

This form should be completed for patients who die at any time between their operation and postoperative day 30, including during initial admission or after discharge (within 30 days of the operation).

The following questions aim to better understand the series of events leading up to this patient's death. Please answer them to the best of your ability, consulting other team members involved in the patient's care where needed. If you are unable to answer the following questions, even with all the information available in your setting, please indicate this as 'Not able to identify a cause of death'.

This form should be completed from information and outputs from a morbidity and mortality meeting. If this is not available, then the independent opinion of two senior clinicians should be used. In the event neither of these are possible then the data inputter can complete the form based on the information they have available. Please indicate at the bottom of the form which data source was used.

All patients completing form M

M1	On what post-operative day did the patient die? _____ (Day 0 is the day of operation)
M2	Where did the patient die? (tick one) ☐ In the hospital in which they underwent the index operation ☐ In a different hospital to that where they underwent their index operation ☐ Out-of-hospital (i.e. at home or in the community) ☐ Hospice or equivalent
M3	Was a formal autopsy performed for this patient, and the results available to you? (tick one) ☐ No autopsy performed ☐ Autopsy performed, but results not available to me ☐ Autopsy performed and results available
M4	Was the case formally reviewed at a departmental Morbidity and Mortality (M&M) meeting or equivalent? (tick one) ☐ No ☐ Yes, but the results are not available to me ☐ Yes and results available
M5	Cause of death (tick one) ☐ Primary ☐ Secondary <i>A primary cause is the condition with which the patient presented to health-care services that required surgical treatment (i.e., failure to cure). A cause should be classified as primary if it would have been likely to cause death within 30 days from the disease or presentation requiring surgery. A secondary cause is a complication of the patient's surgical intervention, defined as an unintended or undesired occurrence in the health-care pathway that caused harm to the patient (i.e., failure to rescue)</i>
M6	Please outline the cause of death <i>If available, please include the cause(s) of death recorded on the death certificate.</i>
M7	Failure of which organ system using the Advanced Life Support algorithm (ABCDE) predominantly led to this patient's death? (tick one) ☐ Airway, including airway obstruction ☐ Breathing, including hypoxia and primary respiratory failure ☐ Circulation, including distributive, hypovolaemic, obstructive, cardiogenic and neurogenic shock ☐ Disability and exposure, including neurological events, hypo/hyperthermia, toxins, metabolic or electrolyte disturbance ☐ Not able to identify a cause of death
M8	Based on the information you have available, was this death preventable? (tick one) ☐ Not preventable ☐ Possibly preventable (< 50% likelihood) ☐ Probably preventable (>50% likelihood)
M9	Before presentation to hospital, what opportunities or changes in this patient's care may have prevented death? (tick all that apply) ☐ Earlier diagnosis or recognition of disease ☐ Better access or affordability of primary assessment ☐ Better health seeking behaviours ☐ More appropriate triage into secondary care or hospital ☐ Optimisation of existing long-term conditions ☐ Improved physiological reserve at baseline (prehabilitation) ☐ Other, please specify _____ ☐ None of the above
M10	In the pre-operative phase, but while the patient is in hospital, what opportunities or changes in this patient's care may have prevented death? (tick all that apply) ☐ Earlier diagnosis or recognition of disease ☐ Better access or affordability of assessment ☐ Improved communication between staff members or teams in the hospital ☐ Improved monitoring or recognition of deterioration ☐ Improved access to diagnostic tests and imaging ☐ Earlier initial resuscitative treatment ☐ Better availability of resuscitative products (e.g., blood, fluids, drugs) ☐ Prompt escalation to senior clinician(s) ☐ Earlier decision for surgical intervention ☐ More operating theatre capacity or better access to operating theatre ☐ Admission under the correct speciality team ☐ Incorrect decision for surgery e.g. patient should have been offered a less invasive treatment or non-surgical management or surgery was futile ☐ Suboptimal preoperative optimisation; for example lack of recognition of comorbidities, inadequate resuscitation ☐ Availability of a higher care environment e.g., high dependency unit or intensive care ☐ Improved capacity for non-operative strategies (interventional radiology / endoluminal) ☐ Other, please specify _____ ☐ None of the above
M11	In the intra-operative phase, what opportunities or changes in this patient's care may have prevented death? (tick all that apply) ☐ Improved communication between staff members or teams in the hospital ☐ More experienced surgeon present in theatre ☐ More experienced anaesthetist present in theatre ☐ Improved availability of surgeons from other specialities ☐ Better availability of resuscitative products (e.g., blood, fluids, drugs) ☐ Avoid surgical technical errors ☐ Improved surgical decision making ☐ Higher quality equipment or avoid equipment failure ☐ More stable supply of electricity ☐ Wrong operative decision e.g. colonic anastomosis when should have had stoma ☐ Wrong operative approach e.g. open when should be done laparoscopically or reverse ☐ Delay in conversion to a different operative approach e.g. laparoscopic converted to open ☐ Escalation to senior surgeon ☐ Other, please specify _____ ☐ None of the above

M12	Following the operation, but whilst the patient is still in hospital, what opportunities or changes in this patient's care may have prevented death? <i>(tick all that apply)</i> ☐ Availability of a higher care environment e.g., high dependency unit or intensive care unit ☐ Earlier diagnosis or recognition of post-operative complication ☐ Improved monitoring or recognition of deterioration ☐ Improved access to diagnostic tests and imaging ☐ Better availability of resuscitative products (e.g., blood, fluids, drugs) ☐ Prompt escalation to senior clinician(s) ☐ Earlier decision for surgical, endoscopic or radiological re-intervention ☐ More operating theatre capacity or improved access to operating theatre ☐ Improved capacity for non-operative rescue strategies (e.g. interventional radiology or endoluminal) ☐ Improved communication between staff members or teams in the hospital ☐ Improved access to rehabilitation ☐ Improved symptom relief (pain control, nausea and vomiting) ☐ Better access to supplementary nutrition ☐ Appropriate venous thromboembolic prophylaxis or anticoagulation ☐ Affordability of treatment or care ☐ Incorrect decision for reoperation e.g. should have been offered conservative management or less invasive treatment or surgery was futile ☐ Other, please specify _____ ☐ None of the above
M13	Following the operation, after the patient had been discharged from hospital, what opportunities or changes in this patient's care may have prevented death? <i>(tick all that apply)</i> ☐ Earlier diagnosis or recognition of post-operative complication ☐ Improved monitoring or recognition of deterioration ☐ Better access or affordability of assessment ☐ Better health seeking behaviours ☐ More appropriate triage back into secondary care or hospital ☐ More regular follow-up with the clinical team ☐ Improved access to rehabilitation ☐ Improved symptom relief (pain control, nausea and vomiting) ☐ Better access to supplementary nutrition ☐ Appropriate venous thromboembolic prophylaxis or anticoagulation ☐ Affordability of treatment or care ☐ Other, please specify _____ ☐ None of the above ☐ Not discharged from hospital

Rate to what extent each of the following factors contributed to the patient's death

M14	Advanced presentation of the disease requiring surgery (e.g. advanced cancer, massive hernia) <i>(tick one)</i> ☐ Not present ☐ Present, but did not contribute ☐ Contributed slightly ☐ Contributed moderately ☐ Contributed significantly
M15	Unstable physiology at the time of presentation (e.g. shock, hypoxia) <i>(tick one)</i> ☐ Not present ☐ Present, but did not contribute ☐ Contributed slightly ☐ Contributed moderately ☐ Contributed significantly
M16	Underlying frailty <i>(tick one)</i> ☐ Not present ☐ Present, but did not contribute ☐ Contributed slightly ☐ Contributed moderately ☐ Contributed significantly
M17	Underlying long-term health conditions, for example diabetes or chronic obstructive pulmonary disease. <i>(tick one)</i> ☐ Not present ☐ Present, but did not contribute ☐ Contributed slightly ☐ Contributed moderately ☐ Contributed significantly
M18	What is the source of the above information? <i>(tick all that apply)</i> <i>(We would recommend using the outcomes of a morbidity and mortality meeting or two independent senior clinician opinions on the case)</i> ☐ Data inputter only (including grade) ☐ Morbidity and Mortality meeting ☐ Two independent senior clinician opinions ☐ Other, please specify _____

Rate to what extent each of the following possible intraoperative complications contributed to the patient's death (tick one box on every row)

	Did not happen	Happened, but did not contribute	Contributed slightly	Contributed moderately	Contributed significantly
Acute respiratory distress syndrome	☐	☐	☐	☐	☐
Airway injury	☐	☐	☐	☐	☐
Arrhythmia (including atrial fibrillation)	☐	☐	☐	☐	☐
Drug reaction / anaphylaxis	☐	☐	☐	☐	☐
Myocardial infarction	☐	☐	☐	☐	☐
Organ injury	☐	☐	☐	☐	☐
Vascular injury	☐	☐	☐	☐	☐
Pulmonary embolism	☐	☐	☐	☐	☐
Severe hypotension	☐	☐	☐	☐	☐
Stroke	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

If the 'other' row was ticked, specify here: _____

Rate to what extent each of the following possible postoperative complications contributed to the patient's death (tick one box on every row)

	Did not happen	Happened, but did not contribute	Contributed slightly	Contributed moderately	Contributed significantly
Acute respiratory distress syndrome	☐	☐	☐	☐	☐
Acute kidney injury	☐	☐	☐	☐	☐
Anastomotic leak	☐	☐	☐	☐	☐
Arrhythmia (including atrial fibrillation)	☐	☐	☐	☐	☐
Bleeding	☐	☐	☐	☐	☐
Deep vein thrombosis	☐	☐	☐	☐	☐
Myocardial infarction	☐	☐	☐	☐	☐
Pneumonia	☐	☐	☐	☐	☐
Pulmonary embolism	☐	☐	☐	☐	☐
Stroke	☐	☐	☐	☐	☐
Incisional surgical site infection	☐	☐	☐	☐	☐
Organ space infection / collection	☐	☐	☐	☐	☐
Sepsis other than lower respiratory tract or surgical site infections	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

If the 'other' row was ticked, specify here: _____

Rate to what extent each of the following possible underlying chronic conditions contributed to the patient's death (tick one box on every row)

	Did not happen	Happened, but did not contribute	Contributed slightly	Contributed moderately	Contributed significantly
Arrhythmia (including atrial fibrillation)	☐	☐	☐	☐	☐
Addison's disease	☐	☐	☐	☐	☐
Asthma	☐	☐	☐	☐	☐
Chronic heart failure	☐	☐	☐	☐	☐
Chronic kidney disease	☐	☐	☐	☐	☐
Chronic liver disease	☐	☐	☐	☐	☐
Chronic obstructive pulmonary disease	☐	☐	☐	☐	☐
Cystic fibrosis	☐	☐	☐	☐	☐
Diabetes	☐	☐	☐	☐	☐
Dementia	☐	☐	☐	☐	☐
Epilepsy	☐	☐	☐	☐	☐
Haematological malignancy	☐	☐	☐	☐	☐
Hypertension	☐	☐	☐	☐	☐
HIV infection	☐	☐	☐	☐	☐
Inflammatory bowel disease	☐	☐	☐	☐	☐
Ischaemic heart disease	☐	☐	☐	☐	☐
Multiple sclerosis	☐	☐	☐	☐	☐
Parkinson's disease	☐	☐	☐	☐	☐
Peripheral arterial disease	☐	☐	☐	☐	☐
Solid organ malignancy	☐	☐	☐	☐	☐
Stroke or transient ischaemic attack	☐	☐	☐	☐	☐
Other chronic lung disease (e.g. pulmonary fibrosis)	☐	☐	☐	☐	☐
Other, please specify	☐	☐	☐	☐	☐

If the 'other' row was ticked, specify here: _____