

Guidance for doctors completing Medical Certificates of Cause of Death in England and Wales

FOR USE DURING THE EMERGENCY PERIOD ONLY

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In an emergency period of the COVID-19 pandemic there is a relaxation of previous legislation concerning completion of the medical certificate cause of death (MCCD) by medical practitioners (referred to for the remainder of this document as doctor). The important changes occur in Sections 2 and 3 of this guidance. You should use standard guidance outside of the emergency period.

This guidance is intended to complement the notes for doctors in the front of every book of MCCDs. Those instructions remain current and doctors should familiarise themselves with the MCCD notes and consult them if they are in any doubt about whether, or how, to certify a death.

Those medical practitioners who have been appointed as medical examiners and also those appointed as medical examiner officers can provide resource to the death certification process where required in a period of emergency.

1. The purposes of death certification

Prompt and accurate certification of death is essential as it serves a number of functions. A medical certificate of cause of death (MCCD) enables the deceased's family to register the death. This provides a permanent legal record of the fact of death and enables the family to arrange disposal of the body, and to settle the deceased's estate.

A doctor who attended the deceased during their last illness has a legal responsibility to complete a MCCD and arrange for the transmission (electronic recommended) of it to the relevant registrar as soon as possible to enable the registration to take place this duty may be discharged through another doctor who may complete an MCCD in an emergency period. Deaths are required by law to be registered within 5 days of their occurrence unless there is to be a coroner's post mortem or an inquest.

After registering the death, the family is provided with a certified copy of the register entry ("death certificate"), which includes an exact copy of the cause of death information that you give. This provides them with an explanation of how and why their relative died. It also gives them a permanent record of information about their family medical history, which may be important for their own health and that of future generations. For all of these reasons it is extremely important that you provide clear, accurate and complete information about the diseases or conditions that caused your patient's death in a timely manner.

Information from death certificates is used to measure the relative contributions of different diseases to mortality. Statistical information on deaths by **underlying cause** is important for monitoring the health of the population, designing and evaluating public health interventions, recognising priorities for medical research and health services, planning health services, and assessing the effectiveness of those services. Death certificate data are extensively used in research into the health effects of exposure to a wide range of risk factors through the environment, work, medical and surgical care, and other sources.

In the emergency period, the registrar will accept a scanned (or photographed) and emailed copy of the completed MCCD. The email must be sent from a secure email address (for example NHS.net) to a secure email address (for example .gov.uk). The list of qualified informants includes a funeral director (where they are acting on behalf of the family). If the MCCD is scanned and emailed the original signed form should be securely retained and delivered to the registrar as soon as possible after the emergency period (this should be discussed and agreed with the registration service).

2. Who should certify the death?

In an emergency period, any doctor can complete the MCCD, when it is impractical for the attending doctor to do so. This may, for example, be when the attending doctor is self-isolating, unwell, or has pressure to attend patients. In these circumstances, it may be practical to allow a medical examiner or recently retired doctor returning to work to complete the MCCD.

There is no clear legal definition of "attended", but it is generally accepted to mean a doctor who has cared for the patient during the illness that led to death and so is familiar with the patient's medical history, investigations and treatment. For the purposes of the emergency period, the attendance may be in person, via video/visual consultation, but not audio (e.g. via telephone). The certifying doctor should also have

access to relevant medical records and the results of investigations. There is no provision in the emergency period to delegate this statutory duty to any non-medical practitioner.

Where the certifying doctor has not seen the deceased before death they should delete the words last seen alive by me on.

If the deceased has been seen before death by a doctor but not the certifying doctor, as well as signing the MCCD they should include the name of that doctor on the MCCD.

In hospital, there may be several doctors in a team caring for the patient. It is ultimately the responsibility of the consultant in charge of the patient's care to ensure that the death is properly certified. Any subsequent enquiries, such as for the results of post-mortem or ante-mortem investigations, will be addressed to the consultant.

In general practice, more than one GP may have been involved in the patient's care and so be able to certify the death. In the emergency period, the same provisions to enable any doctor to certify the death prevail in general practice.

If no doctor has attended the deceased within 28 days of death (including video/visual consultation) or the deceased was not seen after death by a doctor, the MCCD can still be completed. However, the registrar will be obliged to refer the death to the coroner before it can be registered. In these circumstances, the coroner may instruct the registrar to accept the certifying doctor's MCCD for registration.

Where a cause of death cannot be ascertained, the death cannot be certified, and the doctor should refer the death directly to the coroner with any supporting information. The coroner may from this information determine no investigation is needed and inform the registrar that the death can be registered. This information will be used for mortality statistics, but the death will be legally "uncertified" if the coroner does not investigate and make a determination as to the cause of death. However, once the registrar has received the coroner's notification the death may be registered.

3. Referring deaths to the coroner

- Covid-19 is an acceptable direct or underlying cause of death for the purposes of completing the Medical Certificate of Cause of Death
- Covid-19 is not a reason on its own to refer a death to a coroner under the Coroners and Justice Act 2009.
- That Covid-19 is a notifiable disease under the Health Protection (Notification) Regulations 2010 does not mean referral to a coroner is required by virtue of its notifiable status.

Medical practitioners are required to certify causes of death "to the best of their knowledge and belief". Without diagnostic proof, if appropriate and to avoid delay, medical practitioners can circle '2' in the MCCD ("*information from post-mortem may be available later*") or tick Box B on the reverse of the MCCD for ante-mortem investigations. For example, if before death the patient had symptoms typical of COVID-19 infection, but the test result has not been received, it would be satisfactory to give 'COVID-19' as the cause of death, tick Box B and then share the test result when it

becomes available. In the circumstances of there being no swab, it is satisfactory to apply clinical judgement.

Doctors and registrars of births and deaths have a legal obligation to report certain categories of deaths to the coroner before they can be registered. These include deaths where there is reason to suspect, the death was unnatural, unexplained, violent or where the death occurs in prison or otherwise in state detention. Deaths occurring during an operation, or before full recovery from an anaesthetic should also be referred. In addition, there will always be cases which may on one view be 'natural' which have some other element (e.g. neglect concerns) which brings them within the orbit of the coroner. Deaths for which the cause is not known must be reported to the coroner. In the emergency period, if no doctor has attended the deceased within 28 days of death (including video/visual consultation) or the deceased was not seen after death by a doctor, the death must be referred to the coroner.

Strictly speaking, the law requires that an MCCD should be completed even when a death has been referred to the coroner. In practice, if the coroner has decided to order a post-mortem examination and/or to hold an inquest, he may tell a doctor not to complete the MCCD. However, the coroner can only legally certify the cause of death if he has investigated it through autopsy, inquest or both. This means that, if the coroner decides not to investigate, the registrar will need to obtain an MCCD from a doctor who attended the deceased before the death can be registered. This may cause inconvenience to you and the family, if you have not already provided one. This will avoid the death having to be registered as uncertified.

When a death is referred, it is up to the coroner to decide whether or not it should be investigated further. It is very important that the coroner is given all of the facts relevant to this decision. The doctor should discuss the case with the coroner before issuing an MCCD if at all uncertain whether he or she should certify the death. This allows the coroner to make enquiries and decide whether or not any further investigation is needed, before the family tries to register the death. The coroner may decide that the death can be registered from the doctor's MCCD. For example, around 60% of deaths with fractured neck of femur mentioned on the certificate are registered from the original MCCD following referral to the coroner (2016 figures). Omitting to mention on the certificate conditions or events that contributed to the death in order to avoid referral to the coroner is **unacceptable and a breach of the doctor's legal obligations**. If these come to light when the family registers the death, the registrar will be obliged to refer it to the coroner. If the fact emerges after the death is registered, an inquest may still be held.

4. How to complete the cause of death section

- COVID-19 is an acceptable direct or underlying cause of death for the purposes of completing the Medical Certificate of Cause of Death
- COVID-19 is not a reason on its own to refer a death to a coroner under the Coroners and Justice Act 2009.
- That COVID-19 is a notifiable disease under the Health Protection (Notification) Regulations 2010 does not mean referral to a coroner is required by virtue of its notifiable status.

Medical practitioners are required to certify causes of death “to the best of their knowledge and belief”. Without diagnostic proof, if appropriate and to avoid delay, medical practitioners can circle ‘2’ in the MCCD (“*information from post-mortem may be available later*”) or tick Box B on the reverse of the MCCD for ante-mortem investigations. For example, if before death the patient had symptoms typical of COVID-19 infection, but the test result has not been received, it would be satisfactory to give ‘COVID-19’ as the cause of death, tick Box B and then share the test result when it becomes available. In the circumstances of there being no swab, it is satisfactory to apply clinical judgement.

As previously mentioned, doctors are expected to state the cause of death to the best of their knowledge and belief; they are not expected to be infallible. Even without any changes to the law, there is increased scrutiny of death certification and patterns of mortality by local and national agencies as a result of the Shipman Inquiry. Suspicions may be raised if death certificates appear to give inadequate or vague causes of death. For example, if a patient dies under the care of an orthopaedic surgeon, it might be expected that some orthopaedic condition contributed to the death and so this condition would be mentioned in part I or part II of the certificate. Similarly, it would be surprising if a patient was being treated in an acute hospital, but no significant disease or injury at all was mentioned on their death certificate.

The level of certainty as to the cause of death varies. What to do, depending on the degree of certainty or uncertainty about the exact cause of death, is discussed below.

4.1 Sequence leading to death, underlying cause and contributory causes

The MCCD is set out in two parts, in accordance with World Health Organisation (WHO) recommendations in the International Statistical Classification of Diseases and Related Health Problems (ICD). You are asked to start with the immediate, direct cause of death on line Ia, then to go back through the sequence of events or conditions that led to death on subsequent lines, until you reach the one that started the fatal sequence. If the certificate has been completed properly, the condition on the lowest completed line of part I will have caused all of the conditions on the lines above it. This initiating condition, on the lowest line of part I will usually be selected as the **underlying cause of death**, following the ICD coding rules. WHO defines the ***underlying cause of death*** as “**a) the disease or injury which initiated the train of morbid events leading directly to death, or b) the circumstances of the accident or violence which produced the fatal injury**”. **From a public health point of view, preventing this first disease or injury will result in the greatest health gain.** Most routine mortality statistics are based on the underlying cause. Underlying cause statistics are widely used to determine priorities for health service and public health programmes and for resource allocation. Remember that the underlying cause may be a longstanding, chronic disease or disorder that predisposed the patient to later fatal complications.

You should also enter any other diseases, injuries, conditions, or events that contributed to the death, but were not part of the direct sequence, in part two of the certificate. The conditions mentioned in part two must be known or suspected to have contributed to the death, not merely be other conditions which were present at the time.

Examples of cause of death section from MCCDs (including example of COVID-19 as underlying cause of death):

Cause of death the disease or condition thought to be the underlying cause should appear in the lowest completed line of part I	
I	(a) Disease or condition leading directly to death Interstitial pneumonitis
	(b) other disease or condition, if any, leading to I(a) COVID-19
	(c) other disease or condition, if any, leading to I(b) primary adenocarcinoma of ascending colon
II	Other significant conditions Contributing to death but not related to the disease or condition causing it diabetes mellitus

Cause of death the disease or condition thought to be the underlying cause should appear in the lowest completed line of part I	
I	(a) Disease or condition leading directly to death Intraperitoneal haemorrhage
	(b) other disease or condition, if any, leading to I(a) Ruptured metastatic deposit in liver
	(c) other disease or condition, if any, leading to I(b) primary adenocarcinoma of ascending colon
II.	Other significant conditions Contributing to death but not related to the disease or condition causing it Non-insulin dependent diabetes

The colon cancer on line 1(c) led directly to the liver metastases on line 1(b), which ruptured, causing the fatal haemorrhage on 1(a). Adenocarcinoma of the colon is the underlying cause of death.

Cause of death the disease or condition thought to be the underlying cause should appear in the lowest completed line of part I	
I	(a) Disease or condition leading directly to death Cerebral infarction
	(b) other disease or condition, if any, leading to I(a) Thrombosis of basilar artery
	(c) other disease or condition, if any, leading to I(b) Cerebrovascular atherosclerosis
II	Other significant conditions Contributing to death but not related to the disease or condition causing it

(In subsequent examples, to save space, the layout of the MCCD has not been reproduced. All examples are taken from actual MCCDs of deaths in England and Wales).

In some cases, a single disease may be wholly responsible for the death. In this case, it should be entered on line Ia.

Example:

Ia. Meningococcal septicaemia

Meningococcal septicaemia is the underlying cause of this death.

- **More than three conditions in the sequence**

The MCCD in use in England and Wales currently has 3 lines in part I for the sequence leading directly to death. If you want to include more than 3 steps in the sequence, you can do so by writing more than one condition on a line, indicating clearly that one is due to the next.

Example:

Ia. Post-transplant lymphoma

Ib. Immunosuppression following renal transplant 15 years ago

Ic. Glomerulonephrosis due to insulin dependent diabetes mellitus

II. Recurrent urinary tract infections

Insulin dependent diabetes with renal complications is the underlying cause.

- **More than one disease may have led to death**

If you know that your patient had more than one disease or condition that was compatible with the way in which he or she died, but you cannot say which was the most likely cause of death, you should include them all on the certificate. They should be written on the same line and you can indicate that you think they contributed equally by writing “joint causes of death” in brackets.

Examples:

Ia. Cardiorespiratory failure

Ib. Ischaemic heart disease and chronic obstructive airways disease

Ic.

II. Osteoarthritis

Ia. Hepatic failure

Ib. liver cirrhosis

Ic. Chronic hepatitis C infection and alcoholism (joint causes of death)

II.

Where more than one condition is given on the lowest used line of part 1, ONS will use the internationally agreed mortality coding rules in ICD-10 to select the underlying cause for routine mortality statistics.

Since 1993, ONS also code all the other conditions mentioned on the certificate. These multiple cause of death data are used by ONS in a variety of routine and *ad hoc* analyses, and can be made available for research in some circumstances. Multiple

cause data provides useful additional information on the mortality burden associated with diseases that are not often selected as the main cause of death. For example, conditions that are very often complications of another disease or its treatment, such as deep vein thrombosis / pulmonary embolism or health care associated infections should rarely be the underlying cause of death. Their contribution to mortality is better estimated from multiple cause data. In contrast to the above, **if you do not know that your patient actually had any specific disease compatible with the mode and circumstances of death**, you must refer the death to the coroner. For example, if your patient died after the sudden onset of chest pain that lasted several hours and you have no way of knowing whether he or she may have had a myocardial infarct, a pulmonary embolus, a thoracic aortic dissection, or another pathology, **it is up to the coroner to decide what investigations to pursue.**

4.2 Results of investigations awaited

If in broad terms you know the disease that caused your patient's death, but you are awaiting the results of laboratory investigation for further detail, you need not delay completing the MCCD. For example, a death can be certified as bacterial meningitis once the diagnosis is firmly established, even though the organism may not yet have been identified. Similarly, a death from cancer can be certified as such while still awaiting detailed histopathology. This allows the family to register the death and arrange the funeral. However, you should indicate clearly on the MCCD that information from investigations might be available later. You can do this by circling '2' on the front of the MCCD for autopsy information, or by ticking box 'B' on the back of the certificate for results of investigations initiated ante-mortem. It is important for public health surveillance to have this information on a national basis; for example, to know how many meningitis and septicaemia deaths are due to meningococcus, or to other bacterial infections. The registrar will write to the certifying doctor if a GP, or to the patient's consultant for hospital deaths, with a form requesting further details to be returned to ONS.

4.3 Avoid 'old age' alone

Old age, 'senility' or 'frailty of old age' should only be given as the **sole** cause of death in very limited circumstances. These are that:

- You have personally cared for the deceased over a long period (years, or many months)
- You have observed a gradual decline in your patient's general health and functioning
- You are not aware of any identifiable disease or injury that contributed to the death
- You are certain that there is no reason that the death should be reported to the coroner

You may mention old age or frailty as a contributory cause, especially if it explains the severe effect of a condition that is not usually fatal. If the immediate cause of death was Covid-19 or its consequences, and the patient had no specific pre-existing health conditions, but appears to have been especially vulnerable to Covid-19 or its effects because of old age or frailty, it is appropriate to state old age or frailty as contributing to the death.

You should bear in mind that coroners, crematorium referees, registrars and organisations that regulate standards in health and social care, may ask you to support your statement with information from the patient's medical records and any investigations that might have a bearing on the cause of death. You should also be aware that the patient's family may not regard old age as an adequate explanation for their relative's death and may request further investigation.

It is unlikely that patients would be admitted to an acute hospital if they had no apparent disease or injury. It follows that deaths in acute hospitals are unlikely to fulfil the conditions above. You can specify old age as the underlying cause of death, but you should also mention in part one or part two, as appropriate, any medical or surgical conditions that may have contributed to the death.

Examples:

- Ia. Pathological fractures of femoral neck and thoracic vertebrae*
- Ib. Severe osteoporosis*
- Ic. Old age*

II. Fibrosing alveolitis

- Ia. Old age*
- Ib.*
- Ic.*

II. Non-insulin dependent diabetes mellitus, essential hypertension and diverticular disease

- Ia. Hypostatic pneumonia*
- Ib. Dementia*
- Ic. Old age*

II.

While there is no statutory age limit or restriction on referring to 'old age', a death certified as due to old age or senility alone will usually be referred to the coroner, unless the deceased was 80 or older, **all** the conditions listed above are fulfilled and there is no other reason that the death should be referred. Similar terms, such as 'frailty of old age', will be treated in the same way.

4.4 Never use 'natural causes' alone

The term "natural causes" alone, with no specification of any disease on a doctor's MCCD, is not sufficient to allow the death to be registered without referral to the coroner. If you do not have any idea what disease caused your patient's death, it is up to the coroner to decide what investigations may be needed.

4.5 Avoid organ failure alone

Do not certify deaths as due to the failure of any organ without specifying the disease or condition that led to the organ failure. Failure of most organs can be due to unnatural causes, such as poisoning, injury or industrial disease. This means that the death will have to be referred to the coroner if no natural disease responsible for organ failure is specified.

Examples:

- Ia. Renal failure*
- Ib. Necrotising-proliferative nephropathy*
- Ic. Systemic lupus erythematosus*

II. Raynaud's phenomenon and vasculitis

- Ia. Liver failure*
- Ib. Hepatocellular carcinoma*
- Ic. Chronic Hepatitis B infection*

*II. Congestive cardiac failure
Essential hypertension*

Conditions such as renal failure may come to medical attention for the first time in frail, elderly patients in whom vigorous investigation and treatment may be contraindicated, even though the cause is not known. When such a patient dies, you are advised to discuss the case with the coroner before certifying. If the coroner is satisfied that no further investigation is warranted, the registrar can be instructed to register the death based on the information available on the MCCD. The registrar cannot accept an MCCD that gives only organ failure as the cause of death without explicit instruction from the coroner.

4.6 Avoid physical and mental conditions which are not fatal in themselves

Long-term physical disabilities, mental health problems and learning difficulties (also known as learning disabilities or intellectual disabilities) are rarely sufficient medical explanation of the death in themselves. If such a condition is considered to be relevant, the more immediate mechanism(s) or train of events leading to death must be made clear.

Example (1): A person with learning difficulties may develop aspiration pneumonia. Aspiration pneumonia should be given as the immediate cause of death; the person's learning difficulties could be included in Part 2 of the certificate if thought to be a contributory factor, but not in Part 1, as having learning difficulties does not form a direct sequence of events to having pneumonia.

Example (2): A congenital syndrome which causes learning difficulties may also cause an organ defect which can lead to premature death. The organ failure should then be included in the certificate.

A description such as 'learning difficulties' should not be the only cause of death. You may give a degenerative condition such as Alzheimer's disease as the only cause of death if the mechanism by which it caused death is unclear but it is fully supported by the clinical history as the underlying cause.

4.7 Avoid terminal events, modes of dying and other vague terms

Terms that do not identify a disease or pathological process clearly are not acceptable as the only cause of death. This includes terminal events, or modes of dying such as cardiac or respiratory arrest, syncope or shock. Very vague statements such as cardiovascular event or incident, debility or frailty are equally unacceptable. 'Cardiovascular event' could be intended to mean a stroke or myocardial infarction. It could, however, also include cardiac arrest or fainting, or a surgical or radiological procedure. If no clear disease can be identified as the cause of death, referral to the coroner will be necessary.

4.8 Never use abbreviations or symbols

Do not use abbreviations on death certificates. Their meaning may seem obvious to you in the context of your patient and their medical history, but it may not be clear to others. For example, does a death from “MI” refer to myocardial infarction or mitral incompetence? Is “RTI” a respiratory or reproductive tract infection, or a road traffic incident? The registrar **should not accept a certificate that includes any abbreviations.** (The only exceptions, which the registrar can accept, are HIV and AIDS for human immunodeficiency virus infection and acquired immune deficiency syndrome). You, or the patient's consultant, may be required to complete a new certificate with the conditions written out in full, before the death can be registered. This is inconvenient for you and for the family of the deceased. **The same applies to medical symbols.**

5. Specific causes of death

5.1 Stroke and cerebrovascular disorders

Give as much detail about the nature and site of the lesion as is available to you. For example, specify whether the cause was haemorrhage, thrombosis or embolism, and the specific artery involved, if known. Remember to include any antecedent conditions or treatments, such as atrial fibrillation, artificial heart valves, or anticoagulants that may have led to cerebral emboli or haemorrhage. Avoid the term “cerebrovascular accident” and consider using terms such as “stroke” or “cerebral infarction” if no more specific description can be given.

Examples:

- Ia. Subarachnoid haemorrhage*
- Ib. Ruptured aneurysm of anterior communicating artery*
- Ic.*

II.

- Ia. Intraventricular haemorrhage*
- Ib. Warfarin anticoagulation*
- Ic. atrial fibrillation*

II.

5.2 Neoplasms

Malignant neoplasms (cancers) remain a major cause of death. Accurate statistics are important for planning care and assessing the effects of changes in policy or practice. Where applicable, you should indicate whether a neoplasm was benign, malignant, or of uncertain behaviour. Please remember to specify the histological type and anatomical site of the cancer.

Example:

- Ia. Carcinomatosis*
- Ib. Small cell carcinoma of left main bronchus*
- Ic. Heavy smoker for 40 years*

II. Hypertension, cerebral arteriosclerosis, ischaemic heart disease.

You should make sure that there is no ambiguity about the primary site if both primary and secondary cancer sites are mentioned. Do not use the terms “metastatic” or “metastases” unless you specify whether you mean metastasis to, or metastasis from, the named site.

Examples:

Ia. Intraperitoneal haemorrhage

Ib. Metastases in liver

Ic. From primary adenocarcinoma of ascending colon

II. Non-insulin dependent diabetes mellitus

Ia. Pathological fractures of left shoulder, spine and shaft of right femur

Ib. Widespread skeletal secondaries

Ic. primary adenocarcinoma of breast

II. Hypercalcaemia

Ia. Lung metastases

Ib. From testicular teratoma

Ic.

II.

If you mention two sites that are independent primary malignant neoplasms, make that clear.

Example:

Ia. Massive haemoptysis

Ib. Primary small cell carcinoma of left main bronchus

Ic.

II. Primary adenocarcinoma of prostate

If a patient has widespread metastases, but the primary site could not be determined, you should state this clearly.

Example:

Ia. multiple organ failure

Ib. poorly differentiated metastases throughout abdominal cavity

Ic. unknown primary site

II.

If you do not yet know the cancer type and are expecting the result of histopathology,

indicate that this information may be available later by initialing box 'B' on the back of the certificate. You, or the consultant responsible for the patient's care, may be sent a letter requesting this information at a later date.

In the case of leukaemia, specify whether it is acute, sub-acute or chronic, and the cell type involved.

Example:

- Ia. Neutropenic sepsis*
- Ib. Acute myeloid leukaemia*
- Ic.*

II.

- Ia. Haemorrhagic gastritis*
- Ib. Chronic lymphatic leukaemia*
- Ic.*

II. Myocardial ischaemia, valvular heart disease

5.3 Diabetes mellitus

Always remember to specify whether your patient's diabetes was insulin dependent / Type I, or non-insulin dependent / Type II. If diabetes is the underlying cause of death, specify the complication or consequence that led to death, such as ketoacidosis.

Examples:

- Ia. End-stage renal failure*
- Ib. Diabetic nephropathy*
- Ic. Insulin dependent diabetes mellitus*

II.

- Ia. Septicaemia - fully sensitive staphylococcus aureus*
- Ib. Gangrene of both feet due to peripheral vascular disease*
- Ic. Non-insulin-dependent diabetes mellitus*

II. Ischaemic heart disease

5.4 Deaths involving infections and communicable diseases

- That Covid-19 is a notifiable disease under the Health Protection (Notification) Regulations 2010 does not mean referral to a coroner is required by virtue of its notifiable status.
- If you are aware that a virology test for Covid-19 has been carried out, state the result if known, for example 'Covid-19 (positive test)'. However, certification should not be delayed to await the availability of test results.

Mortality data is important in the surveillance of infectious diseases, as well as monitoring the effectiveness of immunisation and other prevention programmes. If the patient's death involved a notifiable disease, you have a statutory duty to notify the proper officer for the area, unless the case has already been notified. This is normally a consultant in communicable disease control (CCDC) in your local Health Protection Team (HPT). If you are not sure whether a case is notifiable, you can get advice from

your local HPT who will also advise on appropriate microbiological investigations. Further information about notification and surveillance of infectious diseases is available at <https://www.gov.uk/government/collections/notifications-of-infectious-diseases-oids> In deaths from infectious disease, you should state the manifestation or body site, e.g. pneumonia, pyelonephritis, hepatitis, meningitis, septicaemia, or wound infection. You should also specify, giving as much detail as is available:

- The infecting organism, e.g. pneumococcus, influenza A virus, meningococcus
- Antibiotic resistance, if relevant, e.g. meticillin resistant *Staphylococcus aureus* (MRSA), or multiple drug resistant mycobacterium tuberculosis
- The source and/or route of infection, if known, e.g. food poisoning, needle sharing, contaminated blood products, post-operative, community or hospital acquired, or health care associated infection.

Example:

Ia. Bilateral pneumothoraces

Ib. Multiple bronchopulmonary fistulae

Ic. Extensive, cavitating pulmonary tuberculosis (smear and culture positive)

II. Iron deficiency anaemia; ventilator associated pseudomonas pneumonia

You need not delay completing the certificate until laboratory results are available, provided you are satisfied that the death need not be referred to the coroner. You should indicate, by ticking box 'B' on the back of the certificate, that further information may be available later. A letter may then be sent to you, or to the patient's consultant, requesting this information.

Failure to specify the infecting organism can lead to unnecessary investigation. For example, deaths are sometimes certified as being due to spinal or paraspinal abscess, without stating the organism(s) involved. These are then coded as tuberculosis following the ICD index and rules, which can lead to unnecessary efforts by the local CCDC to investigate the case.

Remember to specify any underlying disease that may have suppressed the patient's immunity or made them more susceptible to the infection that led to the death.

5.4.1 Health care associated infections

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 so whether it should be included on the MCCD. However, families may be surprised if you do not include something that they believe contributed to their relative's death. ONS receives frequent queries from a wide range of sources about mortality related to health care associated infections, and complaints about the quality of information given about them on death certificates. 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 health care 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.

Examples:

- Ia. clostridium difficile pseudomembranous colitis*
- Ib. multiple antibiotic therapy*
- Ic. community acquired pneumonia with severe sepsis*

II. immobility, Polymyalgia Rheumatica, Osteoporosis

- Ia. bronchopneumonia (hospital acquired Meticillin Resistant Staph aureus)*
- Ib. multiple myeloma*
- Ic.*

II. chronic obstructive airways disease

If your patient had an HCAI 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

- Ia. Carcinomatosis and renal failure*
- Ib. Adenocarcinoma of the prostate*
- Ic.*

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

5.4.2 Pneumonia

Pneumonia may present in previously fit adults, but often it occurs as a complication of another disease affecting the lungs, mobility, immunity, or swallowing. Pneumonia may also follow other infections and may be associated with treatment for disease, injury or poisoning, especially when ventilatory assistance is required. Remember to specify, where possible, whether it was lobar or bronchopneumonia and whether primarily hypostatic, or related to aspiration and the organism involved. You should include the whole sequence of conditions and events leading up to it. If known, specify whether the pneumonia was hospital or community acquired. If it was associated with mechanical ventilation, or invasive treatment, this should be clearly stated.

Example:

- Ia. pneumococcal pneumonia*
- Ib. Influenza A*
- Ic.*

II. Ischaemic heart disease

If you report bronchopneumonia, remember to include in the sequence in part I any predisposing conditions, especially those that may have led to paralysis, immobility, depressed immunity or wasting, as well as chronic respiratory conditions such as chronic bronchitis.

Example:

- Ia. bronchopneumonia*
- Ib. immobility and wasting*
- Ic. Alzheimer's disease*
- II.*

5.5 Injuries and external causes

All deaths involving **any** form of injury or poisoning **must** be referred to the coroner. If the death is not one that must be certified by the coroner and s/he instructs you, as the patient's clinician, to certify, remember to include details as to how the injury occurred and where it happened, such as at home, in the street, or at work.

Example:

- Ia. Pulmonary embolism*
- Ib. Fractured neck of femur*
- Ic. Tripped on loose floor rug at home*

- II. Left sided weakness and difficulty with balance since haemorrhagic stroke 5 years ago; hemiarthroplasty 2 days after fracture*

Remember to state clearly if a fracture was pathological, that is due to an underlying disease process such as a metastasis from a malignant neoplasm or osteoporosis.

5.6 Substance misuse

Deaths from diseases related to chronic alcohol or tobacco use need not be referred to the coroner, provided the disease is clearly stated on the MCCD.

Example:

- Ia. Carcinomatosis*
- Ib. Bronchogenic carcinoma upper lobe left lung*
- Ic. Smoked 30 cigarettes a day*

- II. Chronic bronchitis and ischaemic heart disease.*

- Ia. hepatic encephalopathy*
- Ib. alcoholic liver cirrhosis*
- Ic.*

- II. difficult to control insulin dependent diabetes*

Deaths due to acute or chronic **poisoning**, by **any** substance, and deaths involving drug dependence or misuse of substances other than alcohol and tobacco must be referred.

The General Register Office for England and Wales, which is part of Her Majesty's Passport Office, is responsible for legislation relating to the registration of births, marriages, civil partnerships and deaths (www.gro.gov.uk). Registration information is passed to the Office for National Statistics (ONS) who publish a wide range of mortality statistics (www.statistics.gov.uk) under the theme of 'Health and Care'. ONS also distribute the registration information to the Department of Health, other government departments, WHO and other international organisations, the NHS, local authorities and academics. For more information email mortality@ons.gov.uk

Coroners, forensic and general pathologists, general practitioners and medical specialists, epidemiologists and public health specialists, crematorium referees, the Coroner's Society, Ministry of Justice, ONS, Department of Health and Identity and Passport Service contributed to the development of this guidance through the Death Certification Advisory Group (DCAG).