b Adenocarcinoma of the prostate

II Chronic obstructive airways disease and catheter associated Escherichia coli urinary tract infection

c) Infections that are not HAIs**Example**

1a Lobar pneumococcal pneumonia
I b Chronic myeloid leukaemia

II Ischaemic heart disease

Example

Ia Bronchopneumonia
Ib Immobility and wasting
Ic Alzheimer's disease

7. **Further information** is available from the National Records of Scotland (formerly General Register Office for Scotland) publication 'Notes on how to fill in the medical certificate of cause of death'

<http://www.gro-scotland.gov.uk/files2/stats/death-certificates/f11-notes-and-form-1jan99todate.pdf>

Appendix 3

List of COPFS Area Deaths Units and Contact Numbers

Argyll and Clyde

Area Deaths Unit based at Dumbarton Procurator Fiscal Office

Contact telephone number: 0844 561 4537

Ayrshire Area

Area Deaths Unit based at Ayr Procurator Fiscal Office

Contact telephone number: 0844 561 3654

Central Area

Area Deaths Unit based at Falkirk Procurator Fiscal Office

Contact telephone number: 0844 561 3123

Dumfries and Galloway Area

Area Deaths Unit based at Stranraer Procurator Fiscal Office

Contact telephone number: 0844 561 3468

Fife Area

Area Deaths Unit based at Kirkcaldy Procurator Fiscal Office

Contact telephone number: 0844 561 3491

Glasgow Area

Area Deaths Unit based at Glasgow Procurator Fiscal Office

Contact telephone number: 0844 561 2470

Grampian Area

Area Deaths Unit based at Aberdeen Procurator Fiscal Office

Contact telephone number: 0844 561 4432

Highlands and Islands Area

There is no assigned Area Deaths Unit in this area, but it is normally the District Procurator Fiscal who conducts or supervises deaths investigations as shown below.

District Procurator Fiscal, Inverness

Contact telephone number: 0844 561 4929

Lanarkshire Area

Area Deaths Unit based at Hamilton Procurator Fiscal Office

Contact telephone number: 0844 561 3320

Lothian and Borders Area

Area Deaths Unit based at Edinburgh Procurator Fiscal Office

Contact telephone number: 0844 561 4110

Tayside Area

Area Deaths Unit based at Dundee Procurator Fiscal Office

Contact telephone number: 0844 561 2878

Scottish Fatalities Investigation Unit (SFIU)

Crown Office: based at Glasgow Procurator Fiscal Office

Contact telephone number: 0844 561 2064