Question by Question (QXQ) Instructions for the HCHS/SOL
Mortality Review Form (MOR)
1/15/2025

A Mortality Diagnosis (MOR) Form is filled out by the physician reviewer for all mortality case packets that are sent to them for review by the CSCC. Events will be classified independently by 2 reviewers with disagreements adjudicated by consensus of the reviewers. Review materials per case will include medical record data if available and an Event Summary Form (ESF). The ESF is a 2 page summary of information collected from the Death Certificate form (DTH), data abstracted from any medical information available from hospital records and information collected from the Informant Interview form (IIE) and/or Physician Questionnaire form (PQE). A requirement of the Death classification in SOL is that at a minimum we need to be comparable with the classification done in MESA (the Multiethnic Study of Atherosclerosis).

The first section of the form is called administrative information (0a-0d). When in electronic form, parts of this will be filled out by the CSCC. For training, please fill this out.

0a. Enter date that you (the reviewer) completed the form.

0b. Enter your staff or reviewer ID number. It is 3 digits.

0c. Event ID. This number is assigned by the CSCC. It will start with a letter representing the HCHS/SOL field center site. It is stamped on the top of the medical record (if available).

0d. Event Date. Enter the date of arrival or the earliest date on the medical record (if available).

Answer all questions by selecting one choice from the options provided. Follow all skip patterns for the items presented in the form. For any items that do not offer "other" or "unknown" for the answer and data needed to respond is not provided in the review packet, choose 'missing' from the drop-down menu at the double arrows located at the top right of the answer box.

Item 1. Location of Death: (choose one)

The location of death is recorded in the Event Summary Form (ESF) in the physician review packet and also may be found from the patient's contact/s information interview which is presented as information included from the Informant Interview form in the ESF. The "Out of Hospital" option includes 'dead on arrival', but not ER or NH. Those are separate choices. You may only choose one location.

Item 2. Was the death witnessed?

Information about being witnessed if available is in the ESF. Note: Whether the death was "witnessed" is often obvious, but can be confusing if the witness was only nearby. In general, sudden deaths are considered in cases where someone was in the same room (e.g., in bed) or nearby so that s/he could have heard a cry for help as "witnessed."
Record Yes (Y), No (N) or Unknown (U) according to information available.

Item 3. Underlying cause of death:
The classification for underlying cause of death should follows criteria established in the MESA Study. In addition, it is necessary to be familiar with the ICD 9 or 10 codes assigned on the death certificate if provided in the ESF.
Review all available materials in order to decide the classification. CHF cannot be designated as the underlying cause of death.
Some rules found useful in other studies include:

- The relative credibility of conflicting witnesses is established from all available evidence, i.e., there is no fixed hierarchy of credibility (such as a physician overriding a lay informant). However, as a general rule (1) a knowledgeable physician takes priority for medical history and (2) a witness takes priority for events around death and timing of death.
- If the decedent was debilitated from a potentially lethal non-CVD process and had a related downhill course, with a cardiac arrest with no clear evidence of another CVD event, the death is classified as non-CVD.
- In the case of conflicting information, the broader classification (e.g., other atherosclerotic disease death rather than atherosclerotic CHD death) is generally preferred.
- Record ischemic cardiomyopathy as "atherosclerotic CHD" death; record hypertensive cardiomyopathy or nonspecific cardiomyopathy as "other cardiovascular" death; record critical limb ischemia as "other atherosclerotic disease" death.

Follow the skip pattern for the form to complete other sections of the form. If 3f1. Is Yes, specify and skip to Item 13 of the form. You may choose only one answer for Item 3 of the form.

Coronary Heart Disease (CHD) Deaths

Item 4. Type of fatal coronary heart disease:
If the death is CHD in nature look over all available materials in order to decide whether it is definite fatal MI (usually requires a definite hospitalized MI or autopsy), definite fatal CHD, or possible fatal CHD. An unwitnessed death may be classified as “definite” in cases where there is a history of CHD or chest pain. An unwitnessed death may be classified as “Non-cardiovascular disease” if there is a history of another likely cause of death.
Some rules that have proved useful for heart related events in other studies include:

- When the death certificate is the only available document, and the underlying cause ICD code is compatible with CHD (I20-25, I46, I51.6, R96, or R98-R99), then the final classification of cause of death is usually possible fatal CHD.
- Autopsy evidence of an acute MI or MI within 4 weeks, including coronary thrombosis or myocardial necrosis, may be used to classify definite fatal MI. Autopsy evidence of old MI or other chronic CHD counts as evidence of a history of CHD for classification purposes.
- Definite fatal CHD is usually assigned when someone dies during an elective CABG as a complication of the surgery.
- Death during thrombolysis or other direct vascular intervention also would be assigned according to the event process being treated. For example, tPA for an

MI with a hemorrhagic stroke resulting in death would be coded as a death due to MI (in its absence no stroke would have occurred). The stroke, however, would also be coded on the Mortality Diagnosis (MOR) form and be coded as procedure related. You may choose only one answer for Item 4 of the form.

5. Estimated time between onset of acute cardiac symptoms and death:

Timing is determined by data in the ESF (if available).
Timing may frequently be confusing. Some general rules used in other studies are

- Death is assumed to have occurred at the time the patient stops breathing on his or her own and does not recover.
- Symptoms are assumed to begin when the patient changes his/her activity. If symptoms come and go, the onset of symptoms is the time when they crescendo, leading to death.
- Symptoms of CHD leading to a hospital admission for CHD are usually considered to be related to a subsequent death from CHD, which occurs either before discharge or within 28 days of admission. Deaths of unclear chronology admitted for the investigation or treatment of CHD are classified as occurring >24 hours if admitted for at least 24 hours.
- In cases where the timing of symptoms or death is unknown, the best estimate of the chronology is to be made.
- Unknown chronology of death in an institutionalized patient is usually considered to be <24 hours.

Select one answer from the choices provided and proceed to Item 6.

6. Sudden cardiac death?

If sufficient information is available record Yes, No or Unsure as to if it is thought the cause of death could be from sudden cardiac death, arrhythmic in nature. If no or unsure skip Item 6a. and move to Item 7.

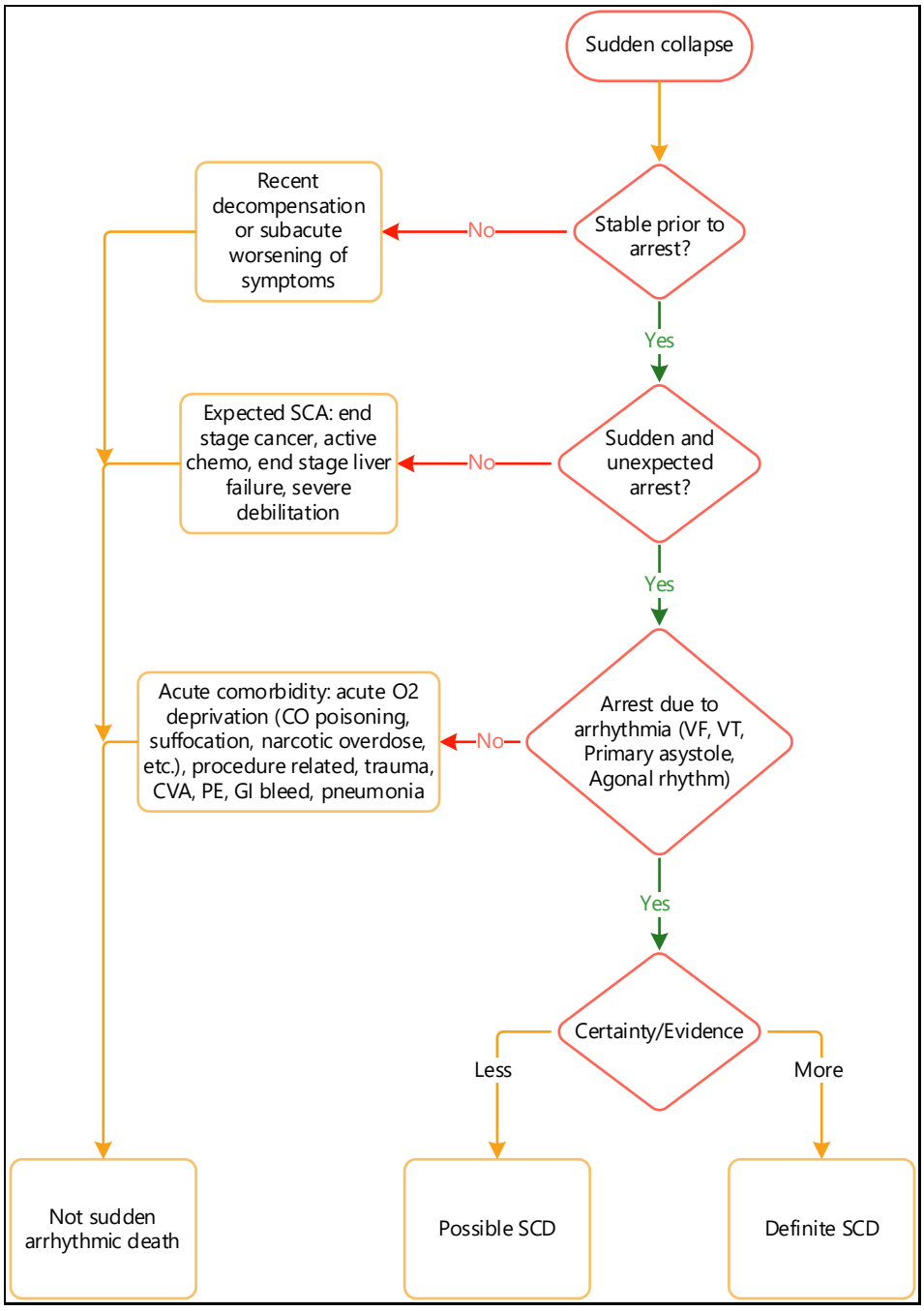
SUDDEN CARDIAC DEATH DEFINITION: Primary ventricular fibrillation, asystole, or agonal heart rhythm, occurring in an otherwise stable individual. Can (and often does) occur in the setting of ischemia and / or coronary heart disease.

OPERATIONAL DEFINITION: Sudden pulseless condition (collapse) presumed due to an arrhythmia from a primary cardiac etiology occurring out-of-hospital or in the emergency room in an otherwise stable individual. For unwitnessed events, there needs to be evidence that patient was seen in a stable condition within the past 24 hours.

We are NOT trying to identify sudden collapse due to: (1) 3rd degree heart block; (2) pulseless electrical activity; (3) gradual cardiovascular decline (over hours) leading to circulatory collapse (e.g. end-stage heart failure); (4) Narcotic, EtOH (or other substance) OD that would lead to pulmonary arrest; (5) anaphylaxis; (6) other respiratory (strangulation, suffocation, or choking; (7) drowning; (8) acute CVA; (9) massive pulmonary embolism; (10) iatrogenic, such as in the setting of a procedure; (11) carbon monoxide poisoning; (12) trauma; (13) cardiovascular rupture (e.g. massive MI several days ago leading to cardiac rupture/tamponade, VSD, etc; or AAA rupture, etc); (14) other causes of cardiovascular collapse, such as GI bleed, sepsis, etc.

We also exclude those with severe life-threatening chronic conditions such as (1) end-stage metastatic cancer; (2) end-stage liver failure; (3) severe debilitation / hospice bound patient.

Sudden Cardiac Death Flowchart:



See Q6a. instructions for more information.

6a. Type of sudden cardiac death?

Choose one answer from definite, possible, not sudden or unclassifiable with regard to sudden arrhythmic death.

1. Was person stable prior to arrest? Yes/No/Unknown

No evidence of recent decompensation. Patient can have Stage III/IV heart failure and considered "stable" as long as this is his/her baseline, no subacute (hours to days) change/worsening in symptoms. If they are currently sick with pneumonia, with fevers, etc, then mark "NO."

2. Was cardiac arrest sudden and unexpected? Yes/No/Unknown

Example of expected SCA: End stage cancer patient known to be dying. Reminder that we are not trying to study death, but sudden cardiac death.

3. Was arrest presumed to be due to arrhythmia? Yes/No/Unknown

The main arrhythmia we are trying to identify is VT / VF. Primary asystole or agonal rhythm is acceptable. Pulseless electrical activity (PEA) is NOT. Third degree AV block is NOT acceptable. Other non-malignant/non-fatal arrhythmias are also not acceptable here. It is difficult to discern PEA from VT/VF as the rhythm strip is often not available for review, however when available or known, please review. PEA is often the end-result of a secondary insult (e.g. massive PE, massive GI bleed, etc). Asystole is often not the primary rhythm, but VF ultimately degenerates into asystole.

Arrhythmias secondary to ischemia is the only secondary arrhythmia that is ADMISSIBLE. As noted above, other arrhythmias that are secondary to another etiology such as massive pulmonary embolism are ineligible.

A malignant arrhythmia in an ESRD patient is admissible whilst a malignant arrhythmia during dialysis is considered procedure related, hence ineligible.

If the answer to 1, 2 *or* 3 is NO, or if there is an exclusionary acute or chronic comorbidity (see below), then this is NOT sudden arrhythmic death.

Exclusionary Acute Comorbidities: As noted above in the definition of SCD, strangulation, suffocation, anaphylaxis, choking, carbon monoxide poisoning, narcotic overdose, EtOH overdose, drowning, procedure related, Trauma, CVA, PE, pneumonia, GI bleed, etc. are all exclusionary conditions.

Exclusionary Chronic comorbidities: End stage cancer, active chemotherapy, end stage liver failure, severely debilitated (severe dementia, hospice care)

Other chronic comorbidities that are NOT exclusionary: end stage respiratory failure (end stage COPD), end stage renal disease, end stage heart disease.

Unclassifiable is marked when there is absolutely no information available other than a date of death, or a death certificate that is very unhelpful.

Guidelines to help differentiate Definite vs Possible:

(1) The greater the evidence, the more likely that it should be marked definite.
Examples:
- Presence of a rhythm strip with malignant rhythm and the right circumstances -> definite sudden arrhythmic death
- Witnessed cardiac arrest with appropriate scenario -> definite sudden arrhythmic death
- Unwitnessed cardiac arrest with appropriate clinical scenario: ex: slumped in car with nitroglycerin bottle -> definite sudden arrhythmic death

(2) Greater uncertainty should lead to a definition of "possible" sudden death. Greater uncertainty can be either due to (i) other clinical conditions that can cloud the issue of exact cause of demise; or (ii) less available information to review to adjudicate definition with greater confidence. Examples:
- grandmother with h/o CAD but otherwise stable, found down after not being seen for 12 hours -> possible sudden arrhythmic death

Cardiovascular Death (Including CHD)

Item 7. Mechanism of death in patients dying of cardiovascular causes:
Do not complete this section if you believe the death to be due to stroke or a non-cardiovascular reason. Otherwise choose one answer from those provided which include primary arrhythmic death, secondary arrhythmic/mechanical death, heart failure, treatment or procedure – related, other (specify) or Unknown.
If Item 7 = d, complete Item 8.

Item 8. Treatment or procedure-related:
Indicate whether you think this event resulted from either a cardiovascular or non-cardiovascular
treatment or procedure, or not and choose one answer from the choices provided then skip to Item 13.

Stroke Death

Complete this section for all stroke deaths then complete remaining sections of the form.

Item 9. Estimated time between stroke symptoms and death:
Refer to instructions under Item 5 for time-of-death information. Select one answer from the choices provided and proceed to Item 10.

Item 10. Mechanism of stroke death
Use your best clinical judgment based on all of the available information in the ESF and choose one answer from those provided. If Item 10 is completed skip to Item 13.

Pulmonary Death

Complete this section for all pulmonary-related deaths then complete the remaining sections of the form.

Item 11 Estimated time between the onset of symptoms and death:
See instructions under Item 5 for time-of-death information. Select only one answer from the seven choices provided in Item 11 of the form.

Item 12. Mechanism of death:
Select only one answer from the four choices provided in Item 12 of the form. If 12f. is selected please specify.

Item 13. Second review requested:
Answer Yes or No if a second review by a physician reviewer is requested for this case.

Item 14. Reviewer Comments:
Provide any pertinent comments to augment the diagnosis and understanding of such for this case.

APPENDIX A – ICD-10 CODES FOR CAUSES OF DEATH

Cause list	**ICD-10 codes**
All Causes	**A00-Y89**
Communicable, maternal, perinatal and nutritional conditions	**A00-B99, D50-D53, D64.9, E00-E02, E40-E46, E50-E64, G00-G04, G14, H65-H66, J00-J22, N70-N73, O00-O99, P00-P96, U04, U07.1, U07.2, U09.9, U10.9**
Infectious and parasitic diseases	**A00-B99, G00-G04, G14, N70-N73, P37.3, P37.4**
Tuberculosis	**A15-A19, B90**
STDs excluding HIV	**A50-A64, N70-N73**
Syphilis	A50-A53
Chlamydia	A55-A56
Gonorrhea	A54
Other STDs	A57-A64, N70-N73
HIV/AIDS	**B20-B24**
Diarrheal diseases	**A00, A01,A03, A04, A06-A09**
Childhood-cluster diseases	**A33-A37, A80, B05, B91, G14**
Pertussis	A37
Poliomyelitis	A80, B91, G14
Diphtheria	A36
Measles	B05
Tetanus	A33-A35
Meningitis	**A39, G00, G03**
Hepatitis B	**B16-B19 (minus B17.1, B18.2)**
Hepatitis C	**B17.1, B18.2**
Malaria	**B50-B54, P37.3, P37.4**
Tropical-cluster diseases	**B55-B57, B65, B73, B74.0-B74.2**
Trypanosomiasis	B56
Chagas disease	B57

Cause list	ICD-10 codes
Schistosomiasis	B65
Leishmaniasis	B55
Lymphatic filariasis	B74.0-B74.2
Onchocerciasis	B73
Leprosy	**A30**
Dengue	**A90-A91, A97**
Japanese encephalitis	**A83.0**
Trachoma	**A71**
Intestinal nematode infections	**B76-B81**
Ascariasis	B77
Trichuriasis	B79
Hookworm disease	B76
Other intestinal infections	B78, B80,B81
Other infectious diseases	**A02,A05,A20-A28,A31,A32,A38,A40-A49,A65-A70,A74-A79,A81,A82,A83.1-A83.9,A84-A89,A92-A99,B00-B04,B06-B15,B25-B49,B58-B60,B64,B66-B72,B74.3-B74.9,B75,B82-B89,B92-B99, G04**
Respiratory infections	**H65-H66, J00-J22, P23, U04, U07.1, U07.2, U09.9, U10.9**
Lower respiratory infections	J09-J22, P23, U04
COVID-19	U07.1, U07.2, U09.9, U10.9
Upper respiratory infections	J00-J06
Otitis media	H65-H66
Maternal conditions	**O00-O99**
Maternal hemorrhage	O44-O46, O67, O72
Maternal sepsis	O85-O86
Hypertensive disorders	O10-O16
Obstructed labor	O64-O66

Cause list	ICD-10 codes
Abortion	O00-O07
Other maternal conditions	O20-O43,O47-O63,O68-O71,O73-O75,O87-O99
Perinatal conditions	**P00-P96 (minus P23, P37.3, P37.4)**
Low birth weight	P05, P07, P22, P27-P28
Birth asphyxia and birth trauma	P03, P10-P15, P20-P21, P24-P26, P29
Other perinatal conditions	P00-P02, P04, P08, P35-P96
Nutritional deficiencies	**E00-E02, E40-E46, E50, D50-D53,D64.9, E51-E64**
Protein-energy malnutrition	E40-E46
Iodine deficiency	E00-E02
Vitamin A deficiency	E50
Iron-deficiency anemia	D50, D64.9
Other nutritional disorders	D51-D53, E51-E64
Noncommunicable diseases	**C00-C97, D00-D48, D55-D64 (minus D 64.9) D65-D89, E03-E07, E10-E34, E65-E88, F01-F99, G06-G98 (minus G14), H00-H61, H68-H93, I00-I99, J30-J98, K00-K92, L00-L98, M00-M99, N00-N64, N75-N98, Q00-Q99, R95, U07.0, X41, X42, X44, X45**
Malignant neoplasms	**C00-C97**
Mouth and oropharynx cancers	C00-C14
a. Lip and oral cavity cancers	C00-C08
b. Nasopharynx cancers	C11
c. Other pharynx cancer	C09-C10, C12-C14
Esophagus cancer	C15
Stomach cancer	C16
Colon and rectum cancers	C18-C21
Liver cancer	C22
Pancreas cancer	C25
Trachea, bronchus, lung cancers	C33-C34

Cause list	ICD-10 codes
Melanoma and other skin cancers	C43-C44
a. Malignant skin melanoma	C43
b. Non-melanoma skin cancer	C44
Breast cancer	C50
Cervix uteri cancer	C53
Corpus uteri cancer	C54-C55
Ovary cancer	C56
Prostate cancer	C61
Testicular cancer	C62
Kidney cancer	C64-C66
Bladder cancer	C67
Brain and nervous system cancers	C70-C72
Gallbladder and biliary tract cancer	C23-C24
Larynx cancer	C32
Thyroid cancer	C73
Mesothelioma	C45
Lymphomas, multiple myeloma	C81-C90, C96
a. Hodgkin lymphoma	C81
b. Non-Hodgkin lymphoma	C82-C85, C96
c. Multiple myeloma	C88, C90
Leukemia	C91-C95
Ill-defined malignant neoplasms	C76, C80, C97
Other malignant neoplasms	C17, C26-C31, C37-C41, C46-C49, C51,C52, C57-C60, C63, C68, C69, C74-C75, C77- C79
Other neoplasms	**D00-D48**
Diabetes mellitus and endocrine disorders	**E10-E14, D55-D64 (minus D64.9),D65-D89, E03-E07, E15-E16, E20-E34, E65-E88**

Cause list	**ICD-10 codes**
Diabetes mellitus	E10-E14
Endocrine disorders	D55-D64 (minus D64.9),D65-D89, E03-E07, E15-E16, E20-E34, E65-E88
Neuropsychiatric conditions	**F01-F99, G06-G98 (minus G14), U07.0, X41, X42, X44, X45**
Unipolar depressive disorders	F32-F33
Bipolar disorder	F30-F31
Schizophrenia	F20-F29
Epilepsy	G40-G41
Alcohol use disorders	F10, X45
Alzheimer and other dementias	F01, F03, G30-G31
Parkinson disease	G20-G21
Multiple sclerosis	G35
Drug use disorders	F11-F16, F18-F19, X41-X42, X44
Post-traumatic stress disorder	F43.1
Obsessive-compulsive disorder	F42
Panic disorder	F40.0, F41.0
Insomnia (primary)	F51
Migraine	G43
Mental Retardation	F70-F79
Other neuropsychiatric disorders	F04-F09, F17, F34-F39, F401-F409, F411-F419, F43(minus F43.1), F44-F50, F52-F69, F80-F99, G06-G12, G23-G25, G36,G37, G44-G98, U07.0
Sense organ diseases	**H00-H61, H68-H93**
Glaucoma	H40
Cataracts	H25-H26
Vision disorders, age-related	H524
Hearing loss, adult onset	H90-H91

Cause list	ICD-10 codes
Other sense organ disorders	H00-H21,H27-H35, H43-H61(minus H524),H68-H83, H92-H93
Cardiovascular diseases	**I00-I99**
Rheumatic heart disease	I01-I09
Hypertensive heart disease	I11-I15
Ischemic heart disease	**I20-I25**
Angina Pectoris	I20
Acute myocardial infarction	I21
Subsequent ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction	I22
Certain current complications following ST elevation (STEMI) and non-ST elevation (NSTEMI) myocardial infarction (within the 28 day period)	I23
Other acute ischemic heart diseases	I24
Chronic ischemic heart disease	I25
Heart Failure	**I50**
Left ventricular failure, unspecified	I50.1
Systolic (congestive) heart failure	I50.2; I50.21 Acute; I50.22 Chronic; I50.23 Acute on Chronic
Diastolic (congestive) heart failure	I50.3; I50.31 Acute; I50.32 Chronic; I50.33 Acute on Chronic
Combined systolic (congestive) and diastolic (congestive) heart failure	I50.4; I50.41 Acute; I50.42 Chronic; I50.43 Acute on Chronic
Other heart failure	I50.8
Right Heart Failure	I50.81; I50.811 Acute; I50.812 Chronic; I50.813 Acute on Chronic
Heart failure, unspecified	I50.9
Cerebrovascular disease	**I60-I69**

Cause list	ICD-10 codes
Nontraumatic subarachnoid hemorrhage	I60
Nontraumatic intracerebral hemorrhage	I61
Other and unspecified nontraumatic intracranial hemorrhage	I62
Cerebral infarction	I63
Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction	I65
Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction	I66
Other cerebrovascular diseases	I67
Cerebrovascular disorders in diseases classified elsewhere	I68
Sequelae of cerebrovascular disease	I69
Inflammatory heart diseases	I30-I33, I38, I40, I42
Ill-defined circulatory diseases	I10, I46, I47.2, I49.0, I50, I51.4, I51.5, I51.6, I51.9, I70.9
Other circulatory diseases	I00, I26-I28, I34-I37, I44-I45, I47 (minus I47.2), I48, I49 (minus I49.0), I51.0-I51.3, I51.7-I51.8, I70 (minus I70.9), I71-I99
Respiratory diseases	**J30-J98**
Bronchitis not specified as acute or chronic	J40
Simple and mucopurulent chronic bronchitis	J41
Unspecified chronic bronchitis	J42
Emphysema	J43
Other chronic obstructive pulmonary disease	J44

Cause list	ICD-10 codes
Asthma	J45-J46
Bronchiectasis	J47
Other respiratory diseases	J30-J39,J48-J98
Digestive diseases	**K20-K92**
Peptic ulcer disease	K25-K27
Cirrhosis of the liver	K70, K74
Appendicitis	K35-K37
Gastritis and duodenitis	K29
Paralytic ileus and intestinal obstruction	K56
Inflammatory bowel disease	K50-K52, K580
Gallbladder and biliary diseases	K80-K83
Pancreatitis	K85-K86
Other digestive diseases	K20-K22, K28, K30-K31, K38, K40-K46, K55, K57, K589, K59-K66, K71-K73, K75-K76, K90-K92
Genitourinary diseases	**N00-N64, N75-N98**
Nephritis and nephrosis	N00-N19
Benign prostatic hypertrophy	N40
Other genitourinary system diseases	N20-N39, N41-N64, N75-N98
Skin diseases	**L00-L98**
Musculoskeletal diseases	**M00-M99**
Rheumatoid arthritis	M05-M06
Osteoarthritis	M15-M19
Gout	M10
Back pain	M45-M48, M54 (minus M54.2)
Other musculoskeletal disorders	M00-M02, M08, M11-M13, M20-M43, M50-M53, M54.2, M55-M99

Cause list	ICD-10 codes
Congenital anomalies	**Q00-Q99**
Abdominal wall defect	Q79.2-Q79.5
Anencephaly	Q00
Anorectal atresia	Q42
Cleft lip	Q36
Cleft palate	Q35, Q37
Esophageal atresia	Q39.0-Q39.1
Renal agenesis	Q60
Down syndrome	Q90
Congenital heart anomalies	Q20-Q28
Spina bifida	Q05
Other Congenital anomalies	Q01-Q04, Q06-Q18, Q30-Q34, Q38, Q392-Q399, Q40-Q41, Q43-Q56, Q61-Q78, Q790, Q791, Q796, Q798, Q799, Q80-Q89, Q91-Q99
Oral conditions	**K00-K14**
Dental caries	K02
Periodontal disease	K05
Edentulism	-
Other oral diseases	K00, K01,K03,K04,K06-K14
Sudden infant death syndrome	**R95**
Injuries	**V01-Y89 (minus X41-X42, X44-X45), U12.9**
Unintentional injuries	**V01-X59, Y40-Y86, Y88, Y89 (minus X41-X42, X44-X45), U12.9**
Road traffic accidents	V01-V04, V06 (.1-.9), V09 (.2-.3), V10- V14 (.3-.9), V15-V19 (.4-.9), V20-V28 (.3-.9), V29- V79 (.4-.9), V80 (.3-.5), V81.1, V82 (.1, .8-.9), V83-V86 (.0-.3), V87 (.0-.9), V89 (.2-.3, .9), V99, Y85.0
Poisonings	X40, X43, X46-X49
Falls	W00-W19

Cause list	**ICD-10 codes**
Fires	X00-X09
Drownings	W65-W74
Exposure to mechanical forces	W20-W38, W40-W43, W45, W46, W49-W52, W75, W76
Natural disasters	X33-X39
Other unintentional injuries	Rest of V, W39, W44, W53-W64, W77-W99, X10-X32, X50-X59, Y40-Y84, Y859, Y86, Y88-Y89, U12.9
Intentional injuries	**X60-Y09, Y35-Y36, Y870, Y871**
Self-inflicted injuries	X60-X84, Y870
Violence	X85-Y09, Y871
War	Y36
Other intentional injuries	Y35
Ill-defined injuries/accidents	**Y10-Y34, Y872**
Ill-defined diseases	**R00-R94, R96-R99**

Expressed appreciation and credit to the MESA MANUAL OF OPERATIONS: Mortality Review Appendix D.17.4