SECTION I - INSTRUCTIONS FOR CLASSIFYING THE UNDERLYING CAUSE OF DEATH, 2015

A. INTRODUCTION

This manual provides instructions to mortality medical coders and nosologists for coding the underlying cause of death from death certificates filed in the states. These mortality coding instructions are used by both the State vital statistics programs and the National Center for Health Statistics (NCHS), which is the Federal agency responsible for the compilation of U.S. statistics on causes of death. NCHS is part of the Centers for Disease Control and Prevention.

In coding causes of death, NCHS adheres to the World Health Organization Nomenclature Regulations specified in the most recent revision of the International Statistical Classification of Diseases and Related Health Problems (ICD). NCHS also uses the ICD international rules for selecting the underlying cause of death for primary mortality tabulation in accordance with the international rules.

Beginning with deaths occurring in 1999, the Tenth Revision of the ICD (ICD-10) is being used for coding and classifying causes of death. This revision of the Classification is published by the World Health Organization (WHO) and consists of three volumes. Volume 1 contains a list of three-character categories, the tabular list of inclusions and the four-character subcategories. The supplementary Z code appears in Volume 1 but is not used for classifying mortality data. Optional fifth characters are provided for certain categories and an optional independent four-character coding system is provided to classify histological varieties of neoplasms, prefixed by the letter M (for morphology) and followed by a fifth character indicating behavior. These optional codes are not used in NCHS. Volume 2 includes the international rules and notes for use in classifying and tabulating underlying cause-of-death data. Volume 3 is an alphabetical index containing a comprehensive list of terms for use in coding. Copies of these volumes may be purchased in hardcopy or on diskettes from the following address:

WHO Publications Center
49 Sheridan Avenue
Albany, New York 12210
Tel. 518-436-9686

NCHS has prepared an updated version of Volume 1 and Volume 3 to be used for both underlying and multiple cause-of-death coding. The major purpose of the updated version is to provide a single published source of code assignments including terms not indexed in Volume 3 of ICD-10. NCHS has included all non-indexed terms encountered in the coding of deaths during 1979-1994, under the Ninth Revision of the International Classification of Diseases (ICD-9). Due to copyright considerations, the updated Volumes 1 and 3 may not be reproduced for distribution outside of NCHS and State vital statistics agencies. With the availability of the updated Volumes 1 and 3, NCHS will discontinue publishing the Part 2e manual, Non-indexed Terms, Standard Abbreviations, and State Geographic Codes as Used in Mortality Data Classification that was first published in 1983. The list of geographic codes (Appendix C), the list of abbreviations used in medical terminology (Appendix D), and the synonymous sites list (Appendix E) are included in this publication.

ICD-10 provides for the classification of certain diagnostic statements according to two different axes - etiology or underlying disease process and manifestation or complication. Thus, there are two codes for those diagnostic statements subject to dual classification. The etiology or underlying disease process codes are marked with a dagger (†), and the manifestation or complication codes are marked with an asterisk (*) following the codes in ICD-10. NCHS does not use the asterisk codes in mortality coding. For example, cytomegaloviral pneumonia has a code marked with a dagger (B25.0†) and a different code, marked with an asterisk (J17.1*). In this example, only the dagger code (B25.0) would be used.
Major Revisions from Previous Manuals

1. Corrections have been made to clarify instructions, spelling and format throughout the manual. These changes are not specifically noted.

2. Section II, Rule C Linkage, Situation 1, deleted code J189 in 2nd example.

3. Section III, Part K, Intent of Certifier #6, instruction d.(1), first example, edited example and code to reflect Arthritis.

4. Section IV, Classification of certain ICD categories, added additional information at category W75 to clarify coding when sleep is indicated.

Other manuals available from NCHS which contain information related to coding causes of death are:

Part 2b, NCHS Instructions for Classifying Multiple Causes of Death, 2015

Part 2c, ICD-10 ACME Decision Tables for Classifying Underlying Causes of Death, 2015

Part 2k, Instructions for the Automated Classification of the Initiating and Multiple Causes of Fetal Death, 2015

Part 2s, SuperMICAR Data Entry Instruction, 2011

B. MEDICAL CERTIFICATION

The U. S. Standard Certificate of Death provides spaces for the certifying physician, coroner, or medical examiner to record pertinent information concerning the diseases, morbid conditions, and injuries which either resulted in or contributed to death as well as the circumstances of the accident or violence which produced any such injuries.

The medical certification portion of the death certificate is designed to obtain the opinion of the certifier as to the relationship and relative significance of the causes which he reports.

A cause of death is the morbid condition or disease process, abnormality, injury, or poisoning leading directly or indirectly to death. The underlying cause of death is the disease or injury which initiated the train of morbid events leading directly or indirectly to death or the circumstances of the accident or violence which produced the fatal injury. A death often results from the combined effect of two or more conditions. These conditions may be completely unrelated, arising independently of each other or they may be causally related to each other, that is, one cause may lead to another which in turn leads to a third cause, etc.

The order in which the certifier is requested to arrange the causes of death upon the certification form facilitates the selection of the underlying cause when two or more causes are reported. He is requested to report in Part I on line (a) the immediate cause of death and the antecedent conditions on lines (b), (c) and (d) which gave rise to the cause reported on line (a), the underlying cause being stated lowest in the sequence of events. However, no entry is necessary on I(b), I(c) or I(d) if the immediate cause of death stated on I(a) describes completely the sequence of events.

Any other significant condition which unfavorably influenced the course of the morbid process and thus contributed to the fatal outcome but was not related to the immediate cause of death is entered in Part II.
# U.S. STANDARD CERTIFICATE OF DEATH (REV 11/2003)

## Local File No.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Decedent's Legal Name (Include A.M.s, if any) (First, Middle, Last)</td>
</tr>
<tr>
<td>2.</td>
<td>Sex</td>
</tr>
<tr>
<td>3.</td>
<td>Social Security Number</td>
</tr>
<tr>
<td>4a.</td>
<td>Age/Last Birthday (Year)</td>
</tr>
<tr>
<td>4b.</td>
<td>Under 1 Year</td>
</tr>
<tr>
<td>4c.</td>
<td>Under 1 Day</td>
</tr>
<tr>
<td>5.</td>
<td>Date of Birth (Month/Day/Year)</td>
</tr>
<tr>
<td>6.</td>
<td>Birthplace (City and State of Foreign Country)</td>
</tr>
<tr>
<td>7a.</td>
<td>Residence-State</td>
</tr>
<tr>
<td>7b.</td>
<td>County</td>
</tr>
<tr>
<td>7c.</td>
<td>City or Town</td>
</tr>
<tr>
<td>7d.</td>
<td>Street Number</td>
</tr>
<tr>
<td>7e.</td>
<td>Apt. No.</td>
</tr>
<tr>
<td>7f.</td>
<td>ZIP Code</td>
</tr>
<tr>
<td>8a.</td>
<td>Inside City Limits?</td>
</tr>
<tr>
<td>8b.</td>
<td>Yes  No</td>
</tr>
<tr>
<td>9.</td>
<td>Even in U.S. Armed Forces?</td>
</tr>
<tr>
<td>10.</td>
<td>Marital Status at Time of Death</td>
</tr>
<tr>
<td>11.</td>
<td>Father's Name (First, Middle, Last)</td>
</tr>
<tr>
<td>12.</td>
<td>Mother's Name Prior to First Marriage (First, Middle, Last)</td>
</tr>
<tr>
<td>13a.</td>
<td>Informant's Name</td>
</tr>
<tr>
<td>13b.</td>
<td>Relationship to Decedent</td>
</tr>
<tr>
<td>13c.</td>
<td>Mailing Address (Street and Number, City, State, Zip Code)</td>
</tr>
<tr>
<td>14.</td>
<td>Place of Death (Check only one; see instructions)</td>
</tr>
<tr>
<td>15.</td>
<td>Date Pronounced Dead (Mo/Day/Year)</td>
</tr>
<tr>
<td>16.</td>
<td>Time Pronounced Dead (Hour, Minute)</td>
</tr>
<tr>
<td>17.</td>
<td>Actual or Presumed Date of Death (Mo/Day/Year) (Spay Month)</td>
</tr>
<tr>
<td>18.</td>
<td>Actual or Presumed Time of Death (Hour, Minute)</td>
</tr>
<tr>
<td>19.</td>
<td>Was Medical Examiner or Coroner Contacted?</td>
</tr>
<tr>
<td>20.</td>
<td>Signature of Person Pronouncing Death (City when applicable)</td>
</tr>
<tr>
<td>21.</td>
<td>Signature of Person Licensure of Funeral Director/Undertaker</td>
</tr>
<tr>
<td>22.</td>
<td>License Number</td>
</tr>
<tr>
<td>23.</td>
<td>License Date Signed (Mo/Day/Year)</td>
</tr>
<tr>
<td>24.</td>
<td>Date of Injury (Mo/Day/Year)</td>
</tr>
<tr>
<td>25.</td>
<td>Time of Injury (Hour, Minute)</td>
</tr>
<tr>
<td>26.</td>
<td>Place of Injury (e.g., Deceased's home, construction site, restaurant, wooded area)</td>
</tr>
<tr>
<td>27.</td>
<td>Injury at Work?</td>
</tr>
<tr>
<td>28.</td>
<td>Date of Injury (Mo/Day/Year) (Spay Month)</td>
</tr>
<tr>
<td>29.</td>
<td>Time of Injury (Hour, Minute)</td>
</tr>
<tr>
<td>30.</td>
<td>Place of Injury (e.g., Deceased's home, construction site, restaurant, wooded area)</td>
</tr>
<tr>
<td>31.</td>
<td>Injury at Work?</td>
</tr>
<tr>
<td>32.</td>
<td>Description of how injury occurred</td>
</tr>
<tr>
<td>33.</td>
<td>Were autopsy findings available to complete the cause of death?</td>
</tr>
<tr>
<td>34.</td>
<td>Was an autopsy performed?</td>
</tr>
<tr>
<td>35.</td>
<td>Did tobacco use contribute to death?</td>
</tr>
<tr>
<td>36.</td>
<td>If female</td>
</tr>
<tr>
<td>37.</td>
<td>Manner of death</td>
</tr>
<tr>
<td>38.</td>
<td>Date of Injury (Mo/Day/Year)</td>
</tr>
<tr>
<td>39.</td>
<td>Time of Injury (Hour, Minute)</td>
</tr>
<tr>
<td>40.</td>
<td>Place of Injury (e.g., Deceased's home, construction site, restaurant, wooded area)</td>
</tr>
<tr>
<td>41.</td>
<td>Injury at work?</td>
</tr>
<tr>
<td>42.</td>
<td>Location of Injury: State</td>
</tr>
<tr>
<td>43.</td>
<td>Street Number</td>
</tr>
<tr>
<td>44.</td>
<td>Zip Code</td>
</tr>
</tbody>
</table>

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*Excerpt from U.S. STANDARD CERTIFICATE OF DEATH (REV 11/2003)*

**Date of Death:**

<table>
<thead>
<tr>
<th>Local Jurisdiction</th>
<th>Date of Death</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of</td>
<td>December 31, 2023</td>
</tr>
</tbody>
</table>

**Place of Death:**

<table>
<thead>
<tr>
<th>Place of Death</th>
<th>City of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>Seattle</td>
</tr>
</tbody>
</table>

**Sex:**

- Male

**Birthplace:**

- Country: United States
- City: New York

**Marital Status:**

- Single

**Cause of Death:**

- Respiratory Failure

**Certified by:**

- Medical Examiner

**Immediate Family Members:**

- Spouse: Jane Doe
- Children: John Doe, Jane Doe

**Witness:**

- John Smith

**Additional Information:**

- Date of Death: December 31, 2023
- Time of Death: 12:00 AM
- Place of Death: Hospital
- Sex: Male
- Birthplace: New York, United States
- Marital Status: Single
- Cause of Death: Respiratory Failure
- Certified by: Medical Examiner
- Immediate Family Members: Spouse: Jane Doe, Children: John Doe, Jane Doe
- Witness: John Smith

**Additional Notes:**

- Details of death and cause of death provided by the medical examiner.
- Family members present at the time of death.
- Death occurred due to respiratory failure.
C. DEFINITIONS
The terms defined in this section are used throughout the manual.

A reported sequence: two or more conditions on successive lines in Part I, each condition being an acceptable cause of the one on the line immediately above it.

Accident in medical care: a misadventure or poisoning occurring during surgery or other medical care.

Causation table (Table D): contains address codes and subaddress codes that indicate an acceptable causal relationship (reported sequence). Table D is in Part 2c Instruction Manual.

Combination code: a third code which is the result of the merging of two or more codes.

Conflict in linkage: when the selected underlying cause links con-currently “with” or in “due to” position with two or more conditions.

Contributory cause: any cause of death that is neither the direct, intervening, originating antecedent nor underlying is a contributory cause of death.

Direct cause of death: also known as terminal cause of death, is the condition entered on line I(a) in Part I. If the certifier has entered more than one condition on line I(a), these terms apply to the first one. In the selection rules themselves, the direct cause is often referred to as the condition first entered on the certificate.

Direct sequel: a condition which is documented as one of the most frequent manifestations, consequences, or complications of another condition.

“Due to” position: when there are entries on more than one line in Part I with only one entity on the lowest used line in Part I, the single entity on the lowest used line is considered to be in a “due to” position of all entries entered above it. When there are entries on more than one line in Part I, each entity on the lower of two lines is considered to be in a “due to” position of each entity on the next higher line.

Entity: a diagnostic term or condition entered on the certificate of death that constitutes a codable entry.

Error in medical care: a misadventure or poisoning occurring during surgery or other medical care.
<table>
<thead>
<tr>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Further linkage</td>
<td>another step in the linkage process which must be made to conform with the Classification after one or more linkages have been made.</td>
</tr>
<tr>
<td>Intervening cause</td>
<td>any causes between the originating antecedent cause and the direct cause of death are called intervening causes.</td>
</tr>
<tr>
<td>Late maternal death</td>
<td>the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy.</td>
</tr>
<tr>
<td>Maternal death</td>
<td>the death of any woman while pregnant or within 42 days (less than 43 days) of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.</td>
</tr>
<tr>
<td>Modification table (Table E)</td>
<td>contains address codes and subaddress codes that are used with Selection Rule 3 and Modification Rules A, C, and D. Table E is in Part 2c Instruction Manual.</td>
</tr>
<tr>
<td>Multiple one-term entity</td>
<td>a diagnostic entity consisting of two or more words together on a line for which the Classification does not provide a single code for the entire entity but does provide a single code for each of the components of the diagnostic entity.</td>
</tr>
<tr>
<td>One-term entity</td>
<td>a diagnostic entity that is classifiable to a single ICD-10 code. It can be one word or more than one word.</td>
</tr>
<tr>
<td>Originating antecedent cause</td>
<td>this term designates the condition entered on the lowest used line in Part I, or, if the certificate has not been filled out correctly, the condition that the certifier should have reported there. The originating antecedent cause is, from a medical point of view, the starting point of the train of events that eventually caused the death.</td>
</tr>
<tr>
<td>Preference code</td>
<td>a code which has priority over other code(s) which may also qualify as a combination code.</td>
</tr>
<tr>
<td>Perinatal period</td>
<td>the period which commences at 22 completed weeks (154 days) of gestation (the time when birth weight is normally 500 g), and ends seven (7) completed days after birth.</td>
</tr>
<tr>
<td>Properly positioned</td>
<td>condition(s) placed in an appropriate order to form a sequence of events.</td>
</tr>
</tbody>
</table>
Selected underlying cause of death a condition which is chosen either temporarily or finally by the application of an international selection rule.

Sequence two or more conditions entered on successive lines of Part I, each condition being an acceptable cause of the one entered on the line above it.

Trivial condition a condition which will not of itself cause death. The trivial conditions are listed in Part 2c Instruction Manual in Table H.

TUC NCHS abbreviation for tentative underlying cause. This is the same as the originating antecedent cause.

Underlying cause of death the disease or injury which initiated the train of morbid events leading directly to death or the circumstances of the accident or violence which produced the fatal injury.

**D. CREATED CODES**

To facilitate automated data processing, the following ICD-10 codes have been amended for use in coding and processing the multiple cause data. Special five-character subcategories are for use in coding and processing the multiple cause data; however, they will not appear in official tabulations. When a created code is selected as the underlying cause it must be converted to its official ICD-10 code using Appendix B.

- **A169** Respiratory tuberculosis, unspecified
  - **Excludes:** Any term indexed to A169 not qualified as respiratory or pulmonary (A1690)
  - *A1690* Tuberculosis NOS
  - **Includes:** Any term indexed to A169 not qualified as respiratory or pulmonary

- **E039** Hypothyroidism, unspecified
  - **Excludes:** Any term indexed to E039 qualified as advanced, grave, severe, or with a similar qualifier (E0390)
  - *E0390* Advanced hypothyroidism
  - **Includes:** Any term indexed to E039 qualified as advanced, grave, severe, or with a similar qualifier

- **G122** Motor neuron disease
  - **Excludes:** Any term indexed to G122 qualified as advanced, grave, severe, or with a similar qualifier (G1220)
  - *G1220* Advanced motor neuron disease
  - Grave motor neuron disease
Severe motor neuron disease

Includes: Any term indexed to G122 qualified as advanced, grave, severe, or with a similar qualifier

G20 Parkinson’s disease

Excludes: Any term indexed to G20 qualified as advanced, grave, severe, or with a similar qualifier (G2000)

*G2000 Advanced Parkinson’s disease
Grave Parkinson’s disease
Severe Parkinson’s disease

Includes: Any term indexed to G20 qualified as advanced, grave, severe, or with a similar qualifier

I219 Acute myocardial infarction, unspecified

Excludes: Embolism of any site classified to I219

*I2190 Embolism cardiac, heart, myocardium or a synonymous site

Includes: Embolism of any site classified to I219

I420 Dilated cardiomyopathy

Excludes: Any term indexed to I420 qualified as familial, idiopathic, or primary (I4200)

*I4200 Familial dilated cardiomyopathy
Idiopathic dilated cardiomyopathy
Primary dilated cardiomyopathy

Includes: Any term indexed to I420 qualified as familial, idiopathic, or primary

I421 Obstructive hypertrophic cardiomyopathy

Excludes: Any term indexed to I421 qualified as familial, idiopathic, or primary (I4210)

*I4210 Familial obstructive hypertrophic cardiomyopathy
Idiopathic obstructive hypertrophic cardiomyopathy
Primary obstructive hypertrophic cardiomyopathy

Includes: Any term indexed to I421 qualified as familial, idiopathic, or primary

I422 Other hypertrophic cardiomyopathy

Excludes: Any term indexed to I422 qualified as familial, idiopathic, or primary (I4220)

*I4220 Familial other hypertrophic cardiomyopathy
Idiopathic other hypertrophic cardiomyopathy
Primary other hypertrophic cardiomyopathy

Includes: Any term indexed to I422 qualified as familial, idiopathic, or primary
I425 Other restrictive cardiomyopathy

**Excludes:** Any term indexed to I425 qualified as familial, idiopathic, or primary (I4250)

*I4250* Familial other restrictive cardiomyopathy
Idiopathic other restrictive cardiomyopathy
Primary other restrictive cardiomyopathy

**Includes:** Any term indexed to I425 qualified as familial, idiopathic, or primary

I428 Other cardiomyopathies

**Excludes:** Any term indexed to I428 qualified as familial, idiopathic, or primary (I4280)

*I4280* Familial other cardiomyopathies
Idiopathic other cardiomyopathies
Primary other cardiomyopathies

**Includes:** Any term indexed to I428 qualified as familial, idiopathic, or primary

I429 Cardiomyopathy, unspecified

**Excludes:** Any term indexed to I429 qualified as familial, idiopathic, or primary (I4290)

*I4290* Familial cardiomyopathy
Idiopathic cardiomyopathy
Primary cardiomyopathy

**Includes:** Any term indexed to I429 qualified as familial, idiopathic, or primary

I500 Congestive heart failure

**Excludes:** Any term indexed to I500 qualified as advanced, grave, severe, or with a similar qualifier (I5000)

*I5000* Advanced congestive heart failure
Grave congestive heart failure
Severe congestive heart failure

**Includes:** Any term indexed to I500 qualified as advanced, grave, severe, or with a similar qualifier

I514 Myocarditis, unspecified

**Excludes:** Any item indexed to I514 qualified as arteriosclerotic (I5140)

*I5140* Arteriosclerotic myocarditis

**Includes:** Any term indexed to I514 qualified as arteriosclerotic

I515 Myocardial degeneration

**Excludes:** Any term indexed to I515 qualified as arteriosclerotic (I5150)

*I5150* Arteriosclerotic myocardial degeneration

**Includes:** Any term indexed to I515 qualified as arteriosclerotic
I600  Subarachnoid hemorrhage from carotid siphon and bifurcation
   Excludes: Ruptured carotid aneurysm (into brain) (I6000)
   *I6000  Ruptured carotid aneurysm (into brain)

I606  Subarachnoid hemorrhage from other intracranial arteries
   Excludes: Ruptured aneurysm (congenital) circle of Willis (I6060)
   *I6060  Ruptured aneurysm (congenital) circle of Willis

I607  Subarachnoid hemorrhage from intracranial artery, unspecified
   Excludes: Ruptured berry aneurysm (congenital) brain (I6070)
   Ruptured miliary aneurysm (I6070)
   *I6070  Ruptured berry aneurysm (congenital) brain
   Ruptured miliary aneurysm

I608  Other subarachnoid hemorrhage
   Excludes: Ruptured aneurysm brain meninges (I6080)
   Ruptured arteriovenous aneurysm (congenital) brain (I6080)
   Ruptured (congenital) arteriovenous aneurysm cavernous sinus I6080)
   *I6080  Ruptured aneurysm brain meninges
   Ruptured arteriovenous aneurysm (congenital) brain
   Ruptured (congenital) arteriovenous aneurysm cavernous sinus

I609  Subarachnoid hemorrhage, unspecified
   Excludes: Ruptured arteriosclerotic cerebral aneurysm (I6090)
   Ruptured (congenital) cerebral aneurysm NOS (I6090)
   Ruptured mycotic brain aneurysm (I6090)
   *I6090  Ruptured arteriosclerotic cerebral aneurysm
   Ruptured (congenital) cerebral aneurysm NOS
   Ruptured mycotic brain aneurysm

I610  Intracerebral hemorrhage in hemisphere, subcortical
   Excludes: Any term indexed to I610 qualified as bilateral, multiple, or similar term (I6100)
   *I6100  Bilateral, multiple [or similar term] intracerebral hemorrhages in hemisphere, subcortical
   Includes: Any term indexed to I610 qualified as bilateral, multiple, or similar term

I611  Intracerebral hemorrhage in hemisphere, cortical
   Excludes: Any term indexed to I611 qualified as bilateral, multiple, or similar term (I6110)
   *I6110  Bilateral, multiple [or similar term] intracerebral hemorrhages in hemisphere, cortical
   Includes: Any term indexed to I611 qualified as bilateral, multiple, or similar term
I612 Intracerebral hemorrhage in hemisphere, unspecified

Excludes: Any term indexed to I612 qualified as bilateral, multiple, or similar term

(I6120) *I6120 Bilateral, multiple [or similar term] intracerebral hemorrhages, unspecified

Includes: Any term indexed to I612 qualified as bilateral, multiple, or similar term

I613 Intracerebral hemorrhage in brain stem

Excludes: Any term indexed to I613 qualified as bilateral, multiple, or similar term

*I6130 Bilateral, multiple [or similar term] intracerebral hemorrhages in brain stem

Includes: Any term indexed to I613 qualified as bilateral, multiple, or similar term

I614 Intracerebral hemorrhage in cerebellum

Excludes: Any term indexed to I614 qualified as bilateral, multiple, or similar term

*I6140 Bilateral, multiple [or similar term] intracerebral hemorrhages in cerebellum

Includes: Any term indexed to I614 qualified as bilateral, multiple, or similar term

I615 Intracerebral hemorrhage, intraventricular

Excludes: Any term indexed to I615 qualified as bilateral, multiple, or similar term

*I6150 Bilateral, multiple [or similar term] intracerebral hemorrhages, intraventricular

Includes: Any term indexed to I615 qualified as bilateral, multiple, or similar term

I618 Other intracerebral hemorrhage

Excludes: Any term indexed to I618 qualified as bilateral, multiple, or similar term

*I6180 Bilateral, multiple [or similar term] other intracerebral hemorrhages

Includes: Any term indexed to I618 qualified as bilateral, multiple, or similar term

I619 Intracerebral hemorrhage, unspecified

Excludes: Any term indexed to I619 qualified as bilateral, multiple, or similar term

*I6190 Bilateral, multiple [or similar term] intracerebral hemorrhages, unspecified

Includes: Any term indexed to I619 qualified bilateral, multiple, or similar term
I630  Cerebral infarction due to thrombosis of precerebral arteries
  **Excludes:** Any term indexed to I630 qualified as bilateral, multiple, or similar term (I6300)
  *I6300  Cerebral infarction due to bilateral, multiple [or similar term] thrombi of precerebral arteries
    **Includes:** Any term indexed to I630 qualified as bilateral, multiple, or similar term

I631  Cerebral infarction due to embolism of precerebral arteries
  **Excludes:** Any term indexed to I631 qualified as bilateral, multiple, or similar term (I6310)
  *I6310  Cerebral infarction due to bilateral, multiple [or similar term] emboli of precerebral arteries
    **Includes:** Any term indexed to I631 qualified as bilateral, multiple, or similar term

I632  Cerebral infarction due to unspecified occlusion or stenosis of precerebral arteries
  **Excludes:** Any term indexed to I632 qualified as bilateral, multiple, or similar term (I6320)
  *I6320  Cerebral infarction due to bilateral, multiple [or similar term] unspecified occlusions or stenosis of precerebral arteries
    **Includes:** Any term indexed to I632 qualified as bilateral, multiple, or similar term

I633  Cerebral infarction due to thrombosis of cerebral arteries
  **Excludes:** Any term indexed to I633 qualified as bilateral, multiple, or similar term (I6330)
  *I6330  Cerebral infarction due to bilateral, multiple [or similar term] thrombi of cerebral arteries
    **Includes:** Any term indexed to I633 qualified as bilateral, multiple, or similar term

I634  Cerebral infarction due to embolism of cerebral arteries
  **Excludes:** Any term indexed to I634 qualified as bilateral, multiple, or similar term (I6340)
  *I6340  Cerebral infarction due to bilateral, multiple [or similar term] emboli of cerebral arteries
    **Includes:** Any term indexed to I634 qualified as bilateral, multiple, or similar term

I635  Cerebral infarction due to unspecified occlusion or stenosis of cerebral arteries
  **Excludes:** Any term indexed to I635 qualified as bilateral, multiple, or similar term (I6350)
  *I6350  Cerebral infarction due to bilateral, multiple [or similar term] unspecified occlusions or stenosis of cerebral arteries
**Includes:** Any term indexed to I635 qualified as bilateral, multiple, or similar term

I636 Cerebral infarction due to cerebral venous thrombosis, nonpyogenic

**Excludes:** Any term indexed to I636 qualified as bilateral, multiple, or similar term (I6360)

*I6360 Cerebral infarction due to bilateral, multiple [or similar term] cerebral venous thrombi, nonpyogenic

**Includes:** Any term indexed to I636 qualified as bilateral, multiple, or similar term

I638 Other cerebral infarction

**Excludes:** Any term indexed to I638 qualified as bilateral, multiple, or similar term (I6380)

*I6380 Bilateral, multiple [or similar term] other cerebral infarctions

**Includes:** Any term indexed to I638 qualified bilateral, multiple, or similar term

I639 Cerebral infarction, unspecified

**Excludes:** Any term indexed to I639 qualified as bilateral, multiple, or similar term (I6390)

*I6390 Bilateral, multiple [or similar term] cerebral infarctions, unspecified

**Includes:** Any term indexed to I639 qualified as bilateral, multiple, or similar term

I64 Stroke, not specified as hemorrhage or infarction

**Excludes:** Any term indexed to I64 qualified as bilateral, multiple, or similar term (I6400)

*I6400 Bilateral, multiple [or similar term] strokes, not specified as hemorrhage or infarction

**Includes:** Any term indexed to I64 qualified as bilateral, multiple, or similar term

I691 Sequelae of intracerebral hemorrhage

**Excludes:** Any term indexed to I691 qualified as bilateral, multiple, or similar term (I6910)

*I6910 Sequela of bilateral, multiple [or similar term] intracerebral hemorrhages

**Includes:** Any term indexed to I691 qualified as bilateral, multiple, or similar term
I693 Sequelae of cerebral infarction

**Excludes:** Any term indexed to I693 qualified as bilateral, multiple, or similar term (I6930)

*I6930* Sequela of bilateral, multiple [or similar term] cerebral infarctions

**Includes:** Any term indexed to I693 qualified as bilateral, multiple, or similar term

I694 Sequelae of stroke, not specified as hemorrhage or infarction

**Excludes:** Any term indexed to I694 qualified as bilateral, multiple, or similar term (I6940)

*I6940* Sequela of bilateral, multiple [or similar term] strokes, not specified as hemorrhage or infarction

**Includes:** Any term indexed to I694 qualified as bilateral, multiple, or similar term

J101 Influenza with other respiratory manifestations, influenza virus identified

**Excludes:** Influenza, flu, grippe (viral), influenza virus identified (without specified manifestations) (J1010)

*J1010* Influenza, flu, grippe (viral), influenza virus identified (without specified manifestations)

J111 Influenza with other respiratory manifestations, virus not identified

**Excludes:** Influenza, flu, grippe (viral), influenza virus not identified (without specified manifestations) (J1110)

*J1110* Influenza, flu, grippe (viral), influenza virus not identified (without specified manifestations)

J849 Interstitial pulmonary disease, unspecified

**Excludes:** Interstitial pneumonia, not elsewhere classified (J8490)

*J8490* Interstitial pneumonia, not elsewhere classified

J984 Other disorders of lung

**Excludes:** Lung disease (acute) (chronic) NOS (J9840)

*J9840* Lung disease (acute) (chronic) NOS

K319 Disease of stomach and duodenum, unspecified

**Excludes:** Disease, stomach NOS (K3190)

Lesion, stomach NOS (K3190)

*K3190* Disease, stomach NOS

Lesion, stomach NOS

K550 Acute vascular disorders of intestine

**Excludes:** Any term indexed to K550 qualified as embolic (K5500)

*K5500* Acute embolic vascular disorders of intestine

**Includes:** Any term indexed to K550 qualified as embolic

K631 Perforation of intestine (nontraumatic)
Excludes: Intestinal penetration, unspecified part (K6310)
  Intestinal perforation, unspecified part (K6310)
  Intestinal rupture, unspecified part (K6310)
*K6310 Intestinal penetration, unspecified part
  Intestinal perforation, unspecified part
  Intestinal rupture, unspecified part

K720 Acute and subacute hepatic failure
Excludes: Acute hepatic failure (K7200)
*K7200 Acute hepatic failure

K721 Chronic hepatic failure
Excludes: Chronic hepatic failure (K7210)
*K7210 Chronic hepatic failure

K729 Hepatic failure, unspecified
Excludes: Hepatic failure (K7290)
*K7290 Hepatic failure

M199 Arthrosis, unspecified
Excludes: Any term indexed to M199 qualified as advanced, grave, severe, or with a similar qualifier (M1990)
*M1990 Advanced arthrosis
  Grave arthrosis
  Severe arthrosis
Includes: Any term indexed to M199 qualified as advanced, grave, severe, or with a similar qualifier

Q278 Other specified congenital malformations of peripheral vascular system
Excludes: Congenital aneurysm (peripheral) (Q2780)
*Q2780 Congenital aneurysm (peripheral)

Q282 Arteriovenous malformation of cerebral vessels
Excludes: Congenital arteriovenous cerebral aneurysm (nonruptured) (Q2820)
*Q2820 Congenital arteriovenous cerebral aneurysm (nonruptured)

Q283 Other malformations of cerebral vessels
Excludes: Congenital cerebral aneurysm (nonruptured) (Q2830)
*Q2830 Congenital cerebral aneurysm (nonruptured)

R58 Hemorrhage, not elsewhere classified
Excludes: Hemorrhage of unspecified site (R5800)
*R5800 Hemorrhage of unspecified site
SECTION II - PROCEDURES FOR SELECTION OF THE UNDERLYING CAUSE OF DEATH FOR MORTALITY TABULATION

The following are the international rules for selecting the underlying cause of death for mortality tabulation. Some examples have been omitted and additional examples and explanations presented. When only one cause of death is reported, this cause is used for tabulation.

When more than one cause of death is recorded, the first step in selecting the underlying cause is to determine the originating antecedent cause by application of the General Principle or of Selection Rules 1, 2 and 3.

In some circumstances, the ICD allows the originating cause to be superseded by one more suitable for expressing the underlying cause in tabulation. For example, there are some categories for combinations of conditions, or there may be overriding epidemiological reasons for giving precedence to other conditions on the certificate.

The next step, therefore, is to determine whether one or more of the Modification Rules A to F, which deal with the above situations, apply. The resultant code number for tabulation is that of the underlying cause.

Where the originating antecedent cause is an injury or other effect of an external cause classified to Chapter XIX, the circumstances that gave rise to that condition should be selected as the underlying cause for tabulation and coded to V01-Y89.

Rules for selection of the originating antecedent cause

Sequence
The term “sequence” refers to two or more conditions entered on successive lines of Part I, each condition being an acceptable cause of the one entered on the line above it.

I   (a) Bleeding of esophageal varices
    (b) Portal hypertension
    (c) Liver cirrhosis
    (d) Hepatitis B
If there is more than one cause of death on a line of the certificate, it is possible to have more than one reported sequence. In the following example, four sequences are reported:

- (a) Coma
- (b) Myocardial infarction and cerebrovascular accident
- (c) Atherosclerosis hypertension

The sequences are:
- coma due to myocardial infarction due to atherosclerosis
- coma due to cerebrovascular accident due to atherosclerosis
- coma due to myocardial infarction due to hypertension
- coma due to cerebrovascular accident due to hypertension

**General Principle**

The General Principle states that when more than one condition is entered on the certificate, the condition entered alone on the lowest used line of Part I should be selected only if it could have given rise to all the conditions entered above it.

**Selection Rules:**

**Rule 1.** If the General Principle does not apply and there is a reported sequence terminating in the condition first entered on the certificate, select the originating cause of this sequence. If there is more than one sequence terminating in the condition mentioned first, select the originating cause of the first-mentioned sequence.

**Rule 2.** If there is no reported sequence terminating in the condition first entered on the certificate, select this first-mentioned condition.

**Rule 3.** If the condition selected by the General Principle or by Rule 1 or Rule 2 is obviously a direct consequence of another reported condition, whether in Part I or Part II, select this primary condition.

Some considerations on selection rules:
In a properly completed certificate, the originating antecedent cause will have been entered alone on the lowest used line of Part I and the conditions, if any that arose as a consequence of this initial cause will have been entered above it, one condition to a line in ascending causal order.

- (a) Uremia
- (b) Hydronephrosis
- (c) Retention of urine
- (d) Hypertrophy of prostate

- (a) Bronchopneumonia
- (b) Chronic bronchitis
- II Chronic myocarditis
In a properly completed certificate the General Principle will apply. However, even if the certificate has not been properly completed, the General Principle may still apply provided that the condition entered alone on the lowest used line of Part I could have given rise to all the conditions above it, even though the conditions entered above it have not been entered in the correct causal order.

I  (a) Generalized metastases  5 weeks  
    (b) Bronchopneumonia  3 days  
    (c) Lung cancer  11 months

The General Principle does not apply when more than one condition has been entered on the lowest used line of Part I, or if the single condition entered could not have given rise to all the conditions entered above it. Guidance on the acceptability of different sequences is given at the end of the rules, but it should be borne in mind that the medical certifier's statement reflects an informed opinion about the conditions leading to death and about their interrelationships, and should not be disregarded lightly.

Where the General Principle cannot be applied, clarification of the certificate should be sought from the certifier whenever possible, since the selection rules are somewhat arbitrary and may not always lead to a satisfactory selection of the underlying cause. Where further clarification cannot be obtained, however, the selection rules must be applied. Rule 1 is applicable only if there is a reported sequence, terminating in the condition first entered on the certificate. If such a sequence is not found, Rule 2 applies and the first-entered condition is selected.

The condition selected by the above rules may, however, be an obvious consequence of another condition that was not reported in a correct causal relationship with it; e.g., in Part II or on the same line in Part I. If so, Rule 3 applies and the originating primary condition is selected. It applies, however, only when there is no doubt about the causal relationship between the two conditions; it is not sufficient that a causal relationship between them would have been accepted if the certifier had reported it.

Examples of the General Principle and Selection Rules

**General Principle**
When more than one condition is entered on the certificate, select the condition entered alone on the lowest used line of Part I only if it could have given rise to all the conditions entered above it.

**Interpretations and Examples**
The General Principle is the rule under which the certifier's report is accepted using the following criteria in the order stated:

A. One condition is entered on the lowest used line and all the conditions entered above it must be entered in a “reported sequence” and there must be only one condition per line.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Code</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral hemorrhage</td>
<td>I619</td>
<td>1 mo</td>
</tr>
<tr>
<td>(b) Nephritis</td>
<td>N059</td>
<td>6 mos</td>
</tr>
<tr>
<td>(c) Cirrhosis of liver</td>
<td>K746</td>
<td>2 yrs</td>
</tr>
</tbody>
</table>
Select cirrhosis of liver. This is a reported sequence. Each condition on the successive lines in Part I is an acceptable cause of the one entered on the line above it. The sequence is cerebral hemorrhage due to nephritis due to cirrhosis of liver.

B. Or it must be probable that the condition reported alone on the lowest used line could have given rise to all the conditions entered above it.

<table>
<thead>
<tr>
<th></th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>Apoplexy with pneumonia 8 days I64 J189</td>
</tr>
<tr>
<td>(b)</td>
<td>Diabetes 3 yrs E149</td>
</tr>
<tr>
<td>II</td>
<td>Myocarditis I514</td>
</tr>
</tbody>
</table>

Select diabetes. Diabetes can give rise to both conditions reported on I(a). Apoplexy is due to diabetes and pneumonia is due to diabetes.

<table>
<thead>
<tr>
<th></th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>Congestive heart failure 1 yr I500</td>
</tr>
<tr>
<td>(b)</td>
<td>Cerebral hemorrhage 2 days I619</td>
</tr>
<tr>
<td>(c)</td>
<td>Chronic alcoholism F102</td>
</tr>
<tr>
<td>II</td>
<td>Large bowel obstruction K566</td>
</tr>
</tbody>
</table>

Select chronic alcoholism. It is not necessary for the conditions on (a) and (b) to be causally related since the condition entered alone on (c) can give rise to both conditions. Congestive heart failure is due to chronic alcoholism and cerebral hemorrhage is due to chronic alcoholism.
Rule 1. Reported sequence terminating in the condition first entered on the certificate

If the General Principle does not apply and there is a reported sequence terminating in the condition first entered on the certificate, select the originating cause of this sequence. If there is more than one sequence terminating in the condition mentioned first, select the originating cause of the first-mentioned sequence.

Interpretations and Examples

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Pulmonary embolism I269</td>
</tr>
<tr>
<td>(b) Arteriosclerotic heart disease I251</td>
</tr>
<tr>
<td>(c) Influenza J1110</td>
</tr>
</tbody>
</table>

Select arteriosclerotic heart disease (ASHD). The General Principle is not applicable because influenza cannot cause ASHD. The reported sequence terminating in the condition first entered on the certificate is pulmonary embolism due to arteriosclerotic heart disease.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Bronchopneumonia J180</td>
</tr>
<tr>
<td>(b) Cerebral infarction and hypertensive heart disease I639 I119</td>
</tr>
</tbody>
</table>

Select cerebral infarction. The General Principle is not applicable since there are two conditions on the lowest used line in Part I. There are two reported sequences terminating in the condition first entered on the certificate; bronchopneumonia due to cerebral infarction, and bronchopneumonia due to hypertensive heart disease. The originating cause of the first-mentioned sequence is selected.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral hemorrhage &amp; hypostatic I619 J182</td>
</tr>
<tr>
<td>(b) pneumonia</td>
</tr>
<tr>
<td>(c) Prostate hypertrophy, diabetes N40, E149</td>
</tr>
</tbody>
</table>

Select diabetes. The General Principle is not applicable since there are two conditions on the lowest used line. Cerebral hemorrhage is not due to prostate hypertrophy; therefore, diabetes is selected by Rule 1.
**Rule 2. No reported sequence terminating in the condition first entered on the certificate**

If there is no reported sequence terminating in the condition first entered on the certificate, select this first-mentioned condition.

Interpretations and Examples

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>D510 R02</td>
</tr>
<tr>
<td>I709</td>
</tr>
</tbody>
</table>

Select pernicious anemia. Neither the General Principle nor Rule 1 is applicable. Pernicious anemia due to atherosclerosis is not an acceptable sequence. There is a reported sequence, gangrene of foot due to atherosclerosis, but does not terminate in the condition first entered on the certificate.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I099 I251</td>
</tr>
</tbody>
</table>

Select rheumatic heart disease. There is no reported sequence; both conditions are on the same line.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I219</td>
</tr>
<tr>
<td>I679</td>
</tr>
<tr>
<td>I119 J42</td>
</tr>
</tbody>
</table>

Select coronary occlusion. Neither the General Principle nor Rule 1 is applicable. Since cerebrovascular disease is an unacceptable cause of coronary occlusion, or any other ischemic heart disease, there is no reported sequence terminating in the condition first entered on the certificate.

**Rule 3. Direct sequel**

If the condition selected by the General Principle or by Rule 1 or Rule 2 is obviously a direct consequence of another reported condition, whether in Part I or Part II, select this primary condition.

Abbreviations

The following abbreviations are used to identify different types of direct sequel code relationships:

- **DS:** (Direct sequel) When the tentative underlying cause is considered a direct sequel of another condition on the certificate in Part I (must be on same or lower line as tentative underlying cause) or Part II, and the code for the other condition is preferred over the code for the tentative underlying cause.
DSC: (Direct sequel combination) When the tentative underlying cause is considered a direct sequel of another condition on the certificate in Part I (must be on same or lower line as tentative underlying cause) or Part II, and the codes for the tentative underlying cause and the other condition combine into a third code.

**Assumed direct consequences of another condition**

Kaposi’s sarcoma, Burkitt’s tumor and any other malignant neoplasm of lymphoid, hematopoietic, and related tissue, classifiable to C46.- or C81-C96, should be considered to be a direct consequence of HIV disease, where this is reported. No such assumption should be made for other types of malignant neoplasm.

Any infectious disease classifiable to A000-A310, A318-A427, A429-A599, A601-A70, A748-B001, B003-B004, B007, B009-B069, B080, B082-B085, B09-B199, B250-B279, B330-B349, B370-B49, B580-B64, B99 or J12-J18 should be considered to be a direct consequence of reported HIV disease.

Enterocolitis due to *Clostridium difficile* should be assumed to be an obvious consequence of antibiotic therapy.

Heart failure (I50.-) and unspecified heart disease (I519) should be considered an obvious consequence of other heart conditions.

Oesophageal varices (I85.-) should be considered an obvious consequence of liver diseases classifiable to B18.-, K70.-, K73.-, K74.-, and K76.

Pulmonary edema (J81) should be considered an obvious consequence of heart disease (including pulmonary heart disease); of conditions affecting the lung parenchyma, such as lung infections, aspiration and inhalation, respiratory distress syndrome, high altitude, and circulating toxins; of conditions causing fluid overload, such as renal failure and hypoalbuminemia; and of congenital anomalies affecting the pulmonary circulation, such as congenital stenosis of pulmonary veins.

Lobar pneumonia, unspecified (J18.1) should be considered an obvious consequence of dependence syndrome due to use of alcohol (F10.2). Pneumonia in J12-J18 should be considered an obvious consequence of conditions that impair the immune system. Pneumonia in J150-J156, J158-J159, J168, J180 and J182-J189 should be assumed to be an obvious consequence of wasting diseases (such as malignant neoplasm and malnutrition) and diseases causing paralysis (such as cerebral hemorrhage or thrombosis), as well as serious respiratory conditions, communicable diseases, and serious injuries. Pneumonia in J150-J156, J158-J159, J168, J180, J182-J189, J690, and J698 should be considered an obvious consequence of conditions that affect the process of swallowing. Pneumonia in J18.- (except lobar pneumonia) reported with immobility or reduced mobility should be coded to J18.2.

Other common secondary conditions (such as pulmonary embolism, decubitus ulcer, and cystitis) should be considered an obvious consequence of wasting diseases (such as malignant neoplasm and malnutrition) and diseases causing paralysis (such as cerebral hemorrhage or thrombosis) as well as communicable diseases, and serious injuries. However, such secondary conditions should not be considered an obvious consequence of respiratory conditions.

Acidosis (E87.2); Other specified metabolic disorders (E88.8); Other mononeuropathies (G58.-); Polyneuropathy, unspecified (G62.9); Other disorders of peripheral nervous system (G64); amyotrophy not otherwise specified in Other primary disorders of muscles (G71.8), Disorder of autonomic nervous system, unspecified (G90.9), and Neuralgia and neuritis, unspecified (M79.2); Iridocyclitis (H20.9); Cataract, unspecified (H26.9); Chorioretinal inflammation, unspecified (H30.9); Retinal vascular occlusions (H34); Background retinopathy and retinal vascular changes (H35.0); Other proliferative retinopathy (H35.2); Retinal haemorrhage (H35.6); Retinal disorder, unspecified (H35.9); Peripheral vascular disease, unspecified (I73.9); Atherosclerosis of arteries of
extremities (I70.2); Arthritis, unspecified (M13.9); Nephrotic syndrome (N03- N05); Chronic kidney disease (N18.-); Unspecified kidney failure (N19); Unspecified contracted kidney (N26); renal disease in Disorder of kidney and ureter, unspecified (N28.9) and Persistent proteinuria, unspecified (N39.1); Gangrene, not elsewhere classified (R02); Coma, unspecified (R40.2); and Other specified abnormal findings of blood chemistry (R79.8) for acetonemia, azotemia, and related conditions should be considered an obvious consequence of Diabetes mellitus (E10-E14).

Embolism (any site) or any disease described or qualified as “embolic” may be assumed to be a direct consequence of venous thrombosis, phlebitis or thrombophlebitis, valvular heart disease, childbirth or any operation. However, there must be a clear route from the place where the thrombus formed and the place of the embolism. Thus, venous thrombosis or thrombophlebitis may cause pulmonary embolism. Thrombi that form in the left side of the heart (for example on mitral or aortic valves), or are due to atrial fibrillations, may cause embolism to the arteries of the body circulation. Similarly, thrombi that form around the right side heart valves (tricuspid and pulmonary valves) may give rise to embolism in the pulmonary arteries. Also, thrombi that form in the left side of the heart could pass to the right side if a cardiac septal defect is present.

Arterial embolism in the systemic circulation should be considered an obvious consequence of atrial fibrillation. When pulmonary embolism is reported due to atrial fibrillation, the sequence should be accepted. However, pulmonary embolism should not be considered an obvious consequence of atrial fibrillation.

Unspecified dementia (F03) and Alzheimer’s disease (G30.-) should be considered an obvious consequence of Down’s syndrome (Q90 .-).

Dementia without a mention of specified cause, should be considered a consequence of conditions that typically involve irreversible brain damage. However, when a specified cause is given, only a condition that may lead to irreversible brain damage should be accepted as cause of the dementia, even if irreversible brain damage is not a typical feature of the condition.

Any disease described as secondary should be assumed to be a direct consequence of the most probable primary cause entered on the certificate.

Secondary or unspecified anemia, malnutrition, marasmus or cachexia may be assumed to be a consequence of any malignant neoplasm, paralytic disease, or disease which limits the ability to care for oneself, including dementia and degenerative diseases of the nervous system.

Any pyelonephritis may be assumed to be a consequence of urinary obstruction from conditions such as hyperplasia of prostate or ureteral stenosis.

Nephritic syndrome may be assumed to be a consequence of any streptococcal infection (scarlet fever, streptococcal sore throat, etc).

Acute renal failure should be assumed as an obvious consequence of a urinary tract infection, provided that there is no indication that the renal failure was present before the urinary tract infection.

Dehydration should be considered an obvious consequence of any intestinal infectious disease. Primary atelectasis of newborn (P28.0) should be considered an obvious consequence of congenital kidney conditions (Q60, Q61.0-Q61.1, Q61.3-Q61.9, Q62.1, Q62.3, Q62.4), premature rupture of membranes (P01.1), and oligohydramnios (P01.2).

Fetus and newborn affected by premature rupture of membranes or oligohydramnios (P01.1-P01.2) should be assumed to be a direct consequence of congenital kidney conditions (Q60, Q61.0-Q61.1, Q61.3-Q61.9, Q62.1, Q62.3, Q62.4).
An operation on a given organ should be considered a direct consequence of any surgical condition (such as malignant tumor or injury) of the same organ reported anywhere on the certificate.

Hemorrhage should be considered an obvious consequence of anticoagulant poisoning or overdose. However, hemorrhage should not be considered an obvious consequence of anticoagulant therapy without mention of poisoning or overdose. Gastric hemorrhage should be considered an obvious consequence of steroid, aspirin, and non-steroidal anti-inflammatory drugs (NSAIDs).

Mental Retardation should be considered an obvious consequence of perinatal conditions in P00-P04 (Fetus and newborn affected by maternal factors and by complications of pregnancy, labor and delivery), P05 (Slow fetal growth and fetal malnutrition), P07 (Disorders related to short gestation and low birth weight, not elsewhere classified), P10 (Intracranial laceration and hemorrhage due to birth injury), P11.0 (Cerebral edema due to birth injury), P11.1 (Other specified brain damage due to birth injury), P11.2 (Unspecified brain damage due to birth injury), P11.9 (Birth injury to central nervous system, unspecified), P15.9 (Birth injury, unspecified), P20 (Intrauterine hypoxia), P21 (Birth asphyxia), P35 (Congenital viral disease), P37 (Other congenital infectious and parasitic diseases), P52 (Intracranial nontraumatic hemorrhage of fetus and newborn), P57 (Kernicterus), P90 (Convulsions of newborn) and P91 (Other disturbances of cerebral status of newborn).

**Interpretations and examples**

Rule 3 is applicable when the condition selected by the General Principle, Rule 1, or Rule 2 is obviously the result of another condition reported on the same line, on a lower line in Part I, or in Part II. It applies only when there is no doubt about the causal relationship between the two conditions; it is not sufficient that a causal relationship between them would have been accepted if the certifier had reported it. If the selected cause is considered a direct sequel of two or more conditions on the record, the priority order for re-selection is from left to right, (1) on the same line, (2) on a lower line in Part I, and (3) in Part II. Conditions reported above the selected cause are not considered in the application of Rule 3.

For assistance in determining whether a selected condition is a direct sequel of another, refer to Part 2c, ICD-10 ACME Decision Tables for Classifying Underlying Causes of Death, 2015. The symbol “DS” identifies Direct Sequel, and the symbol “DSC” identifies Direct Sequel Combination.

**Codes for Record**

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I</th>
<th>(a) Bronchopneumonia</th>
<th>J180</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Congestive heart failure and</td>
<td>I500 I050</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(c) mitral stenosis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select mitral stenosis. Congestive heart failure, selected by Rule 1, is considered a direct sequel of mitral stenosis.
Codes for Record

I  (a) Cardiac arrest I469
    (b) Gastric hemorrhage K922
    (c)
II  Gastric ulcer K259

Select gastric ulcer, chronic or unspecified with hemorrhage (K254). The hemorrhage is considered a direct sequel (DSC) of the gastric ulcer and combines gastric ulcer with gastric hemorrhage.

Complications of surgery
Certain conditions that are common postoperative complications can be considered as direct sequels to an operation unless the surgery is stated to have occurred 28 days or more before death. Use Rule 3 for the complications listed below:

- Acute renal failure
- Aspiration
- Atelectasis
- Bacteremia
- Cardiac arrest (any I469)
- Disseminated intravascular coagulopathy (DIC)
- Embolism (any site)
- Gas gangrene
- Hemolysis, hemolytic infection
- Hemorrhage NOS
- Infarction (any site)
- Infection NOS
- Occlusion (any site)
- Phlebitis (any site)
- Phlebothrombosis (any site)
- Pneumonia (J120-J168, J180-J189, J690, J698)
- Pneumothorax
- Pulmonary insufficiency
- Renal failure (acute) NOS
- Septicemia (any A400-A419)
- Shock (R570-R579)
- Thrombophlebitis (any site)
- Thrombosis (any site)

Consider Peritonitis or Intestinal obstruction (K560-K567) to be a direct sequel of abdominal or pelvic surgery unless surgery is stated to have occurred 28 days or more before death.

Consider Hemorrhage of a site or Fistula of site(s) to be a direct sequel of surgery of same site or region unless surgery is stated to have occurred 28 days or more before death.
Consider Adhesions to be a direct sequel of surgery regardless of date of surgery.

Codes for Record

I (a) Mesenteric thrombosis
    (b)
    (c)
II Colectomy for cancer of sigmoid

Code to cancer of sigmoid (C187). Thrombosis is a common post-operative complication and the surgery is not stated to have occurred 28 days or more before death.

Codes for Record

I (a) Coronary thrombosis
    (b)
    (c)
II Removal of gallbladder (gallstones)
    2 months ago

Code to coronary thrombosis (I219). The operation is stated to have occurred more than 28 days before death.

Codes for Record

I (a) Renal failure
    (b)
    (c) Adhesions
II Surgery - for diverticulitis

Code to diverticulitis K579, the condition necessitating surgery.

Modification of the selected cause

The selected cause of death is not necessarily the most useful and informative condition for tabulation. For example, if senility or some generalized disease such as hypertension or atherosclerosis has been selected, this is less useful than if a manifestation or result of aging or disease had been chosen. It may sometimes be necessary to modify the selection to conform with the requirements of the Classification, either for a single code for two or more causes jointly reported or for preference for a particular cause when reported with certain other conditions.

The modification rules that follow are intended to improve the usefulness and precision of mortality data and should be applied after selection of the originating antecedent cause. The interrelated processes of selection and modification have been separated for clarity.

Some of the modification rules require further application of the selection rules, which will not be difficult for experienced coders, but it is important to go through the process of selection, modification and, if necessary, re-selection.

After application of the modification rules (A-F), selection Rule 3 should be reapplied.
The modification rules

Rule A. Senility and other ill-defined conditions

Rule B. Trivial conditions
Rule C. Linkage
Rule D. Specificity
Rule E. Early and late stages of disease
Rule F. Sequela

Rule A. Senility and other ill-defined conditions

Where the selected cause is ill-defined and a condition classified elsewhere is reported on the certificate, reselect the cause of death as if the ill-defined condition had not been reported, except to take account of that condition if it modifies the coding.

The following conditions are regarded as ill-defined:
  I461 (Sudden cardiac death, so described)
  I469 (Cardiac arrest, unspecified)
  I959 (Hypotension, unspecified)
  I99 (Other and unspecified disorders of circulatory system)
  J960 (Acute respiratory failure)
  J969 (Respiratory failure, unspecified)
  P285 (Respiratory failure, newborn)
  R00-R94 or R96-R99 (Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified). Note that R95 (Sudden infant death) is not regarded as ill-defined.

Abbreviations
The following abbreviations are used when coding senility and other ill-defined conditions:

IDDC: (Ill-defined due to combination) When the tentative underlying cause is an ill-defined condition in the due to position to another condition, and the codes for the tentative underlying cause and the other condition combine into a third code.

SENMC: (Senility with mention of combination) When the tentative underlying cause is senility (R54), and is reported with mention of another condition on the certificate, and the codes for the tentative underlying cause and the other condition combine into a third code.

SENDC: (Senility due to combination) When the tentative underlying cause is senility (R54) and is reported in a due to position to another condition, and the codes for the tentative underlying cause and the other condition combine into a third code.

Interpretation and Examples

I (a) Senility and hypostatic pneumonia
    (b) Rheumatoid arthritis

Code to rheumatoid arthritis (M069). Senility, selected by Rule 2, is ignored and the General Principle applied.
I (a) Anemia  D649  
(b) Splenomegaly  R161

Code to splenomegalic anemia (D648). Splenomegaly, selected by the General Principle, is ignored by Rule A. Anemia, reselected by the General Principle, is modified by the ill-defined cause. The Modification Table E entry R161 is identified as IDDC “maybe” with anemia D649. The reporting on this certificate satisfies the maybe reason defined in Table F, Reasons for Ambivalent Relationships in Modification Table, and the modification is made.

Codes for Record

I (a) Myocardial degeneration and I515 J439  
(b) emphysema  
(c) Senility  R54

Code to myocardial degeneration (I515). Senility, selected by the General Principle, is ignored and Rule 2 applied.

Codes for Record

I (a) Cough and hematemesis  R05 K920

Code to hematemesis (K920). Cough, selected by Rule 2, is ignored.

Codes for Record

I (a) Terminal pneumonia  J189  
(b) Spreading gangrene and  R02 I639  
(c) cerebrovascular infarction

Code to cerebrovascular infarction (I639). Gangrene, selected by Rule 1, is ignored and the General Principle is applied.
Rule B. Trivial conditions

(A) Where the selected cause is a trivial condition unlikely to cause death (see Table H in the 2c ACME Decision Tables) and a more serious condition (any condition except an ill-defined or another trivial condition) is reported, reselect the underlying cause as if the trivial condition had not been reported.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Dental caries</td>
</tr>
<tr>
<td>II Diabetes</td>
</tr>
</tbody>
</table>

Code to diabetes (E149). Dental caries, selected by the General Principle, is ignored.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Ingrowing toenail and acute renal failure</td>
</tr>
</tbody>
</table>

Code to acute renal failure (N179). Ingrowing toenail, selected by Rule 2, is ignored.

(B) If the death was the result of an adverse reaction to treatment of the trivial condition, select the adverse reaction.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Intraoperative hemorrhage</td>
</tr>
<tr>
<td>(b) Tonsillectomy</td>
</tr>
</tbody>
</table>

Code to hemorrhage during surgical operation (Y600). Code to the adverse reaction to treatment of the hypertrophy of tonsils, selected by General Principle.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Acute renal failure</td>
</tr>
<tr>
<td>(b) Aspirin taken for</td>
</tr>
<tr>
<td>(c) Migraines</td>
</tr>
</tbody>
</table>

Code to acute renal failure (N179), the adverse reaction to the drug taken for treatment of a trivial condition. The external cause code for the drug is not used as the underlying cause since the adverse reaction is not classifiable to Chapter XIX.
(C) When a trivial condition is reported as causing any other condition, the trivial condition is not discarded (i.e. Rule B is not applicable).

Codes for Record

I (a) Septicemia A419
   (b) Impetigo L010

Code to impetigo (L010). The trivial condition selected by the General Principle is not discarded since it is reported as the cause of another condition.

Codes for Record

I (a) Respiratory insufficiency R068
   (b) Upper respiratory infection J069

Code to upper respiratory infection (J069). The trivial condition selected by the General Principle is not discarded since it is reported as the cause of another condition.

Rule C. Linkage

Where the selected cause is linked by a provision in the Classification or in the notes for use in underlying cause mortality coding with one or more of the other conditions on the certificate, code the combination.

Where the linkage provision is only for the combination of one condition specified as due to another, code the combination only when the correct causal relationship is stated or can be inferred from application of the selection rules.

Where a conflict in linkages occurs, link with the condition that would have been selected if the cause initially selected had not been reported. Make any further linkage that is applicable.

Interpretations and Examples

Linkage is the assignment of a preference or combination code for two or more jointly reported causes of death in accordance with a provision in the ICD. The provision may be for linking one condition with mention of the other, or for linking one condition when reported as “due to” the other.

Guideline notes and instruction for applying the mandatory international linkages are listed in category order, Volume 2, Second Edition, pages 53-70. They have been repeated in this manual along with other preferences and instructions pertinent to coding practices in the United States. In addition, the codes for specific linkages are contained in Part 2c, Modification Table (Table E). These decision tables present the linkages as described below for use in classifying the underlying cause of death.
Application of the linkage rule, as with the use of all other international rules for determining the underlying cause of death, must be carried out in a sequential step-by-step process to comply with the intention of ICD and to achieve standardization of data. This is particularly essential in the linkage rule. It is the most complex step in determining the underlying cause of death and is used more than any other modification rule.

The following abbreviations identify the linkages in Part 2c, Modification Table (Table E):

**LMP:** (Linkage *with mention of preference*) is used when another condition is preferred over the selected underlying cause regardless of the placement of either of the two conditions on the record.

**LMC:** (Linkage *with mention of combination*) is used when the selected underlying cause and another condition link to become a combination code regardless of the placement of either of the two conditions on the record.

**LDP:** (Linkage “due to” preference) is used when another condition stated as “due to” the selected underlying cause is preferred.

**LDC:** (Linkage “due to” combination) is used when the selected underlying cause is merged with another condition stated as “due to” the selected underlying cause into a combination code.

**Placement of Condition for “due to” Linkages**

Placement of the conditions on the record is of paramount importance in determining when “due to” linkages (LDP, LDC) may be made. For this purpose, the following criteria are to be applied. If the General Principle is applied, every condition on every line above it is considered to have a “due to” relationship with the selected underlying cause. If Rule 1 is applied, only the conditions on the next higher line are in “due to” relationship with the selected underlying cause.

**Situation 1: One linkage on the record**

This is the most straightforward kind of linkage wherein the selected underlying cause links with only one other condition on the record through any one of the four types of linkages.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Coronary thrombosis I219</td>
<td>I (a) Emphysema J439</td>
</tr>
<tr>
<td>(b) Old myocardial degeneration I515</td>
<td>(b)</td>
</tr>
<tr>
<td>(c) Arteriosclerotic heart disease I251</td>
<td>(c) Bronchitis J40</td>
</tr>
<tr>
<td>II Hypertension, arteriosclerosis I10 I709</td>
<td></td>
</tr>
</tbody>
</table>

*Code to coronary thrombosis (I219). Arteriosclerotic heart disease, selected by the General Principle, links (LMP) with coronary thrombosis.*
II Cerebral arteriosclerosis I672

Code to other specified chronic obstructive pulmonary disease (J448). Bronchitis, selected by the General Principle, links (LMC) with emphysema into a combination code of J448.

Codes for Record
I (a) Bronchopneumonia J180
(b) Heart disease I519
(c) Hypertension and arteriosclerosis I10 I709

Code to hypertensive heart disease without (congestive) heart failure (I119). Hypertension, selected by Rule 1, links (LDC) in “due to” position with heart disease into a combination code.

Codes for Record
I (a) Thrombotic mesenteric infarction K550
(b) Arteriosclerosis I709

Code to acute vascular disorder of intestine (K550). Arteriosclerosis, selected by the General Principle, links (LDP) in “due to” position with mesenteric infarction.

Situation 2: Two or more concurrent linkages (conflict in linkage)

When the selected underlying cause links with more than one condition on the record, a conflict in linkage exists. When there is a conflict, linkage is with the condition that would have been selected if the selected cause had not been reported. Therefore, prefer a linkage in Part I over one in Part II. If the conflict is in Part I, reapply the selection rules as though the selected cause had not been reported. If the reselected cause is one of the linkage conditions, make this linkage. If the reselected cause is not one of the linkage conditions, again apply the selection rules as though the initially selected and reselected causes had not been reported. Continue this process until a reselected cause is one of the conditions to which the initially selected underlying cause links. Then link the initially selected underlying cause to that condition.

Codes for Record
I (a) Stroke I64
(b) Hypertension I10
II CAD I251

Code to stroke (I64). Hypertension selected by General Principle links (LMP) with stroke and also links (LMP) with coronary artery disease. Even though hypertension links with two conditions, a linkage in Part I is preferred over one in Part II.
I (a) CVA  
(b) Aortic aneurysm  
(c) Arteriosclerosis  

Codes for Record | Linkage Record  
I (a) I64 | I64  
(b) I719 | I719  
(c) I709 |  

Code to Aortic aneurysm (I719).  
Arteriosclerosis, selected by the General Principle, links (LDP) in “due to” position with aortic aneurysm and also links (LMP) with mention of CVA.  
The linkage record is constructed and the selection rules applied. Aortic aneurysm would have been selected by the General Principle and is, therefore, the condition that is preferred.  

I (a) Cardiac arrest and pneumonia  
(b) Cerebrovascular accident, ischemic heart disease  
(c) Arteriosclerosis  
II Hypertension and contracted kidney  

Codes for Record | Linkage Record  
I (a) I469 J189 | I469 J189  
(b) I64 I259 | I64 I259  
(c) I709 | I709  
II I10 N26 | I10 N26  

Code to cerebrovascular accident (I64).  
Arteriosclerosis, selected by the General Principle, links (LMP) with cerebrovascular accident; (LMP) with ischemic heart disease; and (LMP) with hypertension.  
The linkage record is constructed, consisting of all conditions except the selected underlying cause and the selection rules are reapplied to the linkage record. Cerebrovascular accident would have been selected by Rule 1 and is thus identified as the condition to be linked with the initially selected cause.  

I (a) Pneumonia  
(b) Congestive heart failure, chronic myocarditis  
(c) Hypertension and arteriosclerosis
Codes for Record | Linkage Record
--- | ---
I (a) J189 | J189
(b) I500 I514 | I500 I514
(c) I10 I709 | I709

**Code to hypertensive heart disease with (congestive) heart failure (I110)**
Hypertension, selected by Rule 1, links (LDC) in “due to” position with congestive heart failure and also links (LDC) in “due to” position with the term chronic myocarditis.

Construct the linkage record with all conditions except the selected underlying cause of death and apply the selection rules to this record.

Reselect arteriosclerosis. Since this is not one of the linkage conditions, the selection rules are reapplied. Select congestive heart failure (I500). Congestive heart failure is identified as the condition to be linked with the initially selected underlying cause into the combination code I110.

---

**Situation 3: Further linkage**

After initial linkage is made, the preferred condition or combination category may further link with another condition on the record to create a sequence of linkages.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Pneumonia, hypertension</td>
</tr>
<tr>
<td>(b) Arteriosclerosis &amp; renal sclerosis</td>
</tr>
<tr>
<td>(c) Cancer of lung</td>
</tr>
</tbody>
</table>

**Code to hypertensive renal disease (I129).** Arteriosclerosis, selected by Rule 1, links (LMP) with hypertension. Hypertension further links (LMC) with renal sclerosis into a combination code of I129.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Ventricular aneurysm</td>
</tr>
<tr>
<td>(b) Hypertensive heart disease</td>
</tr>
<tr>
<td>(c) Chronic renal failure</td>
</tr>
</tbody>
</table>

**Code to aneurysm of heart (I253).** Chronic renal failure, selected by the General Principle, links (LMC) with hypertensive heart disease into a combination code of I131, hypertensive heart and renal disease with renal failure. This combination (I131) further links (LMP) with ventricular aneurysm (I253).
I (a) Heart and renal failure
   (b) Renal atrophy
   (c) Arteriosclerosis and hypertension

Codes for Record                      Linkage Record
I (a) I509 N19                       I509 N19
   (b) N26                            N26
   (c) I709 I10                        I10

Code to hypertensive heart and renal disease with both (congestive) heart failure and renal failure (I132). Arteriosclerosis, selected by Rule 1, links (LMP) with hypertension, (LMP) with heart failure, and (LDC) in “due to” position with renal atrophy. This is a conflict in linkage; therefore, construct the linkage record consisting of all conditions except the selected underlying cause and apply the selection rules to this linkage record.

Since hypertension would have been selected by the General Principle, it is thus identified as the condition to be linked. Make this linkage (---I709---LMP I10). Conditions classifiable to I10 further link (LMC) with renal atrophy and (LDC) in “due to” position with heart failure, and (LMC) with renal failure. This conflict in linkage requires that a second linkage record be constructed.

Linkage Record
I (a) I509, N19
   (b) N26
   (c)

Apply the selection rules to the new linkage record. Renal atrophy would have been selected by the General Principle and is identified as the term to be linked with hypertension into the combination code of I129. This further links (LDC) with heart failure into the combination code of I130 and further links (LMC) with the renal failure into the combination code of I132 by continuing to apply the “conflict in linkage rule.”

Rule D. Specificity
Where the selected cause describes a condition in general terms and a term that provides more precise information about the site or nature of this condition is reported on the certificate, prefer the more informative term. This rule will often apply when the general term becomes an adjective, qualifying the more precise term.
The following abbreviations identify selected levels of specificity:

SMP: (Specificity with mention of preference) When the tentative underlying cause describes a condition in general terms, and a condition which provides more precise information about the site or nature of this condition is reported anywhere on the certificate, and the code for the more precise condition is preferred over the code for the tentative underlying cause.

SMC: (Specificity with mention of combination) When the tentative underlying cause describes a condition in general terms, and a condition which provides more precise information about the site or nature of this condition is reported anywhere on the certificate, and the codes for the tentative underlying cause and the other condition combine into a third code.

SDC: (Specificity due to combination) When the tentative underlying cause is reported in the due to position to another condition, and can be regarded as an adjective modifying this condition, and the codes for the tentative underlying cause and the other conditions combine into a third code.

Codes for Record

I (a) Cerebral thrombosis  I633
(b) CVA  I64

Code to cerebral thrombosis (I633). Cerebrovascular accident selected by the General Principle, is considered a general term and cerebral thrombosis is preferred as the more informative term.

Codes for Record

I (a) Meningitis  G039
(b) Tuberculosis  A1690

Code to tuberculous meningitis (A170). The conditions are stated in the correct causal relationship.

Codes for Record

I (a) Pneumonia  J13
(b) Pneumococcus

Code to pneumococcal pneumonia (J13). Since an infection is reported due to a specific organism, use the organism on (b) to modify the infection on (a).

Refer to Section III, J, 6 for further instructions regarding organisms and infections.
Conflict in Specificity
When there are two or more conditions on the certificate to which the specificity rule applies, reapply the selection rules as though the general term had not been reported. If the reselected condition is not one of the more specified conditions to which

Rule D applies, again apply the selection rules as though the general term and the reselected condition had not been reported. Continue this reselection process until the reselected condition is one of the more specified terms that would take preference over the general term. After the more specified condition has been identified, any applicable linkage (Rule C) may be made.

I (a) Pulmonary fibrosis
    J841
(b) Chronic lung disease and
    J9840 J439
(c) Emphysema

Code to emphysema (J439). Chronic lung disease is selected by Rule 1. Both emphysema and pulmonary fibrosis are more specified lung diseases. Emphysema would have been selected if chronic lung disease had not been mentioned and is, therefore, identified as the condition that would take preference.

I (a) Urinary tract obstruction
    N139
(b) Kidney stones
    N200
(c) Renal disease
    N289

Code to calculus of kidney (N200). Renal disease (N289) is selected by the General Principle. Both urinary tract obstruction and kidney stones are specified renal diseases. Kidney stones (N200) would have been selected if renal disease had not been reported and is, therefore, the preferred condition.

Rule E. Early and late stages of disease
Where the selected cause is an early stage of a disease and a more advanced stage of the same disease is reported on the certificate, code to the more advanced stage. This rule does not apply to a “chronic” form reported as due to an “acute” form unless the classification gives special instructions to that effect.

I (a) Tertiary syphilis
    A529
(b) Primary syphilis
    A510

Code to tertiary syphilis (A529), a more advanced stage of syphilis.

I (a) Eclampsia during pregnancy
    O150
(b) Pre-eclampsia
    O149
Code to eclampsia in pregnancy (O150), a more advanced stage of pre-eclampsia.

Codes for Record

I (a) Chronic myocarditis I514
   (b) Acute myocarditis I409

Code to acute myocarditis (I409). Acute myocarditis is selected by the General Principle. No “special instruction” is given to prefer chronic myocarditis over acute myocarditis.

Codes for Record

I (a) Chronic nephritis N039
   (b) Acute nephritis N009

Code to chronic nephritis, unspecified (N039). Chronic nephritis is preferred when it is reported as secondary to acute nephritis. The General Principle and linkage are applicable.

Rule F. Sequela

Where the selected cause is an early form of a condition for which the Classification provides a separate “Sequela of ...” category, and there is evidence that death occurred from residual effects of this condition rather than from those of its active phase, code to the appropriate “Sequela of ...” category.

“Sequela of ...” categories are as follows:

   B90.-   Sequela of tuberculosis
   B91    Sequela of acute poliomyelitis
   B92    Sequela of leprosy
   B94.-   Sequela of other and unspecified infectious and parasitic diseases
   E64.-   Sequela of malnutrition and other nutritional deficiencies
   E68    Sequela of hyperalimentation
   G09    Sequela of inflammatory diseases of central nervous system
   I69.-   Sequela of cerebrovascular disease
   O97.-   Death from sequela of obstetric causes
   Y85-Y89 Sequela of external causes

NOTE: When conditions in categories A000-A310, A318-A427, A429-A599, A601-A70, A748-B001, B003-B004, B007, B009-B069, B080, B082-B085, B09-B199, B25-B279, B330-B349, B370-B49, B58-B64, B99 are mentioned on the record with HIV (B20-B24, R75), do not consider the infectious or parasitic condition as a sequela.
Interpretations and Examples

These sequela categories are to be used for underlying cause mortality coding to indicate that death resulted from late (residual) effects of a given disease or injury rather than during the active phase. Rule F applies in such circumstances.

B90.- Sequela of tuberculosis

Use these subcategories for the classification of tuberculosis (conditions in A162-A199) if:

(a) A statement of a late effect or sequela of the tuberculosis is reported.

Codes for Record

I (a) Calcification lung J984
   (b) Sequela of pulmonary tuberculosis B909

Code to sequela of pulmonary tuberculosis (B909) since “sequela of” is stated.

(b) The tuberculosis is stated to be ancient, arrested, cured, healed, history of, inactive, old, quiescent, or remote, whether or not the residual (late) effect is specified, unless there is evidence of active tuberculosis.

Code for Record

I (a) Arrested pulmonary tuberculosis B909

Code to arrested pulmonary tuberculosis (B909), since there is no evidence of active tuberculosis.

(c) When there is evidence of active and inactive (arrested, cured, healed, history of, old, quiescent) tuberculosis of different sites, consider as active or inactive tuberculosis as stated.

Codes for Record

I (a) Acute miliary tuberculosis A190
   (b) of bone 6 mos
II Old pulmonary tuberculosis B909

Code to active acute miliary tuberculosis of bone (A190) as selected by the General Principle. Evidence of inactive tuberculosis of a different site does not change the status of the active tuberculosis.

(d) When there is evidence of active and inactive (arrested, cured, healed, history of, old, quiescent) tuberculosis of the same site, consider as active tuberculosis.
Codes for Record

I (a) Recurrent pulmonary tuberculosis  A162
(b) Old pulmonary tuberculosis  A162
(c) Code to active pulmonary tuberculosis (A162). Evidence of inactive and active tuberculosis of the same site is coded to active tuberculosis of the site.

NOTE: Do not use duration to code sequela of tuberculosis.

Codes for Record

I (a) Respiratory failure  J969
(b) Pneumonia  J189
(c) Pulmonary tuberculosis  2 years  A162

Code to pulmonary tuberculosis (A162). Do not use duration of the tuberculosis to code the tuberculosis as sequela.

**B91- Sequela of acute poliomyelitis**
Use this category for the classification of poliomyelitis (conditions in A800-A809) if:

(a) A statement of a late effect or sequela of the poliomyelitis is reported.

I (a) Sequela of acute poliomyelitis  B91

Code to sequela of poliomyelitis (B91) as indexed.

(b) A chronic condition or a condition with a duration of one year or more that was due to poliomyelitis is reported.

I (a) Paralysis  1 year  G839
(b) Acute poliomyelitis  B91

Code to sequela of poliomyelitis (B91), since the paralysis has a duration of 1 year.

(c) The poliomyelitis is stated to be old, history of, or the interval between onset of the poliomyelitis and death is indicated to be one year or more whether or not the residual (late) effect is specified.

I (a) Old polio  B91

Code to old polio (B91).
(d) The poliomyelitis is not stated to be acute or active and the interval between the onset of the poliomyelitis and death is not reported.

**Code for Record**

I (a) Poliomyelitis  
(b)  
(c)  

**Code to sequela of poliomyelitis (B91) since the poliomyelitis is not stated to be acute or active and there is no duration reported.**

**Codes for Record**

I (a) Poliomyelitis with  
(b)   paralysis  
(c)  

**Code to sequela of poliomyelitis (B91) since the poliomyelitis is not stated to be acute or active and there is no duration reported.**

**B92 Sequela of leprosy**

Use this category for the classification of leprosy (conditions in A30) if:

(a) A statement of a late effect or sequela of the leprosy is reported.
(b) A chronic condition or a condition with a duration of one year or more that was due to leprosy is reported.

**B94.0 Sequela of trachoma**

Use this subcategory for the classification of trachoma (conditions in A710-A719) if:

(a) A statement of a late effect or sequela of the trachoma is reported.

**Code for Record**

I (a) Late effects of trachoma  

(b) The trachoma is stated to be healed or inactive, whether or not the residual (late) effect is specified.

**Code for Record**

I (a) Healed trachoma  

**Code to sequela of trachoma (B940) since it is stated “healed.”**

(c) A chronic condition such as blindness, cicatricial entropion or conjunctival scar that was due to the trachoma is reported unless there is evidence of active infection.
Codes for Record

I  (a) Conjunctival scar  H112
    (b) Trachoma  B940

Code to sequela of trachoma (B940) since it caused the chronic condition, conjunctival scar, and there is no evidence of active infection.

**B94.1 Sequela of viral encephalitis**

Use this subcategory for the classification of viral encephalitis (conditions in A830-A839, A840-A849, A850-A858, A86) if:

(a) A statement of a late effect or sequela of the viral encephalitis is reported.

I  (a) Late effects of viral encephalitis  B941

Code to sequela of viral encephalitis (B941) as indexed.

(b) A chronic condition or a condition with a duration of one year or more that was due to the viral encephalitis is reported.

I  (a) Chronic brain syndrome  F069
    (b) Viral encephalitis  B941

Code to sequela of viral encephalitis (B941), since a resultant chronic condition is reported.

(c) The viral encephalitis is stated to be ancient, history of, old, remote, or the interval between onset of the viral encephalitis and death is indicated to be one year or more whether or not the residual (late) effect is specified.

I  (a) St. Louis encephalitis  1 yr  B941

Code to sequela of viral encephalitis (B941), since a duration of 1 year is reported.

(d) Brain damage, CNS damage, cerebral fungus, epilepsy, hydrocephalus, mental retardation, paralysis (G810-G839) is reported due to the viral encephalitis.
I (a) Paralysis
(b) Viral encephalitis

Code to sequela of viral encephalitis (B941) since paralysis is reported due to viral encephalitis.

**B94.2 Sequela of viral hepatitis**

Use this category for the classification of viral hepatitis (conditions in B150-B199) if:
A statement of a late effect or sequela of the viral hepatitis is reported.

**B94.8 Sequela of other specified infectious and parasitic diseases**

**B94.9 Sequela of unspecified infectious and parasitic diseases**

Use B948 for the classification of specified infectious and parasitic diseases (conditions in A000-A099, A200-A289, A310-A70, A740-A799, A811-A829, A870-B09, B250-B89)

AND

Use B949 for the classification of only the terms "infectious disease NOS" and "parasitic disease NOS" if:
(a) A condition that is stated to be a late effect or sequela of the infectious or parasitic disease is reported.
(b) The infectious or parasitic disease is stated to be ancient, arrested, cured, healed, history of, inactive, old, quiescent, or remote, whether or not the residual (late) effect is specified, unless there is evidence of activity of the disease.
(c) A chronic condition or a condition with a duration of one year or more that was due to the infectious or parasitic disease is reported.

I (a) Reye’s syndrome 1 yr.
(b) Chickenpox

Code to sequela of other specified infectious and parasitic diseases (B948) since chickenpox caused a condition with a duration of one year or more.

I (a) Chronic brain syndrome
(b) Meningococcal encephalitis

Code to sequela of other specified infectious and parasitic diseases (B948) since the infectious disease caused a chronic condition.
(d) There is indication that the interval between onset of the infectious or parasitic disease and death was one year or more, whether or not the residual (late) effect is specified.

**E640-E649 Sequela of malnutrition and other nutritional deficiencies**

<table>
<thead>
<tr>
<th>Use Sequela Code</th>
<th>For Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>E640</td>
<td>E40-E46</td>
</tr>
<tr>
<td>E641</td>
<td>E500-E509</td>
</tr>
<tr>
<td>E642</td>
<td>E54</td>
</tr>
<tr>
<td>E643</td>
<td>E550-E559</td>
</tr>
<tr>
<td>E648</td>
<td>E51-E53, E56-E60, E610-E638</td>
</tr>
<tr>
<td>E649</td>
<td>E639</td>
</tr>
</tbody>
</table>

Use these subcategories for the classification of malnutrition and other nutritional deficiencies (conditions in E40-E639) if:

(a) A statement of a late effect or sequela of malnutrition and other nutritional deficiencies is reported.

Codes for Record

I  (a) Cardiac arrest  I469  (b) Sequela of malnutrition  E640

*Code to sequela of protein-energy malnutrition (E640) since I(b) is stated as “sequela of.”*

(b) A condition with a duration of one year or more is qualified as rachitic or that was due to rickets is reported.

Codes for Record

I  (a) Thyroid disorder  3 years  E079  (b) Rickets  E643

*Code to sequela of rickets (E643) since rickets caused a condition with a duration of one year or more.*
**E68  Sequela of hyperalimentation**

Use this category for the classification of hyperalimentation (conditions in E67 and hyperalimentation NOS in R632) if:

(a) A statement of a late effect or sequela of the hyperalimentation is reported.

(b) A condition with a duration of one year or more that was due to hyperalimentation is reported.

**G09  Sequela of inflammatory diseases of central nervous system**

Use this category for the classification of intracranial abscess or pyogenic infection (conditions in G000-G009, G030-G049, G060-G069, G08) if:

(a) A statement of a late effect or sequela of the condition in G000-G009, G030-G049, G060-G069, G08 is reported.

(b) A condition with a duration of one year or more that was due to the condition in G000-G009, G030-G049, G060-G069, G08 is reported.

(c) The condition in G000-G009, G030-G049, G060-G069, G08 is stated to be ancient, history of, old, remote, or the interval between onset of this condition and death is indicated to be one year or more, whether or not the residual (late) effect is specified.

| I (a) Compression of brain | G935 |
| I (b) Old cerebral abscess | G09 |

**Code to sequela of cerebral abscess since stated as old.**

(d) Brain damage, CNS damage, cerebral fungus, epilepsy, hydrocephalus, mental retardation, paralysis (G810-G839) is reported due to a condition in G000-G009, G030-G049, G060-G069, G08.

| I (a) Hydrocephalus | G919 |
| I (b) Meningitis | G09 |

**Code to sequela of inflammatory diseases of CNS (G09) since meningitis (G039) is reported as causing hydrocephalus.**
I690-I698  Sequela of cerebrovascular disease
Use this category for the classification of cerebrovascular disease (conditions in I600-I6400, I670-I671, I674-I679) if:

(a) A statement of late effect or sequela of a cerebrovascular disease is reported.  
Code for Record  
I (a) Sequela of cerebral infarction I693  
Code to sequela of cerebral infarction (I693) since “sequela of” is stated.

(b) A condition with a duration of one year or more was due to one of these cerebrovascular diseases.  
Codes for Record  
I (a) Hemiplegia 1 year G819  
(b) Intracranial hemorrhage I692  
Code to sequela of other nontraumatic intracranial hemorrhage (I692) since the residual effect (hemiplegia) has a duration of one year.

(c) The condition in I600-I64, I670-I671, I674-I679 is stated to be ancient, history of, old, remote, or the interval between onset of this condition and death is indicated to be one year or more, whether or not the residual (late) effect is specified.  
Codes for Record  
I (a) Brain damage G939  
(b) Remote cerebral thrombosis I693  
Code to sequela of cerebral thrombosis (I693) since the cerebral thrombosis is reported as remote.

I (a) Old intracerebral hemorrhage I691  
Code to sequela of intracerebral hemorrhage (I691) since the intracerebral hemorrhage is stated as old.

I (a) Cerebrovascular occlusion 6 years I693  
Code to sequela of cerebrovascular occlusion since the duration is one year or more.

I (a) History of CVA 9 months I694
Code to sequela of CVA (I694) since history of CVA is reported.

(d) The condition in I600-I64, I670-I671, I674-I679 is reported with paralysis (any) stated to be ancient, history of, old, remote, or the interval between onset of this condition and death is indicated to be one year or more whether or not the residual (late) effect is specified.

Codes for Record
I (a) CVA with old hemiplegia I694 G819

Code to sequela of CVA (I694) since it is reported with hemiplegia stated as old.

O970-O979 Sequela of obstetric cause
Use this category for the classification of a direct obstetric cause (conditions in O00-O927) if:
(a) A statement of a late effect or sequela of the direct obstetric cause is reported.
(b) A condition with a duration of one year or more that was due to the direct obstetric cause is reported.
(c) The direct obstetric cause has a duration of one year or more.

Y85-Y89 Sequela of external causes of morbidity and mortality
Refer to Section IV, Y85-Y89, Sequela of external causes of morbidity and mortality.

Application of Rule 3 following modification
After application of the modification rules, selection Rule 3 should be reapplied. However, Rule 3 should not be applied if the originating cause selected by application of the modification rules is correctly reported as due to another condition, except when this other condition is ill-defined or trivial.

Codes for Record
I (a) Arteriosclerosis aorta I700
II Cerebral embolism, endocarditis I634 I38

Code to endocarditis (I38). Arteriosclerosis aorta, selected by the General Principle links (LMP) with cerebral embolism. Cerebral embolism is considered a direct sequel (DS) of the endocarditis.

Codes for Record
I (a) Cerebral embolism I634
(b) Arteriosclerosis aorta I700
II Endocarditis I38

Code to cerebral embolism (I634). Arteriosclerosis aorta, selected by the General Principle links (LMP) with cerebral embolism. Although cerebral
Section III - Editing and Interpreting Entries in the Medical Certification

Selection of the underlying cause is based on selecting a single condition on the lowest used line in Part I since this condition is presumed to indicate the certifier’s opinion about the sequence of events leading to the immediate cause of death. However, it is recognized that certifiers do not always report a single condition on the lowest used line, nor do they always enter the related conditions in a proper order of sequence. Therefore, it is necessary to edit the conditions reported during the selection process. For this reason, standardized rules and guides are set forth in this manual.

The international coding guides are provided in this section. Also included are instructions for use in the United States designed to bring assignments resulting from reporting practices particular to the United States into closer alignment with the intent of the International Classification procedures. The interpretations and instructions in this section are general in nature and are to be used whenever applicable. Those in Section IV apply to specific categories.

A. Guides for the determination of the probability of sequence

1. Assumption of intervening cause. Frequently on the medical certificate, one condition is indicated as due to another, but the first one is not a direct consequence of the second one. For example, hematemesis may be stated as due to cirrhosis of the liver, instead of being reported as the final event of the sequence, liver cirrhosis portal hypertension ruptured esophageal varices hematemesis. The assumption of an intervening cause in Part I is permissible in accepting a sequence as reported, but it must not be used to modify the coding.

   I (a) Cerebral hemorrhage
   (b) Chronic nephritis

   Code to chronic nephritis (N03.9). It is necessary to assume hypertension as a condition intervening between cerebral hemorrhage and the underlying cause, chronic nephritis.

   I (a) Mental retardation
   (b) Premature separation
   (c) of placenta

   Codes for Record
   I619
   N039

   Codes for Record
   F79
   P021
Code to premature separation of placenta affecting fetus or newborn (P02.1).
It is necessary to assume birth trauma, anoxia or hypoxia as a condition
intervening between mental retardation and the underlying cause, premature
separation of placenta.

2. Interpretation of “highly improbable.” The expression “highly improbable” has been
used since the Sixth Revision of the ICD to indicate an unacceptable causal
relationship. As a guide to the acceptability of sequences in the application of the
General Principle and the selection rules, the following relationships should be
regarded as “highly improbable”:

a. an infectious or parasitic disease (A00-B99) reported as “due to” any disease outside
   this chapter, except that:
   • septicemia (A40-A41, B94.8)
   • erysipelas (A46, B94.8)
   • gas gangrene (A48.0, B94.8)
   • bacteremia (A49.0-A49.9, B94.8)
   • Vincent’s angina (A69.1, B94.8)
   • mycoses (B35-B49, B94.8)
   • any infectious disease may be accepted as “due to” disorders of the immune
     mechanism such as human immunodeficiency virus [HIV] disease or AIDS
   • any infectious disease may be accepted as “due to” immunosuppression by chemicals
     (chemotherapy) and radiation
   • any infectious disease classified to A000-A090, A162-B199 or B250-B64 reported as
     “due to” a malignant neoplasm will also be an acceptable sequence
   • varicella and zoster infections (B01-B02) may be accepted as “due to” diabetes,
     tuberculosis and lymphoproliferative neoplasms;

b. a malignant neoplasm reported as “due to” any other disease, except human
   immunodeficiency virus [HIV] disease;

c. hemophilia (D66, D67, D68.0-D68.2) reported as “due to” any other disease;

d. diabetes (E10-E14) reported as “due to” any other disease except:
   • hemochromatosis (E83.1),
   • diseases of pancreas (K85-K86),
   • pancreatic neoplasms (C25.-, D13.6, D13.7, D37.7),
   • malnutrition (E40-E46);

e. rheumatic fever (I00-I02) or rheumatic heart disease (I05-I09) reported as “due
to” any disease other than scarlet fever (A38), streptococcal septicemia (A40.-),
streptococcal sore throat (J02.0) and acute tonsillitis (J03.-);
f. any hypertensive condition reported as “due to” any neoplasm except:
   • endocrine neoplasms,
   • renal neoplasms,
   • carcinoid tumors;

g. chronic ischemic heart disease (I20, I25) reported as “due to” any neoplasm;

h. (1) cerebrovascular diseases (I60-I69) reported as “due to” a disease of the digestive system (K00-K92), except Cerebral hemorrhage (I61.-) due to Diseases of liver (K70-K76);

   (2) cerebral infarction due to thrombosis of precerebral arteries (I63.0)
   cerebral infarction due to unspecified occlusion of precerebral arteries (I63.2)
   cerebral infarction due to thrombosis of cerebral arteries (I63.3)
   cerebral infarction due to unspecified occlusion of cerebral arteries (I63.5)
   cerebral infarction due to cerebral venous thrombosis, nonpyogenic (I63.6)
   other cerebral infarction (I63.8)
   cerebral infarction, unspecified (I63.9)
   stroke, not specified as hemorrhage or infarction (I64)
   other cerebrovascular disease (I67)
   sequela of stroke, not specified as hemorrhage or infarction (I69.4)
   sequela of other and unspecified cerebrovascular diseases (I69.8)

   reported as “due to” endocarditis (I05-I08, I09.1, I33-I38);

   (3) occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction (I65), except embolism occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction (I66) except embolism sequela of cerebral infarction (I69.3), except embolism reported as “due to” endocarditis (I05-I08, I09.1, I33-I38);

i. any condition described as arteriosclerotic [atherosclerotic] reported as “due to” any neoplasm;

j. influenza (J09-J11) reported as “due to” any other disease;

k. a congenital anomaly (Q00-Q99) reported as “due to” any other disease of the individual, except for:
   • a congenital anomaly reported as “due to” a chromosome abnormality or a congenital malformation syndrome
   • pulmonary hypoplasia reported as “due to” a congenital anomaly

l. a condition of stated date of onset “X” reported as “due to” a condition of stated date of onset “Y,” when “X” predates “Y”;
m. any accident (V01-X59) reported as “due to” any other cause outside this chapter except:

(1) any accident (V01-X59) reported as due to epilepsy (G40-G41)
(2) a fall (W00-W19) due to a disorder of bone density (M80-M85)
(3) a fall (W00-W19) due to a (pathological) fracture caused by a disorder of bone density
(4) asphyxia reported as due to aspiration of mucus, blood (W80) or vomitus (W78) as a result of disease conditions
(5) aspiration of food (liquid or solid) of any kind (W79) reported as due to a disease which affects the ability to swallow

n. suicide (X60-X84) reported as “due to” any other cause.
The preceding list does not cover all “highly improbable” sequences, but in other cases the General Principle should be followed unless otherwise indicated.

Acute or terminal circulatory diseases reported as “due to” malignant neoplasm, diabetes or asthma should be accepted as possible sequences in Part I of the certificate. The following conditions are regarded as acute or terminal circulatory diseases:

I21-I22 Acute myocardial infarction
I24.- Other acute ischemic heart diseases
I26.- Pulmonary embolism
I30.- Acute pericarditis
I33.- Acute and subacute endocarditis
I40.- Acute myocarditis
I44.- Atrioventricular and left bundle-branch block
I45.- Other conduction disorders
I46.- Cardiac arrest
I47.- Paroxysmal tachycardia
I48 Atrial fibrillation and flutter
I49.- Other cardiac arrhythmias
I50.- Heart failure
I51.8 Other ill-defined heart diseases
I60-I68 Cerebrovascular diseases except I67.0-I67.5 and I67.9
B. Diagnostic entities

1. **One-term entity**: A one-term entity is a diagnostic entity that is classifiable to a single ICD-10 code.

   a. A diagnostic term that contains one of the following adjectival modifiers indicates the condition modified has undergone certain changes and is considered to be a one-term entity.

<table>
<thead>
<tr>
<th>adjectival modifiers</th>
</tr>
</thead>
<tbody>
<tr>
<td>adenomatous</td>
</tr>
<tr>
<td>embolic</td>
</tr>
<tr>
<td>hypoxemic</td>
</tr>
<tr>
<td>necrotic</td>
</tr>
<tr>
<td>anoxic</td>
</tr>
<tr>
<td>erosive</td>
</tr>
<tr>
<td>hypoxic</td>
</tr>
<tr>
<td>obstructed</td>
</tr>
<tr>
<td>congestive</td>
</tr>
<tr>
<td>gangrenous</td>
</tr>
<tr>
<td>inflammatory</td>
</tr>
<tr>
<td>obstructive</td>
</tr>
<tr>
<td>cystic</td>
</tr>
<tr>
<td>hemorrhagic</td>
</tr>
<tr>
<td>ischemic</td>
</tr>
<tr>
<td>ruptured</td>
</tr>
</tbody>
</table>

   (Apply this instruction to these adjectival modifiers **only**)

   For code assignment, apply the following criteria in the order stated.

   (1) If the modifier and lead term are indexed together, code as indexed.

<table>
<thead>
<tr>
<th>Code for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Embolic nephritis N058</td>
</tr>
</tbody>
</table>

   Code to embolic nephritis (N058). The adjectival modifier “embolic” is indexed under Nephritis.

   (2) If the modifier is not indexed under the lead term, but “specified” is, use the code for specified (usually .8)

<table>
<thead>
<tr>
<th>Code for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Obstructive cystitis N308</td>
</tr>
</tbody>
</table>

   Code to cystitis, specified NEC (N308). The adjectival modifier “obstructive” is not indexed under Cystitis, but “specified NEC” is indexed.
If neither the modifier nor “specified” is indexed under the lead term, refer to Volume 1 under the NOS code for the lead term and look for a specified fourth character category.

**Code for Record**

I (a) Hemorrhagic cardiomyopathy  I428

**Code to** the category for other cardiomyopathies (I428). “Hemorrhagic” is not indexed under cardiomyopathy, neither is cardiomyopathy, specified, NEC indexed. The Classification does provide a code, I428, for “Other cardiomyopathies” in Volume 1.

If neither (1), (2) nor (3) apply, code the lead term without the modifier.

**Code for Record**

I (a) Adenomatous bronchiectasis  J47

**Code to** bronchiectasis NOS (J47). “Adenomatous” is not an index term qualifying bronchiectasis. Code bronchiectasis only, since there is no provision in the Classification for coding “other bronchiectasis.”

b. Alzheimer’s dementia: Consider the following terms as one term entities and code as indicated:

<table>
<thead>
<tr>
<th>When reported as</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Endstage Alzheimer’s, senile dementia</td>
<td></td>
</tr>
<tr>
<td>Senile dementia, Alzheimer’s</td>
<td>G301</td>
</tr>
<tr>
<td>Senile dementia, Alzheimer’s type</td>
<td></td>
</tr>
<tr>
<td>Senile dementia of the Alzheimer’s</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>When reported as</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alzheimer’s, dementia</td>
<td></td>
</tr>
<tr>
<td>Alzheimer’s; dementia</td>
<td></td>
</tr>
<tr>
<td>Alzheimer’s disease (dementia)</td>
<td></td>
</tr>
<tr>
<td>Dementia Alzheimer’s</td>
<td></td>
</tr>
<tr>
<td>Dementia, Alzheimer’s</td>
<td></td>
</tr>
<tr>
<td>Dementia – Alzheimer’s</td>
<td></td>
</tr>
<tr>
<td>Dementia, Alzheimer’s type</td>
<td></td>
</tr>
<tr>
<td>Dementia of Alzheimer’s</td>
<td>G309</td>
</tr>
<tr>
<td>Dementia – Alzheimer’s type</td>
<td></td>
</tr>
<tr>
<td>Dementia; Alzheimer’s type</td>
<td></td>
</tr>
<tr>
<td>Dementia, probable Alzheimer’s (disease)</td>
<td></td>
</tr>
<tr>
<td>Dementia syndrome, Alzheimer’s type</td>
<td></td>
</tr>
<tr>
<td>Endstage dementia (Alzheimer’s)</td>
<td></td>
</tr>
</tbody>
</table>
2. **Multiple one-term entity**: A multiple one-term entity is a diagnostic entity consisting of two or more contiguous words on a line for which the Classification does not provide a single code for the entire entity but does provide a single code for each of the components of the diagnostic entity. Consider as a multiple one-term entity if each of the components can be considered as separate one-term entities, i.e., they can stand alone as separate diagnoses.

   Code to hypertension (I10). The complete term is not indexed as a one-term entity. Code “hypertensive” and “arteriosclerosis” as separate one-term entities.

   **EXCEPTION**: When any condition classifiable to I20-I25 (except I250) or I60-I69 is qualified as “hypertensive,” code to I20-I25 or I60-I69 only.

   Code to myocardial ischemia (I259). Disregard “hypertensive” since it is modifying an ischemic heart condition.

C. **Adjective reported at the end of a diagnostic entity**

   Code an adjective reported at the end of a diagnostic entity as if it preceded the entity. This applies whether reported in Part I or Part II.

   Code to hypertension (I10). The complete term is not indexed as a one-term entity. “Hypertensive” is an adjectival modifier; code as if it preceded the arteriosclerosis.

D. **Adjectival modifier reported with multiple conditions**

   1. If an adjectival modifier is reported with more than one condition, modify only the first condition.

   Code to arteriosclerotic nephritis (I129). The modifier is applied only to the first condition.
2. If an adjectival modifier is reported with one condition and more than one site is reported, modify all sites.

I (a) Arteriosclerotic cardiovascular and cerebrovascular disease I250 I672

Code to arteriosclerotic cardiovascular disease (I250). The modifier is applied to both conditions, but in this case the selected cause is not modified by the other condition on the record.

3. When an adjectival modifier precedes two different diseases that are reported with a connecting term, modify only the first disease.

I (a) Arteriosclerotic cardiovascular disease and cerebrovascular disease I250 I679

Code to arteriosclerotic cardiovascular disease (I250). The modifier is applied only to the first condition.

E. Parenthetical entries

1. When one medical entity is reported followed by another complete medical entity enclosed in parenthesis, disregard the parenthesis and code as separate terms.

I (a) Heart dropsy I500
(b) Renal failure (CVRD) N19 I139
(c)

Code to hypertensive heart and renal disease (I132). Consider line (b) as two separate terms, both of which are complete medical entities.

2. When the adjectival form of words or qualifiers are reported in parenthesis, use these adjectives to modify the term preceding it.

I (a) Collapse of heart I509
(b) Heart disease (rheumatic) I099

Code to rheumatic heart disease (I099). Use “rheumatic” as a modifier.
3. If the term in parenthesis is not a complete term and is not a modifier, consider as part of the preceding term.

    Code for Record
    I  (a) Metastatic carcinoma (ovarian)  C56

    Code to primary ovarian carcinoma (C56).

F. Plural form of disease
Do not use the plural form of a disease or the plural form of a site to indicate multiple.

    Codes for Record
    I  (a) Cardiac arrest  I469
    (b) Congenital defects  Q899

    Code to congenital defect (Q899); do not code as multiple (Q897).

G. Implied disease
When an adjective or noun form of a site is entered as a separate diagnosis, i.e., it is not part of an entry immediately preceding or following it, assume the word “disease” after the site and code accordingly.

    Codes for Record
    I  (a) Myocardial  I515
    (b)  
    (c)

    Code to myocardial disease (I515).

    Codes for Record
    I  (a) Coronary  I251
    (b) Hypertension  I10
    (c)

    Code to coronary disease (I251). Line I(a) is coded as coronary disease since coronary hypertension is not indexed.

    I  (a) Renal  I129
    (b) Hypertension

    Code to renal hypertension (I129). Consider the site, renal, to be a part of the condition that immediately follows it on line b, since Hypertension, renal is indexed.
**H. Non-traumatic conditions**

Consider conditions that are usually but not always traumatic in origin to be qualified as non-traumatic when reported due to or on the same line with a disease.

- (a) Fat embolism I749
- (b) Pathological fracture M844

Code line I(a) as non-traumatic since reported due to a disease.

**I. Relating and modifying**

Certain conditions are classified in the ICD-10 according to the site affected, e.g.

- atrophy
- enlargement
- obstruction
- calcification
- failure
- perforation
- calculus
- fibrosis
- rupture
- congestion
- gangrene
- stenosis
- degeneration
- hypertrophy
- stones
- dilatation
- insufficiency
- stricture
- embolism
- necrosis

(This list is not all inclusive)

Occasionally, these conditions are reported without specification of site. Relate conditions such as these for which the Classification does not provide an NOS code and conditions which are usually reported of a site. Generally, it may be assumed that such a condition was of the same site as another condition if the Classification provides for coding the condition of unspecified site to the site of the other condition. These coding principles apply whether or not there are other conditions reported on other lines in Part I. Use the following generalizations as a guide in assuming a site:

1. **General instructions for implied site of a disease**

   a. Conditions of unspecified site reported on the same line

   (1) When conditions are reported on the same line with or without a connecting term that implies a due to relationship, assume the condition of unspecified site was of the same site as the condition of a specified site.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Aspiration pneumonia J690</td>
</tr>
<tr>
<td>(b) Cerebrovascular accident due to I64</td>
</tr>
<tr>
<td>(c) thrombosis I633</td>
</tr>
</tbody>
</table>

   Code to cerebral thrombosis (I633). Since thrombosis (of unspecified site) is reported on the same line with a condition of a specified site, relate to the specified site.
(2) When conditions of different sites are reported on the same line with the condition of unspecified site, assume the condition of unspecified site was of the same site as the condition immediately preceding it.

Codes for Record

I  (a) ASHD, infarction, CVA  I251 I219 I64
(b)

Code to heart infarction (I219). Since infarction (of unspecified site) is reported on same line with two conditions of specified sites, relate to the specified site immediately preceding the condition. ASHD links (LMP) with heart infarction.

b. Conditions of unspecified site reported on a separate line

(1) If there is only one condition of a specified site reported on the line above or below it, code to this site.

Codes for Record

I  (a) Cholecystitis  K819
(b) Calculus  K802

Code to calculus of gallbladder with other cholecystitis (K801). Calculus of an unspecified site is reported on line (b). The condition on the line above is of a stated site (gallbladder). Therefore, consider line (b) as calculus of gallbladder (K802). This code links (LMC) with cholecystitis.

(2) If there are conditions of different specified sites on the lines above and below it and the Classification provides for coding the condition of unspecified site to only one of these sites, code to that site.

Codes for Record

I  (a) Intestinal fistula  K632
(b) Obstruction  K566
(c) Adhesions of peritoneum  K660

Code to intestinal adhesions with obstruction (K565). Since the Classification does not provide a code for obstruction of the peritoneum, relate to the site reported on the line above (intestinal). Adhesions of peritoneum links (LMC) with intestinal obstruction.
(3) If there are conditions of different specified sites on the lines above and below and the Classification provides for coding the condition of unspecified site to both of these sites, code the condition unspecified as to site.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) CVA</td>
</tr>
<tr>
<td>(b) Thrombosis</td>
</tr>
<tr>
<td>(c) ASHD</td>
</tr>
</tbody>
</table>

Code to ASHD (I251). Since the thrombosis is classified to both sites (reported above and below), do not relate.

(4) Do not relate conditions which are not reported in the first position on a line to the line above. It is acceptable to relate conditions not reported as the first condition on a line to the line below.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Kidney failure</td>
</tr>
<tr>
<td>(b) Vascular insufficiency with thrombosis</td>
</tr>
<tr>
<td>(c) ASHD</td>
</tr>
</tbody>
</table>

Code to cardiac thrombosis (I219). Relate thrombosis to line below. ASHD links (LMP) with heart thrombosis.

2. Relating specific categories

a. When ulcer, site unspecified or peptic ulcer NOS is reported causing, due to, or on the same line with gastrointestinal hemorrhage, code peptic ulcer NOS (K279).

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Gastrointestinal hemorrhage</td>
</tr>
<tr>
<td>(b) Peptic ulcer</td>
</tr>
</tbody>
</table>

Code to peptic ulcer with hemorrhage (K274). Do not relate peptic ulcer to gastrointestinal. Peptic ulcer links (LMC) with gastrointestinal hemorrhage.

b. When ulcer NOS (L984) is reported causing, due to, or on the same line with diseases classifiable to K20-K22, K30-K31, and K65, code peptic ulcer NOS (K279).

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Peritonitis</td>
</tr>
<tr>
<td>(b) Ulcer</td>
</tr>
</tbody>
</table>

Code to peptic ulcer (K279).
c. When hernia (K40-K46) is reported with disease(s) of unspecified site(s), relate the disease of unspecified site to the intestine.

**Codes for Record**
I (a) Hernia with obstruction  
K469 K566

*Code to* hernia with obstruction (K460). Relate obstruction to intestine. Hernia links (LMC) with intestinal obstruction.

d. When calculus NOS or stones NOS is reported with pyelonephritis, code to N209 (urinary calculus).

**Codes for Record**
I (a) Calculus with pyelonephritis  
N209 N12

*Code to* urinary calculus (N209).

e. When arthritis (any type) is reported with

- Contracture code contracture of the site
- Deformity code deformity acquired of the site

If no site is reported or if site is not indexed, code contracture or deformity, joint.

**Codes for Record**
I (a) Phlebitis  
I809
(b) Deformities  
M219
(c) Osteoarthritis lower limbs  
M199

*Code to* osteoarthritis lower limbs (M199).

f. When embolism, infarction, occlusion, thrombosis NOS is reported

- from a specified site code the condition of the site reported
- of a site from a specified site code the condition to both sites reported

**Codes for Record**
I (a) Congestive heart failure  
I500
(b) Embolism from heart  
I2190
(c) Arteriosclerosis  
I709

*Code to* cardiac embolism (I219). Relate embolism to site reported.
g. Relate a condition of unspecified site to the complete term of a multiple site entity. If it is not indexed together, relate the condition to the site of the complete indexed term.

Codes for Record

I (a) Cardiorespiratory arrest with insufficiency
   I469 I509

Code to heart failure (I509). Since cardiorespiratory arrest is indexed to a heart condition, relate insufficiency to heart.

h. When vasculitis NOS is reported, apply the general instructions for relating and modifying.

Codes for Record

I (a) Renal failure
   N19
   (b) Vasculitis
      I778

Code Vasculitis, kidney (I778). Relate vasculitis to the site reported on line I (a).

3. Exceptions to relating and modifying instructions:

a. Do not relate the following conditions:

Arteriosclerosis
Congenital anomaly NOS
Hypertension
Infection NOS (refer to Section III, Part K, #6)
Neoplasms
Paralysis
Vascular disease NOS

Codes for Record

I (a) Cardiac arrest
   I469
   (b) Congenital anomaly
      Q899

Code to congenital anomaly NOS (Q899). Do not relate to cardiac.

b. Do not relate hemorrhage when causing a condition of a specified site. Relate hemorrhage to site of disease reported on same line or line below only.

Codes for Record

I (a) Respiratory failure
   J969
   (b) Hemorrhage
      R5800

Code to hemorrhage NOS (R58). Do not relate to respiratory.
c. Do not relate conditions classified to R00-R99 except:

- Gangrene and necrosis R02
- Hemorrhage R5800
- Stricture and stenosis R688

Codes for Record

I (a) Pneumonia with gangrene J189 J850

Code to gangrene of lung (J850). Relate gangrene to pulmonary, the site of the disease reported on the same line, since gangrene is one of the exceptions. Pneumonia is a direct sequel (DS) of pulmonary gangrene.

d. Do not relate a disease condition that, by the name of the disease, implies a disease of a specified site unless it is obviously an erroneous code. If not certain, refer to supervisor.

Codes for Record

I (a) Encephalopathy, cirrhosis G934 K746

Code to encephalopathy (G934). Do not relate encephalopathy to liver since the name of the disease implies a disease of a specific site, brain.

1. Coding conditions classified to injuries as disease conditions

1. Some conditions (such as injury, hematoma or laceration) of a specified organ are indexed directly to a traumatic category but may not always be traumatic in origin. Consider these types of conditions to be qualified as nontraumatic and code as nontraumatic when reported:

- due to or on the same line with a disease
- due to: drug poisoning drug therapy

If there is provision in the Classification for coding the condition that is considered to be qualified as nontraumatic as such, code accordingly. Otherwise, code to the category that has been provided for "Other" diseases of the organ (usually .8).

Codes for Record

I (a) Laceration heart I518
(b) Myocardial infarction I219
(c) 

Code to myocardial infarction (I219) selected by General Principle. Since laceration heart is reported due to myocardial infarction, consider the laceration to be nontraumatic.
I (a) Subdural hematoma  I620
(b) CVA  I64
(c)

Code to nontraumatic subdural hematoma (I620) since reported due to CVA. Cerebrovascular accident, selected by the General Principle, is considered a general term and nontraumatic subdural hematoma is preferred as the more informative term by application of Rule D (SMP).

I (a) Cardiorespiratory failure  R092
(b) Intracerebral hemorrhage  I619
(c) Subdural hematoma, cerebral meningioma  I620 D320

Code to cerebral meningioma (D320). Subdural hematoma is considered to be nontraumatic since it is reported on the same line with cerebral meningioma. The nontraumatic subdural hematoma selected by Rule 1 is a direct sequel (Rule 3) to cerebral meningioma.

2. Some conditions are indexed directly to a traumatic category but the Classification also provides a nontraumatic category. When these conditions are reported due to or with a disease and an external cause is reported on the record or the Manner of Death box is checked as Accident, Homicide, Suicide, Pending Investigation or Could not be determined, consider the condition as traumatic.

I (a) Subdural hematoma  S065
(b) CVA  I64
(c)
II  W18

Code to other fall on the same level (W18). Subdural hematoma is considered to be traumatic as indexed since “accident” is reported in the Manner of Death box.
Codes for Record

I (a) Cerebral hematoma with S068 I672
   (b) cerebral arteriosclerosis
   (c)

II X599

Code to accident NOS (X599). Cerebral hematoma is considered traumatic as indexed since “accident” is reported in the Manner of Death box.

3. Some conditions are indexed directly to a traumatic category, but the Classification also provides a nontraumatic category. When these conditions are reported and the Manner of Death box is checked as Natural, consider these conditions as nontraumatic unless the condition is reported due to or on the same line with an injury or external cause. This instruction applies only to conditions with the term “nontraumatic” in the Index.

Code for Record

I (a) Subdural hematoma I620
   (b)

II Natural

Code to nontraumatic subdural hematoma (I620). The subdural hematoma is considered to be nontraumatic since “Natural” is reported in the Manner of Death box and is selected by application of General Principle.

Codes for Record

I (a) Subdural hematoma I620
   (b)
   (c)

II Fracture hip S720 W19
   Natural Fell in hospital

Code to nontraumatic subdural hematoma (I620). The subdural hematoma is considered to be nontraumatic since “Natural” is reported in the Manner of Death box and is selected by application of General Principle.

Codes for Record

I (a) Subdural hematoma S065
   (b) Open wound of head S019
II Fell in hospital W19
   Natural
Code to unspecified fall (W19). Even though Natural is reported in the Manner of Death box, the subdural hematoma is reported due to an injury.

K. Intent of certifier

In order to assign the most appropriate code for a given diagnostic entity, it may be necessary to take other recorded information and the order in which the information is reported into account. It is important to interpret this information properly so the meaning intended by the certifier is correctly conveyed. The following instructions help to determine the intent of the certifier. Apply Intent of Certifier instructions to “See also” terms in the Index and to any synonymous sites or terms as well.

For the following conditions, use the causation tables to determine if the NOS code from the title or the alternative code listed below the title should be used in determining a sequence. If the alternative code forms an acceptable sequence with the condition reported below it, then that sequence should be accepted.

1. Other and unspecified gastroenteritis and colitis of unspecified origin (A099)

   a. Code A090 (Gastroenteritis and colitis of infectious origin)

      When reported due to:
      - A000-B99
      - R75
      - Y431-Y434
      - Y632
      - Y842

      Codes for Record
      I (a) Enteritis  A090
      (b) Listeriosis  A329

      Code I(a) gastroenteritis and colitis of infectious origin, A090, since enteritis is reported due to a condition classified to A329.

      EXCEPTION: When the enteritis is reported due to another infectious condition or an organism classified to A49 or B34, refer to Section III, 6. Organisms and Infections.
b. **Code K529** (Noninfective gastroenteritis and colitis, unspecified) when reported due to conditions listed in the causation table under address code K529.

\[
\begin{array}{llll}
\text{Codes for Record} \\
I \quad (a) \text{ Enteritis} & \text{K529} \\
\quad (b) \text{ Abscess of intestine} & \text{K630} \\
\end{array}
\]

*Code to K630. The code K630 is listed as a subaddress to K529 in the causation table, so this sequence is accepted.*

2. **Spinal Abscess (A180)**

**Vertebral Abscess (A180)**

**Code** M462 (Nontuberculous spinal abscess):

When reported due to:

| A400-A419 | H650-H669 | M910-M939 |
| A500      | H950-H959 | M960-M969 |
| A509      | J00-J399 | N10-N12   |
| A527      | J950-J959 | N136      |
| A539      | K650-K659 | N151      |
| B200-B24  | K910-K919 | N159      |
| B89       | L00-L089 | N288      |
| B99       | M000-M1990 | N340-N343 |
| C412      | M320-M351 | N390      |
| C760      | M359 | N700-N768 |
| C795      | M420-M429 | N990-N999 |
| C810-C969 | M45-M519 | R75       |
| D160-D169 | M600 | S000-T983 |
| D480      | M860-M889 |          |
| D550-D589 | M894 |          |

\[
\begin{array}{llll}
\text{Codes for Record} \\
I \quad (a) \text{ Spinal Abscess} & \text{M462} \\
\quad (b) \text{ Staphylococcal septicemia} & \text{A412} \\
\end{array}
\]

*Code I(b) A412, staphylococcal septicemia. The code A412 is listed as a subaddress to M462 in the causation table; therefore, this sequence is accepted.*

3. **Charcot’s Arthropathy (A521)**

**Code** G98 (Arthropathy, neurogenic, neuropathic (Charcot’s), nonsyphilitic):
When reported due to:

A30  Leprosy
E10-E14  Diabetes mellitus
E538  Subacute combined degeneration (of spinal cord)
F101  Alcohol abuse
F102  Alcoholism
G600  Hypertrophic interstitial neuropathy
G600  Peroneal muscular atrophy
G608  Hereditary sensory neuropathy
G901  Familial dysautonomia
G950  Syringomyelia
Q059  Spina bifida, unspecified
Y453  Indomethacin
Y453  Phenylbutazone
Y427  Corticosteroids

Codes for Record

I  (a) Charcot's arthropathy  G98
   (b) Diabetes  E149

Code to diabetes with other specified complications (E146). Since the E149 is listed as a subaddress under G98 in the Causation Table, use G98 for the Charcot's arthropathy. The diabetes selected by general principle links (LDC) with Charcot's arthropathy.

4. General Paresis (A521)

a. Code G839 (Paralysis) when reported due to or on the same line with conditions listed in the causation table under G839.

Codes for Record

I  (a) General paresis and CVA  G839 I64
   (b)  
   (c)  

Code to CVA (I64). Since I64 is listed as a sub-address to G839 in the causation table, use G839 as the code for general paresis. The paresis selected by Rule 2 is a direct sequel (DS) to CVA.
b. Code T144 (Paralysis, traumatic) when reported due to or on the same line with a nature of injury or external cause.

Codes for Record

I  (a) General paresis  T144
    (b) Brain injury  S069
    (c)
II  Auto accident  V499

Code to auto accident (V499). General paresis due to S069 is coded as traumatic. The codes S00-T98 are invalid for underlying cause so the external cause code is selected.

5. Viral Hepatitis (B161, B169, B171-B179)

Code:

<table>
<thead>
<tr>
<th>For Viral Hepatitis in Categories</th>
<th>Chronic Viral Hepatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>B161</td>
<td>B180</td>
</tr>
<tr>
<td>B169</td>
<td>B181</td>
</tr>
<tr>
<td>B171</td>
<td>B182</td>
</tr>
<tr>
<td>B172</td>
<td>B188</td>
</tr>
<tr>
<td>B178</td>
<td>B188</td>
</tr>
<tr>
<td>B179</td>
<td>B189</td>
</tr>
</tbody>
</table>

When reported as causing liver conditions in:

K721, K7210
K740-K742
K744-K746

Codes for Record

I  (a) Cirrhosis of liver  K746
    (b) Viral hepatitis B  B181

Code to chronic viral hepatitis B (B181). Code I(b) as chronic viral hepatitis B, since reported as causing a condition classified to K746.
6. Organisms and Infections NOS (B99)

To code organisms and infections correctly, it is necessary to recognize organisms and infectious conditions. In order to apply the correct instruction, it is also necessary to know how the organisms are classified. There are separate instructions depending on whether the organism is bacterial, viral or other organisms. Listed below are examples of organisms and infectious conditions.

### Organisms

<table>
<thead>
<tr>
<th>Bacterial organisms classified to A49.-</th>
<th>Viral organisms classified to B34.-</th>
<th>Organisms classified other than A49.- or B34.-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Escherichia coli</td>
<td>Adenovirus</td>
<td>Aspergillus</td>
</tr>
<tr>
<td>Haemophilus influenzae</td>
<td>Coronavirus</td>
<td>Candida</td>
</tr>
<tr>
<td>Pneumococcal</td>
<td>Coxsackie</td>
<td>Cytomegalovirus</td>
</tr>
<tr>
<td>Staphylococcal</td>
<td>Enterovirus</td>
<td>Fungus</td>
</tr>
<tr>
<td>Streptococcal</td>
<td>Parvovirus</td>
<td>Meningococcal</td>
</tr>
</tbody>
</table>

### Infectious conditions

<table>
<thead>
<tr>
<th>Abscess</th>
<th>Infection</th>
<th>Sepsis, Septicemia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacteremia</td>
<td>Pneumonia</td>
<td>Septic shock</td>
</tr>
<tr>
<td>Empyema</td>
<td>Pyemia</td>
<td>Words ending in “itis”</td>
</tr>
</tbody>
</table>

These lists are NOT all inclusive. Use them as a guide.

In order to arrive at the correct underlying cause, the medical entities must first be coded correctly. The following instructions demonstrate how to assign the codes for the record when dealing with infectious conditions. Once the codes for the record are assigned, the selection and modification rules are applied to determine the underlying cause.

In order to determine which infection instruction to use, refer to the Index under the named organism or under Infection, named organism.

a. Bacterial organisms and infections classified to A49 and Viral organisms and infections classified to B34

(1) When an infectious or inflammatory condition is reported and
   (a) Is preceded or followed by a condition classified to A49 or B34 or
   (b) A condition classifiable to A49 or B34 is reported as the only entry or the first entry on the next lower line or
   (c) Is followed by a condition classified to A49 or B34 separated by a connecting term not indicating a due to relationship
(i) If a single code is provided for the infectious or inflammatory condition modified by the condition classified to A49 or B34, use this code. Do not assign a separate code for the condition classifiable to A49 or B34. It may be necessary to use “due to” or “in” in the Index to assign the appropriate code.

I (a) E. Coli diarrhea

Code for Record

A044

Code to other intestinal E. coli infections (A044). Code as indexed under Diarrhea, due to, Escherichia coli.

I (a) Pneumonia
(b) Viral infection

Code for Record

J129

Code to viral pneumonia, unspecified (J129). Code as indexed under Pneumonia, viral.

I (a) Meningitis and sepsis
(b) H. Influenzae

Codes for Record

G000 A413

Code to Haemophilus meningitis (G000). Assign the codes for the record following the Index under Meningitis, Haemophilus (influenzae) and Septicemia, Haemophilus influenzae.

I (a) Sepsis with staph

Code for Record

A412

Code to septicemia due to unspecified staphylococcus (A412). Code as indexed under Septicemia, staphylococcus.

I (a) Pneumonia c MRSA

Code for Record

J152

Code to pneumonia due to staphylococcus (J152). Code as indexed under Pneumonia, MRSA (methicillin resistant staphylococcus aureus).

(ii) If (i) does not apply, and the Index provides a code for the infectious or inflammatory condition qualified as “bacterial,” “infectious,” “infective” or “viral,” assign the appropriate code based on the reported type of organism. Do not assign a separate code for the condition classified to A49 or B34.
I (a) Coxsackie virus pneumonia J128

**Code to** other viral pneumonia (J128). Since Coxsackie virus is not specifically listed under pneumonia, code as indexed under Pneumonia, viral, specified NEC.

I (a) Peritonitis K650
(b) Campylobacter

**Code to** acute peritonitis (K650). Since Campylobacter is not specifically listed under peritonitis, code as indexed under Peritonitis, bacterial.

(iii) If (i) and (ii) do not apply, assign the NOS code for the infectious or inflammatory condition. Do not assign a separate code for the condition classified to A49 or B34.

I (a) Klebsiella urinary tract infection N390

**Code to** urinary tract infection (N390). The Index does not provide a code for Infection, urinary tract specified as bacterial, infectious, infective, or Klebsiella; therefore, code as indexed under Infection, urinary tract.

I (a) Pyelonephritis N12
(b) Staphylococcus

**Code to** pyelonephritis, unspecified (N12). The Index does not provide a code for pyelonephritis specified as bacterial, infectious, infective, or staphylococcal; therefore, code pyelonephritis NOS.
I (a) Pyelonephritis and pseudomonas

**Code for Record**

N12

*Code to pyelonephritis, unspecified (N12).* The index does not provide a code for pyelonephritis specified as bacterial, infectious, infective, or pseudomonas; therefore, code to pyelonephritis NOS.

b. Organisms and infections classified to categories other than A49 and B34

(1) When an infectious or inflammatory condition is reported and
   (a) Is preceded by a condition classifiable to Chapter I other than A49 or B34

   (i) Refer to the Index under the infectious or inflammatory condition. If a single code is provided for this condition, modified by the condition from Chapter I, use this code. It may be necessary to use "due to" or "in" in the Index to assign the appropriate code.

   **Code for Record**

   I (a) Cytomegaloviral pneumonia

   **Code to** cytomegaloviral pneumonitis (B250). Code as indexed under Pneumonia, cytomegaloviral.

   (ii) If (i) does not apply, refer to Volume 1, Chapter I to determine if the Classification provides an appropriate fourth character. Indications of appropriate fourth characters for sites would be "of other sites," "other specified organs," or "other organ involvement."

   **Code for Record**

   I (a) Candidiasis peritonitis

   **Code to** candidiasis of other sites (B378). Since this term is not indexed together, refer to Volume 1 and select the fourth character .8, candidiasis of other sites.

   (iii) If (i) and (ii) does not apply, code as two separate conditions.

   **Codes for Record**

   I (a) Mononucleosis pharyngitis

   **Code to** infectious mononucleosis, unspecified (B279). To assign the codes for the record, note that this term is not indexed together and Volume 1 does not provide an appropriate fourth character under B27.-; therefore, consider as two separate conditions.
(b) A condition from Chapter I other than A49 or B34 is reported as the only entry or the first entry on the next lower line

(i) Code each condition as indexed where reported.

Codes for Record

I (a) Peritonitis
   (b) Candidiasis

Code to candidiasis of other sites (B378). Candidiasis is selected by the General Principle, and is a (SDC) with peritonitis. To assign the codes for the record, note that candidiasis is classified to a condition other than A49 or B34.

(c) A condition from Chapter I other than A49 or B34 is reported separated by a connecting term not indicating a due to relationship

(i) Code each condition as indexed where reported.

Codes for Record

I (a) Pneumonia with candidiasis
   (b) Infection

Code to candidiasis, unspecified (B379). Pneumonia, selected by Rule 2 is a direct sequel (DS) of the candidiasis. To assign codes for the record, note that candidiasis is classified to a condition other than A49 or B34.

c. Do not use HIV or AIDS to modify an infectious or inflammatory condition. Consider as two separate conditions.

Codes for Record

I (a) HIV pneumonia

Code to HIV disease with other infectious and parasitic diseases (B208). HIV, selected by Rule 2, links (LMC) with pneumonia into a combination code of B208.

d. When an infectious or inflammatory condition is reported and

(1) Infection NOS is reported as the only entry or the first entry on the next lower line

- Code the infectious or inflammatory condition where it is entered on the certificate and do not enter a code for infection NOS, but take into account if it modifies the infectious condition.

Codes for Record

I (a) Cholecystitis & arthritis
   (b) Infection
Code to cholecystitis, unspecified (K819). To assign the codes for the record, note that infection is the only condition on (b). Code cholecystitis as indexed. Cholecystitis modified by infection is coded to cholecystitis NOS. Take into account that infection also modifies arthritis and code as indexed under Arthritis, infectious.

**Codes for Record**

I  (a) Meningitis  
   (b) Infection & brain tumor  

Code to neoplasm of uncertain or unknown behavior of brain (D432). To assign the codes for the record, note that infection is the first entry on (b). Code meningitis as indexed. Meningitis modified by infection is coded to meningitis NOS.

e. When any condition is reported and a generalized infection such as bacteremia, fungemia, sepsis, septicemia, systemic infection, viremia is reported on a lower line, do not modify the condition by the generalized infection.

**Codes for Record**

I  (a) Bronchopneumonia  
   (b) Septicemia  

Code to septicemia, unspecified (A419) by General Principle. To assign the codes for the record, note that septicemia is a generalized infection and doesn't modify the bronchopneumonia.

**7. Eaton-Lambert syndrome (C80)**

Code G708 (Eaton-Lambert syndrome unassociated with neoplasm)

When reported on a record without a condition from the following categories also reported:

C000-D489

Male, 57 years old  

**Codes for Record**

I  (a) Aspiration pneumonia  
   (b) Eaton-Lambert syndrome  

Code Eaton-Lambert syndrome unassociated with neoplasm (G708) since there is no condition from categories C000 - D489 reported anywhere on the record.
Female, 69 years old  

Codes for Record  
I (a) Eaton-Lambert syndrome  C80  
(b) Small cell lung cancer  C349  

Code to malignant neoplasm of lung (C349). Code I(a) Eaton-Lambert syndrome (C80) since there is a condition from categories C000-D489 reported on the record.

8. Erythremia (C940)

Code D751 (Secondary erythremia) when reported due to conditions listed in the causation table under address code D751.

Codes for Record  
I (a) Septicemia  A419  
(b) Erythremia  D751  
(c) Polycythemia  D45

Code to D45. The code D45 is listed as a subaddress to D751 in the causation table so this sequence is accepted.

9. Polycythemia (D45)

Code D751 (Secondary polycythemia) when reported due to conditions listed in the causation table under address code D751.

Codes for Record  
I (a) Polycythemia  D751  
(b) Pneumonia  J189

Code to J189. The code J189 is listed as a subaddress to D751 in the causation table so this sequence is accepted.

10. Hemolytic Anemia (D589)

Code D594 (Secondary hemolytic anemia) when reported due to conditions listed in the causation table under address code D594.

Codes for Record  
I (a) Hemolytic anemia  D594  
(b) Hairy cell leukemia  C914  
(c)

Code to C914. The code C914 is listed as a subaddress to D594 in the causation table so this sequence is accepted.
11. Sideroblastic Anemia (D643)

a. Code D641 (Secondary sideroblastic anemia due to disease) when reported due to conditions listed in the causation table under address code D641.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
</tr>
<tr>
<td>Sideroblastic anemia</td>
</tr>
<tr>
<td>Alcoholic cirrhosis</td>
</tr>
</tbody>
</table>

Code to K703. The code K703 is listed as a subaddress to D641 in the causation table so this sequence is accepted.

b. Code D642 (Secondary sideroblastic anemia due to drugs or toxins) when reported due to conditions listed in the causation table under address code D642.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF</td>
</tr>
<tr>
<td>Sideroblastic anemia</td>
</tr>
<tr>
<td>Chloramphenicol</td>
</tr>
</tbody>
</table>

Code to D642. The code Y402 is listed as a subaddress to D642 in the causation table so this sequence is accepted. Since the condition being treated is not stated for this drug therapy and the complication is indexed to Chapters I-XVIII, select the complication as the underlying cause.

12. Hemorrhagic Purpura NOS (D693)

Code D690 (Hemorrhagic purpura not due to thrombocytopenia) when reported due to conditions listed in the causation table under address code D690.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVA</td>
</tr>
<tr>
<td>Hemorrhagic purpura</td>
</tr>
<tr>
<td>Leukemia</td>
</tr>
</tbody>
</table>

Code to C959. The code C959 is listed as a subaddress to D690 in the causation table so this sequence is accepted.
13. Thrombocytopenia (D696)

Code D695 (Secondary thrombocytopenia) when reported due to conditions listed in the causation table under address code D695.

Codes for Record

I (a) Multiple hemorrhages R5800
(b) Thrombocytopenia D695
(c) Cancer lung C349

Code to C349. The code C349 is listed as a subaddress to D695 in the causation table so this sequence is accepted.

14. Hyperparathyroidism (E213)

Code E211 (Secondary hyperparathyroidism) when reported due to conditions listed in the causation table under address code E211.

Codes for Record

I (a) Hypercalcemia E835
(b) Hyperparathyroidism E211
(c) Cancer parathyroid gland C750

Code to C750. The code C750 is listed as a subaddress to E211 in the causation table so this sequence is accepted.

15. Korsakow’s Disease, Psychosis or Syndrome (F106)

Code F04 (nonalcoholic Korsakow’s disease) when reported due to conditions listed in the causation table under address code F04.

Codes for Record

I (a) Korsakoff’s psychosis F04
(b) Wernicke’s encephalopathy E512
(c)

Code to E512. The code E512 is listed as a subaddress to F04 in the causation table so this sequence is accepted.
16. Psychosis (any F29)

Code F09 (Psychosis, organic NEC) when reported due to or on the same line with conditions listed in the causation table under address code F09.

Codes for Record

I (a) Pneumonia
(b) Psychosis - cerebrovascular
(c) arteriosclerosis
(d) Arteriosclerosis

Code to I672. The code I709 is listed as a subaddress to F09 in the causation table so this sequence is accepted. Arteriosclerosis will link (LMP) with cerebrovascular arteriosclerosis in the modification table.

17. Mental Disorder (any F99)

Code F069 (Organic mental disorder)

When reported due to or on the same line with conditions listed in the causation table under address code F069.

Codes for Record

I (a) Cardiorespiratory arrest
(b) Heart failure
(c) Mental disorder
(d) Multiple sclerosis

Code to G35. The code G35 is listed as a subaddress to F069 in the causation table so this sequence is accepted.

18. Parkinson’s Disease (G20)

Advanced Parkinson’s Disease (G2000)
Grave Parkinson's Disease (G2000)
Severe Parkinson's Disease (G2000)

a. Code G214 (Vascular parkinsonism) when reported due to conditions listed in the causation table under address code G214.
1. I (a) Parkinsonism  G214
   (b) Arteriosclerosis  I709
   (c)

   **Code to G214 (Vascular parkinsonism) when reported due to conditions listed in the causation table under G214.**

b. **Code G219 (Secondary parkinsonism) when reported due to:**

   A170-A179  B060  B949  R75  Y20-Y369
   A504-A539  B200-B24  F200-F209  S000-T357  Y600-Y849
   A810-A819  B261  G000-G039  T66-T876  Y850-Y872
   A870-A89  B375  G041-G09  T900-T982  Y881-Y899
   B003  B900  G20-G2000  T983
   B010  B902  G218-G219  X50-X599
   B021-B022  B91  G300-G309  X70-X84
   B051  B941  I950-I959  X91-Y09

2. I (a) Parkinson's disease  G219
   (b) Tuberculous meningitis  A170
   (c)

   **Code to G219 (Secondary parkinsonism) when reported due to conditions listed in the causation table under G219.**

3. I (a) Secondary Parkinson's disease  G219
   (b)
   (c)

   **Code to G219 as indexed.**
19. Cerebral Sclerosis (G379)

Code I672 (Cerebrovascular atherosclerosis):

a. When reported due to or on the same line with conditions listed in the causation table under address code I672.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral sclerosis</td>
</tr>
<tr>
<td>(b) Diabetes</td>
</tr>
</tbody>
</table>

Code to E149. The code E149 is listed as a subaddress to I672 in the causation table so this sequence is accepted.

b. When reported as causing

I600-I679
I690-I698

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral thrombosis</td>
</tr>
<tr>
<td>(b) Cerebral sclerosis</td>
</tr>
</tbody>
</table>

Code to I633. Code (b) as cerebrovascular atherosclerosis since reported as causing a cerebral thrombosis. Cerebrovascular atherosclerosis will link (LMP) with cerebral thrombosis.

20. Myopathy (G729)

Code I429 (Cardiomyopathy) when reported due to:

| A150-A1690 | E648-E649 | R54 |
| A178 | E660-E669 | R75 |
| A181 | E740 | T360-T66 |
| A188 | E760-E769 | T97 |
| B332 | E831 | X45 |
| B560-B575 | E880-E889 | X65 |
| B948 | I00-I259 | Y15 |
| D500-D649 | I300-I4290 | Y400-Y599 |
| D758 | I514-I5150 | Y842 |
| E100-E149 | I700-I709 | Y86-Y872 |
| E40-E519 | P200-P220 | Y883 |
| E639 | P916 |
| E641 | R31 |
Codes for Record

I  (a) Myopathy  I429
(b) ASHD  I251
(c)

Code to I251. The code I251 is listed as a subaddress to I429 in the causation table so this sequence is accepted.

21. Paralysis (any G81, G82, or G83 excluding senile paralysis)

Code the paralysis for decedent age 28 days and over to G80 (Infantile cerebral palsy) with appropriate fourth character:

When reported due to:

P000- P969
Female, 3 months

I  (a) Pneumonia  1 wk  J189
(b) Paraplegia  3 mos  G808
(c) Injury spinal cord  since birth  P115

Code to P115. Code the paraplegia to infantile cerebral palsy when reported due to a newborn condition.

22. Varices NOS and Bleeding Varices NOS (I839)

a. Code I859 (Esophageal varices) or

b. Code I850 (Bleeding esophageal varices):

When reported due to or on same line with:

Alcoholic disease classified to:  F101-F109
Liver diseases classified to:  B150-B199, B251, B942, K700-K769
Toxic effect of alcohol classified to:  T510-T519, T97

Codes for Record

I  (a) Varices  I859
(b) Cirrhosis of liver  K746

Code to K746. The code K746 is listed as a subaddress to I859 in the causation table; therefore, this sequence is accepted.
23. Pneumoconiosis (J64)

**Code** J60 (Coal worker’s pneumoconiosis):

When Occupation is reported as:

- Coal miner
- Coal worker
- Miner

**Occupation: Coal Miner**

I (a) Bronchitis J40
(b) Pneumoconiosis J60

**Codes for Record**

Code to J60. Pneumoconiosis becomes coal worker’s pneumoconiosis when occupation is reported as coal miner.

24. Alveolar Hemorrhage (diffused) (K088)

**Code** R048 (Lung hemorrhage)

When reported anywhere on record with:

- A000-J989
- K20-Q379
- Q390-R825
- R826
- R827-R892
- R893
- R894-R961
- R98-S014

**Codes for Record**

I (a) Respiratory Failure J969
(b) Alveolar Hemorrhage R048

Code to R048. The alveolar hemorrhage is reported on the record with a condition listed in the causation table under address R048; therefore, this sequence is accepted.
25. Diaphragmatic Hernia in K44.-

Code Q790 (Congenital diaphragmatic hernia) when reported as causing hypoplasia or dysplasia of lung NOS (Q336).

I (a) Lung dysplasia Q336
(b) Diaphragmatic hernia Q790
(c) Code to congenital diaphragmatic hernia (Q790). The code Q790 is listed as a subaddress to Q336 in the causation tables; therefore, this sequence is accepted.

26. Laennec’s Cirrhosis NOS (K703)

Code K746 (Nonalcoholic Laennec’s cirrhosis):

When reported due to:
A000-B99
C000-D539
D730-D739
E02-E0390
E100-E149
E500-E519
E52
E530-E849
F110-F169
F180-F199
I050-I099
I110-I119
I130-I4250
I427-I519
I81
K500-K519
K630-K639
K710-K718
K730-K760
K761
K763
K768-K851
K853-K859
K861-K909
Q410-Q459
Q900-Q999
27. Biliary Cirrhosis NOS (K745)

**Code** K744 (Secondary biliary cirrhosis):

When reported due to conditions listed in the causation table under address code K744.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I (a) Biliary cirrhosis</th>
<th>K744</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Carcinoma pancreas</td>
<td>C259</td>
</tr>
<tr>
<td></td>
<td>(c)</td>
<td></td>
</tr>
</tbody>
</table>

**Code to C259.** The code C259 is listed as a subaddress to K744 in the causation table; therefore, this sequence is accepted.
28. Lupus Erythematosus (L930)

Lupus (L930)

Code M321 (Systemic lupus erythematosus with organ or system involvement):

When reported as causing a disease of the following systems:

- Anemia
- Circulatory (including cardiovascular, lymph nodes, spleen)
- Gastrointestinal
- Musculoskeletal
- Respiratory
- Thrombocytopenia
- Urinary

Codes for Record

I (a) Nephritis N059
(b) Lupus erythematosus M321

Code to M321. Lupus is reported as causing a disease of the urinary system; therefore, it is coded as systemic lupus erythematosus.

29. Gout (M109)

Code M104 (Secondary gout):

When reported due to conditions listed in the causation table under address code M104.

Codes for Record

I (a) Perforated gastric ulcer K255
(b) Gout M104
(c) Waldenstrom’s macroglobulinemia C880

Code to C880. The code C880 is listed as a subaddress to M104 in the causation table; therefore, this sequence is accepted.
30. Kyphosis (M402)

Code M401 (Secondary kyphosis):

When reported due to conditions listed in the causation table under address code M401.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>(a) COPD</th>
<th>J449</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Kyphosis</td>
<td>M401</td>
</tr>
<tr>
<td></td>
<td>(c) Spinal osteoarthritis</td>
<td>M479</td>
</tr>
</tbody>
</table>

Code to M479. The code M479 is listed as a subaddress to M401 in the causation table; therefore, this sequence is accepted.

31. Scoliosis (M419)

Code M415 (Secondary scoliosis):

When reported due to conditions listed in the causation table under address code M415.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>(a) Pneumonia</th>
<th>J189</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Scoliosis</td>
<td>M415</td>
</tr>
<tr>
<td></td>
<td>(c) Progressive systemic sclerosis</td>
<td>M340</td>
</tr>
</tbody>
</table>

Code to M340. The code M340 is listed as a subaddress to M415 in the causation table; therefore, this sequence is accepted.

32. Osteonecrosis (M879)

Code M873 (Secondary osteonecrosis):

When reported due to conditions listed in the causation table under address code M873.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>(a) Septicemia</th>
<th>A419</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Osteonecrosis hip</td>
<td>M873</td>
</tr>
<tr>
<td></td>
<td>(c) Infective myositis</td>
<td>M600</td>
</tr>
</tbody>
</table>

Code to M600. The code M600 is listed as a subaddress to M873 in the causation table; therefore, this sequence is accepted.
33. **Cesarean Delivery for Inertia Uterus (O622)**  
**Hypotonic Labor (O622)**  
**Hypotonic Uterus Dysfunction (O622)**  
**Inadequate Uterus Contraction (O622)**  
**Uterine Inertia During Labor (O622)**

**Code O621 (Secondary uterine inertia):**

When reported due to conditions listed in the causation table under address code O621.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Uterine inertia</td>
</tr>
<tr>
<td>(b) Diabetes mellitus of pregnancy</td>
</tr>
</tbody>
</table>

**Code to O249.** The code O249 is listed as a subaddress to O621 in the causation table; therefore, this sequence is accepted.

34. **Brain Damage, Newborn (P112)**

**Code P219 (Anoxic brain damage, newborn)**

When reported due to:
- A000-P029
- P040-P082
- P132-P158
- P200-R825
- R826
- R827-R892
- R893
- R894-R961
- R98

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, 9 hours</td>
</tr>
<tr>
<td>I (a) Brain damage</td>
</tr>
<tr>
<td>(b) Congenital heart disease</td>
</tr>
</tbody>
</table>

**Code to Q249.** The code Q249 is listed as a subaddress to P219 in the causation table; therefore, this sequence can be accepted.
35. Intracranial Nontraumatic Hemorrhage of Fetus and Newborn (P52)

Code P10 (Intracranial laceration and hemorrhage due to birth injury) with the appropriate fourth character:

When reported due to conditions listed in the causation table under address code P10:

Male, 9 hours

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral hemorrhage</td>
</tr>
<tr>
<td>(b) Fractured skull during birth</td>
</tr>
</tbody>
</table>

Code to P130. The code P130 is listed as a subaddress to P101 in the causation table; therefore, this sequence is accepted.

36. Hypoplasia or Dysplasia of Lung NOS (Q336)

Code P280 (Primary atelectasis of newborn):

When reported anywhere on the record with the following codes and not reported due to diaphragmatic hernia in K44.- or in Q790, and there is no indication that the condition was congenital:

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>A500-A509</td>
</tr>
<tr>
<td>B200-B24</td>
</tr>
<tr>
<td>P000-P009</td>
</tr>
<tr>
<td>P011-P013</td>
</tr>
<tr>
<td>P050-P073</td>
</tr>
<tr>
<td>P220-P229</td>
</tr>
<tr>
<td>R75</td>
</tr>
</tbody>
</table>

I (a) Hypoplasia lung                    P280
(b)                                    |
(c)                                    |

II Prematurity                          P073

Code to primary atelectasis of newborn (P280).

Female, 5 hrs.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Dysplasia of lung 5 hrs</td>
</tr>
<tr>
<td>(b)</td>
</tr>
<tr>
<td>(c)</td>
</tr>
</tbody>
</table>

II Hyaline membrane disease            P220

Code to Q336 since the duration and age are the same indicating that the condition was congenital.
37. Fracture (any site) (T142)

**Code** M844 (Pathological fracture):

a. When reported due to:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A180</td>
<td>D480</td>
<td>M320-M351</td>
<td>M854-M879</td>
<td>Q799</td>
<td></td>
</tr>
<tr>
<td>A500-A509</td>
<td>D489</td>
<td>M359</td>
<td>M893-M895</td>
<td>T810-T819</td>
<td></td>
</tr>
<tr>
<td>A527-A539</td>
<td>E550-E559</td>
<td>M45-M519</td>
<td>M941-M949</td>
<td>T870-T889</td>
<td></td>
</tr>
<tr>
<td>A666</td>
<td>E896-E899</td>
<td>M600</td>
<td>M960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C000-C399</td>
<td>G120-G129</td>
<td>M843-M851</td>
<td>M966-M969</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C430-C794</td>
<td>M000-M1990</td>
<td>Q770-Q789</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C796-C97</td>
<td>D160-D169</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. When reported due to or on the same line with:

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>C40-C41</td>
<td>M83</td>
</tr>
<tr>
<td>C795</td>
<td>M88</td>
</tr>
<tr>
<td>M80-M81</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** If a fracture qualifies as pathological, code all fractures reported of the same site pathological as well.

**Codes for Record**

I (a) Fracture hip  M844
(b) Osteoarthritis  M199

**Code to** M199. The code M199 is listed as a subaddress to M844 in the causation table; therefore, this sequence is accepted.

**Codes for Record**

I (a) Aspiration pneumonia  J690
(b) Left hip fracture  M844
II Hip fracture, anemia, osteoporosis  M844 D649 M819

**Code to** M809. Hip fracture in Part II is reported on the same line with osteoporosis and is coded as pathological. Since fracture of the same site is reported on (b), it is coded as pathological as well. The sequence is accepted and Rule C is applied.
38. Starvation NOS (T730)

Code E46 (Malnutrition NOS):

When reported due to:

| A000-E649 | L100-L129 | R13 | T058 |
| E670-F509 | L400-L409 | R54 | T065-T08 |
| F530-F539 | L510-L539 | R600-R609 | T091-T099 |
| F608-F609 | L890-L899 | R630 | T141 |
| F680-F73 | L97 | R633-R634 | T148-T149 |
| F920 | L984 | R75 | T170-T217 |
| F982-F983 | M000-M1990 | S010-S099 | T270-T329 |
| F989-G98 | M300-N459 | S110-S199 | T360-T659 |
| I00-J98 | N700-N768 | S210-S299 | T800-T889 |
| J82-J989 | O000-Q079 | S310-S399 | T97 |
| K020-K029 | Q200-Q824 | T019-T021 | T983 |
| K040-K069 | Q850-Q999 | T029 | V010-X52 |
| K080-K929 | R11 | T041 | X54-Y05 |
| | | | Y070-Y899 |

Codes for Record

I (a) Anemia D649
(b) Starvation E46
(c) Cancer of esophagus C159

Code to C159. Code I(b) as malnutrition since reported due to cancer of esophagus.

39. Compartment Syndrome (T796)

Code M622 (Nontraumatic compartment syndrome):

When reported due to conditions listed in the causation table under address code M622.

| I (a) Compartmenet syndrome | M622 |
| (b) Hemorrhagic pancreatitis | K859 |

Code to K859. Code I (a) M622 since reported due to pancreatitis.
L. Effect of duration on classification

In evaluating the reported sequence of the direct and antecedent causes, the interval between the onset of the disease or condition and time of death must be considered. This would apply in the interpretation of “highly improbable” relationships (Section III, A, 2) and in Modification Rule F (Sequela).

1. **Duration on a lower line in Part I shorter than that of one reported above it**

   If a condition in a “due to” position is reported as having a duration which is **shorter** than that of one above it, the condition on the lower line is not accepted as the cause.

   **Codes for Record**
   
   | (a) Congestive heart failure | 2 days   | I500 |
   | (b) Pneumonia               | 10 days  | J189 |
   | (c) Cerebral embolism       | 3 days   | I634 |

   **Code to** pneumonia (J189), selected by Rule 1. The duration on I(c) prevents the selection of cerebral embolism as the underlying cause of the condition on I(b).

   **Codes for Record**
   
   | (a) Congestive heart failure | 1-10-99  | I500 |
   | (b) Pneumonia               | 2-08-99  | J189 |
   | (c) Cerebral embolism       | 1-20-99  | I634 |

   **Code to** congestive heart failure (I500), selected by Rule 2. The stated date for the condition reported on I(a) predates those reported on I(b) and I(c); therefore, neither is accepted as the cause of the condition on I(a).

2. **Two conditions with one duration**

   When two or more conditions are entered on the same line with one duration, the duration is disregarded since there is no way to establish the condition to which the duration relates.

   **Codes for Record**
   
   | (a) Chronic myocarditis      | 2 yrs    | I514 |
   | (b) Chronic nephritis        | 2 mos    | N039 N19 |
   | (c) with renal failure       |          |      |

   **Code to** chronic nephritis (N039), selected by Rule 1. The duration for the conditions reported on I(b) is disregarded.

   **Codes for Record**
   
   | (a) Myocardial ischemia      | 2 yrs    | I259 I219 |
   | (b) and myocardial infarction|          |          |
   | (c)                          |          |          |
Code to I219. The duration is disregarded. Myocardial ischemia (I259), selected by Rule 2, links (LMP) with myocardial infarction (I219).

3. Qualifying conditions as acute or chronic

a. Usually the interval between onset of a condition and death should not be used to qualify the condition as “acute” or “chronic.” However, when assigning codes to certain conditions classified as “Ischemic heart diseases” the Classification provides the following specific guidelines for classifying a condition with a stated duration as acute or chronic:

- acute or with a stated duration of 4 weeks or less
- chronic or with a stated duration of over 4 weeks

<table>
<thead>
<tr>
<th>Code for Record</th>
<th>I (a) Nephritis 2 years</th>
<th>N059</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code to nephritis, unqualified (N059). Do not use duration to qualify as chronic.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code for Record</th>
<th>I (a) Acute myocardial infarction 3 mos.</th>
<th>I258</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code to infarction, myocardium, acute, with a stated duration of over 4 weeks, I258.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. For the purpose of interpreting these instructions:

<table>
<thead>
<tr>
<th>Consider these terms:</th>
<th>To mean:</th>
</tr>
</thead>
<tbody>
<tr>
<td>brief</td>
<td>4 weeks or less or acute</td>
</tr>
<tr>
<td>days</td>
<td>4 weeks or less or acute</td>
</tr>
<tr>
<td>hours</td>
<td>immediate</td>
</tr>
<tr>
<td>immediate</td>
<td>instant</td>
</tr>
<tr>
<td>instant</td>
<td>minutes</td>
</tr>
<tr>
<td>minutes</td>
<td>recent</td>
</tr>
<tr>
<td>recent</td>
<td>short</td>
</tr>
<tr>
<td>short</td>
<td>sudden</td>
</tr>
<tr>
<td>sudden</td>
<td>weeks (few) (several)</td>
</tr>
<tr>
<td>weeks (few) (several)</td>
<td>longstanding</td>
</tr>
<tr>
<td>longstanding</td>
<td>1 month</td>
</tr>
<tr>
<td>1 month</td>
<td>over 4 weeks or chronic</td>
</tr>
</tbody>
</table>
I (a) Aneurysm heart weeks I219
(b)
(c)

Code to aneurysm, heart, with a stated duration of 4 weeks or less, I219. “Weeks” is interpreted to mean 4 weeks or less.

When the interval between onset of a condition and death is stated to be “acute” or “chronic,” consider the condition to be specified as acute or chronic.

I (a) Heart failure 1 hour I509
(b) Bronchitis acute J209

Code to “acute” bronchitis (J209) since “acute” is reported in the duration block.

c. Exacerbation

Interpret “exacerbation” as an acute phase of a disease. Code “exacerbation” of a chronic specified disease to the acute and chronic stage of the disease if the Classification provides separate codes for “acute” and “chronic.”

I (a) Exacerbation of chronic obstructive lung disease J441 J449

Code to the acute and chronic stages of the specified disease since the Classification provides separate codes for the “acute” and “chronic.” The underlying cause code is J441, selected by Rule 2.

d. Acute and chronic

Sometimes the terms, acute and chronic, are reported preceding two or more diseases. In these cases, use the term (“acute” or “chronic”) with the condition it immediately precedes.

I (a) Chronic renal and liver failure N189 K7290

Code to renal failure, chronic and liver failure NOS. The underlying cause is N189, selected by Rule 2.
4. **Conflict in durations**

When conflicting durations are entered for a condition, give preference to the duration entered in the space for interval between onset and death.

<table>
<thead>
<tr>
<th>Duration Code for Record</th>
<th>Duration</th>
<th>Code for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Ischemic ht dis - 2 weeks</td>
<td>years</td>
<td>I259</td>
</tr>
</tbody>
</table>

Use the duration in the block to qualify the ischemic heart disease. Code the underlying cause to I259, selected by the General Principle.

5. **Span of dates**

Interpret dates entered in the spaces for interval between onset and death that are separated by a slash (/), dash (-), etc., as meaning from the first date to the second date. Disregard such dates if they extend from one line to another and there is a condition reported on both of these lines since the span of dates could apply to either condition.

<table>
<thead>
<tr>
<th>Date of death</th>
<th>Duration</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) MI</td>
<td>10/1/98 - 10/6/98</td>
<td>I219</td>
</tr>
<tr>
<td>(b) Ischemic heart disease</td>
<td>10/6/98</td>
<td>I259</td>
</tr>
</tbody>
</table>

Disregard duration and code each condition as indexed since the dates extend from I(a) to I(b). Code the underlying cause to I219. Ischemic heart disease (I259), selected by the General Principle, links (LMP) with myocardial infarction (I219).

<table>
<thead>
<tr>
<th>Date of death</th>
<th>Duration</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Aneurysm of heart</td>
<td>10/1/98 - 10/6/98</td>
<td>I219</td>
</tr>
<tr>
<td>(b)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Since there is only one condition reported, apply the duration to this condition. The underlying cause is aneurysm, heart, acute or with a stated duration of 4 weeks or less, I219.

<table>
<thead>
<tr>
<th>Date of death</th>
<th>Duration</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Ischemic heart disease</td>
<td>10/1/98 - 10/6/98</td>
<td>I249</td>
</tr>
<tr>
<td>(b) Arteriosclerosis</td>
<td></td>
<td>I709</td>
</tr>
</tbody>
</table>

Apply the duration to I(a). The underlying cause is I249. Arteriosclerosis, I709, selected by General Principle, links (LMP) with ischemic heart disease (I249).

6. **Congenital malformations**

Conditions classified as congenital malformations, deformations and chromosomal abnormalities (Q00-Q99), even when not specified as congenital on the death certificate, should be coded as such if the interval between onset and death and the age of the decedent indicate the condition existed from birth.

<table>
<thead>
<tr>
<th>Date of death</th>
<th>Duration</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Heart failure</td>
<td></td>
<td>I509</td>
</tr>
<tr>
<td>(b) Stricture of aortic valve</td>
<td></td>
<td>Q230</td>
</tr>
<tr>
<td>(c)</td>
<td>45 years</td>
<td></td>
</tr>
</tbody>
</table>

Female, 45 years
Code to congenital aortic stricture (Q230) because the interval between onset and death and the age of the decedent indicates the condition existed from birth.

7. **Congenital conditions**

When a sequence is reported involving a condition specified as congenital due to another condition not so specified, both conditions may be considered as having existed from birth provided the sequence is a probable one.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Renal failure since birth P960</td>
</tr>
<tr>
<td>(b) Hydronephrosis Q620</td>
</tr>
</tbody>
</table>

Code to congenital hydronephrosis (Q620) since this condition resulted in a condition reported as existing since birth.

Do not use the interval between onset and death to qualify conditions classified to categories Q00-Q99, congenital anomalies, as acquired.

<table>
<thead>
<tr>
<th>Duration</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Renal failure 3 months N19</td>
<td></td>
</tr>
<tr>
<td>(b) Pulmonary stenosis 5 years Q256</td>
<td></td>
</tr>
</tbody>
</table>

Code to Q256, Stenosis, pulmonary. Do not use the duration to qualify the pulmonary stenosis as acquired.

8. **Sequela**

See Modification Rule F.

9. **Subacute**

In general, where ICD provides for acute forms of a disease but not for subacute, the subacute forms are classified as for acute. For example, subacute renal failure is coded to acute renal failure (N179).

10. **Maternal conditions**

Categories O95 (Obstetric death of unspecified cause), O960-O969 (Death from any obstetric cause occurring more than 42 days but less than one year after delivery), and O970-O979 (Death from sequela of obstetric causes) classify obstetric deaths according to the time elapsed between the obstetric event and the death of the woman.

Category O95 is to be used when a woman dies during pregnancy, labor, delivery, or the puerperium and the only information provided is "maternal" or "obstetric" death. If the obstetric cause of death is specified, code to the appropriate category. Category O960-O969 is used to classify deaths from direct or indirect obstetric causes that occur more than 42 days but less than a year after termination of the
pregnancy. Category O970-O979 is used to classify deaths from direct or indirect obstetric causes which occur one year or more after termination of the pregnancy.

M. Effect of “age of decedent” on classification

1. **Age of the decedent** should always be noted at the time the cause of death is being coded. Certain groups of categories are provided for certain age groups. There are many conditions within certain categories which cannot be properly classified unless the age is taken into consideration.

   Generally the following definitions will apply to age at time of death:

   - **Newborn, Neonatal, Neonatorum** - less than 28 days, even though death may have occurred later
   - **Infant or Infantile** - less than 1 year
   - **Child** - less than 18 years

<table>
<thead>
<tr>
<th>Male, 27 days</th>
<th>Code for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) G.I. hemorrhage</td>
<td>P543</td>
</tr>
</tbody>
</table>

   **Code to** gastrointestinal hemorrhage of newborn (P543).

2. **Congenital malformations**

   **Age** at the time of death may be used for certain conditions to consider them **congenital** in origin. Assume the following conditions are congenital provided there is no indication that they were acquired after birth:

   If the age of the decedent is:

   a. Less than 28 days:

      heart disease NOS
      hydrocephalus NOS

      | Female, 27 days                  | Codes for Record |
      |---------------------------------|------------------|
      | I (a) Cerebral edema            | P524             |
      | (b) Hydrocephalus               | Q039             |

      **Code to** congenital hydrocephalus (Q039) since the age of decedent is less than 28 days.
b. Less than 1 year:
aneurysm (aorta, aortic) (brain) (cerebral) (circle of Willis) (coronary) (peripheral) (racemose)
(retina) (venous)
aortic stenosis
atresia
atrophy of brain
cyst of brain
deformity
displacement of organ
ectopia of organ
hypoplasia of organ
malformation
pulmonary stenosis
valvular heart disease (any valve)

Male, 2 months

Codes for Record
I  (a) Cardiac failure  I509
    (b) Aortic stenosis  Q230

Code to congenital aortic stenosis (Q230) since the age of decedent is less than 1 year.

N. Sex and age limitations

Where the underlying cause of death is inconsistent with the sex or appears to be inconsistent with the age, the accuracy of the underlying cause of death should be re-examined and the age and/or sex should be verified. If the sex and cause are inconsistent, the accuracy of the sex entry on the death certificate should be determined through examination of name, occupation, and other items on the certificate. If the sex is determined to be incorrect, correct the data record. If the sex entry is correct but not consistent with the underlying cause of death, the death should be coded to "Other ill-defined and unspecified causes of mortality” (R99).

If the age and cause are inconsistent, the age should be verified by subtracting the date of birth from the date of death and the coded entry should be corrected. Care should be exercised in selecting the correct underlying cause of death in terms of age restrictions in ICD.

Detailed ICD category-age-sex cross edits are contained in the NCHS Instruction Manual, Part 11 (Computer Edits for Mortality Data). These edits are carried out through computer applications that provide listings for correcting data records to resolve data inconsistencies. These listings contain both absolute edits for which age-cause and/or sex-cause must be consistent and conditional edits of age-cause which are unlikely but acceptable following reverification of coding accuracy.
O. Interpretation of expressions indicating doubtful diagnoses

1. Doubtful qualifying expressions

Conditions qualified by expressions such as “apparently,” “presumably,” “?” “perhaps,” and “possibly” which throw doubt on the statement of cause of death are to be accepted as though no such qualifications were made. The rules for selection will be followed in determining the underlying cause, with no special preference given to conditions which are not qualified by these expressions. When a condition is qualified by “rule out,” “ruled out,” “r/o,” etc., do not assign a code for the condition. When two conditions are reported on one line and both are preceded by one of these doubtful expressions, consider as a statement of either/or.

Code for Record

I (a) Hemorrhage of stomach K922
(b) Probable ulcers of the stomach K259

Code to ulcer of stomach with hemorrhage (K254).

2. Interpretation of “either...or...”

a. When the condition is qualified by “either ... or ...” with respect to anatomical site, assign to the residual category for the group or anatomical system in which the sites are classified.

Code for Record

I (a) Cancer of kidney or bladder C689

Code to malignant neoplasm of unspecified urinary organs (C689).

b. When the condition is qualified by “either ... or ...” with respect to sites in different anatomical systems, assign to the residual category for the disease or condition specified.

Code for Record

I (a) Cancer of adrenal or kidney C80

Code to malignant neoplasm without specification of site (C80) since adrenal and kidney are in different anatomical systems.

c. When different diseases or conditions are qualified by “either ... or ...,” and only one anatomical site/system is involved, assign to the residual category relating to the anatomical site/system.

Code for Record

I (a) Tuberculosis or cancer of lung J9840

Code to disease of lung (J984). Both conditions involve the lung.
(a) Stroke or heart attack

Code to disease, circulatory system (I99). Both conditions are in the circulatory system.

**NOTE:** When embolism and thrombosis are qualified by a statement of “either...or...”, code to Clot (I749).

(a) Cardiac thrombosis vs pulmonary embolism

Code to I749, clot (blood). Embolism and thrombosis are both blood clots, and Clot NOS is a more specific category than Disease, circulatory system.

d. When different diseases or conditions are classifiable to the same three character category with different fourth characters, assign to the three character category with fourth character “9.”

(a) ASCVD or ASHD

Code to the residual category for ischemic heart disease (I259).

e. When different diseases or conditions are classifiable to different three character categories and Volume 1 provides a residual category for the disease in general, assign the residual category.

(a) MI or coronary aneurysm

Code to the residual category for ischemic heart disease (I259) using Volume 1.

f. When different diseases or conditions involving different anatomical systems are qualified by “either ... or ...,” assign to “other specified general symptoms and signs (R688).”

(a) Gallbladder colic or
   (b) coronary thrombosis

Code to other specified general symptoms and signs (R688).
g. When diseases and injuries are qualified by “either ... or ...,” assign to “other ill-defined and unspecified causes of mortality” (R99).

I (a) Coronary occlusion or  
(b) war injuries  
Code to other ill-defined and unspecified causes of mortality (R99).

For doubtful diagnosis involving accidents, suicides, and homicides, refer to Section IV, B, Y10-Y34.

P. Interpretation of nonmedical connecting terms used in reporting

The following connecting terms should be interpreted as meaning “due to, or as a consequence of” when the entity immediately preceding and following these terms is a disease condition, nature of injury or an external cause:

after induced by  
induced by occurrence  
occurred after occurring  
occurring occurred in  
occurred in occurrence when  
occurred when origin  
origin incidence of origin  
origin during received from  
received from etiology received in  
received in following result from  
resulting from resulting when  
resulting when secondary to (2)  
secondary to (2) subsequent to  
subsequent to incident to sustained as  
sustained as sustained by  
sustained by sustained during  
sustained during sustained in  
sustained in sustained when  
sustained when sustained while  
sustained while

The following terms are interpreted to mean that the condition following the term was due to the condition that preceded it:

as a cause of led to  
led to cause of manifested by  
manifested by caused producing  
producing causing resulted in  
resulted in followed by resulting in  
resulting in induced underlying  
underlying leading to with resultant  
with resultant with resulting  
with resulting
The following terms are interpreted to mean “or”:

and/or

versus

The following terms imply that the conditions are meant to remain on the same line. They are separated by “and” or by another connecting term that does not imply a “due to” relationship:

and ( )

accompanied by precipitated by

also predisposing (to)

associated with superimposed on

complicated by

complicating

consistent with

Q. Deletion of “due to” on the death certificate

When the certifier has indicated conditions in Part I were not causally related by marking through items I(a), I(b), I(c) and/or I(d), or through the printed “due to, or as a consequence of” which appears below items I(a), I(b), and I(c) on the death certificate, proceed as follows:

1. If the deletion(s) indicates none of the conditions in Part I were causally related, consider as though all of the conditions had been reported on the uppermost used line.

   Codes for Record

   I      (a) Heart disease       I519 I10 N039
          (b) Malignant hypertension
          (c) Chronic nephritis
   II     Cancer of kidney        C64

   Code to heart disease, unspecified (I519), by Selection Rule 2.

   Codes for Record

   I      (a) Congestive heart failure       I500 I251
          (b) ASHD
          (c)
   II     Pneumonia                   J189

   Code to arteriosclerotic heart disease (I251). Congestive heart failure, selected by Rule 2, links (LMP) with ASHD.
2. If only item, I(c) or the printed “due to, or as a consequence of” (which appears below line I(b)) is marked through, consider the condition(s) reported on line I(c) as though reported as the last entry (or entries) on the preceding line.

Codes for Record

<table>
<thead>
<tr>
<th>I (a) Heart block</th>
<th>I459</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Chronic myocarditis</td>
<td>I514 I619</td>
</tr>
<tr>
<td>(e) Cerebral hemorrhage</td>
<td></td>
</tr>
<tr>
<td>II Bronchopneumonia</td>
<td>J180</td>
</tr>
</tbody>
</table>

Code to myocarditis, unspecified (I514) by Selection Rule 1.

3. If only one item, for example, “I(b)” or the printed “due to, or as a consequence of” (which appears below line I(a)) is marked through, consider the condition(s) reported on line I(b) as though reported as the last entry (or entries) on the preceding line.

Codes for Record

<table>
<thead>
<tr>
<th>I (a) Cardiac arrest</th>
<th>I469 K746</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) Cirrhosis of liver</td>
<td></td>
</tr>
<tr>
<td>(c) Alcoholism</td>
<td>F102</td>
</tr>
</tbody>
</table>

Code to alcoholic cirrhosis of liver (K703). Alcoholism is selected by the General Principle, and is linkage with mention of combination (LMC) with cirrhosis of liver.

4. If the “due to, or as a consequence of” is partially deleted, consider as if completely deleted.

Codes for Record

<table>
<thead>
<tr>
<th>I (a) Cardiorespiratory failure</th>
<th>R092</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to, or as a consequence of</td>
<td></td>
</tr>
<tr>
<td>(b) Infarction of brain</td>
<td>I639 I251</td>
</tr>
<tr>
<td>Due to, or, as a consequence of</td>
<td></td>
</tr>
<tr>
<td>(c) Coronary arteriosclerosis</td>
<td></td>
</tr>
</tbody>
</table>

Code to infarction of brain (I639) by applying Rule 1. Consider coronary arteriosclerosis as the second entry on I(b).
R. Numbering of causes reported in Part I

Where the certifier has numbered all causes or lines in Part I, that is, 1, 2, 3, etc., the originating antecedent is selected by applying Selection Rule 2. In the application of this rule, consideration is given to all causes which are numbered whether or not the numbering is extended into Part II. This provision applies whether or not the “due to” on lines I(b), I(c), and/or I(d) are marked through.

Codes for Record

I (a) 1. Coronary occlusion
   N289 J1110
   (b) 2. Diabetes, chronic, severe
   (c) 3. Hypertension and arteriosclerosis
       4. Renal disease
II 5. Influenza, 1 week

Code to coronary occlusion (I219) by applying Selection Rule 2.

Where part of the causes in Part I are numbered, the interpretation is made on an individual basis.

Codes for Record

I (a) Bronchopneumonia
   J180
   (b) 1. Cancer of stomach
   (c) 2. Diabetes

Code to cancer of stomach (C169) by applying Selection Rule 1. The conditions numbered 1. and 2. are considered as if they were reported on I(b).

S. Terms that stop the sequence
Includes:

Cause not found
Cause unknown
Cause undetermined
Could not be determined
Etiology never determined
Etiology not defined
Etiology uncertain
Etiology unexplained
Etiology unknown
Etiology undetermined
Final event undetermined
Immediate cause not determined
Immediate cause unknown
No specific etiology identified
No specific known causes
Nonspecific causes
Not known
Obscure etiology
Undetermined
Uncertain
Unclear
Unexplained cause
Unknown
? Cause
? Etiology

Codes for Record

I (a) Cardiac arrest
   I469
   (b) Stroke
   I64
   (c) Cause unknown
   E149
   (d) Diabetes
Code to stroke (I64) using Rule 1. “Cause unknown” on line (c) stops the sequence.

I (a) Pneumonia J189
(b) Intestinal obstruction K566
(c) Undetermined
(d) Ulcerative colitis K519

Code to ulcerative colitis (K519). “Undetermined” on line (c) stops the sequence. Intestinal obstruction, selected by Rule 1, is considered a direct sequel (DS) of the ulcerative colitis.

I (a) Gastric ulcer, cause unknown K259
(b) Rheumatoid arthritis M069
(c) M069

Code to gastric ulcer (K259). “Cause unknown” on line (a) stops the sequence.

T. Querying cause of death

Because the selection of the underlying cause of death is based on how the physician reports causes of death as well as what he reports, State and local vital statistics offices should query certifying physicians where there is doubt that the manner of reporting reflects the true underlying cause of death. Querying is most valuable when carried out by persons who are thoroughly familiar with mortality medical classification.

It is possible to choose a presumptive underlying cause for any cause-of-death certification no matter how poorly reported. However, selecting the cause by arbitrary rules (Rules 1-3) is not only difficult and time consuming, but the end results often are not satisfactory. No set of arbitrary procedures can deduce what was in the physician’s mind when he certified the cause of death. Querying can be used to great advantage to inform physicians of the proper method of reporting causes of death. It is hoped that intensive querying and other educational efforts will reduce the necessity of resorting to arbitrary rules, and at the same time improve the quality and completeness of the reporting.

When a certifier is queried about a particular cause or for inadequate or missing information he may or may not have at hand, the query should be specific. It should be worded in such a manner that it requires a minimum amount of the certifier’s time. When the queries are sufficiently specific to elicit specific replies, the final coding should reflect this additional information from the certifier.

The NCHS uses the additional information (AI) filmed following the record or received on a separate supplemental document in assigning the underlying cause of death.

I (a) Congestive heart failure I500
(b) Renal disease N059

AI Renal disease was nephritis

Codes for Record

I (a) Congestive heart failure I500
(b) Renal disease N059
Code to N059, unspecified nephritic syndrome. It is assumed the query was to establish the specific renal disease.

Codes for Record
I (a) Congestive heart failure I500
(b) Hypostatic pneumonia J182
(c) C349
AI Underlying cause was cancer of lung

Code to C349, cancer of lung. It is assumed the query was to establish the cause of the hypostatic pneumonia.

Codes for Record
I (a) Pulmonary embolism I269
(b) Myocarditis I514
(c) Arteriosclerosis I709
(d) C269
AI Underlying cause was cancer of g.i. tract

Code to I514, myocarditis. The additional information cannot be used to replace the reported underlying cause. The reply alone is not sufficient. If this case was queried, either the question or the circumstances of why the AI was included should also have been reported. If the AI had included “the conditions on (b) and (c) should be in Part II,” the reply would have been self-explanatory.
SECTION IV - CLASSIFICATION OF CERTAIN ICD CATEGORIES

A. Infrequent and Rare Causes of Death in the United States

The ICD contains conditions which are infrequent causes of death in the United States. If one of these conditions (see Appendix A) is reported as a cause of death, the diagnosis should have been confirmed by the certifier or the State Health Officer when it was first reported. A notation of confirmation should be recorded on the copy of the certificate sent to NCHS. In the absence of this notation, the NCHS coder will code the disease as stated; the State Health Officer will be contacted at the time of reconciliation of rejected data record by control cycle to confirm the accuracy of the certification.

B. Coding Specific Categories

The following are the international linkages and notes with expansions and additions concerning the selection and modification of conditions classifiable to certain categories. They are listed in tabular order. Notes dealing with linkages appear at the category from which the combination is EXCLUDED. Therefore, reference should be made to the category or code within parentheses before making the final code assignment. For a more complete listing, refer to NCHS Instruction Manual, Part 2c, ICD-10 ACME Decision Tables for Classifying the Underlying Causes of Death, 2015.

The following notes often indicate that if the provisionally selected code, as indicated in the left-hand column, is present with one of the conditions listed below it, the code to be used is the one shown in bold type. There are two types of combination:

“with mention of” means that the other condition may appear anywhere on the certificate;
“when reported as the originating antecedent cause of” means that the other condition must appear in a correct causal relationship or be otherwise indicated as being “due to” the originating antecedent cause.

A00-B99  Certain infectious and parasitic diseases

Except for human immunodeficiency virus [HIV] disease (B20-B24), when reported as the originating antecedent cause of a malignant neoplasm, code C00-C97.

A15.-  Respiratory tuberculosis, bacteriologically and histologically confirmed

Not to be used for underlying cause mortality coding.

A16.0  Tuberculosis of lung, bacteriologically and histologically negative
A16.1  **Tuberculosis of lung, bacteriological and histological examination not done**

Not to be used for underlying cause mortality coding.

A16.2-.9  **Respiratory tuberculosis, not confirmed bacteriologically or histologically**

*with mention of:*
J60-J64 (Pneumoconiosis), code J65

A17.-  **Tuberculosis of nervous system**

A18.-  **Tuberculosis of other organs**

*with mention of:*
A16.-  (Respiratory tuberculosis), code A16.-, unless reported as the originating antecedent cause of and with a specified duration exceeding that of the condition in A16.-

22.-  **Anthrax**

Not to be used as the underlying cause if reported with accident, homicide, suicide anywhere on the record, could not be determined in the Manner of Death box only, or designated as an act of terrorism. Code accident (X58), homicide (Y08), suicide (X83), could not be determined (Y33), or terrorism (U016)

A35  **Other tetanus**

INCLUDES: accidents *with mention of* tetanus

I  (a) Tetanus
   (b) Contusion, foot
II  Accident: Fall

Code to tetanus (A35).

I  (a) Tetanus
   (b) Fracture of hip
II  X590

Code to tetanus (A35).
A39.2  Acute meningococcemia

A39.3  Chronic meningococcemia

A39.4  Meningococcemia, unspecified

with mention of:
A39.0 (Meningococcal meningitis), code A39.0
A39.1 (Waterhouse-Friderichsen syndrome), code A39.1

A40.-  Streptococcal septicemia

A41.-  Other septicemia

A46  Erysipelas

Code to these diseases when they follow a superficial injury (any condition in S00, S10, S20, S30, S40, S50, S60, S70, S80, S90, T00, T09.0, T11.0), or first degree burn; when they follow a more serious injury, code to the external cause of the injury.

Codes for Record

<table>
<thead>
<tr>
<th>I</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Septicemia</td>
<td>A419</td>
</tr>
<tr>
<td>(b) Contusion, foot</td>
<td>S903</td>
</tr>
<tr>
<td>II Accident: Fall</td>
<td>W19</td>
</tr>
</tbody>
</table>

Code to septicemia, unspecified (A419).

<table>
<thead>
<tr>
<th>I</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Septicemia</td>
<td>A419</td>
</tr>
<tr>
<td>(b) Fracture of hip</td>
<td>S720</td>
</tr>
<tr>
<td>II X590</td>
<td></td>
</tr>
</tbody>
</table>

Code to external event causing fracture of hip (X590).

A49.-  Bacterial infection of unspecified site

This category INCLUDES infection by bacterial organisms unspecified as to location or disease and not classified elsewhere. Specific disease conditions indicated to have been bacterial in origin are classified to the specified disease rather than to A49. Examples: staphylococcal enteritis is classified to A04.8 and pseudomonas pneumonia is classified to J15.1.
A80.9 Acute poliomyelitis, unspecified

This category INCLUDES poliomyelitis specified as acute unless there is clear indication that death occurred more than one year after the onset of poliomyelitis. It also INCLUDES poliomyelitis not specified as acute if it is clearly indicated that death occurred less than one year after onset of the poliomyelitis. Otherwise, poliomyelitis should be assigned to Sequela of poliomyelitis (B91).

B16 Acute hepatitis B

B17 Other acute viral hepatitis

*when reported as the originating antecedent cause of:*

- K72.1 (Chronic hepatic failure), code B18.-
- K74.0-K74.2, K74.4-K74.6 (Fibrosis and cirrhosis of liver), code B18.-

B20-B24 Human immunodeficiency virus [HIV] disease

Modes of dying, ill-defined and trivial conditions reported as complications of HIV infection should not be linked to categories in B20-B24 and R75, unless there is a specific entry in Volume 3 to that effect. Conditions classifiable to two or more subcategories of the same category should be coded to the .7 subcategory of the relevant category (B20 or B21).

If a condition classifiable to categories A00-B19, B25-B49, B58-B64, B99, to which sequela rules apply, is mentioned on the record with HIV (B200-B24, R75), use the active phase of the condition in the application of selection and modification rules.

When a blood transfusion is given as treatment for any condition (e.g. a hematological disorder) and an infected blood supply results in a HIV infection, code the HIV as the underlying cause and not the treated condition.

B22.7 HIV disease with multiple diseases classified elsewhere

This subcategory should be used when conditions classifiable to two or more categories from B20-B22 are listed on the certificate.

B34 Viral infection of unspecified site

This category INCLUDES viral infections unspecified as to location or disease and not classified elsewhere. Specific disease conditions indicated to have been viral in origin are classified to the specific disease rather than to B34. Examples: adenovirus enteritis is classified to A082, and acute viral bronchitis is classified to J208.
**B95-B97**  
**Bacterial, viral and other infectious agents**

Not to be used for underlying cause mortality coding.

**C00-D48 Neoplasms**

Separate categories are provided for coding malignant primary and secondary neoplasms (C00-C96), Malignant neoplasms of independent (primary) multiple sites (C97), carcinoma in situ (D00-D09), benign neoplasms (D10-D36), and neoplasms of uncertain or unknown behavior (D37-D48). Categories and subcategories within these groups identify sites and/or morphological types.

Morphology describes the type and structure of cells or tissues (histology) as seen under the microscope and the behavior of neoplasms. The ICD classification of neoplasms consists of several major morphological groups (types) including the following:

- **Carcinomas including squamous cell carcinoma and adenocarcinoma**
- **Sarcomas and other soft tissue tumors including mesotheliomas**
- **Lymphomas including Hodgkin’s lymphoma and non-Hodgkin’s lymphoma**
- **Site-specific types (types that indicate the site of the primary neoplasm)**
- **Leukemias**
- **Other specified morphological groups**

The morphological types of neoplasms are listed following Chapter XX in Volume 1. They are also described in Volume 3 (the Alphabetical Index) with their morphology code and with an indication as to the coding by site. The morphological code numbers consist of five characters: the first four identify the histological type of the neoplasm and the fifth, following a slash, indicates its behavior. These morphological codes (M codes) are not used by NCHS for coding purposes.

The behavior of a neoplasm is an indication of how it will act. The following terms describe the behavior of neoplasms:

- Malignant, primary site (capable of rapid growth and of spreading to nearby and distant sites) C00-C76, C80-C97
- Malignant secondary (spread from another site; metastasis) C77-C79
- In-situ (confined to one site) D00-D09
- Benign (non-malignant) D10-D36
- Uncertain or unknown behavior (undetermined whether benign or malignant) D37-D48

Morphology, behavior, and site must all be considered when coding neoplasms. Always look up the morphological type in the Alphabetical Index before referring to the listing under "Neoplasm" for the site. This may take the form of a reference to the appropriate column in the "Neoplasm" listing in the Index when the morphological type could occur in several organs. For example:

Adenoma, villous (M8261/1) - see Neoplasm, uncertain behavior

Or to a particular part of that listing when the morphological type originates in a particular type of tissue. For example:

Fibromyxoma (M8811/0) - see Neoplasm, connective tissue, benign.
The Index may give the code for the site assumed to be most likely when no site is reported in a morphological type. For example:

- Adenocarcinoma
  - pseudomucinous (M8470/3)
  - - specified site - see Neoplasm, malignant
  - - unspecified site C56

Or the Index may give a code to be used regardless of the reported site when the vast majority of neoplasms of that particular morphological type occur in a particular site. For example:

- Nephroma (M8960/3) C64

Unless it is specifically indexed, code a morphological term ending in “osis” in the same way as the tumor name to which “osis” has been added is coded. For example, code neuroblastomatosis in the same way as neuroblastoma. However, do not code hemangiomatosis which is specifically indexed to a different category in the same way as hemangiomia.

All combinations of the order of prefixes in compound morphological terms are not indexed. For example, the term “chondrofibrosarcoma” does not appear in the Index, but “fibrochondrosarcoma” does. Since the two terms have the same prefixes (in a different order), code the chondrofibrosarcoma the same as fibrochondrosarcoma.

### A. Malignant neoplasms

When a malignant neoplasm is considered to be the underlying cause of death, it is most important to determine the primary site. Morphology and behavior should also be taken into consideration. Cancer is a generic term and may be used for any morphological group, although it is rarely applied to malignant neoplasms of lymphatic, hematopoietic and related tissues. Carcinoma is sometimes used incorrectly as a synonym for cancer. Some death certificates may be ambiguous if there was doubt about the primary site or imprecision in drafting the certificate. In these circumstances, if possible, the certifier should be asked to give clarification.

The categories that have been provided for the classification of malignant neoplasms distinguish between those that are stated or presumed to be primary (originate in) of the particular site or types of tissue involved, those that are stated or presumed to be secondary (deposits, metastasis, or spread from a primary elsewhere) of specified sites, and malignant neoplasms without specification of site.

These categories are the following:

- **C00-C75**  Malignant neoplasms, stated or presumed to be primary, of specified sites and different types of tissue, except lymphoid, hematopoietic, and related tissue
- **C76**  Malignant neoplasms of other and ill-defined sites
- **C77-C79**  Malignant secondary neoplasm, stated or presumed to be spread from another site, metastases of sites, regardless of morphological type of neoplasm
- **C80**  Malignant neoplasm of unspecified site (primary) (secondary)
- **C81-C96**  Malignant neoplasms, stated or presumed to be primary, of lymphoid, hematopoietic, and related tissue
- **C97**  Malignant neoplasms of independent (primary) multiple sites

In order to determine the appropriate code for each reported neoplasm, a number of factors must be taken into account including the morphological type of neoplasm and qualifying terms. Assign malignant neoplasms to the
appropriate category for the morphological type of neoplasm, e.g. to the code shown in the Index for the reported term.

**Morphological types** of neoplasm include categories C40-C41, C43, C44, C45, C46, C47, C49, C70-C72, and C80. Specific morphological types include:

**C40-C41** Malignant neoplasm of bone and articular cartilage of other and unspecified sites
- Osteosarcoma
- Osteochondrosarcoma
- Osteofibrosarcoma
- Any neoplasm cross-referenced as “See also Neoplasm, bone, malignant”

  **Code for Record**
  I  (a) Osteosarcoma of leg  
  C402

  **Code to osteosarcoma leg (C402). Code the morphological type “Osteosarcoma” to Neoplasm, bone, malignant.**

**C43** Malignant melanoma of skin
- Melanosarcoma
- Melanoblastoma
- Any neoplasm cross-referenced as “See also Melanoma”

  **Code for Record**
  I  (a) Melanoma  
  C439

  **Code to melanoma, (C439) unspecified site as indexed.**

  I  (a) Melanoma of arm  
  C436

  **Code to melanoma of arm (C436) as indexed under site classification.**

  I  (a) Melanoma of stomach  
  C169

  **Code to melanoma of stomach (C169). Since stomach is not found under Melanoma in the Index, the term should be coded by site under Neoplasm, malignant, stomach.**
C44  Other malignant neoplasm of skin
Basal cell carcinoma
Sebaceous cell carcinoma
Any neoplasm cross-referenced as “See also Neoplasm, skin, malignant”

I  (a) Sebaceous cell carcinoma nose  C443

Code to sebaceous cell carcinoma nose (C443). Code the morphological type “Sebaceous cell carcinoma” to Neoplasm, skin, malignant.

C49  Malignant neoplasm of other connective and soft tissue
Liposarcoma
Rhabdomyosarcoma
Any neoplasm cross-referenced as “See also Neoplasm, connective tissue, malignant”

I  (a) Rhabdomyosarcoma abdomen  C494

Code to rhabdomyosarcoma abdomen (C494). Code the morphological type “Rhabdomyosarcoma” to Neoplasm, connective tissue, malignant.

I  (a) Sarcoma pancreas  C259

Code to sarcoma pancreas (C259). Code the morphological type “Sarcoma” to Neoplasm, connective tissue, malignant. Refer to the “Note” under Neoplasm, connective tissue, malignant, concerning sites which do not appear on this list.

I  (a) Angiosarcoma of liver  C223

Code angiosarcoma of liver as indexed.

I  (a) Kaposi’s sarcoma of lung  C467

Code Kaposi’s sarcoma of lung to Kaposi’s, sarcoma, specified site (C467).
C80  Malignant neoplasm without specification of site
Cancer
Carcinoma
Malignancy
Malignant tumor or neoplasm
Any neoplasm cross-referenced as “See also Neoplasm, malignant”

I  (a) Carcinoma of stomach  C169
Code to carcinoma of stomach (C169) as indexed.

C81-C96  Malignant neoplasms of lymphoid, hematopoietic and related tissue
Leukemia
Lymphoma

I  (a) Lymphoma of brain  C859
Code to lymphoma NOS (C859). Neoplasms in C81-C96 are coded by morphological type and not by site.

B. Neoplasm stated to be secondary

Categories C77-C79 include secondary neoplasms of specified sites regardless of the morphological type of the neoplasm. The Index contains a listing of secondary neoplasms of specified sites under “Neoplasm.” If a secondary neoplasm of specified site is reported, code to the morphological type, unless it is a C80 morphological type. If the morphological type is C80, code to the secondary neoplasm.

I  (a) Secondary carcinoma of intestine  C785
Code to secondary carcinoma of intestine (C785).

I  (a) Secondary melanoma of lung  C439 C780
Code to melanoma of unspecified site (C439).

C. Malignant neoplasms with primary site indicated

If a particular site is indicated as primary, it should be selected, regardless of the position on the certificate or whether in Part I or Part II. If the primary site is stated to be unknown, see Section H. The primary site may be indicated in one of the following ways:
1. Two or more sites with the same morphology are reported and one site is specified as primary in either Part I or Part II.

   Codes for Record
   
   I  (a) Carcinoma of bladder  C791
   II Primary in kidney  C64
   
   **Code to** malignant neoplasm of kidney (C64).

2. The specification of other sites as “secondary,” “metastases,” “metastasis,” “spread” or a statement of “metastasis NOS” or “metastases NOS.”

   Codes for Record
   
   I  (a) Carcinoma of breast  C509
       (b) Secondaries in brain  C793
   
   **Code to** malignant neoplasm of breast (C509), since another site is specified as secondary.

3. Morphology indicates a primary malignant neoplasm.

   If a morphological type implies a primary site, such as hepatoma, consider this as if the word “primary” had been included.

   Codes for Record
   
   I  (a) Metastatic carcinoma  C80
       (b) Pseudomucinous adenocarcinoma  C56
   
   **Code to** malignant neoplasm of ovary (C56), since pseudomucinous adenocarcinoma of unspecified site is assigned to the ovary in the Alphabetical Index.

   If two or more primary sites or morphologies are indicated, these should be coded according to Sections D, E and G.

**D. Independent (primary) multiple sites (C97)**

The presence of more than one primary neoplasm could be indicated in one of the following ways:

- mention of two different anatomical sites
- two distinct morphological types (e.g. hypernephroma and intraductal carcinoma)
- by a mix of a morphological type that implies a specific site, plus a second site
It is highly unlikely that one primary would be due to another primary malignant neoplasm except for a group of malignant neoplasms of lymphoid, hematopoietic, and related tissue (C81 - C96), within which, one form of malignancy may terminate in another (e.g. leukemia may follow non-Hodgkin’s lymphoma).

If two or more sites mentioned in Part I are in the same organ system, see Section E. If the sites are not in the same organ system and there is no indication that any is primary or secondary, code to malignant neoplasms of independent (primary) multiple sites (C97), unless all are classifiable to C81-C96, or one of the sites mentioned is a common site of metastases or the lung (see Section G).

**Codes for Record**

| I (a) Cancer of stomach 3 months | C169 |
| I (b) Cancer of breast 1 year | C509 |

**Code to** malignant neoplasms of independent (primary) multiple sites (C97), since two different anatomical sites are mentioned and it is unlikely that one primary malignant neoplasm would be due to another.

**Codes for Record**

| I (a) Hodgkin’s disease | C819 |
| I (b) Carcinoma of bladder | C679 |

**Code to** malignant neoplasms of independent (primary) multiple sites (C97), since two distinct morphological types are mentioned.

**Codes for Record**

| I (a) Acute lymphocytic leukemia | C910 |
| I (b) Non-Hodgkin’s lymphoma | C859 |

**Code to** non-Hodgkin’s lymphoma (C859), since both are classifiable to C81-C96 and the sequence is acceptable.

**Codes for Record**

| I (a) Leukemia | C959 |
| I (b) Non-Hodgkin’s lymphoma | C859 |
| I (c) Carcinoma of ovary | C56 |

**Code to** malignant neoplasms of independent (primary) multiple sites (C97), since, although two of the neoplasms are classifiable to C81-C96, there is mention of another morphology.

**Codes for Record**

| I (a) Leukemia | C959 |
| II Carcinoma of breast | C509 |

**Code to** leukemia (C959) because the carcinoma of breast is in Part II. When dealing with multiple sites, only sites in Part I of the certificate should be considered (see Section E).
E. Multiple sites

When dealing with multiple sites, generally only sites reported together in Part I or together in Part II of the certificate should be considered except for linkages provided for in the Classification. If malignant neoplasms of more than one site are entered on the certificate, the site listed as primary should be selected. If there is no indication whether primary or secondary, see Sections C, D, and G.

1. More than one neoplasm of lymphoid, hematopoietic or related tissue

If two or more morphological types of malignant neoplasm occur in lymphoid, hematopoietic or related tissue (C81-C96), code according to the sequence given since these neoplasms sometimes terminate as another entity within C81-C96. Acute exacerbation of, or blastic crisis (acute) in, chronic leukemia should be coded to the chronic form.

Codes for Record

I (a) Acute lymphocytic leukemia  
(b) Non-Hodgkin’s lymphoma

Code to non-Hodgkin’s lymphoma (C859).

Codes for Record

I (a) Acute and chronic lymphocytic leukemia  
C910, C911

Code to chronic lymphocytic leukemia (C911).

2. Multiple sites in the same organ/organ system

Malignant neoplasm categories providing for overlapping sites designated by .8 are not used unless a site is specifically indexed to one of these categories, e.g. anorectum cancer. If the sites mentioned are in the same organ/organ system .9 subcategories should be used. This applies when the certificate describes the sites as one site “and” another or if the sites are mentioned on separate lines. If one or more of the sites reported is a common site of metastases, see Section G.

a. If there is mention of two subsites in the same organ, code to the .9 subcategory of that three-character category.

Codes for Record

I (a) Carcinoma of descending colon and sigmoid  
C186 C187

Code to malignant neoplasm of colon (C189) since both sites are subsites of the same organ.

Codes for Record

I (a) Carcinoma of head of pancreas  
(b) Carcinoma of tail of pancreas  
C250 C252
Code to malignant neoplasm of pancreas, unspecified (C259) since both sites are subsites of the same organ.

b. If two or more sites are mentioned and all are in the same organ system, code to the .9 subcategory of that organ system, as in the following list:

- C150-C269 Digestive system
- C300-C399 Respiratory system
- C400-C419 Bone and articular cartilage of limbs, other and unspecified sites
- C490-C499 Connective and soft tissue
- C510-C579 Female genital organ
- C600-C639 Male genital organ
- C64-C689 Urinary organ
- C700-C729 Central nervous system
- C73-C759 Thyroid and other endocrine glands

Codes for Record

I (a) Pulmonary embolism  I269
(b) Cancer of stomach  C169
(c) Cancer of gallbladder  C23

Code to ill-defined sites within the digestive system (C269). Stomach and gallbladder are in the same organ system and reported together in the same part.

I (a) Carcinoma of vagina and cervix  C52 C539

Code to malignant neoplasm of female genital organs (C579). Vagina and cervix are in the same organ system and are reported together in the same part.

c. If there is no available .9 subcategory or different organ systems are reported, code to malignant neoplasms of independent (primary) multiple sites (C97).

I (a) Cardiac arrest  I469
(b) Carcinoma of prostate and bladder  C61 C679

Code to malignant neoplasms of independent (primary) multiple sites (C97), since there is no available .9 subcategory.

d. Although, generally only sites in Part I should be considered, the Classification provides linkages for certain sites when reported anywhere on the certificate.
I  (a) Carcinoma of esophagus  C159  
(b)  
(c) 
II  Carcinoma of stomach  C169  

*Code to* malignant neoplasm of esophagus and stomach (C160). Combine other parts of esophagus, C152 or C155 and stomach, C169 to code C160 in the same manner.

I  (a) Cancer of sigmoid colon  C187 
(b)  
(c) 
II  Cancer of rectum  C20  

*Code to* malignant neoplasm of rectum and colon (C19). Combine colon NOS, C189 and rectum, C20 to code C19 in the same manner.

3. **Other exceptions to the multiple sites concept**

The following examples are exceptions to the multiple sites concept. Even though the malignant neoplasms are reported in Part I and Part II, apply the linkage as provided by the Classification and Part 2c, Modification Table (Table E).

I  (a) Cholangiocarcinoma  C221  
II  Hepatoma  C220  

*Code to* hepatoma (C220).

I  (a) Kaposi’s sarcoma of soft palate  C462  
II  Kaposi’s sarcoma of skin  C460  

*Code to* Kaposi’s sarcoma of multiple organs (C468).

I  (a) Carcinoma of facial lymph nodes  C770  
II  Carcinoma of axillary lymph nodes  C773  

*Code to* malignant neoplasm of lymph nodes of multiple regions (C778).

I  (a) Cleaved cell diffuse lymphoma  C831  
II  Large cell follicular lymphoma  C822
Code to mixed small cleaved and large cell follicular lymphoma (C821).

Also, in the same manner, combine C820 and C822 to code C821; combine C833 and C830 to code C832; and combine C830 and C833 to code C832.

F. Implication of malignancy

Mention on the certificate (anywhere) that a neoplasm (D00-D449, D480-D489) has produced secondaries (C77-C79) according to the Index or instructions, or is stated as metastases NOS, or metastases of a site means that the neoplasm must be coded as primary malignant (whether or not on the list of common sites of metastases), even though this neoplasm without mention of metastases would be classified to some other section of Chapter II.

Codes for Record

I (a) Brain metastasis C793
(b) Lung tumor C349

Code to malignant lung tumor (C349).

I (a) Metastatic involvement of chest wall C798
(b) Carcinoma in situ of breast C509

Code to malignant carcinoma of breast (C509).

G. Metastatic neoplasm

When a malignant neoplasm spreads or metastasizes it generally retains the same morphology even though it may become less differentiated. Some metastases have such a characteristic microscopic appearance that the pathologist can infer the primary site with confidence, e.g. thyroid. Widespread metastasis of a carcinoma is often called carcinomatosis. The adjective “metastatic” is used in two ways - sometimes meaning a secondary from a primary elsewhere and sometimes denoting a primary that has given rise to metastases. Neoplasms qualified as metastatic are always malignant, either primary or secondary.

Although malignant cells can metastasize anywhere in the body, certain sites are more common than others and must be treated differently (see list of common sites of metastases). However, if one of these sites appears alone on a death certificate and is not qualified by the word “metastatic,” it should be considered primary.
Common sites of metastases

<table>
<thead>
<tr>
<th>Site</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone</td>
<td>Lymph nodes</td>
</tr>
<tr>
<td>Brain</td>
<td>Mediastinum</td>
</tr>
<tr>
<td>Central nervous system</td>
<td>Meninges</td>
</tr>
<tr>
<td>Diaphragm</td>
<td>Peritoneum</td>
</tr>
<tr>
<td>Heart</td>
<td>Pleura</td>
</tr>
<tr>
<td>Ill-defined sites (sites classifiable to C76)</td>
<td>Retroperitoneum</td>
</tr>
<tr>
<td>Liver</td>
<td>Spinal cord</td>
</tr>
</tbody>
</table>

**Code for Record**

I  (a) Cancer of brain  C719

**Code to** primary cancer of brain since it is reported alone on the certificate.

- **Special instruction: lung**
  The lung poses special problems in that it is a common site for both metastases and primary malignant neoplasms. **Lung should be considered as a common site of metastases whenever it appears in Part I with sites not on this list.** If lung is mentioned anywhere on the certificate and the only other sites are on the list of common sites of metastases, consider lung primary. However, when the bronchus or bronchogenic cancer is mentioned, this neoplasm should be considered primary.

  **Code for Record**

I  (a) Carcinoma of lung  C349

**Code to** malignant neoplasm of lung since it is reported alone on the certificate.

- **Codes for Record**

I  (a) Cancer of bone  C795  
  (b) Carcinoma of lung  C349

**Code to** primary malignant neoplasm of lung (C349) since bone is on the list of common sites of metastases and lung can, therefore, be assumed to be primary.

I  (a) Carcinoma of bronchus  C349  
  (b) Carcinoma of breast  C509

**Code to** malignant neoplasms of independent (primary) multiple sites (C97) because bronchus is excluded from the list of common sites.

- **Special Instruction: lymph node**
  Malignant neoplasm of lymph nodes not specified as primary should be assumed to be secondary.

  **Code for Record**

I  (a) Cancer of cervical lymph nodes  C770

**Code to** secondary malignant neoplasm of cervical lymph nodes (C770).
1. Only one site reported and it’s a common site of metastases

If one of the common sites of metastases, except lung, is described as metastatic and no other site or morphology is mentioned, code to secondary neoplasm of the site (C77-C79). If the single site is lung, qualified as metastatic, code to primary of lung.

Code for Record

<table>
<thead>
<tr>
<th>Code to</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Metastatic brain cancer</td>
<td>C793</td>
</tr>
<tr>
<td>Code to secondary malignant neoplasm of brain (C793).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code to</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Metastatic carcinoma of lung</td>
<td>C349</td>
</tr>
<tr>
<td>Code to malignant neoplasm of lung (C349).</td>
<td></td>
</tr>
</tbody>
</table>

2. All sites reported are common sites of metastases

If all sites reported (anywhere on the record) are on the list of common sites of metastases, code to unknown primary site of the morphological type involved, unless lung is mentioned, in which case code to malignant neoplasm of lung (C349).

Codes for Record

<table>
<thead>
<tr>
<th>Code to</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cancer of liver</td>
<td>C787</td>
</tr>
<tr>
<td>(b) Cancer of abdomen</td>
<td>C798</td>
</tr>
<tr>
<td>Code to malignant neoplasm without specification of site (C80), since both are on the list of common sites of metastases. (Abdomen is one of the ill-defined sites included in C76.-.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code to</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cancer of brain</td>
<td>C793</td>
</tr>
<tr>
<td>(b) Cancer of lung</td>
<td>C349</td>
</tr>
<tr>
<td>Code to cancer of lung (C349), since lung in this case is considered to be primary, because brain, the only other site mentioned, is on the list of common sites of metastases.</td>
<td></td>
</tr>
</tbody>
</table>

3. One of the sites reported is a common site of metastases

If only one of the sites mentioned is on the list of common sites of metastases or lung, code to the site not on the list.

Codes for Record

<table>
<thead>
<tr>
<th>Code to</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cancer of lung</td>
<td>C780</td>
</tr>
<tr>
<td>(b) Cancer of breast</td>
<td>C509</td>
</tr>
</tbody>
</table>
Code to malignant neoplasm of breast (C509). In this case, lung is considered to be a common site because breast is not on the list of common sites of metastases.

4. Common sites reported with other sites or morphological types

If one or more of the sites mentioned is a common site of metastases (see list of common sites of metastases) but two or more sites or different morphological types are also mentioned, code to malignant neoplasms of independent (primary) multiple sites (C97) (see Section D). If sites are in the same organ system see Section E.

**Codes for Record**

| I   | (a) Cancer of liver   | C787 |
|     | (b) Cancer of bladder | C679 |
|     | (c) Cancer of colon   | C189 |

Code to malignant neoplasms of independent (primary) multiple sites (C97), since liver is on the list of common sites of metastases and there are still two other independent sites.

5. Multiple sites with none specified as primary

If one of the common sites of metastases, excluding lung, is reported anywhere on the certificate with one or more site(s), or one or more morphological type(s), none specified as primary, code to the site or morphological type not on list of common sites.

**Codes for Record**

| I   | (a) Cancer of stomach | C169 |
|     | (b) Cancer of liver   | C787 |

Code to malignant neoplasm of stomach (C169). The cancer of liver is presumed secondary because it is on the list of common sites.

**Codes for Record**

| I   | (a) Peritoneal cancer | C786 |
|     | (b) Mammary carcinoma | C509 |

Code to malignant neoplasm of breast (C509). The peritoneal cancer is presumed secondary because it is on the list of common sites.

**Codes for Record**

| I   | (a) Brain carcinoma   | C793 |
|     | (b) Melanoma of scalp | C434 |

Code to melanoma of scalp (C434). The brain carcinoma is presumed secondary because it is on the list of common sites.
NOTE: If a malignant neoplasm of lymphatic, hematopoietic, or related tissue (C81-C96) is reported in one part and one of the common sites of metastases is mentioned in the other part, code to the malignant neoplasm reported in Part I.

**Codes for Record**

| I | (a) Brain cancer | C719 |
|   | (b) Lymphoma     | C859 |

*Code to malignant brain cancer (C719). Since the condition in Part II is a malignant neoplasm of lymphatic, hematopoietic, or related tissue, only Part I conditions are considered.*

**Codes for Record**

| I | (a) Brain cancer | C793 |
|   | (b) Lymphoma     | C859 |

*Code to lymphoma (C859). Brain cancer is presumed secondary, because it is reported in the same part as a malignant neoplasm of lymphatic, hematopoietic, or related tissue.*

If lung is mentioned in the same part with another site(s), not on the list of common sites, or one or more morphological types(s), consider the lung as secondary and the other site(s) as primary. If lung is mentioned in one part, and one or more site(s), not on the list of common sites, or one or more morphological type(s) is mentioned in the other part, code to the malignant neoplasm reported in Part I.

**Codes for Record**

| I | (a) Lung cancer | C780 |
|   | (b) Stomach cancer | C169 |

*Code to malignant stomach cancer (C169). Lung cancer is presumed secondary because it is reported in the same part as another site.*

**Codes for Record**

| I | (a) Lung cancer | C780 |
|   | (b) Leukemia    | C959 |

*Code to leukemia (C959). Lung cancer is presumed secondary because it is reported in the same part as another morphological type.*

**Codes for Record**

| I | (a) Bladder carcinoma | C679 |
|   | II Lung cancer, breast cancer | C780 C509 |

*Code to malignant bladder carcinoma (C679) because lung cancer and breast cancer are reported in Part II.*
I (a) Lung cancer C349
II Stomach cancer C169

*Code to* malignant lung cancer (C349), since lung cancer is reported in Part I and stomach is reported in Part II.

6. **Metastatic from**

Malignant neoplasm described as “metastatic from” a specified site should be interpreted as primary of that site.  

*Codes for Record*

I (a) Metastatic teratoma from ovary C80 C56

*Code to* malignant neoplasm of ovary (C56).

7. **Metastatic to**

Malignant neoplasm described as “metastatic to” a specified site should be interpreted as primary of the site or morphological type that produced the metastasis (metastatic to) and all other sites should be coded as secondary unless stated as primary, whether in Part I or Part II.  

Malignant neoplasm described as metastatic of a specified site to a specified site should be interpreted as primary of the site specified as “of a site.”

*Code for Record*

I (a) Metastatic carcinoma to the rectum C785

*Code to* secondary malignant neoplasm of rectum (C785). The word “to” indicates that rectum is secondary.

*Codes for Record*

I (a) Metastatic osteosarcoma to brain C419 C793

*Code to* malignant neoplasm of bone (C419) since this is the code for unspecified site of osteosarcoma.

*Codes for Record*

I (a) Metastatic cancer of liver to brain C229 C793
II Esophageal cancer C788

*Code to* primary cancer of liver (C229). The word “to” indicates that the liver is primary.

8. **A single malignant neoplasm described as “metastatic (of)”**

The terms “metastatic” and “metastatic of” should be interpreted as follows:
a. If one site is mentioned and this is qualified as metastatic, code to malignant primary of that particular site if the morphological type is C80 and the site is not a common metastatic site excluding the lung.

   I  (a) Cervix cancer, metastatic

   Code to malignant neoplasm of cervix (C539).

   I  (a) Metastatic cancer of lung

   Code to primary malignant neoplasm of lung since no other site is mentioned.

b. If one site is qualified metastatic and there are other sites specified as "secondary", "metastases", "metastasis", "spread", or a statement of "metastasis NOS" or "metastases NOS", code the site qualified metastatic as primary and all other sites, secondary whether in Part I or Part II. If, however, lung is mentioned in one part and the metastatic neoplasm in the other part, code lung primary.

   I  (a) Metastatic breast cancer with brain metastases

   II  Lung cancer

   Code to malignant breast cancer (C509). Code I(a) as primary malignant neoplasm of breast since there is a statement of metastases on the record. Part II is coded as primary lung cancer but is not considered since it is reported in a different part.

c. If no site is reported but the morphological type is qualified as metastatic, code as for primary site unspecified of the particular morphological type involved.

   I  (a) Metastatic oat cell carcinoma

   Code to malignant neoplasm of lung (C349) since oat cell carcinoma of unspecified site is assigned to the lung in the Alphabetic Index.

d. If a single morphological type and a site, other than a common metastatic site (see list of common sites of metastases), are mentioned as metastatic, code to the specific category for the morphological type and site involved.

   I  (a) Metastatic melanoma of arm
Code to malignant melanoma of arm (C436), since in this case the ill-defined site of arm is a specific site for melanoma, not a common site of metastases classifiable to C76.

e. If a single morphological type is qualified as metastatic and the site mentioned is one of the common sites of metastases except lung, code the unspecified site for the morphological type, unless the unspecified site is classified to C80 (malignant neoplasm without specification of site), in which case, code to secondary malignant neoplasm of the site mentioned.

**Codes for Record**

**I (a) Metastatic osteosarcoma of brain**  
C419, C793

Code to malignant neoplasm of bone, unspecified (C419), since brain is on the list of common sites of metastases.

**Code for Record**

**I (a) Metastatic cancer of peritoneum**  
C786

Code to secondary cancer of peritoneum (C786), since peritoneum is on the list of common sites of metastases and the morphological type of neoplasm is classified to C80.

**Codes for Record**

**I (a) Metastatic rhabdomyosarcoma**  
C499 C771

(b) of hilar lymph nodes

Code to unspecified site for rhabdomyosarcoma (C499).

**Code for Record**

**I (a) Metastatic sarcoma of lung**  
C349

Code to malignant neoplasm of lung (C349), since lung is not considered a common site for this instruction.

**EXCEPTION:** Metastatic mesothelioma or metastatic Kaposi’s sarcoma.
1. If site IS indexed under “Mesothelioma or Kaposi’s sarcoma,” assign that code.

   I (a) Metastatic mesothelioma of liver  
   Code for Record  
   C457  
   Code to mesothelioma, liver (C457).

   I (a) Metastatic mesothelioma of mesentery  
   Code for Record  
   C451  
   Code to mesothelioma of mesentery (C451).

2. If site is NOT indexed under “Mesothelioma or Kaposi’s sarcoma” and the site reported is NOT a common site of metastasis, code to specified site NEC.

   I (a) Metastatic mesothelioma of kidney  
   Code for Record  
   C457  
   Code to mesothelioma specified site NEC. Kidney is not a common site of metastases.

3. If site is NOT indexed under “Mesothelioma or Kaposi’s sarcoma” and site reported IS a common site of metastasis, code to unspecified site NEC.

   I (a) Metastatic mesothelioma of  
   (b) lymph nodes  
   Code for Record  
   C459 C779  
   Code to mesothelioma (C459). Lymph nodes is on the list of common sites and is not indexed under mesothelioma.

   I (a) Metastatic Kaposi’s sarcoma of brain  
   Code for Record  
   C469, C793  
   Code to Kaposi’s sarcoma (C469). Brain is on the list of common sites and is not indexed under Kaposi’s sarcoma.

   I (a) Kaposi’s sarcoma of brain  
   Code for Record  
   C467  
   Code to specified site of Kaposi’s sarcoma (C467) since not qualified as metastatic.

f. If there is a mixture of several sites qualified as metastatic and several other sites are mentioned, refer to the rules for multiple sites (see Sections D and E).
9. More than one malignant neoplasm qualified as metastatic

a. If two or more sites with the same morphology, not on the list of common sites of metastases, are reported and all are qualified as "metastatic," code as primary site unspecified of the anatomical system and/or of the morphological type involved.

Codes for Record

I   (a) Metastatic carcinoma of prostate         C798
(b) Metastatic carcinoma of skin               C792

Code to malignant neoplasm without specification of site (C80), since two or more sites of the same morphology, not on the list of common sites of metastases, are reported and all are qualified as metastatic.

b. If two or more morphological types are qualified as metastatic, code to malignant neoplasms of independent (primary) multiple sites (C97) (see Section D).

Codes for Record

I   (a) Metastatic stomach carcinoma           C169
(b) Metastatic pancreas carcinoma             C259

Code to ill-defined sites within the digestive system (C269) since both sites are in the same anatomical system.

c. If a morphology implying site and an independent anatomical site are both qualified as metastatic, code to malignant neoplasm without specification of site (C80).

Codes for Record

I   (a) Metastatic colonic and renal cell carcinoma C785 C790

Code to malignant neoplasm without specification of site (C80).

d. If more than one site with the same morphology is mentioned and all but one are qualified as metastatic or appear on the list of common sites of metastases, code to the site that is not qualified as metastatic, irrespective of the order of entry or whether it is in Part I or Part II. If all sites are qualified as metastatic or on the list of common sites
of metastases, including lung, code to malignant neoplasm without specification of site (C80).

Codes for Record

I  (a) Metastatic carcinoma of stomach  C788
    (b) Carcinoma of gallbladder  C23
    (c) Metastatic carcinoma of colon  C785

Code to malignant neoplasm of gallbladder (C23).

Codes for Record

I  (a) Metastatic carcinoma of stomach  C788
    (b) Metastatic carcinoma of lung  C780
II  Carcinoma of colon  C189

Code to malignant neoplasm of colon (C189), since this is the only diagnosis not qualified as metastatic, even though it is in Part II.

Codes for Record

I  (a) Metastatic carcinoma of ovary  C796
    (b) Carcinoma of lung  C780
    (c) Metastatic cervical carcinoma  C798

Code to malignant neoplasm without specification of site (C80).

Codes for Record

I  (a) Metastatic carcinoma of stomach  C788
    (b) Metastatic carcinoma of breast  C798
    (c) Metastatic carcinoma of lung  C780

Code to malignant neoplasm without specification of site (C80), since breast and stomach do not belong to the same anatomical system and lung is on the list of common sites of metastases.
**H. Primary site unknown**

If the statement, “primary site unknown,” or its equivalent, appears anywhere on a certificate, code to the category for unspecified site for the morphological type involved (e.g. adenocarcinoma C80, fibrosarcoma C499, osteosarcoma C419), regardless of the site(s) mentioned elsewhere on the certificate. Consider the following terms as equivalent to “primary site unknown”:

- ? Origin (Questionable origin)
- ? Primary (Questionable primary)
- ? Site (Questionable site)
- ? Source (Questionable source)
- Undetermined origin
- Undetermined primary
- Undetermined site
- Undetermined source
- Unknown origin
- Unknown primary
- Unknown site
- Unknown source

**Codes for Record**

I (a) Secondary carcinoma of liver C80 C787
( b) Primary site unknown
( c)

Code to carcinoma without specification of site (C80).

I (a) Generalized metastases C80
( b) Melanoma of back C439 C798
( c) Primary site unknown

Code to malignant melanoma of unspecified site (C439).

**NOTE:** When "primary site unknown" or its equivalent appears on the certificate and a doubtful expression such as presumed or probably is reported qualifying a specific site(s), interpret the primary to be the site(s) following the doubtful qualifying expression and code as primary.

I (a) Cancer unk primary, presumed lung C349

Code to primary lung cancer (C349).
I.Sites with prefixes or imprecise definitions

Neoplasms of sites prefixed by “peri,” “para,” “pre,” “supra,” “infra,” etc. or described as in the “area” or “region” of a site, unless these terms are specifically indexed, should be coded as follows: for morphological types classifiable to one of the categories C40, C41 (bone and articular cartilage), C43 (malignant melanoma of skin), C44 (other malignant neoplasms of skin), C45 (mesothelioma), C47 (peripheral nerves and autonomic nervous system), and C49 (connective and soft tissue), C70 (meninges), C71 (brain), and C72 (other parts of central nervous system), code to the appropriate subdivision of that category; otherwise code to the appropriate subdivision of C76 (other ill-defined sites).

Code for Record

I (a) Fibrosarcoma in the region of the leg C492

Code to malignant neoplasm of connective and soft tissue of lower limb (C492).

I (a) Carcinoma in the lung area C761

Code to malignant neoplasm of other and ill-defined sites within the thorax.

J. Doubtful diagnosis

Malignant neoplasms described as one site “or” another, or if “or” is implied, should be coded to the category that embraces both sites. If no appropriate category exists, code to the unspecified site of the morphological type involved. This rule applies to all sites whether they are on the list of common sites of metastases or not.

I (a) Carcinoma of ascending or descending colon

Code to malignant neoplasm of colon, unspecified (C189).

I (a) Osteosarcoma of lumbar vertebrae or sacrum

Code to malignant neoplasm of bone, unspecified (C419).

K. Malignant neoplasms of unspecified site with other reported conditions

When the site of a primary malignant neoplasm is not specified, no assumption of the site should be made from the location of other reported conditions such as perforation, obstruction, or hemorrhage. These conditions may arise in sites unrelated to the neoplasm, e.g. intestinal obstruction may be caused by the spread of an ovarian malignancy.

Codes for Record

I (a) Obstruction of intestine K566
(b) Carcinoma C80

Code to malignant neoplasm without specification of site (C80).
L. Mass or lesion with malignant neoplasms

When mass or lesion is reported with malignant neoplasms, code the mass or lesion as indexed.

**Codes for Record**

I (a) Lung mass  R91
(b) Carcinomatosis  C80

Code to carcinomatosis (C80).

**E10-E14 Diabetes mellitus**

*with mention of:*

- E87.2 (Acidosis), code E10-E14 with fourth character .1
- R02 (Gangrene, not elsewhere classified), code E10-E14 with fourth character .5
- R40.2 (Coma, unspecified), code E10-E14 with fourth character .0
- R79.8 (Other specified abnormal findings of blood chemistry), if acetonemia, azotemia, and related conditions, code E10-E14 with fourth character .1

*when reported as the originating antecedent cause of:*

- E15 (Nondiabetic hypoglycaemic coma), if unspecified hypoglycemic coma, code to E1x.0
- E88.8 (Other specified metabolic disorders), code E10-E14 with fourth character .1
- G58.- (Other mononeuropathies), code E10-E14 with fourth character .4
- G62.9 (Polyneuropathy, unspecified), code E10-E14 with fourth character .4
- G64 (Other disorders of peripheral nervous system), code E10-E14 with fourth character .4
- G70.9 (Myoneural disorder, unspecified), code E10-E14 with fourth character .4
- G71.8 (Other primary disorders of muscles), code E10-E14 with fourth character .4
- G90.9 (Disorder of autonomic nervous system, unspecified), code E10-E14 with fourth character .4
- G98 (Other disorders of the nervous system, not elsewhere classified), except Charcot’s arthropathy, non-syphilitic, code E1x.4
- G98 (Other disorders of the nervous system, not elsewhere classified), if Charcot’s arthropathy, non-syphilitic, code to E1x.6
- H20.9 (Iridocyclitis, unspecified), code E10-E14 with fourth character .3
- H26.9 (Cataract, unspecified), code E10-E14 with fourth character .3
- H30.9 (Chorioretinal inflammation, unspecified), code E10-E14 with fourth character .3
- H34.- (Retinal vascular occlusions), code E10-E14 with fourth character .3
- H35.0 (Background retinopathy and retinal vascular changes), code E10-E14 with fourth character .3
- H35.2 (Other proliferative retinopathy), code E10-E14 with fourth character .3
- H35.6 (Retinal haemorrhage), code E10-E14 with fourth character .3
- H35.9 (Retinal disorder, unspecified), code E10-E14 with fourth character .3
- H49.9 (Paralytic strabismus, unspecified), code E10-E14 with fourth character .3
- H54.- (Visual impairment including blindness (binocular or monocular)), code E10-E14 with fourth character .3
- I70.2 (Atherosclerosis of arteries of extremities), code E10-E14 with fourth character .5
- I73.9 (Peripheral vascular disease, unspecified), code E10-E14 with fourth character .5
- I99 (Other and unspecified disorders of circulatory system), if angiopathy, code E10-E14 with fourth character .5
- K31.8 (Other specified diseases of stomach and duodenum), if gastroparesis, code to E1x.4
- L30.9 (Dermatitis, unspecified), code E10-E14 with fourth character .6
- L92.1 (Necrobiosis lipoidica, not elsewhere classified), code E10-E14 with fourth character .6
L97 (Ulcer of lower limb, not elsewhere classified), code to E1x.5
L98.4 (Chronic ulcer of skin, not elsewhere classified), code to E1x.5
M13.9 (Arthritis, unspecified), code E10-E14 with fourth character .6
M79.2 (Neuralgia and neuritis, unspecified), code E10-E14 with fourth character .6
M89.9 (Disorder of bone, unspecified), code E10-E14 with fourth character .6
N03- N05 (Nephrotic syndrome), code E10-E14 with fourth character .2
N18.- (Chronic kidney disease), code E10-E14 with fourth character.2
N19 (Unspecified kidney failure), code E10-E14 with fourth character .2
N26 (Unspecified contracted kidney), code E10-E14 with fourth character .2
N28.9 (Disorder of kidney and ureter, unspecified), code E10-E14 with fourth character .2
N39.0 (Urinary tract infection, site not specified), code E10-E14 with fourth character .6
N39.1 (Persistent proteinuria, unspecified), code E10-E14 with fourth character .2

E40-E46, E63.9, E64.0, E64.9

When reported as the originating antecedent cause of:

E10.0-E10.9 (Insulin-dependent diabetes mellitus), code to E12
E11.0-E11.9 (Non-insulin dependent diabetes mellitus), code to E12
E14.0-E14.9 (Unspecified diabetes mellitus), code to E12

E86 Volume depletion

With mention of:
A00-A09 (Intestinal infectious diseases), code A00-A09

E89.- Postprocedural endocrine and metabolic disorders, not elsewhere classified

Not to be used for underlying cause mortality coding.

F03-F09 Organic, including symptomatic, mental disorders

Not to be used if the underlying physical condition is known.

F10-F19 Mental and behavioral disorders due to psychoactive substance use

With mention of:
X40-X49 (Accidental poisoning by and exposure to noxious substances), code X40-X49
X60-X69 (Intentional self-poisoning by and exposure to noxious substances), code X60-X69
X85-X90 (Assault by noxious substances), code X85-X90
Y10-Y19  (Poisoning by and exposure to drugs, chemicals and noxious substances), code Y10-Y19

Fourth character .0 (Acute intoxication), code X40-X49, X60-X69, X85-X90 or Y10-Y19

Fourth character .5 (Psychotic disorder) with mention of Dependence syndrome (.2), code F10-F19 with fourth character .2

F10.- Mental and behavioral disorders due to use of alcohol

with mention of:
E24.4  (Alcohol-induced Cushing's syndrome), code E24.4
G31.2  (Degeneration of the nervous system due to alcohol), code G31.2
G62.1  (Alcoholic polyneuropathy), code G62.1
G72.1  (Alcoholic myopathy), code G72.1
I42.6  (Alcoholic cardiomyopathy), code I42.6
K29.2  (Alcoholic gastritis), code K29.2
K70.-  (Alcoholic liver disease), code K70.-
K72.-  (Hepatic failure, not elsewhere classified), code K70.4
K73.-  (Chronic hepatitis, not elsewhere classified), code K70.1
K74.0  (Hepatic fibrosis), code K70.2
K74.1- (Hepatic sclerosis), code K70.2
K74.2- (Hepatic fibrosis with hepatic sclerosis), code K70.2
K74.6. (Other and unspecified cirrhosis of liver), code K70.3
K75.9- (Inflammatory liver disease, unspecified), code K70.1
K76.0- (Fatty (change) of liver, not elsewhere classified), code K70.0
K76.9- (Liver disease, unspecified), code K70.9
K85.2  (Alcohol-induced acute pancreatitis), code K85.2
K86.0  (Alcohol-induced chronic pancreatitis), code K86.0
O35.4  (Maternal care for (suspected) damage to fetus from alcohol), code O35.4

F10.2 Dependence syndrome due to use of alcohol

with mention of:
F10.4, F10.6, F10.7 (Withdrawal state with delirium), (Amnesic syndrome), (Residual and late-onset psychotic disorder), code F10.4, F10.6, F10.7

F17.- Mental and behavioral disorders due to use of tobacco

Not to be used if the resultant physical condition is known.

F11.9, F12.9 Mental and behavioral disorders due to use of drugs
F13.9, F14.9

F15.9, F16.9

F18.9, F19.9

INCLUDES: "drug use NOS" and "named drug use" of named drugs indexed under Addiction\Dependence, Volume 3
EXCLUDES: “drug use NOS” and “named drug use” when reported as causing a complication. If there is a resulting complication, consider as drug therapy and apply instructions under Y40-Y59, Drugs, medicaments and biological substances causing adverse effects in therapeutic use.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
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<tbody>
<tr>
<td>I (a) Heroin use</td>
</tr>
<tr>
<td>(b)</td>
</tr>
<tr>
<td>II Acute intravenous drug use</td>
</tr>
<tr>
<td>Code to heroin use (F119).</td>
</tr>
<tr>
<td>F199</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Melanoma of back</td>
</tr>
<tr>
<td>(b)</td>
</tr>
<tr>
<td>II Use of hypnotics</td>
</tr>
<tr>
<td>Code to melanoma of back (C435).</td>
</tr>
<tr>
<td>F139</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Code for Record</th>
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</thead>
<tbody>
<tr>
<td>I (a) Intravenous drug use</td>
</tr>
<tr>
<td>(b) (morphine)</td>
</tr>
<tr>
<td>II Accident</td>
</tr>
<tr>
<td>Code to intravenous morphine use (F119).</td>
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<td>F119</td>
</tr>
</tbody>
</table>

F70-F79    Mental retardation

Not to be used if the underlying physical condition is known.
G25.5 Other chorea

*with mention of:*
I00-I02 (Acute rheumatic fever), code I02.-
I05-I09 (Chronic rheumatic heart disease), code I02.-

G40-G41 Epilepsy

INCLUDES: accidents resulting from epilepsy
EXCLUDES: epilepsy stated as traumatic (code to the appropriate category in Chapter XX; if the nature and cause of the injury are not known, code Y86)

G81.- Hemiplegia

G82.- Paraplegia and tetraplegia

G83.- Other paralytic syndromes

Not to be used if the cause of the paralysis is known.

G97.- Postprocedural disorders of nervous system, not elsewhere classified

Not to be used for underlying cause mortality coding.

H54.- Blindness and low vision

Not to be used if the antecedent condition is known.

H59.- Postprocedural disorders of eye and adnexa, not elsewhere classified

Not to be used for underlying cause mortality coding.

H90.- Conductive and sensorineural hearing loss
H91.- Other hearing loss
Not to be used if the antecedent condition is known.

H95.- Postprocedural disorders of ear and mastoid process, not elsewhere classified
Not to be used for underlying cause mortality coding.

I00-I09 Acute and chronic rheumatic heart diseases

A. Multiple heart conditions with one heart condition specified as rheumatic:

If rheumatic fever or any disease of the heart is stated to be of rheumatic origin or is specified to be rheumatic, such qualifications will apply to each specific heart condition reported (classified to I300-I319, I339, I340-I38, I400-I409, I429, I514-I519), even though it is not so qualified, unless another origin such as arteriosclerosis is mentioned.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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</thead>
<tbody>
<tr>
<td>(a) Acute bacterial endocarditis</td>
</tr>
<tr>
<td>(b) Mitral insufficiency</td>
</tr>
<tr>
<td>(c) Rheumatic endocarditis</td>
</tr>
</tbody>
</table>

Code to rheumatic mitral insufficiency (I051). Rheumatic endocarditis, selected by the General Principle, links (LMP) with rheumatic mitral insufficiency. The mitral insufficiency is coded as rheumatic since it is reported with a heart disease specified as rheumatic.

B. When a condition listed in category I50.- is indicated to be "due to" rheumatic fever and there is no mention of another heart disease that is classifiable as rheumatic, consider the condition in I50.- to be described as rheumatic.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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<tbody>
<tr>
<td>(a) Heart failure</td>
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<tr>
<td>(b) Rheumatic fever</td>
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</tbody>
</table>

Code to rheumatic heart disease (I099). Consider the heart failure to be rheumatic since it is due to rheumatic fever and there is no other heart disease on the record classifiable as rheumatic.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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<tbody>
<tr>
<td>(a) Acute congestive failure</td>
</tr>
<tr>
<td>(b) Hypertensive myocarditis</td>
</tr>
<tr>
<td>(c) Rheumatic endocarditis</td>
</tr>
</tbody>
</table>
Code to hypertensive heart disease with congestive heart failure (I110). Even though rheumatic is stated on the record, it cannot be applied to the heart diseases reported.

C. When diseases of the mitral, aortic, and tricuspid valves, not qualified as rheumatic, are jointly reported, whether on the same line or on separate lines, code the disease of all valves as rheumatic unless there is indication to the contrary.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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<tbody>
<tr>
<td>I059 I051 I050</td>
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<tr>
<td>I069</td>
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</table>

Code to disorders of both mitral and aortic valves (I080). Conditions of both valves are considered as rheumatic since the diseases of the mitral and aortic valves are jointly reported.

<table>
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<th>Codes for Record</th>
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<tbody>
<tr>
<td>I061 I071</td>
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<tr>
<td>I060</td>
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</tbody>
</table>

D. When mitral insufficiency, incompetence, or regurgitation are jointly reported with mitral stenosis NOS (or synonym), code all these conditions as rheumatic unless there are indications to the contrary.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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<tbody>
<tr>
<td>I050</td>
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<tr>
<td>I051</td>
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</tbody>
</table>

Code to mitral stenosis with insufficiency (I052). Mitral insufficiency is considered as rheumatic since it is reported jointly with mitral stenosis.

I01.- Rheumatic fever with heart involvement

This category INCLUDES active rheumatic heart disease. If there is no statement that the rheumatic process was active at the time of death, assume activity (I010-I019) for each rheumatic heart disease (I050-I099) on the certificate in any one of the following situations:

A. Rheumatic fever or any rheumatic heart disease is stated to be active or recurrent.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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<tbody>
<tr>
<td>I011</td>
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<tr>
<td>I012</td>
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</tbody>
</table>
Code to other acute rheumatic heart disease (I018). Active rheumatic mitral stenosis is classified to I011 when it is reported with an active rheumatic heart disease. Therefore, the underlying cause is I018 since this category includes multiple types of heart involvement.

B. The duration of rheumatic fever is less than 1 year. 

Code to other acute rheumatic heart disease (I018) since the rheumatic fever is less than 1 year duration.

C. One or more of the heart diseases is stated to be acute or subacute (this does not apply to “rheumatic fever” stated to be acute or subacute).

Code to other acute rheumatic heart disease (I018) since the myocardial dilatation is stated as acute.

Code to acute rheumatic myocarditis (I012) since the myocardial insufficiency is stated to be acute.

D. The term “pericarditis” is mentioned.

Code to other acute rheumatic heart disease (I018) which includes multiple heart involvement since pericarditis is mentioned.

E. The term(s) “carditis,” “endocarditis (any valve),” “heart disease,” “myocarditis,” or “pancarditis,” with a stated duration of less than 1 year is mentioned.

Code to other acute rheumatic heart disease (I018) since the myocardial insufficiency is stated to be acute.
Code to acute rheumatic endocarditis (I011) since the endocarditis is of less than 1 year duration.

F. The term(s) in instruction E without duration is mentioned and the age of the decedent is less than 15 years.

<table>
<thead>
<tr>
<th>Age 5 years</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Mitral and aortic endocarditis</td>
<td>I011</td>
</tr>
<tr>
<td>(b) Rheumatic fever</td>
<td>I00</td>
</tr>
</tbody>
</table>

Code to acute rheumatic endocarditis (I011) since the age of the decedent is less than 15 years.

### I34.0-I38 Valvular diseases not indicated to be rheumatic

A. In the Classification, certain valvular diseases, i.e., disease of mitral valve (except insufficiency, incompetence, and regurgitation without stenosis) and disease of tricuspid valve are included in the rheumatic categories even though not indicated to be rheumatic. This classification is based on the assumption that the vast majority of such diseases are rheumatic in origin.

Do not use these diseases to qualify other heart diseases as rheumatic. Code these diseases as nonrheumatic if reported due to one of the nonrheumatic causes on the following list:

When valvular heart disease (I050-I079, I089 and I090) not stated to be rheumatic is reported due to:

- A1690 C73-C759 E804-E806 J030
- A188 C790-C791 E840-E859 J040-J042
- A329 C797-C798 E880-E889 J069
- A38 C889 F110-F169 M100-M109
- A399 D300-D301 F180-F199 M300-M359
- A500-A549 D309 I10-I139 N000-N289
- B200-B24 D34-D359 I250-I259 N340-N399
- B376 D440-D45 I330-I38 Q200-Q289
- B379 E02-E0390 I420-I4290 Q870-Q999
- B560-B575 E050-E349 I511 R75
- B908 E65-E678 I514-I5150 T983
- B909 E760-E769 I700-I710 Y400-Y599
- B948 E790-E799 J00 Y883
- C64-C65 E802 J020
**Code** nonrheumatic valvular disease (I340-I38) with appropriate fourth character.

**Codes for Record**

I (a) Mitral insufficiency
   I340
(b) Goodpasture’s syndrome & RHD
   M310 I099

**Code to** Goodpasture’s syndrome (M310). Mitral insufficiency is considered as nonrheumatic since it is reported due to Goodpasture’s syndrome (M310) by Rule 1.

B. Consider diseases of the aortic, mitral, and tricuspid valves to be nonrheumatic if they are reported on the same line due to a nonrheumatic cause in the previous list. Similarly, consider diseases of these three valves to be nonrheumatic if any of them are reported due to the other and that one, in turn, is reported due to a nonrheumatic cause in the previous list.

**Codes for Record**

I (a) Mitral stenosis and aortic stenosis
   I342 I350
(b) Hypertension
   I10

**Code to** mitral stenosis (I342). Conditions of both valves are considered as nonrheumatic since they are reported due to hypertension (I10).

**Codes for Record**

I (a) Mitral disease
   I349
(b) Aortic stenosis
   I350
(c) Arteriosclerosis
   I709

**Code to** aortic (valve) stenosis (I350). Consider mitral disease as nonrheumatic since it is reported due to aortic stenosis which is, in turn, reported due to arteriosclerosis (I709).

**Codes for Record**

I (a) Congestive heart failure
   I500
(b) Mitral stenosis
   I342
(c) Congenital cardiomyopathy
   I424

**Code to** congenital cardiomyopathy (I424). Mitral stenosis is considered as nonrheumatic since it is reported due to congenital cardiomyopathy (I424).

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I05.8 Other mitral valve diseases

I05.9 Mitral valve disease, unspecified

when of unspecified cause with mention of:
I34.- (Nonrheumatic mitral valve disorders), code I34.-

I08.- Multiple valve diseases

Not to be used for multiple valvular diseases of specified, but nonrheumatic origin. When multiple valvular diseases of nonrheumatic origin are reported on the same death certificate, the underlying cause should be selected by applying the General Principle or Rules 1, 2 or 3 in the usual way.

I09.1 Rheumatic diseases of endocardium, valve unspecified

I09.9 Rheumatic heart disease, unspecified

with mention of:
I05-I08 (Chronic rheumatic heart disease), code I05-I08

I10 Essential (primary) hypertension

with mention of:
I11.- (Hypertensive heart disease), code I11.-
I12.- (Hypertensive renal disease), code I12.-
I13.- (Hypertensive heart and renal disease), code I13.-
I20-I25 (Ischemic heart diseases), code I20-I25
I60-I69 (Cerebrovascular diseases), code I60-I69
N00.- (Acute nephritic syndrome), code N00.-
N01.- (Rapidly progressive nephritic syndrome), code N01.-
N03.- (Chronic nephritic syndrome), code N03.-
N04.- (Nephrotic syndrome), code N04.-
N05.- (Unspecified nephritic syndrome), code N05.-
N18.- (Chronic kidney disease), code I12.-
N19 (Unspecified renal failure), code I12.-
N26 (Unspecified contracted kidney), code I12.-

when reported as the originating antecedent cause of:
H35.0 (Background retinopathy and other vascular changes), code H35.0
I05-I09 (Conditions classifiable to I05-I09 but not specified as rheumatic), code I34-I38
I34-I38 (Nonrheumatic valve disorders), code I34-I38
I50.- (Heart failure), code I11.0
I51.4- (Complications and ill-defined descriptions of heart disease), code I11.-

I11.- Hypertensive heart disease

with mention of:
I12.- (Hypertensive renal disease), code I13.-
I13.- (Hypertensive heart and renal disease), code I13.-
I20-I25 (Ischemic heart diseases), code I20-I25
N18.- (Chronic kidney disease), code I13.-
N19 (Unspecified renal failure), code I13.-
N26 (Unspecified contracted kidney), code I13.-

I12.- Hypertensive renal disease

with mention of:
I11.- (Hypertensive heart disease), code I13.-
I13.- (Hypertensive heart and renal disease), code I13.-
I20-I25 (Ischemic heart diseases), code I20-I25

when reported as the originating antecedent cause of:
I50.- (Heart failure), code I13.0
I51.4- (Complications and ill-defined I51.9 descriptions of heart disease), code I13.-

I13.- Hypertensive heart and renal disease

with mention of:
I20-I25 (Ischemic heart disease), code I20-I25

I15.1 Hypertension secondary to other renal disorders

Not to be used for underlying cause mortality coding. Code to reported renal disorder.
I15.2 Hypertension secondary to endocrine disorders
Not to be used for underlying cause mortality coding. Code to reported endocrine disorder.

I15.8 Other secondary hypertension
Not to be used for underlying cause mortality coding. Code to reported underlying cause. If the cause is not stated, code to Other ill-defined and unspecified causes of mortality (R99).

I20.- Angina pectoris

I24.- Other acute ischemic heart diseases

I25.- Chronic ischemic heart disease
with mention of:
I21.- (Acute myocardial infarction), code I21.-
I22.- (Subsequent myocardial infarction), code I22.-

I21.- Acute myocardial infarction
with mention of:
I22.- (Subsequent myocardial infarction), code I22.-

I23.- Certain current complications following acute myocardial infarction
Not to be used for underlying cause mortality coding. Use code I21.- or I22.- as appropriate.

I24.0 Coronary thrombosis not resulting in myocardial infarction
Not to be used for underlying cause mortality coding. For mortality, the occurrence of myocardial infarction is assumed and assignment made to I21.- or I22.- as appropriate.
I25.2  Old myocardial infarction

Not to be used for underlying cause mortality coding. If the cause is not stated, code to Other forms of chronic ischemic heart disease (I25.8).

I27.9  Pulmonary heart disease, unspecified

*with mention of:*
M41.-  (Scoliosis), code **I27.1**
I44.-  Atrioventricular and left bundle-branch block
I45.-  Other conduction disorders
I46.-  Cardiac arrest
I47.-  Paroxysmal tachycardia
I48  Atrial fibrillation and flutter
I49.-  Other cardiac arrhythmias
I50.-  Heart failure

I51.4-I51.9 Complications and ill-defined descriptions of heart disease

*with mention of:*
B57.-  (Chagas’ disease), code **B57.**
I20-I25  (Ischemic heart diseases), code **I20-I25**

I50.-  Heart failure

I51.9  Heart disease, unspecified

*with mention of:*
M41.-  (Scoliosis), code **I27.1**

I50.9  Heart failure, unspecified

I51.9  Heart disease, unspecified

*with mention of:*
J81  (Pulmonary edema), code **I50.1**
I60-I69  Cerebrovascular diseases

when reported as the originating antecedent cause of conditions in:
F01-F03, code F01

I65.-  Occlusion and stenosis of precerebral arteries, not resulting in cerebral infarction

I66.-  Occlusion and stenosis of cerebral arteries, not resulting in cerebral infarction

Not to be used for underlying cause mortality coding. For mortality, the occurrence of cerebral infarction is assumed and assignment made to I63.-.

I67.2  Cerebral atherosclerosis

with mention of:
I60-I64  (Cerebral hemorrhage, cerebral infarction, or stroke, occlusion and stenosis of precerebral and cerebral arteries), code I60-I64

when reported as the originating antecedent cause of conditions in:
F01  (Unspecified dementia), code F01.-
G20  (Parkinson's disease), code G21.4.
G21.9  (Secondary parkinsonism, unspecified), code G21.4

I70.-  Atherosclerosis

with mention of:
I10-I13  (Hypertensive disease), code I10-I13
I20-I25  (Ischemic heart diseases), code I20-I25
I50.-  (Heart failure), code I50.-
I51.4  (Myocarditis, unspecified), code I51.4
I51.5  (Myocardial degeneration), code I51.5
I51.6  (Cardiovascular disease, unspecified), code I51.6
I51.8  (Other ill-defined heart diseases), code I51.8
I60-I69  (Cerebrovascular diseases), code I60-I69

when reported as the originating antecedent cause of:
I05-I09  (Conditions classifiable to I05-I09 but not specified as rheumatic), code I34-I38
I34-I38  (Nonrheumatic valve disorders), code I34-I38
I51.9   (Heart disease, unspecified), code I25.1
I71-I78 (Other diseases of arteries, arterioles and capillaries), code I71-I78
K55.-   (Vascular disorders of intestine), code K55.-
N03     (Chronic nephritis), code I12.-
N26     (Unspecified contracted kidney), code I12.-

I70.9   Generalized and unspecified atherosclerosis

with mention of:
R02     (Gangrene, not elsewhere classified), code I70.2

when reported as the originating antecedent cause of:
F01.-   (Vascular dementia), code F01.-
F03     (Unspecified dementia), code F01.-
G20     (Parkinson’s disease), code G21.4
G21.9   (Secondary parkinsonism, unspecified), code G21.4

I97.-   Postprocedural disorders of circulatory system, not elsewhere classified

Not to be used for underlying cause mortality coding.

J00     Acute nasopharyngitis [common cold]
J06.-   Acute upper respiratory infections of multiple and unspecified sites

when reported as the originating antecedent cause of:
G03.8   (Meningitis), code G03.8
G06.0   (Intracranial abscess and granuloma), code G06.0
H65-H66 (Otitis media), code H65-H66
H70.-   (Mastoiditis and related conditions), code H70.-
J09-J18 (Influenza and pneumonia), code J09-J18
J20-J21 (Bronchitis and bronchiolitis), code J20-J21
J40-J42 (Unspecified and chronic bronchitis), code J40-J42
J44.-   (Other chronic obstructive pulmonary disease), code J44.-
N00.-   (Acute nephritic syndrome), code N00.-
J18.- Pneumonia, organism unspecified

with mention of:
R26.3 (Immobility), code to J18.2

H65-H66 (Otitis media), code H65-H66

J20.- Acute bronchitis

with mention of:
J41.- (Simple and mucopurulent chronic bronchitis), code J41.-
J42 (Unspecified chronic bronchitis), code J42
J44.- (Other chronic obstructive pulmonary disease), code J44.-

J40 Bronchitis, not specified as acute or chronic
J41.- Simple and mucopurulent chronic bronchitis
J42 Unspecified chronic bronchitis

with mention of:
J43.- (Emphysema), code J44.-
J44.- (Other chronic obstructive pulmonary disease), code J44.-

when reported as the originating antecedent cause of:
J45.- (Asthma), code J44.- (but see also note at J45.-, J46)

J43.- Emphysema

with mention of:
J40 (Bronchitis, not specified as acute or chronic), code J44.-
J41.- (Simple and mucopurulent chronic bronchitis), code J44.-
J42 (Unspecified chronic bronchitis), code J44.-

J44.8-J44.9 Other and unspecified chronic obstructive pulmonary disease

with mention of:
J12-J18 (Pneumonia), code J44.0
J20-J22 (Other acute lower respiratory infections), code J44.0

J45.- Asthma
**J46** Status asthmaticus

When asthma and bronchitis (acute) (chronic) or other chronic obstructive pulmonary disease are reported together on the medical certificate of cause of death, the underlying cause should be selected by applying the General Principle or Rules 1, 2, or 3 in the normal way. Neither term should be treated as an adjectival modifier of the other.

**J60-J64** Pneumoconiosis

*with mention of:*

A15-A16 (Respiratory tuberculosis), code **J65**

**J81** Pulmonary edema

*with mention of:*

I50.9 (Heart failure, unspecified), code **I50.1**
I51.9 (Heart disease, unspecified), code **I50.1**

**J95.-** Postprocedural respiratory disorders, not elsewhere classified

Not to be used for underlying cause mortality coding.

**K71** Toxic liver disease

*with mention of:*

T51.- (Toxic effect of alcohol), code **K70.-**

**K72** Hepatic failure, not elsewhere classified

*with mention of:*

F10.- (Mental and behavioral disorders due to use of alcohol), code **K70.4**
T51.- (Toxic effect of alcohol), code **K70.4**

**K73** Chronic hepatitis, not elsewhere classified

*with mention of:*

F10.- (Mental and behavioral disorders due to use of alcohol), code **K70.1**
T51.- (Toxic effect of alcohol), code **K70.1**
K74.0  Hepatic fibrosis

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.2**
T51.-  (Toxic effect of alcohol), code **K70.2**

K74.1  Hepatic sclerosis

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.2**
T51.-  (Toxic effect of alcohol), code **K70.2**

K74.2  Hepatic fibrosis with hepatic sclerosis

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.2**
T51.-  (Toxic effect of alcohol), code **K70.2**

K74.6 Other and unspecified cirrhosis of liver

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.3**
T51.-  (Toxic effect of alcohol), code **K70.3**

K75.9  Inflammatory liver disease, unspecified

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.1**
T51.-  (Toxic effect of alcohol), code **K70.1**

K76.0  Fatty (change) of liver, not elsewhere classified

*with mention of:*
F10.-  (Mental and behavioral disorders due to use of alcohol), code **K70.0**
T51.-  (Toxic effect of alcohol), code **K70.0**
K76.9  Liver disease, unspecified

with mention of:
F10.-  (Mental and behavioral disorders due to use of alcohol), code K70.9
T51.-  (Toxic effect of alcohol), code K70.9

K85.9  Acute pancreatitis, unspecified

with mention of:
F10.-  (Mental and behavioral disorders due to use of alcohol), code K85.2

K91.-  Postprocedural disorders of digestive system, not elsewhere classified

Not to be used for underlying cause mortality coding.

M41.-  Scoliosis

with mention of:
I27.9  (Pulmonary heart disease, unspecified), code I27.1
I50.-  (Heart failure), code I27.1
I51.9  (Heart disease, unspecified), code I27.1

M96.-  Postprocedural musculoskeletal disorders, not elsewhere classified

Not to be used for underlying cause mortality coding.

N00.-  Acute nephritic syndrome

when reported as the originating antecedent cause of:
N03.-  (Chronic nephritic syndrome), code N03.-

N18.-  Chronic kidney disease
N19  Unspecified renal failure
N26  Unspecified contracted kidney

with mention of:
I10  (Essential (primary) hypertension), code I12.-
I11.- (Hypertensive heart disease), code I13.-
I12.- (Hypertensive renal disease), code I12.-

N46  Male infertility
N97.- Female infertility

Not to be used if the causative condition is known.

N99.- Postprocedural disorders of genitourinary system, not elsewhere classified

Not to be used for underlying cause mortality coding.

O00-O99  Pregnancy, childbirth, and the puerperium

Conditions classifiable to categories O00-O99 are limited to deaths of females of childbearing age. Some of the maternal conditions are also the cause of death in newborn infants. Always refer to the age and sex of the decedent before assigning a condition to O00-O99. Obstetric deaths are classified according to time elapsed between the obstetric event and the death of the woman:

O95  Obstetric death of unspecified cause
O960-O969 Death from any obstetric cause occurring more than 42 days but less than one year after delivery
O970-O979 Death from sequela of obstetric causes (death occurring one year or more after delivery)

The standard certificate of death contains a separate item regarding pregnancy. Any positive response to one of the following items should be taken into consideration when coding pregnancy related deaths.

- Pregnant at time of death
- Not pregnant, but pregnant within 42 days of death
- Not pregnant, but pregnant 43 days to 1 year before death

If the third option for the previous list is marked and the decedent is greater than 54 years old, code as a pregnancy record only when there is a condition reported which indicates the person was pregnant either at the time of death or pregnant 43 days to 1 year before death.
Consider the pregnancy to have terminated 42 days or less prior to death unless a specified length of time is written in by the certifier. Take into consideration the length of time elapsed between pregnancy and death if reported as more than 42 days. If an indirect maternal cause is selected as the originating antecedent cause, reselect any direct maternal cause on the line immediately above the indirect cause. If no direct cause is reported, the indirect cause will be accepted as the cause of death.

O08.- Complications following abortion and ectopic and molar pregnancy
Not to be used for underlying cause mortality coding. Use categories O00-O07.

O30.- Multiple gestation
Not to be used for underlying cause mortality coding if a more specific complication is reported.

O32.- Maternal care for known or suspected malpresentation of fetus

with mention of:
O33.- (Maternal care for known or suspected disproportion), code O33.-

O33.9 Fetopelvic disproportion

with mention of:
O33.0-O33.3 (Disproportion due to abnormality of maternal pelvis), code O33.0-O33.3

O64.- Obstructed labor due to malposition and malpresentation of fetus

with mention of:
O65.- (Obstructed labor due to maternal pelvic abnormality), code O65.-

O80.0-O80.9 Single spontaneous delivery
Not to be used for underlying cause mortality coding. If no other cause of maternal mortality is reported, code to Obstetric death of unspecified cause (O95).
O81-O84  Method of delivery

Not to be used for underlying cause mortality coding. If no other cause of maternal mortality is reported, code to Complication of labor and delivery, unspecified (O759).

P07.-  Disorders related to short gestation and low birth weight, not elsewhere classified
P08.-  Disorders related to long gestation and high birth weight

Not to be used if any other cause of perinatal mortality is reported. This does not apply if the only other cause of perinatal mortality reported is respiratory failure of newborn (P28.5).

P70.3-P72.0  Transitory endocrine and metabolic disorders specific to fetus and newborn

Not to be used for underlying cause mortality coding. If no other perinatal cause of mortality is reported, code to Condition originating in the perinatal period, unspecified (P96.9). If another perinatal cause is reported, prefer this cause. If more than one perinatal cause is reported, apply the rules for conflict in linkage in selection of the other perinatal cause.

P95  Fetal death of unspecified cause

Not to be used for underlying cause mortality coding. Use P96.9 for fetal death in mortality coding.

Q44.6  Cystic disease of liver

with mention of:
Q61.1-Q61.3  (Polycystic kidney disease), code Q61.1-Q61.3

R69.-  Unknown and unspecified causes of morbidity

Not to be used for underlying cause mortality coding. Use R95-R99 as appropriate.

S00-T98  Injury, poisoning, and certain other consequences of external causes

Not to be used for underlying cause mortality coding.
V01-Y89  Classification of external causes of morbidity and mortality

The codes for external causes permit the classification of environmental events and circumstances as the cause of injury, poisoning and other adverse effects.

1. **Successive external causes.** Where successive external events occur and cause death, assignment is to the initiating event except where this was a trivial accident leading to a more serious one. In the latter case, the trivial event may be disregarded.

2. **Slight injuries.** When a slight injury is involved as a cause of death, the Rules for Selection are applied. Slight injuries are trivial conditions rarely causing death unless a more serious condition such as tetanus resulted from the slight injury. Therefore, where a slight injury is selected, Rule B, Trivial conditions, is usually applied. For the purpose of these rules, slight injuries comprise superficial injuries such as:
   - abrasions
   - bite of insect
   - blister (non-venomous)
   - bruise
   - burn of first degree
   - contusion (external)
   - exposure NOS
   - minor cut
   - prick
   - puncture except trunk
   - scratch
   - splinter

For slight injury resulting in streptococcal septicemia, septicemia, or erysipelas refer to Section IV, B, categories A40.-, A41.-, A46.

3. **Accident information entered in space outside Part I and Part II.** When information concerning an accident is reported only in a space specifically provided for such information outside of Parts I and II of the Medical Certification Section, inquiry should be made concerning the relationship of the accident to the death and to the other causes reported. If no information is received from the inquiry, the assignment is made by application of the Rules for Selection to the causes reported in Parts I and II.

4. **Accident due to disease condition.** When a disease condition, such as cerebral hemorrhage, heart attack, diabetic coma, or alcoholism is indicated by the certifier to be the underlying cause of an accident, the assignment is made to the accidental cause unless there is evidence that the death occurred prior to the accident. Thus, accidents are generally not accepted due to disease conditions. However, there are some exceptions to this concept:
   a. asphyxia from aspiration of mucus or vomitus as a result of a disease condition
   b. a fall from a pathological fracture or disease of the bone
c. aspiration of milk or other food due to diseases which presumably affect the ability to control the process of swallowing, for example, cancer of the throat or a disease resulting in paralysis

d. accidents resulting from epilepsy (G40-G41)

5. **Found injured on highway.** See category V892 in Volume 1.

6. **Complication of trauma for purposes of applying Selection Rule 3.** Refer to Section II, Selection Rule 3, Direct Sequel.

7. **Selecting external causes as the underlying cause.** External causes will be coded as the underlying cause even though a Chapter XIX code is not reported. When selecting the sequence responsible for death, no preference is given to the external cause. Apply selection and modification rules in the usual way.

8. **Use of the Index and Tabular List.** ICD-10 provides separate indexing in Volume 3, Section II for the external causes of injury, with frequent references to Volume 1. The External Causes of Injury Index provides a double axis of indexing—descriptions of the circumstances under which the accident or violence occurred and the agent involved in the occurrence. Usually, the “lead terms” in the External Causes of Injury Index describe the circumstances of the injury with a secondary (indented) entry naming the agent involved.

<table>
<thead>
<tr>
<th>Code for Term</th>
<th>Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall from building</td>
<td>W13</td>
</tr>
</tbody>
</table>

   Locate the E-code for “fall”:
   Fall
   - from
   - - building W13.

After locating the external cause code in the Index, always refer to Volume 1 since certain external cause codes require a fourth character.
The ICD provides a fourth character for use with categories W00 - Y34, except Y06.- and Y07.-, to identify the place of occurrence of the external cause. NCHS uses a separate field for this purpose. Only the three-character category codes are assigned in underlying cause coding.

<table>
<thead>
<tr>
<th>Code for Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>House fire</td>
</tr>
<tr>
<td>X00</td>
</tr>
</tbody>
</table>

Locate the E-code for “House fire”:
House fire (uncontrolled) X00.-

**V01-V99 Transportation Accidents**

**1. General Instructions**

The main axis of classification for land transports (V01-V89) is the victim’s mode of transportation. The vehicle of which the injured person is an occupant is identified in the first two characters since it is seen as the most important for prevention purposes.

Definitions and examples relating to transport accidents are in Volume 1, pages XX-9 - XX-18. Refer to these definitions when any means of transportation (aircraft and spacecraft, watercraft, motor vehicle, railway, other road vehicle) is involved in causing death.

For classification purposes, a motor vehicle not otherwise specified is NOT equivalent to a car. Motor vehicle accidents where the type of vehicle is unspecified are classified to V87-V89.

A vehicle not otherwise specified is NOT equivalent to a motor vehicle unless the accident occurred on the street, highway, road(way), etc. Vehicle accidents where the type of vehicle is unspecified are classified to V87-V89.

Additional information about type of transports is given below:

a. Car (automobile) includes blazer, jeep, minivan, sport utility vehicle

b. Pick-up truck or van includes ambulance, motor home, truck (farm) (utility)

c. Heavy transport vehicle includes armored car, dump truck, fire truck, panel truck, semi, tow truck, tractor-trailer, 18-wheeler

d. A special all-terrain vehicle (ATV) or motor vehicle designed primarily for off-road use includes dirt bike, dune buggy, four-wheeler, go cart, golf cart, racecar, snowmobile, three-wheeler

e. Motor vehicle includes passenger vehicle (private), street sweeper
2. Use of the Index and tabular list

ICD-10 provides a Table of land transport accidents in Volume 3, Section II. This table is referenced with any land transport accident if the mode of transportation is known. Since the Index does not always provide a complete code, reference to Volume 1, Chapter XX is required.

For V01-V09, the fourth character indicates whether a pedestrian was injured in a nontraffic accident, traffic accident, or unspecified whether traffic or nontraffic accident.

For V10-V79, the fourth character represents the status of the victim, i.e., whether the decedent was driver, passenger, etc. For each means of transportation, there is a different set of fourth characters. Each means of transportation is preceded by its set of fourth characters in Volume 1.

Code for Term

- Car overturned, killing driver V485

  In the Index, refer to:
  Overturning
  - transport vehicle NEC (see also Accident, transport) V89.9
  Accident
  - transport (involving injury to) (see also Table of land transport accidents) V99

  In the Table of land transport accidents, select the intersection of:
  Under Victim and mode of transport, select
  Occupant of:
  - car (automobile)

  Under In Collision with or involved in: select
  Noncollision transport accident

  The code is V48.-. From Volume 1 the fourth character is 5, driver injured in traffic accident.

Code for Term

- Auto collision with animal V409

  In the Index, refer to:
  Collision (accidental) NEC (see also Accident, transport) V89.9
  Accident
  - transport (involving injury to) (see also Table of land transport accidents) V99

  In the Table of land transport accidents, select the intersection of:
  Under Victim and mode of transport, select
  Occupant of:
  - car (automobile)
Under **In collision with or involved in:** select
Pedestrian or animal

The code is V40.-. From Volume 1, determine the fourth character is 9, unspecified car occupant injured in traffic accident.

### 3. Classifying accidents as traffic or nontraffic

If an event is unspecified as to whether it is a traffic or nontraffic accident, it is assumed to be:

a. A **traffic accident** when the event is classifiable to categories V02-V04, V10-V82, and V87.

b. A **nontraffic accident** when the event is classifiable to categories V83-V86. These vehicles are designed primarily for off-road use.

c. Consider category V05 to be unspecified whether traffic or nontraffic if no place is indicated or if the place is railroad (tracks).

d. Consider category V05 to be traffic if place is railway crossing.

e. Consider accidents involving occupants of motor vehicles as traffic when the place is railroad (tracks).

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V575</td>
<td>Accident  Truck struck bridge - Driver</td>
</tr>
</tbody>
</table>

Code to occupant of pick up truck or van injured in collision with fixed or stationary object, driver (V575). When a motor vehicle strikes another vehicle or object, assume the collision occurred on the highway unless otherwise stated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V866</td>
<td>Accident  Farm  Dune buggy overturned - passenger</td>
</tr>
</tbody>
</table>

### Codes for Record

<table>
<thead>
<tr>
<th>I</th>
<th>(a) Laceration lung</th>
<th>S273</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I (c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
<th>(a) Fractured skull</th>
<th>S029</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I (c)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>Accident  Truck struck bridge - Driver</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>Accident  Farm  Dune buggy overturned - passenger</th>
</tr>
</thead>
</table>
Code to passenger of all-terrain or other off road vehicle injured in nontraffic accident (V866).

Codes for Record

<table>
<thead>
<tr>
<th>I</th>
<th>(a) Drowning</th>
<th>T751 V863</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td><strong>Accident</strong></td>
<td><strong>Snowmobile ran off road and went into pond</strong></td>
</tr>
</tbody>
</table>

Code to unspecified occupant of all-terrain or other off road motor vehicle injured in traffic accident (V863). Code as traffic accident since the accident originated on the road.

4. Status of victim

a. General coding instructions relating to transport accidents are in Volume 1, Chapter XX. Refer to these instructions for clarification of the status of the victim when not clearly stated.

Codes for Record

<table>
<thead>
<tr>
<th>I</th>
<th>(a) Multiple internal injuries</th>
<th>T065</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Crushed by car on highway</td>
<td>T147 V031</td>
</tr>
</tbody>
</table>

Code to pedestrian injured in collision with car, pickup truck or van, traffic (V031). Refer to Volume 1, Chapter XX, instruction #3, Crushed by car. The victim is classified as a pedestrian. Refer to Table of land transport accidents. Victim and mode of transport, pedestrian, in collision (with) car (V03.-). Refer to Volume 1 for fourth character.

b. In classifying motor vehicle traffic accidents, a victim of less than 14 years of age is assumed to be a passenger provided there is evidence the decedent was an occupant of the motor vehicle. A statement such as “thrown from car,” “fall from” “struck head on dashboard,” “drowning,” or “carbon monoxide poisoning” is sufficient.

Female, 4 years old

Codes for Record

<table>
<thead>
<tr>
<th>I</th>
<th>(a) Fractured skull</th>
<th>S029</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Struck head on windshield when</td>
<td>V476</td>
</tr>
<tr>
<td></td>
<td>(c) car struck tree that had fallen across road</td>
<td></td>
</tr>
</tbody>
</table>

Code to car occupant injured in collision with fixed or stationary object, passenger (V476).
c. When the transport accident descriptions do not specify the victim as being a vehicle occupant and the victim is described as:

<table>
<thead>
<tr>
<th>pedestrian</th>
<th>versus (vs)</th>
<th>any vehicle (car, truck, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>any vehicle (car, truck, etc.)</td>
<td>versus (vs)</td>
<td>pedestrian</td>
</tr>
</tbody>
</table>

classify the victim as a pedestrian (V01-V09).

5. Coding categories V01-V89

a. When drowning occurs as a result of a motor vehicle accident NOS, code as noncollision transport accident. The assumption is the motor vehicle ran off the highway into a body of water. If drowning results from a specified type of motor vehicle accident, code the appropriate E-code for the specified type of motor vehicle accident.

<table>
<thead>
<tr>
<th>I (a) Drowning</th>
<th>T751 V589</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Street</td>
</tr>
<tr>
<td>Truck accident</td>
<td></td>
</tr>
</tbody>
</table>

Code to occupant of truck injured in noncollision transport accident (V589).

<table>
<thead>
<tr>
<th>I (a) Drowning</th>
<th>T751 V435</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Street</td>
</tr>
<tr>
<td>Driver-2 car collision driveway</td>
<td></td>
</tr>
</tbody>
</table>

Code to occupant of car injured in collision with car, driver (V435).

b. When falls from transport vehicles occur, apply the following instructions:

(1) Consider a transport vehicle to be in motion unless there is clear indication the vehicle was not in transit. Refer to Table of land transport accidents, specified type of vehicle reported, noncollision. Refer to Volume 1 for appropriate fourth character.

<table>
<thead>
<tr>
<th>I (a) Multiple injuries</th>
<th>T07</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accident</td>
<td>Home</td>
</tr>
</tbody>
</table>

Code to occupant of truck injured in noncollision transport accident (V583).
Refer to Table of land transport accidents under Victim and mode of transport. Select occupant of pick-up truck, noncollision transport accident, (V58.-). Refer to Volume 1 for fourth character and select 3, unspecified occupant of pick-up truck, nontraffic accident.

(2) Consider a transport vehicle to be stationary when statements such as these are reported:

(a) When alighting, boarding, entering, leaving, exiting, getting in or out of vehicle
(b) Stated as stationary, parked, not in transit, not in motion

Codes for Record

| I (a) Head injury | S099 |
| II | V784 |
| Accident | Street | Fell alighting from bus |

Code to occupant of bus injured in noncollision transport accident (V784). Refer to Table of land transport accidents under Victim and mode of transport. Select occupant of bus, noncollision transport accident, (V78.-). Refer to Volume 1 for fourth character and select 4, person injured while boarding or alighting.

Codes for Record

| I (a) Head Injury | S099 |
| II | V892 |
| Accident | Street | Fell on curb as he was exiting his daughter's vehicle |

Code to occupant of motor vehicle in noncollision transport accident (V892). Refer to Table of land transport accidents under Victim and mode of transport. Select occupant of motor vehicle (traffic), noncollision transport accident (V892).

Codes for Record

| I (a) Head injury | S099 |
| II | W17 |
| Accident | Street | Fell from parked car |

Code to other fall from one level to another (W17). Code as indexed under Fall, from, vehicle, stationary.
6. Additional examples

Codes for Record

I (a) Fracture of ribs S223
(b)
(c)

II V234

Accident Was driver of motorcycle which collided with taxicab

Code to motorcycle rider injured in collision with car, pick-up truck or van, driver (V234).

Codes for Record

I (a) Third degree burns T303
(b) Auto accident - car overturned V489
(c)

Code to car occupant injured in noncollision transport accident, unspecified (V489).

Codes for Record

I (a) Fracture of ribs S223
(b)
(c)

II V892

Accident Street Vehicle accident

Code to person injured in unspecified motor vehicle accident, traffic (V892). Code as motor vehicle accident since the accident occurred on the street.

7. Occupant of special all-terrain or other motor vehicle designed primarily for off-road use, injured in transport accident (V86)

This category includes accidents involving an occupant of any off-road vehicle. The fourth character indicates whether the decedent was injured in a nontraffic or traffic accident. Unless stated to the contrary, these accidents are assumed to be nontraffic.

Codes for Record

I (a) Multiple injuries T07
(b) Driver of snowmobile which V860
(c) collided with auto

Code to driver of all-terrain or other off-road motor vehicle injured in traffic accident since the collision occurred with an automobile (V860).
Codes for Record

I (a) Injuries of head  S099
   (b) Driver of ATV  V865

Code to driver of all-terrain or other off-road motor vehicle injured in nontraffic accident (V865).

I (a) Head injuries  S099
   (b) Overturning snowmobile  V869

Code to unspecified occupant of all-terrain or other off-road motor vehicle injured in nontraffic accident (V869).

I (a) Fracture skull  S029
   (b) ATV accident  V869

Code to unspecified occupant of all-terrain or other off-road motor vehicle injured in nontraffic accident (V869).

8. Traffic accident of specified type but victim’s mode of transport unknown (V87)
Non-traffic accident of specified type but victim’s mode of transport unknown (V88)

a. If more than one vehicle is mentioned, do not make any assumptions as to which vehicle was occupied by the victim unless the vehicles are the same. Instead, code to the appropriate categories V87-V88. Statements such as these do not indicate status of victim.

   - Auto (passenger) vs. truck
   - Car vs. truck-driver
   - Driver, car vs. truck
   - Passenger car vs. truck
   - Car vs. truck, driver
   - Driver-car vs. truck

Codes for Record

I (a) Intrathoracic injury  S279
   (b) Auto vs. motor bike accident  V870

Do not make any assumption as to which vehicle the victim was occupying. Using the Index, code:

Accident
   - transport (involving injury to) (see also Table of land transport accidents) V99
   - - person NEC (unknown means of transportation) (in) V99
- - - collision (between)
- - - - car (with)
- - - - - two-or three-wheeled motor vehicle (traffic) V87.0

Codes for Record

I (a) Head injuries S099
(b) Driver - collision of car and bus V873
(c)

Do not make any assumption as to which vehicle the victim was driving. Using the Index, code:

Accident - transport (involving injury to) (see also Table of land transport accidents) V99
- - person NEC (unknown means of transportation) (in) V99
- - - collision (between)
- - - - car (with)
- - - - - bus V87.3

b. If reported types of vehicles are not indexed under Accident, transport, person, collision, code V877 for traffic and V887 for nontraffic.

Codes for Record

I (a) Head injuries S099
(b) Bus and pick-up truck collision, driver V877
(c)

Do not make any assumption as to which vehicle the victim was driving. Collision between bus and pick-up is not indexed under Accident, transport, person, collision. Code V877.

9. Water transport accidents (V90-V94)

The fourth character subdivision indicates the type of watercraft. Refer to Volume 1, Chapter XX, Water transport accidents for a list of the fourth character subdivisions.

Codes for Record

I (a) Drowning T751 V929
(b) Fell over-board
(c)

II

Code to Drowning, due to fall overboard (V929). Use fourth character “9,” unspecified watercraft.
10. **Air and space transport accidents (V95-V97)**

For air and space transport accidents, the victim is only classified as an occupant. Military aircraft is coded to V958, Other aircraft accidents injuring occupant, since a military aircraft is not considered to be either a private aircraft or a commercial aircraft. Where death of military personnel is reported with no specification as to whether the airplane was a commercial or private craft, code V958.

11. **Miscellaneous coding instructions (V01-V99)**

a. When multiple deaths occur from the same transportation accident, all the certifications should be examined, and when appropriate, the information obtained from one may be applied to all. There may be other information available such as newspaper articles. A query should be sent to the certifier if necessary to obtain the information.

b. When classifying accidents which involve more than one kind of transport, use the following order of precedence:

- **aircraft and spacecraft** (V95-V97)
- **watercraft** (V90-V94)
- **other modes of transport** (V01-V89, V98-V99)

I (a) Multiple fractures  T029
(b) Driver of car killed when  V973
(c) a private plane collided with
(d) car on highway after forced landing

**Code to person on ground injured in air transport accident following order of precedence.** Refer to Volume 3, Accident, transport, aircraft, person, on ground (V973).

c. When no external cause information is reported and the place of occurrence of the injuries was highway, street, road(way), or alley, assign the external cause code to person injured in unspecified motor vehicle accident, traffic.

I (a) Head injuries and fracture  S099 S029
II  V892

**Code to person injured in unspecified motor vehicle accident, traffic (V892).**
**W18 Other fall on same level**

This category includes falls when other or additional information about the fall is reported such as:
- Fell from standing height
- Fell moving from wheelchair to bed
- Fell striking head
- Fell striking object
- Fell to floor
- Fell while transferring from chair to bed
- Fell while walking
- Lost balance and fell

Codes for Record

- I (a) Fractured right hip  S720
- II Lost balance and fell to floor  W18

Code to other fall on same level (W18).

**W19 Unspecified fall**

This category includes: fall, fell, or fell at a place.

Codes for Record

- I (a) Fractured right hip  S720
- II Fell at nursing home  W19

Code to unspecified fall (W19) since the only information is the place it occurred.

**W75 Accidental suffocation and strangulation in bed**

This category INCLUDES suffocation of infants “while asleep” NOS or when reported with terms that involve sleep such as co-sleeping or sleeping.

**W78 Inhalation of gastric contents**

**W79 Inhalation and ingestion of food causing obstruction of respiratory tract**

**W80 Inhalation and ingestion of other object causing obstruction of respiratory tract**

EXCLUDES conditions in the above categories when reported as the underlying cause of:

- J180 Bronchopneumonia, unspecified, code Pneumonitis due to solids and liquids, J69.-
- J181 Lobar Pneumonia, unspecified, code Pneumonitis due to solids and liquids, J69.-
- J189 Pneumonia, unspecified, code Pneumonitis due to solids and liquids, J69.-
- J69 Pneumonitis due to solids and liquids, code J69.-
X30-X39  Exposure to forces of nature

These categories INCLUDE accidents resulting directly from forces over which man has no control, but EXCLUDES those resulting indirectly through a second event which is classified to the causative agent involved in the subsequent accident.

Codes for Record
I  (a) Drowned  T751 X37
    (b) Car which decedent was driving was washed away with bridge during hurricane

Code to victim of cataclysmic storm (X37). The drowning was a direct result of the hurricane.

Codes for Record
I  (a) Suffocation  T71 X36
    (b) Covered by landslide

Code to victim of avalanche, landslide and other earth movements (X36).

Codes for Record
I  (a) Suffocated by smoke  T598 X00
    (b) Home burned after being struck by lightning

Code to exposure to uncontrolled fire in building or structure (X00). Category X33 includes only those injuries resulting from direct contact with lightning.

Codes for Record
I  (a) Ruptured diaphragm  S278
    (b) Driver of auto which struck landslide covering road  V475

Code to car occupant injured in collision with fixed or stationary object, driver (V475).

X40-X49  Accidental poisoning by and exposure to noxious substances
1. Poisoning by drugs

a. When the following statements are reported, see Table of drugs and chemicals for the external cause code and code as accidental poisoning unless otherwise indicated.

Interpret all these statements to mean poisoning by drug and code as poisoning whether or not the drug was given in treatment:

- drug taken inadvertently
- lethal (amount) (dose) (quantity) of a drug
- overdose of drug
- poisoning by a drug
- toxic effects of a drug
- toxic reaction to a drug
- toxicity (of a site) by a drug
- wrong dose taken accidentally
- wrong drug given in error

Male, 2 years

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Overdose of aspirin</td>
</tr>
<tr>
<td>(b) Flu and cold</td>
</tr>
<tr>
<td>(c)</td>
</tr>
<tr>
<td>II Aspirin given for fever - 10 days</td>
</tr>
</tbody>
</table>

Code to X40, accidental poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Poisoning by barbiturates</td>
</tr>
</tbody>
</table>

Code to X41, accidental poisoning by and exposure to anti-epileptic, sedative-hypnotic, anti-parkinsonism and psychotropic drugs, not elsewhere classified.

b. Interpret “intoxication by drug” to mean poisoning by drug unless indicated or stated to be due to drug therapy or as a result of treatment for a condition. Refer to Section IV, B, Y40-Y59 for instructions regarding intoxication by drug.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Respiratory failure</td>
</tr>
<tr>
<td>(b) Digitalis intoxication</td>
</tr>
</tbody>
</table>

Code to X44, digitalis intoxication as poisoning when there is no indication the drug was given for therapy.

c. When components of combinations of medicinal agents classifiable to X40-X44 are involved, proceed as follows:
(1) When accidental poisoning from a single drug is reported in Part I with a combination of drugs in Part II, code the external cause code for the drug reported in Part I.

<table>
<thead>
<tr>
<th>Record</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Acute barbiturate intoxication</td>
<td>T423 X41</td>
</tr>
<tr>
<td>II Accident - Took unknown amount of barbiturates and aspirin</td>
<td>T423 T390</td>
</tr>
</tbody>
</table>

Code to X41, accidental poisoning by barbiturates since certifier indicated this drug was the cause of death.

(2) When accidental poisoning by a combination of drugs classified to different external cause codes is reported and (1) does not apply, code the external cause code to X44, accidental poisoning and exposure to other and unspecified drugs, medicaments, and biological substances. Note that this applies to accidental manner of death only. Use the following codes for the different manners of death: Suicide X64, Homicide X85 and Undetermined Y14.

<table>
<thead>
<tr>
<th>Record</th>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Drug intoxication</td>
<td>T509, X44</td>
</tr>
<tr>
<td>(b) Digitalis &amp; cocaine intoxication</td>
<td>T460 T405</td>
</tr>
</tbody>
</table>

Code to X44, accidental poisoning by and exposure to other and unspecified drugs, medicaments, and biological substances.

(3) Combinations of medicinal agents with alcohol should be coded to the medicinal agent.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Acute respiratory failure</td>
</tr>
<tr>
<td>(b) due to synergistic action</td>
</tr>
<tr>
<td>(c) of alcohol and darvon</td>
</tr>
</tbody>
</table>

Code to X42, accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere classified. Synergistic action of alcohol and a medicinal agent is classified to poisoning by the medicinal agent.
2. Carbon monoxide poisoning

Code carbon monoxide poisoning from motor vehicle exhaust gas to noncollision motor vehicle accident (traffic) according to type of motor vehicle involved unless there is indication the motor vehicle was not in transit. Consider statements of “sleeping in car,” “sitting in car,” “in parked car” or place stated as “garage” to indicate the motor vehicle was “not in transit.” Assume “not in transit” in self-harm (intentional) and self-inflicted cases.

X60-X84 Intentional self-harm

The categories X60-X84 include intentionally self-inflicted poisoning or injury as well as deaths specified as suicide (attempted). The codes are indexed under the event as well as under “Suicide” in the External causes of injury index.

I (a) Hanging
   | Suicide

Code to intentional self-harm by hanging, strangulation and suffocation (X70).

X85-Y09 Assault

The categories X85-Y09 include injuries inflicted by another person with intent to injure or kill by any means as well as deaths specified as homicide. The codes are indexed under the event as well as under “Assault” in the External causes of injury index.

I (a) Gunshot wound
   | Homicide

Code to assault by other and unspecified firearm discharge (X95).

Y07 Other maltreatment syndromes

1. Code to category Y070-Y079, if the age of the decedent is under 18 years and the cause of death meets one of the following criteria:
a. The certifier specifies abuse, beating, battering, or other maltreatment, even if homicide is not specified.

Male, 3 years  Codes for Record
I  (a) Traumatic head injuries  S099  
(b)  
(c)  
II  Deceased had been beaten  Y079  

Home

Code to other maltreatment syndromes by unspecified person (Y079).

b. The certifier specifies homicide and injury or injuries with indication of more than one episode of injury, i.e., current injury coupled with old or healed injury consistent with a history of child abuse.

Male, 1-1/2 years  Codes for Record
I  (a) Anoxic encephalopathy  G931  
(b) Subdural hematoma  S065  
(c) Old and recent contusions of body  T910  T090  
II  Y079  

Homicide

Code to other maltreatment syndromes by unspecified person (Y079).

c. The certifier specifies homicide and multiple injuries consistent with an assumption of beating or battering, if assault by a peer, intruder, or by someone unknown to the child cannot be reasonably inferred from the reported information.

Female, 1 year  Codes for Record
I  (a) Massive internal bleeding  T148  
(b) Multiple internal injuries  T065  
(c)  
II  Injury occurred by child being struck  T149  Y079  

Homicide

Code to other maltreatment syndromes by unspecified person (Y079).
2. Deaths at ages under 18 years for which the cause of death certification specifies homicide and an injury occurring as an isolated episode, with no indication of previous mistreatment, should not be classified to Y070-Y079. This excludes from Y070-Y079 deaths due to injuries specified to be the result of events such as shooting, stabbing, hanging, fighting, or involvement in robbery or other crime, because it cannot be assumed that such injuries were inflicted simply in the course of punishment or cruel treatment.

Female, 1 year

I (a) Hypovolemic shock T794
(b) Laceration of heart S268
(c) Multiple stab wounds anterior chest S217 X99

II Stabbed with kitchen knife by mother T141

Homicide Home

Code to assault by sharp object (X99).

**Y10-Y34 Event of undetermined intent**

Y10-Y34 are for use when it is stated that an investigation by a medical or legal authority has not determined whether the injuries are accidental, suicidal, or homicidal. They include such statements as “jumped or fell,” “don’t know,” “accidental or homicidal,” “accidental or suicide,” “undetermined.” They also include self-inflicted injuries, other than poisoning, when not specified whether accidental or with intent to harm.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Fx. skull, laceration of brain S029 S062</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>Unknown whether accidental or homicide</td>
</tr>
</tbody>
</table>

Code to unspecified event, undetermined intent (Y34).

Codes for Record

| I (a) Barbiturate overdose T423 Y11 |
| II | Undetermined |

Code to poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified, undetermined intent (Y11).

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Cerebral hemorrhage S062</td>
</tr>
<tr>
<td>(b) Shot self in head S019 Y24</td>
</tr>
</tbody>
</table>

Code to other and unspecified firearm discharge, undetermined intent (Y24).
Y40-Y59 Drugs, medicaments and biological substances causing adverse effects in therapeutic use

1. Condition due to (named) drug or drug therapy

When a condition is reported due to a (named) drug or drug therapy, consider the condition to be a complication of a correct drug and medicinal substance properly administered providing the sequence is acceptable. This instruction also includes a condition reported due to drug use or named drug use unless:

- The drug is one which is not used for medical purposes, e.g., LSD or heroin.

or

- It was an analgesic, sedative, narcotic or psychotropic drug (or combination thereof) or drug NOS
  AND the certifier indicated the death was due to an “accident”, “suicide”, or it occurred under “undetermined circumstances,”

or

- One or more of these drugs was taken in conjunction with alcohol

If one of the exceptions apply, code to poisoning (refer to Section IV, B, X40-X49). Use the following instructions to select the correct underlying cause if a condition is reported due to a (named) drug or drug therapy.

a. If the condition for which the drug is being administered is stated, code this condition as the underlying cause applying any appropriate modification rule(s).

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Allergic reaction</td>
</tr>
<tr>
<td>(b) Drug therapy</td>
</tr>
<tr>
<td>(c) Pyelitis</td>
</tr>
</tbody>
</table>

Code to pyelitis (N12), the condition requiring treatment.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Diabetes</td>
</tr>
<tr>
<td>(b) Steroid Use</td>
</tr>
<tr>
<td>II Rheumatoid Arthritis</td>
</tr>
</tbody>
</table>

Code to rheumatoid arthritis (M069), the condition requiring treatment.

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Pulmonary insufficiency</td>
</tr>
<tr>
<td>(b) Drug given for tachycardia</td>
</tr>
<tr>
<td>(c)</td>
</tr>
</tbody>
</table>

Code to pulmonary insufficiency (J984), the complication of the drug. Tachycardia is selected as the condition for which the drug was administered, then disregarded by Rule A and the complication of the drug is reselected.
b. If the condition being treated is not stated, and the complication of the drug therapy is indexed to Chapters I-XVIII, code this condition as the underlying cause applying any appropriate modification rule(s).

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I (a) Respiratory arrest</th>
<th>R092</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Ulcer of stomach</td>
<td>K259</td>
</tr>
<tr>
<td></td>
<td>(c) Cortisone therapy</td>
<td>Y420</td>
</tr>
</tbody>
</table>

*Code to ulcer of stomach (K259), the complication of the drug therapy as classified in Chapters I-XVIII.*

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I (a) Cardiac arrest</th>
<th>I469</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Drug therapy</td>
<td>Y579</td>
</tr>
</tbody>
</table>

*Code to Y579, drug or medicament unspecified. Cardiac arrest, the complication of the therapy, is selected as the TUC since the condition being treated is not stated. Rule A is applied and the code for the drug is reselected.*

c. If the condition being treated is not stated, and the complication is indexed to Chapter XIX, code external cause Y40-Y59 as the underlying cause.

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I (a) Allergic reaction to penicillin</th>
<th>T887 Y400</th>
</tr>
</thead>
</table>

*Code to adverse effect of penicillin in correct usage (Y400) since Allergic (reaction), drug is indexed T887 in Chapter XIX.*

### 2. Intoxication by drug

When “intoxication by drug” is reported or indicated to be due to treatment for a condition or due to drug therapy, consider as a complication of drug therapy, *not poisoning.*

<table>
<thead>
<tr>
<th>Codes for Record</th>
<th>I (a) Cardiac arrest</th>
<th>I469</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(b) Digitalis intoxication</td>
<td>T887 Y520</td>
</tr>
<tr>
<td></td>
<td>(c) ASHD</td>
<td>I251</td>
</tr>
</tbody>
</table>

*Code to ASHD (I251), the condition requiring treatment. Digitalis intoxication is indicated to be drug therapy since it is reported due to a condition for which it could have been given.*
3. Combined effects of two or more drugs

When a complication is reported due to the combined effects of two or more drugs:

a. When the drugs are classified to different fourth characters of the same three-character category, code the appropriate E-code with the fourth character for “other.”

<table>
<thead>
<tr>
<th>Codes for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>T887</td>
</tr>
<tr>
<td>Y478</td>
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</table>

In determining a sequence of conditions involving surgery, first determine if a complication is reported. Therefore, it is necessary to know if a condition can be due to the surgery and thus be regarded as a complication. Although almost any condition reported due to surgery is regarded as a complication, there are a few diseases that are not considered complications. The following are not regarded as complications of surgery:

| Neoplasms                       | C000-D489 |
| Hemophilia                      | D66, D67, D680, D681, D682 |
| Diabetes                        | E10-E14 |
| Alcoholic disorders             | E52, E244, F101-F109, G312, G405, G621, G721, I426, K292, K700-K709, K852, K860, L278, R780, R826, R893 |
| Rheumatic fever or rheumatic heart disease | I00-I099 |
| Hypertensive diseases           | I11-I139, I150, I159 |
Coronary artery disease
Coronary disease
Ischemic cardiomyopathy
Chronic or degenerative myocarditis
Arteriosclerosis and arteriosclerotic conditions except those classified to I219
Calculus or stones of any kind
Influenza
Hernia except ventral (incisional)
Diverticulitis
Rheumatoid arthritis
Collagen disease
Congenital malformations

This is not an all-inclusive list.

<table>
<thead>
<tr>
<th>Codes for Record</th>
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</thead>
<tbody>
<tr>
<td>I (a) Myocardial infarction I219</td>
</tr>
<tr>
<td>(b) Arteriosclerosis I709</td>
</tr>
<tr>
<td>(c) Surgery</td>
</tr>
</tbody>
</table>

Code to myocardial infarction (I219) by Rules 1 and C, since arteriosclerosis is not accepted as due to surgery.

<table>
<thead>
<tr>
<th>Code for Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>I (a) Diabetic gangrene E145</td>
</tr>
<tr>
<td>(b) Leg amputation</td>
</tr>
</tbody>
</table>

Code to diabetic gangrene (E145) since diabetes is not accepted as due to surgery.

When a sequence of conditions involving an operation is responsible for a death, the cause for which the operation was performed is coded, unless it is the result of another condition. In the latter case, the original cause is coded. If the reason for the operation is not stated or implied, select the external cause code for the operation as the underlying cause. However, when selecting the sequence responsible for death, no preference is given because an operation was involved.

If a term denoting an operation is selected as the cause of death without mention of the condition for which it was performed, or of the findings of the operation, and the Index provides no assignment for it:

1. It is assumed that the condition for which the operation is usually performed was present and assignment will be made in accordance with the rules for selection of the cause of death (e.g. code “appendectomy” to K37).
Use the following codes when these surgical procedures are reported and the condition necessitating the surgery is not reported:

Aorta (with any other vessel NEC) bypass or graft .......................I779
Aorta coronary bypass or graft ...................................................I251
Atrio-ventricular shunt .............................................................. G919
Bariatric surgery ...................................................................... E668
Billroth (I or II) ..................................................................... K3190
Brock valvulotomy .................................................................. Q223
Cardiac revascularization .........................................................I251
Carotid endarterectomy .............................................................I679
Choledochoduodenostomy ....................................................... K839
Cholecystectomy ..................................................................... K829
Cholelithotomy ......................................................................... K802
Colostomy .................................................................................. K639
Coronary artery bypass graft (CABG) .........................................I251
Coronary endarterectomy .........................................................I251
Coronary revascularization .........................................................I251
Endarterectomy (artery) (aorta) ...............................................I779
Femoral bypass ..........................................................................I779
Femoral-popliteal bypass .........................................................I779
Gastrectomy .............................................................................. K3190
Gastric stapling ........................................................................ E668
Gastroenterostomy .................................................................... K929
Gastro-intestinal surgery NOS .................................................. K929
Gastrojejunostomy .................................................................. K929
Gastrojejunectomy ................................................................... K929
Herniorrhaphy .......................................................................... K859
Heterocystectomy ..................................................................... N399
Ileal conduit ............................................................................. N399
Ileal loop .................................................................................... N399
Iliofemoral bypass ..................................................................... I779
Lobectomy - when indicating lung ............................................ J9840
Mammary artery (internal) implant .............................................I251
Revascularization of heart .........................................................I251
Revascularization, myocardial ..................................................I251
T and A ..................................................................................... J359
Thoracoplasty ............................................................................ J989
Tonsillectomy ............................................................................. J359
Ureterosigmoid bypass ............................................................ N399
Ureterosigmoidostomy ............................................................... N399
Vein stripping ............................................................................ I839
Ventricular peritoneal shunt ..................................................... G919
Vineberg operation ................................................................... I251
2. However, if the name of the operation leaves in doubt what specific morbid condition was present, additional information is to be sought.

3. If there is no further information concerning the condition for which the surgery was performed, code to the residual category for **disease of the site** indicated by the name of the operation. Do not assume a disease condition for other medical care.

4. When neither the organ nor the site is indicated in the operative term, code the appropriate external cause code for the surgery.

5. If the reason for the operation is not stated or implied, code the appropriate external cause code for the surgery.

6. When the only reported condition indicates an operation and the record cannot be classified by the previous instructions, code the “Other ill-defined and unspecified causes of mortality” (R99).

   These procedures include:
   - amputation
   - arteriovenous shunt
   - chordotomy
   - craniotomy
   - cystostomy
   - D & C
   - gastrotomy
   - laminectomy
   - laparotomy
   - lobectomy NOS
   - lobotomy
   - pelvic exenteration
   - portocaval shunt
   - radical neck dissection
   - rhizotomy
   - sympathectomy
   - tracheotony
   - tubal ligation
   - vagotomy
   - vasectomy
   - vas ligation

   If one of these types of procedures is the only entry on the certificate, code R99.

7. For complications of operations for purposes of applying Rule 3, Direct sequel, refer to Section II, Selection Rule 3.
Y84  Other medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of procedure.

This category is not to be used if the reason for treatment is indicated. However, do not assume a condition for the reason medical care was administered.

Y60-Y69  Misadventures to patients during surgical and medical care

These categories are limited to deaths explicitly indicated to be the result of an error or accident during medical care. These categories are not to be used if the condition requiring treatment is indicated. When the condition requiring treatment is not stated or implied, code the underlying cause to Y60-Y69. This does not apply when serum hepatitis is reported as a complication of blood transfusion, in this case code the underlying cause to serum hepatitis provided the reason for treatment is not reported.

Codes for Record

I  (a) Shock  R579
(b) Laceration of liver  T812
(c) Needle biopsy  Y606

*Code to accidental cut (laceration) during needle biopsy (Y606). “Laceration” is an explicit indication of accident during medical care. The condition requiring treatment is not stated.*

I  (a) Peritonitis  K659
(b) Perforated jejunum  T812
(c) Laparotomy for  Y600
(d) carcinoma of small bowel  C179

*Code to carcinoma of small bowel (C179), the reason for the surgery.*

I  (a) Laceration of heart  T812
(b) Open heart surgery  Y600 I519

*Code to I519, Disease, heart, as the condition for which the surgery was performed.*

I  (a) Hemorrhage during  T810
(b) craniotomy  Y600
Code to hemorrhage during surgical and medical care (Y600). Interpret hemorrhage stated as “intraoperative” or “during” medical and surgical care as a misadventure during surgical and medical care.

Codes for Record
I (a) Serum hepatitis
    B169
(b) Blood transfusion
    Y640

Code to serum hepatitis (B169). The E-code for blood transfusion is not used since serum hepatitis is the complication.

Codes for Record
I (a) Rib fracture
    T818
(b) Cardiopulmonary resuscitation
    Y658

Code to Y658, Other specified misadventure during surgical and medical care. Interpret fracture (thoracic area) reported due to cardiopulmonary resuscitation as a misadventure during medical care.

Y85-Y89  Sequela of external causes of morbidity and mortality

A sequela is a late effect, an after effect, or a residual of a nature of injury or external cause. The Classification provides categories Y850-Y899 for sequela of external causes. If either the nature of injury or the external cause requires a sequela code, the selected external cause must be coded to a sequela category. Use the following guidelines to determine when the external cause should be coded to a sequela category.

Y850  Sequela of motor vehicle accident (includes V01-V89)
Y859  Sequela of other and unspecified transport accidents (includes V90-V99)
Y86   Sequela of other accidents (excludes W78-W80)
Y870  Sequela of intentional self-harm
Y871  Sequela of assault
Y872  Sequela of events of undetermined intent
Y880  Sequela of adverse effects caused by drugs, medicaments, and biological substances in therapeutic use
Y881  Sequela of misadventures to patients during surgical and medical procedures
Y882  Sequela of adverse incidents associated with medical devices in diagnostic and therapeutic use
Y883  Sequela of surgical and medical procedures as the cause of abnormal reaction of the patient, or of later complication, without mention of misadventure at the time of the procedure
Y890  Sequela of legal intervention
Y891  Sequela of war operations
Y899  Sequela of unspecified external cause
1. Stated sequela of external causes, injuries or trauma unless the interval between date of external cause and date of death is less than 1 year.

   Codes for Record
   I (a) Sequela of hip fracture T931
   (b) 
   (c) 
   II Y86

   Code to Y86 since a sequela of hip fracture is reported.

2. Injuries described as ancient, healed, history of, late effect of, old, remote or delayed union, malunion or nonunion of a fracture regardless of duration.

   Codes for Record
   I (a) Old head injuries T909
   (b) Gunshot wound T941 Y870
   II Attempted suicide

   Code to Y870, sequela of intentional self-harm, since injuries are “old.”

3. External causes described as ancient, history of, old, remote, regardless of reported duration.

   Codes for Record
   I (a) Old fall, fractured hip 6 months T931 Y86
   (b) 
   (c) 
   II Accident Fell and fractured hip 6 months ago T931

   Code to Y86, sequela of other accidents, since the external cause is stated as “old.”

4. External causes, injuries, or trauma when interval between occurrence and death is 1 year or more.

   Codes for Record
   I (a) Fractured spine T911
   (b) Automobile accident, 18 mos ago Y850

   Code to Y850, sequela of automobile accident, since duration is one year or more.
Codes for Record

I (a) Renal failure
    (b) Intestinal obstruction
    (c) Adhesions
II Surgery – 16 months ago

Code to Y883, sequela of surgical and medical procedures, since surgery was performed one year or more before death.

5. A condition with a duration of one year or more reported due to the external cause, injuries, or trauma.

Codes for Record

I (a) Respiratory failure
    (b) Paraplegia 2 years
    (c) Motorcycle accident

Code to Y850, sequela of motor vehicle accident, since a condition with a duration of one year or more is reported due to the external cause. Category Y850 includes categories classified to V01-V89.
Appendix A - Infrequent and Rare Cause-of-Death Edits for Underlying and Multiple Cause-of-Death Classification

A00 Cholera
A01 Typhoid and paratyphoid fevers
A05.1 Botulism (botulism, infant botulism, wound botulism)
A07.0-.2, .8-.9 Other protozoal intestinal diseases, excluding coccidiosis
A08.0 Rotaviral enteritis-less than 5 years of age
A20 Plague
A21 Tularemia
A22 Anthrax
A23 Brucellosis
A24.0 Glanders
A24.1-.4 Melioidosis
A25 Rat-bite fever
A27 Leptospirosis
A30 Leprosy
A33 Tetanus neonatorum
A34 Obstetrical tetanus
A35 Other tetanus (tetanus)
A36 Diphtheria
A37 Whooping cough
A44 Bartonellosis
A49.1 Streptococcus pneumoniae - less than 5 years of age
A65 Nonvenereal syphilis
A66 Yaws
A67 Pinta
A68 Relapsing fever
A69 Other spirochetal infection
A70 Chlamydia psittaci infection (ornithosis)
A75 Typhus fever
A77.1 Spotted fever due to Rickettsia conorii (Boutonneuse fever)
A77.2 Spotted fever due to Rickettsia siberica (North Asian tick fever)
A77.3 Spotted fever due to Rickettsia australis (Queensland tick typhus)
A77.8 Other spotted fevers (other
tick-borne rickettsioses)

A77.9 Unspecified spotted fevers
(unspecified tick-borne rickettsioses)

A78 Q fever

A79 Other rickettsioses

A80 Acute poliomyelitis

A81 Atypical virus infections of central nervous system

A82 Rabies

A84 Tick-borne viral encephalitis

A85.2 Arthropod-borne viral encephalitis, unspecified
(viral encephalitis transmitted by other and unspecified arthropods)

A90 Dengue fever

A91 Dengue hemorrhagic fever

A92 Other mosquito-borne viral fevers

A93 Other arthropod-borne viral fevers including Oropouche fever, sandfly fever, Colorado tick fever and other specified

A94 Unspecified arthropod-borne viral fever

A95 Yellow fever

A96 Arenaviral hemorrhagic fever

A98-A99 Other viral hemorrhagic fevers including Crimean-Congo, Omsk, Kyasanur Forest, Ebola virus, Hanta virus

B01 Varicella (chickenpox)

B03 Smallpox

B04 Monkeypox

B05 Measles

B06 Rubella

B08.0 Other orthopoxvirus
(cowpox and paravaccinia)

B15 Acute hepatitis A - less than 20 years of age

B16 Acute hepatitis B - less than 20 years of age

B26 Mumps
B33.0 Epidemic myalgia
(epidemic pleurodynia)
B33.4 Hantavirus
(cardio)-pulmonary
B50-B54 syndrome [HPS] [HCPS]
Malaria
B55 Leishmaniasis
B56 African trypanosomiasis
(trypanosomiasis)
B57 Chagas’ disease
(trypanosomiasis)
B602 Naegleriasis
B65 Schistosomiasis
B66 Other fluke infections
(other trematode infection)
B67 Echinococcosis
B68 Taeniasis
B69 Cysticercosis
B70 Diphyllobothriasis and
sparganosis
B71 Other cestode infections
B72 Dracunculiasis
(dracontiasis)
B73 Onchocerciasis
B74 Filariasis (filarial infection)
J09 Influenza due to certain
identified influenza virus
P35.0 Congenital rubella
syndrome
U04.9 Severe acute respiratory
syndrome (SARS),
unspecified
W88-W91 Exposure to radiation
Y36.5 War operation involving
nuclear weapons

Causing adverse effects in therapeutic use:
Y58 Bacterial vaccines
Y59.0 Viral vaccines
Y59.1 Rickettsial vaccines
Y59.2 Protozoal vaccines
Y59.3 Immunoglobulin
## Appendix B - Created Codes and Their Complimentary Valid ICD-10 Codes

<table>
<thead>
<tr>
<th>Created Code</th>
<th>Valid ICD-10 Code</th>
</tr>
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## Appendix C - Geographic Codes

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<th>Code</th>
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<td>Texas</td>
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<td>Utah</td>
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</table>
Vermont VT
Virginia VA
Virgin Islands VI
Washington WA
West Virginia WV
Wisconsin WI
Wyoming WY

**Territories and Outlying Areas**
American Samoa AS
Federated States of Micronesia FM
Guam GU
Marshall Islands MH
Northern Mariana Islands MP
Palau PW
Puerto Rico PR
Virgin Islands (US) VI

**US Minor Outlying Islands** UM*

Baker Island
Howland Island
Jarvis Island
Johnston Atoll
Kingman Reef
Midway Islands
Navassa Island
Palmyra Atoll
Wake Island

*Not recognized as a valid USPS State abbreviation
### Appendix D - Standard Abbreviations and Symbols

When an abbreviation is reported on the certificate, refer to this list to determine what the abbreviation represents. **If an abbreviation represents more than one term, determine the correct abbreviation by using other information on the certificate.** If no determination can be made, use abbreviation for first term listed.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>A2GDM</td>
<td>class A2 gestational diabetes mellitus</td>
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<tr>
<td>AAA</td>
<td>abdominal aortic aneurysm</td>
</tr>
<tr>
<td>AAS</td>
<td>aortic arch syndrome</td>
</tr>
<tr>
<td>AAT</td>
<td>alpha-antitrypsin</td>
</tr>
<tr>
<td>AAV</td>
<td>AIDS-associated virus</td>
</tr>
<tr>
<td>AB</td>
<td>abdomen; abortion; asthmatic bronchitis</td>
</tr>
<tr>
<td>ABD</td>
<td>abdomen</td>
</tr>
<tr>
<td>ABE</td>
<td>acute bacterial endocarditis</td>
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<tr>
<td>ABS</td>
<td>acute brain syndrome</td>
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<tr>
<td>ACA</td>
<td>adenocarcinoma</td>
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<tr>
<td>ACD</td>
<td>arteriosclerotic coronary disease</td>
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<tr>
<td>ACH</td>
<td>adrenal cortical hormone</td>
</tr>
<tr>
<td>ACT</td>
<td>acute coronary thrombosis</td>
</tr>
<tr>
<td>ACTH</td>
<td>adrenocorticotrophic hormone</td>
</tr>
<tr>
<td>ACVD</td>
<td>arteriosclerotic cardiovascular disease</td>
</tr>
<tr>
<td>ADEM</td>
<td>acute disseminated encephalomyelitis</td>
</tr>
<tr>
<td>ADH</td>
<td>antidiuretic hormone</td>
</tr>
<tr>
<td>ADS</td>
<td>antibody deficiency syndrome</td>
</tr>
<tr>
<td>AEG</td>
<td>air encephalogram</td>
</tr>
<tr>
<td>AF</td>
<td>auricular or atrial fibrillation; acid fast</td>
</tr>
<tr>
<td>AFB</td>
<td>acid-fast bacillus</td>
</tr>
<tr>
<td>AGG</td>
<td>agammaglobulinemia</td>
</tr>
<tr>
<td>AGL</td>
<td>acute granulocytic leukemia</td>
</tr>
<tr>
<td>AGN</td>
<td>acute glomerulonephritis</td>
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<tr>
<td>AGS</td>
<td>adrenogenital syndrome</td>
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<tr>
<td>AHA</td>
<td>acquired hemolytic anemia; autoimmune hemolytic anemia</td>
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<tr>
<td>AHD</td>
<td>arteriosclerotic heart disease</td>
</tr>
<tr>
<td>AHHD</td>
<td>arteriosclerotic hypertensive heart disease</td>
</tr>
<tr>
<td>AHG</td>
<td>anti-hemophilic globulin deficiency</td>
</tr>
<tr>
<td>AHLE</td>
<td>acute hemorrhagic leukoencephalitis</td>
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<tr>
<td>AI</td>
<td>aortic insufficiency; additional information</td>
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<tr>
<td>AIDS</td>
<td>acquired immunodeficiency syndrome</td>
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<tr>
<td>AKA</td>
<td>above knee amputation</td>
</tr>
<tr>
<td>AKI</td>
<td>acute kidney injury</td>
</tr>
<tr>
<td>ALC</td>
<td>alcoholism</td>
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<tr>
<td>ALL</td>
<td>acute lymphocytic leukemia</td>
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<tr>
<td>ALS</td>
<td>amyotrophic lateral sclerosis</td>
</tr>
<tr>
<td>AMA</td>
<td>advanced maternal age; against medical advice; antimitochondrial antibody(ies)</td>
</tr>
</tbody>
</table>
AMI acute myocardial infarction
AML acute myelocytic leukemia
ANS arteriolonephrosclerosis
AOD arterial occlusive disease
AODM adult onset diabetes mellitus
AOM acute otitis media
AP angina pectoris; anterior and posterior repair; artificial pneumothorax; anterior pituitary
A&P anterior and posterior repair
APC auricular premature contraction; acetylsalicylic acid, acetophenetidin, and caffeine
APE acute pulmonary edema; anterior pituitary extract
APH antepartum hemorrhage
AR aortic regurgitation
ARC AIDS-related complex
ARDS adult respiratory distress syndrome
ARF acute respiratory failure; acute renal failure
ARM artificial rupture of membranes
ARV AIDS-related virus
ARVD arrhythmogenic right ventricular dysplasia
AS arteriosclerotic; arteriosclerosis; aortic stenosis
ASA acetylsalicylic acid (aspirin)
ASAD arteriosclerotic artery disease
ASCAD arteriosclerotic coronary artery disease
ASCD arteriosclerotic coronary disease
ASCHD arteriosclerotic coronary heart disease
ASCRD arteriosclerotic cardiorenal disease
ASCVA arteriosclerotic cerebrovascular accident
ASCVD arteriosclerotic cardiovascular disease
ASCVR arteriosclerotic cardiovascular renal disease
ASCVRD arteriosclerotic cardiovascular renal disease
ASD atrial septal defect
ASDHD arteriosclerotic decompensated heart disease
ASHCVD arteriosclerotic hypertensive cardiovascular disease
ASHD arteriosclerotic heart disease; atrioseptal heart defect
ASHHD arteriosclerotic hypertensive heart disease
ASHVD arteriosclerotic hypertensive vascular disease
ASO arteriosclerosis obliterans
ASPVD arteriosclerotic peripheral vascular disease
ASVD arteriosclerotic vascular disease
ASVH(D) arteriosclerotic vascular heart disease
AT atherosclerosis; atherosclerotic; atrial tachycardia; antithrombin
ATC all-terrain cycle
ATN acute tubular necrosis
<table>
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<tr>
<th>Abbreviation</th>
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<tr>
<td>ATS</td>
<td>arteriosclerosis</td>
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<tr>
<td>ATSHD</td>
<td>arteriosclerotic heart disease</td>
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<tr>
<td>ATV</td>
<td>all-terrain vehicle</td>
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<tr>
<td>AUL</td>
<td>acute undifferentiated leukemia</td>
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<tr>
<td>AV</td>
<td>arteriovenous; atrioventricular; aortic valve</td>
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<tr>
<td>AVF</td>
<td>arterio-ventricular fibrillation; arteriovenous fistula</td>
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<tr>
<td>AVH</td>
<td>acute viral hepatitis</td>
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<tr>
<td>AVNRT</td>
<td>atrioventricular nodal re-entrant tachycardia</td>
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<tr>
<td>AVP</td>
<td>aortic valve prosthesis</td>
</tr>
<tr>
<td>AVR</td>
<td>aortic valve replacement</td>
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<tr>
<td>AVRT</td>
<td>atrioventricular nodal re-entrant tachycardia</td>
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<td>AWMI</td>
<td>anterior wall myocardial infarction</td>
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<td>AZT</td>
<td>azidothymidine</td>
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<td>BA</td>
<td>basilar artery; basilar arteriogram; bronchial asthma</td>
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<td>B&amp;B</td>
<td>bronchoscopy and biopsy</td>
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<tr>
<td>BBB</td>
<td>bundle branch block</td>
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<tr>
<td>B&amp;C</td>
<td>biopsy and cauterization</td>
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<td>BCE</td>
<td>basal cell epithelioma</td>
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<td>BE</td>
<td>barium enema</td>
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<td>BEH</td>
<td>benign essential hypertension</td>
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<td>BGL</td>
<td>Bartholin's gland</td>
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<td>BKA</td>
<td>below knee amputation</td>
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<td>BL</td>
<td>bladder; bucolingual; blood loss; Burkitt's lymphoma</td>
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<tr>
<td>BMR</td>
<td>basal metabolism rate</td>
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<tr>
<td>BNA</td>
<td>bladder neck adhesions</td>
</tr>
<tr>
<td>BNO</td>
<td>bladder neck obstruction</td>
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<tr>
<td>BOMSA</td>
<td>bilateral otitis media serous acute</td>
</tr>
<tr>
<td>BOMSC</td>
<td>bilateral otitis media serous chronic</td>
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<tr>
<td>BOW</td>
<td>'bag of water' (membrane)</td>
</tr>
<tr>
<td>B/P, BP</td>
<td>blood pressure</td>
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<td>BPH</td>
<td>benign prostate hypertrophy</td>
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<td>BSA</td>
<td>body surface area</td>
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<td>BSO</td>
<td>bilateral salpingo-oophorectomy</td>
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<td>BSP</td>
<td>Bromosulfaphthalein (test)</td>
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<td>BTL</td>
<td>bilateral tubal ligation</td>
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<tr>
<td>BUN</td>
<td>blood, urea, and nitrogen test</td>
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<tr>
<td>BVL</td>
<td>bilateral vas ligation</td>
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<tr>
<td>B&amp;W</td>
<td>Baldy-Webster suspension (uterine)</td>
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<td>BX</td>
<td>biopsy</td>
</tr>
<tr>
<td>BX CX</td>
<td>biopsy cervix</td>
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<tr>
<td>Ca</td>
<td>cancer</td>
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<td>CA</td>
<td>cancer; cardiac arrest; carotid arteriogram</td>
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<td>CABG</td>
<td>coronary artery bypass graft</td>
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<tr>
<td>CABS</td>
<td>coronary artery bypass surgery</td>
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</table>
CAD  coronary artery disease
CAG  chronic atrophic gastritis
CAO  coronary artery occlusion; chronic airway obstruction
CAS  cerebral arteriosclerosis
CASCVD chronic arteriosclerotic cardiovascular disease
CASHD chronic arteriosclerotic heart disease
CAT  computerized axial tomography
CB  chronic bronchitis
CBC  complete blood count
CBD  common bile duct; chronic brain disease
CBS  chronic brain syndrome
CCF  chronic congestive failure
CCI  chronic cardiac or coronary insufficiency
CF  congestive failure; cystic fibrosis; Christmas factor (PTC)
CFT  chronic follicular tonsillitis
CGL  chronic granulocytic leukemia
CGN  chronic glomerulonephritis
CHA  congenital hypoplastic anemia
CHB  complete heart block
CHD  congestive heart disease; coronary heart disease; congenital heart disease; Chediak-Higashi Disease
CHF  congestive heart failure
C2H5OH ethyl alcohol
CI  cardiac insufficiency; cerebral infarction
CID  cytomegalic inclusion disease
CIS  carcinoma in situ
CJD  Creutzfeldt-Jakob Disease
CLD  chronic lung disease; chronic liver disease
CLL  chronic lymphatic leukemia; chronic lymphocytic leukemia
CMID  cytomegalic inclusion disease
CML  chronic myelocytic leukemia
CMM  cutaneous malignant melanoma
CMV  cytomegalic virus
CNHD  congenital nonspherocytic hemolytic disease
CNS  central nervous system
CO  carbon monoxide
COAD  chronic obstructive airway disease
CO2  carbon dioxide
COBE  chronic obstructive bullous emphysema
COBS  chronic organic brain syndrome
COFS  cerebro-oculo-facio-skeletal
COOMBS test for Rh sensitivity
COLD  chronic obstructive lung disease
COPD chronic obstructive pulmonary disease
COPE chronic obstructive pulmonary emphysema
CP cerebral palsy; cor pulmonale
C&P cystoscopy and pyelography
CPB cardiopulmonary bypass
CPC chronic passive congestion
CPD cephalopelvic disproportion; contagious pustular dermatitis
CPE chronic pulmonary emphysema
CRD chronic renal disease
CREST calcinosis cutis, Raynaud's phenomenon, sclerodactyly, and telangiectasis
CRF cardiorespiratory failure; chronic renal failure
CRST calcinosis cutis, Raynaud's phenomenon, sclerodactyly, and telangiectasis
CS coronary sclerosis; cesarean section; cerebro-spinal
CSF cerebral spinal fluid
CSH chronic subdural hematoma
CSM cerebrospinal meningitis
CT computer tomography; cerebral thrombosis; coronary thrombosis
CTD congenital thymic dysplasia
CU cause unknown
CUC chronic ulcerative colitis
CUP cystoscopy, urogram, pyelogram (retro)
CUR cystocele, urethrocele, rectocele
CV cardiovascular; cerebrovascular
CVA cerebrovascular accident
CV accident cerebral vascular accident
CVD cardiovascular disease
CVHD cardiovascular heart disease
CVI cardiovascular insufficiency; cerebrovascular insufficiency
CVRD cardiovascular renal disease
CWP coal worker's pneumoconiosis
CX cervix
da degenerative arthritis
DBI phenformin hydrochloride
D&C dilation and curettage
DCR dacrocystorhinostomy
D&D drilling and drainage; debridement and dressing
D&E dilation and evacuation
DFU dead fetus in utero
DIC disseminated intravascular coagulation
DILD diffuse infiltrative lung disease
DIP distal interphalangeal joint; desquamative interstitial pneumonia
DJD degenerative joint disease
DM diabetes mellitus
DMT dimethyltriptamine
DOA dead on arrival
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<td>DPT</td>
<td>diphtheria, pertussis, tetanus vaccine</td>
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<td>DR</td>
<td>diabetic retinopathy</td>
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<td>DS</td>
<td>Down’s syndrome</td>
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<td>DT</td>
<td>due to; delirium tremens</td>
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<tr>
<td>D/T</td>
<td>due to; delirium tremens</td>
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<td>DU</td>
<td>diagnosis unknown; duodenal ulcer</td>
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<td>DUB</td>
<td>dysfunctional uterine bleeding</td>
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<td>DUI</td>
<td>driving under influence</td>
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<tr>
<td>DVT</td>
<td>deep vein thrombosis</td>
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<tr>
<td>DWI</td>
<td>driving while intoxicated</td>
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<td>DX</td>
<td>dislocation; diagnosis; disease</td>
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<td>EBV</td>
<td>Epstein-Barr virus</td>
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<td>ECCE</td>
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<td>electrocardiogram</td>
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<td>E coli</td>
<td>Escherichia coli</td>
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<td>ECT</td>
<td>electric convulsive therapy</td>
</tr>
<tr>
<td>EDC</td>
<td>expected date of confinement</td>
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<td>EEE</td>
<td>Eastern equine encephalitis</td>
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<td>EEG</td>
<td>electroencephalogram</td>
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<td>EFE</td>
<td>endocardial fibroelastosis</td>
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<td>EGL</td>
<td>eosinophilic granuloma of lung</td>
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<td>EH</td>
<td>enlarged heart; essential hypertension</td>
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<td>EIOA</td>
<td>excessive intake of alcohol</td>
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<td>EKC</td>
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<td>electrocardiogram</td>
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<td>EMF</td>
<td>endomyocardial fibrosis</td>
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<tr>
<td>EMG</td>
<td>electromyogram</td>
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<td>EN</td>
<td>erythema nodosum</td>
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<td>ENT</td>
<td>ear, nose, and throat</td>
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<td>EP</td>
<td>ectopic pregnancy</td>
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<td>ER</td>
<td>emergency room</td>
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<tr>
<td>ERS</td>
<td>evacuation of retained secundines</td>
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<td>ESRD</td>
<td>end-stage renal disease</td>
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<td>EST</td>
<td>electric shock therapy</td>
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<td>ETOH</td>
<td>ethyl alcohol</td>
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<tr>
<td>EUA</td>
<td>exam under anesthesia</td>
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<td>EWB</td>
<td>estrogen withdrawal bleeding</td>
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<td>FB</td>
<td>foreign body</td>
</tr>
<tr>
<td>FBS</td>
<td>fasting blood sugar</td>
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<td>Abbreviation</td>
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<tr>
<td>Fe</td>
<td>symbol for iron</td>
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<td>FGD</td>
<td>fatal granulomatous disease</td>
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<td>FHS</td>
<td>fetal heart sounds</td>
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<td>fetal heart tone</td>
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<td>FLSA</td>
<td>follicular lymphosarcoma</td>
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<td>FME</td>
<td>full-mouth extraction</td>
</tr>
<tr>
<td>FS</td>
<td>frozen section; fracture site</td>
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<td>FT</td>
<td>full term</td>
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<td>FTA</td>
<td>fluorescent treponemal antibody test</td>
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<td>FTD</td>
<td>fronto-temporal dementia</td>
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<td>5FU</td>
<td>fluorouracil</td>
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<td>FUB</td>
<td>functional uterine bleeding</td>
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<td>FULG</td>
<td>fulguration</td>
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<td>FUO</td>
<td>fever unknown origin</td>
</tr>
<tr>
<td>FX</td>
<td>fracture</td>
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<td>FYI</td>
<td>for your information</td>
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<td>GAS</td>
<td>generalized arteriosclerosis</td>
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<tr>
<td>GB</td>
<td>gallbladder; Guillain-Barre (syndrome)</td>
</tr>
<tr>
<td>GC</td>
<td>gonococcus; gonorrhea; general circulation (systemic)</td>
</tr>
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<td>GE</td>
<td>gastroesophageal</td>
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<tr>
<td>GEN</td>
<td>generalized</td>
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<td>GERD</td>
<td>gastroesophageal reflux disease</td>
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<td>gastrointestinal bleeding</td>
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<td>gastrointestinal stromal tumor</td>
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<td>GIT</td>
<td>gastrointestinal tract</td>
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<td>GMSD</td>
<td>grand mal seizure disorder</td>
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<td>GOK</td>
<td>God only knows</td>
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<td>GSW</td>
<td>gunshot wound</td>
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<td>glucose tolerance test</td>
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<td>drop</td>
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<td>GU</td>
<td>genitourinary; gastric ulcer</td>
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<td>GVHR</td>
<td>graft-versus-host reaction</td>
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<td>GYN</td>
<td>gynecology</td>
</tr>
<tr>
<td>HA</td>
<td>headache</td>
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<td>HAA</td>
<td>hepatitis-associated antigen</td>
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<tr>
<td>HASCVD</td>
<td>hypertensive arteriosclerotic cardiovascular disease</td>
</tr>
<tr>
<td>HASCVR</td>
<td>hypertensive arteriosclerotic cardiovascular renal disease</td>
</tr>
<tr>
<td>HASHD</td>
<td>hypertensive arteriosclerotic heart disease</td>
</tr>
<tr>
<td>HBP</td>
<td>high blood pressure</td>
</tr>
<tr>
<td>HC</td>
<td>Huntington’s chorea</td>
</tr>
<tr>
<td>HCAP</td>
<td>health care associated pneumonia</td>
</tr>
<tr>
<td>HCPS</td>
<td>Hantiviruses (cardio) pulmonary syndrome, Hantavirus cardiopulmonary syndrome</td>
</tr>
<tr>
<td>HCT</td>
<td>hematocrit</td>
</tr>
</tbody>
</table>
HCVD  hypertensive cardiovascular disease
HCVRD  hypertensive cardiovascular renal disease
HD  Hodgkin's disease; heart disease
HDN  hemolytic disease of newborn
HDS  herniated disc syndrome
HEM  hemorrhage
HF  heart failure; hay fever
HGB; Hgb  hemoglobin
HHD  hypertensive heart disease
HIV  human immunodeficiency virus
HMD  hyaline membrane disease
HN2  nitrogen mustard
HNP  herniated nucleus pulposus
H/O  history of
HPN  hypertension
HPS  Hantavirus pulmonary syndrome
HPVD  hypertensive pulmonary vascular disease
HRE  high-resolution electrocardiology
HS  herpes simplex; Hurler's syndrome
HSV  herpes simplex virus
HTLV  human T-cell lymphotropic virus
HTLV  human T-cell lymphotropic
III/LAV  virus-III/lymphadenopathy- associated virus
HTLV-3  human T-cell lymphotropic virus-III
HTLV-III  human T-cell lymphotropic virus-III
HTN  hypertension
HVD  hypertensive vascular disease
Hx  history of
IADH  inappropriate antidiuretic hormone
IASD  interatrial septal defect
ICCE  intracapsular cataract extraction
ICD  intrauterine contraceptive device
I&D  incision and drainage
ID  incision and drainage
IDA  iron deficiency anemia
IDD  insulin-dependent diabetes
IDDI  insulin-dependent diabetes
IDDM  insulin-dependent diabetes mellitus
IGA  immunoglobulin A
IHD  ischemic heart disease
IHSS  idiopathic hypertrophic subaortic stenosis
IIAC  idiopathic infantile arterial calcification
ILD  ischemic leg disease
IM  intramuscular; intramedullary; infectious mononucleosis
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPP</td>
<td>intermittent positive pressure</td>
</tr>
<tr>
<td>INAD</td>
<td>infantile neuroaxonal dystrophy</td>
</tr>
<tr>
<td>INC</td>
<td>incomplete</td>
</tr>
<tr>
<td>INE</td>
<td>infantile necrotizing encephalomyelopathy</td>
</tr>
<tr>
<td>INF</td>
<td>infection; infected; infantile; infarction</td>
</tr>
<tr>
<td>INH</td>
<td>isoniazid; inhalation</td>
</tr>
<tr>
<td>INS</td>
<td>idiopathic nephrotic syndrome</td>
</tr>
<tr>
<td>IRDM</td>
<td>insulin resistant diabetes mellitus</td>
</tr>
<tr>
<td>IRHD</td>
<td>inactive rheumatic heart disease</td>
</tr>
<tr>
<td>IRIS</td>
<td>immune reconstitution inflammatory syndrome</td>
</tr>
<tr>
<td>ISD</td>
<td>interatrial septal defect</td>
</tr>
<tr>
<td>ITP</td>
<td>idiopathic thrombocytopenic purpura</td>
</tr>
<tr>
<td>IU</td>
<td>intrauterine</td>
</tr>
<tr>
<td>IUCD</td>
<td>intrauterine contraceptive device</td>
</tr>
<tr>
<td>IUD</td>
<td>intrauterine device (contraceptive); intrauterine death</td>
</tr>
<tr>
<td>IUP</td>
<td>intrauterine pregnancy</td>
</tr>
<tr>
<td>IV</td>
<td>intervenous; intravenous</td>
</tr>
<tr>
<td>IVC</td>
<td>intravenous cholangiography; inferior vena cava</td>
</tr>
<tr>
<td>IVCC</td>
<td>intravascular consumption coagulopathy</td>
</tr>
<tr>
<td>IVD</td>
<td>intervertebral disc</td>
</tr>
<tr>
<td>IVH</td>
<td>intraventricular hemorrhage</td>
</tr>
<tr>
<td>IVP</td>
<td>intravenous pyelogram</td>
</tr>
<tr>
<td>IVSD</td>
<td>intraventricular septal defect</td>
</tr>
<tr>
<td>IVU</td>
<td>intravenous urethrography</td>
</tr>
<tr>
<td>IWMI</td>
<td>inferior wall myocardial infarction</td>
</tr>
<tr>
<td>JAA</td>
<td>juxtaposition of atrial appendage</td>
</tr>
<tr>
<td>JBE</td>
<td>Japanese B encephalitis</td>
</tr>
<tr>
<td>KFS</td>
<td>Klippel-Feil syndrome</td>
</tr>
<tr>
<td>KS</td>
<td>Klinefelter's syndrome</td>
</tr>
<tr>
<td>KUB</td>
<td>kidney, ureter, bladder</td>
</tr>
<tr>
<td>K-W</td>
<td>Kimmelstiel-Wilson disease or syndrome</td>
</tr>
<tr>
<td>LAP</td>
<td>laparotomy</td>
</tr>
<tr>
<td>LAV</td>
<td>lymphadenopathy-associated virus</td>
</tr>
<tr>
<td>LAV/HTLV-III</td>
<td>lymphadenopathy-associated virus/human T-cell lymphotrophic virus-III</td>
</tr>
<tr>
<td>LBBB</td>
<td>left bundle branch block</td>
</tr>
<tr>
<td>LBNA</td>
<td>lysis bladder neck adhesions</td>
</tr>
<tr>
<td>LBW</td>
<td>low birth weight</td>
</tr>
<tr>
<td>LBWI</td>
<td>low birth weight infant</td>
</tr>
<tr>
<td>LCA</td>
<td>left coronary artery</td>
</tr>
<tr>
<td>LDH</td>
<td>lactic dehydrogenase</td>
</tr>
<tr>
<td>LE</td>
<td>lupus erythematosus; lower extremity; left eye</td>
</tr>
<tr>
<td>LKS</td>
<td>liver, kidney, spleen</td>
</tr>
<tr>
<td>LL</td>
<td>lower lobe</td>
</tr>
<tr>
<td>LLL</td>
<td>left lower lobe</td>
</tr>
</tbody>
</table>
LLQ  lower left quadrant
LMA  left mentoanterior (position of fetus)
LML  left middle lobe; left mesiolateral
LMCAT left middle cerebral artery thrombosis
LML  left mesiolateral; left mediolateral (episiotomy)
LMP  last menstrual period; left mento-posterior (position of fetus)
LN   lupus nephritis
LOA  left occipitoanterior
LOMCS left otitis media chronic serous
LP   lumbar puncture
LRI  lower respiratory infection
LS   lumbosacral; lymphosarcoma
LSD  lysergic acid diethylamide
LSK  liver, spleen, kidney
LUL  left upper lobe
LUQ  left upper quadrant
LV   left ventricle
LVF  left ventricular failure
LVH  left ventricular hypertrophy
MAC  mycobacterium avium complex
MAI  mycobacterium avium intracellulare
MAL  malignant
MBAI mycobacterium avium intracellulare
MBD  minimal brain damage
MCA  metastatic cancer; middle cerebral artery
MD   muscular dystrophy; manic depressive; myocardial damage
MDA  methylene dioxyamphetamine
MEA  multiple endocrine adenomatosis
MF   myocardial failure; myocardial fibrosis; mycosis fungoides
MGN  membranous glomerulonephritis
MHN  massive hepatic necrosis
MI   myocardial infarction; mitral insufficiency
MPC  meperidine, promethazine, chlorpromazine
MRS  methicillin resistant staphylococcal
MRSA methicillin resistant staphylococcal aureus
MRSAU methicillin resistant staphylococcal aureus
MS   multiple sclerosis; mitral stenosis
MSOF multi-system organ failure
MT   malignant teratoma
MUA  myelogram
MVP  mitral valve prolapse
MVR  mitral valve regurgitation; mitral valve replacement
NACD no anatomical cause of death
NAFLD nonalcoholic fatty liver disease
NCA  neurocirculatory asthenia
NDI  nephrogenic diabetes insipidus
NEG  negative
NFI  no further information
NFTD normal full-term delivery
NG  nasogastric
NH3 symbol for ammonia
NIDD non-insulin-dependent diabetes
NIDDI non-insulin-dependent diabetes
NIDDM non-insulin-dependent diabetes mellitus
NSTEMI non-ST-elevation myocardial infarction
N&V nausea and vomiting
NVD nausea, vomiting, diarrhea
OA  osteoarthritis
OAD obstructive airway disease
OB  obstetrical
OBS organic brain syndrome
OBST obstructive; obstetrical
OD overdose; oculus dexter (right eye); occupational disease
OHD organic heart disease
OLT orthotopic liver transplant
OM  otitis media
OMI old myocardial infarction
OMS organic mental syndrome
ORIF open reduction, internal fixation
OS  oculus sinister (left eye); occipitosacral (fetal position)
OT occupational therapy; old TB
OU  oculus uterque (each eye); both eyes
PA  pernicious anemia; paralysis agitans; pulmonary artery; peripheral arteriosclerosis
PAC premature auricular contraction; phenacetin, aspirin, caffeine
PAF paroxysmal auricular fibrillation
PAOD peripheral arterial occlusive disease; peripheral arteriosclerosis occlusive disease
PAP primary atypical pneumonia
PAS pulmonary artery stenosis
PAT pregnancy at term; paroxysmal auricular tachycardia
Pb  chemical symbol for lead
PCD polycystic disease
PCF passive congestive failure
PCP pentachlorophenol; pneumocystis carinii pneumonia
PCT porphyria cutanea tarda
PCV polycythemia vera
PDA patent ductus arteriosus
PE  pulmonary embolism; pleural effusion; pulmonary edema
PEG percutaneous endoscopic gastrostomy; pneumoencephalography
PEGT percutaneous endoscopic gastrostomy tube
PET pre-eclamptic toxemia
PG pregnant; prostaglandin
PGH pituitary growth hormone
PH past history; prostatic hypertrophy; pulmonary hypertension
PI pulmonary infarction
PID pelvic inflammatory disease; prolapsed intervertebral disc
PIE pulmonary interstitial emphysema
PIP proximal interphalangeal joint
PKU phenylketonuria
PMD progressive muscular dystrophy
PMI posterior myocardial infarction; point of maximum impulse
PML progressive multifocal leukoencephalopathy
PN pneumonia; periarteritis nodosa; pyelonephritis
PO postoperative; by mouth
POC product of conception
POE point (or portal) of entry
POSS possible; possibly
PP postpartum
PPD purified protein derivative test for tuberculosis
PPH postpartum hemorrhage
PPLO pleuropneumonia-like organism
PPROM preterm premature rupture of membranes
PPS postpump syndrome
PPT precipitated; prolonged prothrombin time
PREM prematurity
PROB probably
PROM premature rupture of membranes
PSVT paroxysmal supraventricular tachycardia
PT paroxysmal tachycardia; pneumothorax; prothrombin time
PTA persistent truncus arteriosus
PTC plasma thromboplastin component
PTCA percutaneous transluminal coronary angioplasty
PTLA percutaneous transluminal laser angioplasty
PU peptic ulcer
PUD peptic ulcer disease; pulmonary disease
PUO pyrexia of unknown origin
P&V pyloroplasty and vagotomy
PVC premature ventricular contraction
PVD peripheral vascular disease; pulmonary vascular disease
PVI peripheral vascular insufficiency
PVL periventricular leukomalacia
PVT paroxysmal ventricular tachycardia
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVS</td>
<td>premature ventricular systole (contraction)</td>
</tr>
<tr>
<td>PWI</td>
<td>posterior wall infarction</td>
</tr>
<tr>
<td>PWMI</td>
<td>posterior wall myocardial infarction</td>
</tr>
<tr>
<td>PX</td>
<td>pneumothorax</td>
</tr>
<tr>
<td>R</td>
<td>right</td>
</tr>
<tr>
<td>RA</td>
<td>rheumatoid arthritis; right atrium; right auricle</td>
</tr>
<tr>
<td>RAAA</td>
<td>ruptured abdominal aortic aneurysm</td>
</tr>
<tr>
<td>RAD</td>
<td>rheumatoid arthritis disease; radiation absorbed dose</td>
</tr>
<tr>
<td>RAI</td>
<td>radioactive iodine</td>
</tr>
<tr>
<td>RBBB</td>
<td>right bundle branch block</td>
</tr>
<tr>
<td>RBC</td>
<td>red blood cells</td>
</tr>
<tr>
<td>RCA</td>
<td>right coronary artery</td>
</tr>
<tr>
<td>RCS</td>
<td>reticulum cell sarcoma</td>
</tr>
<tr>
<td>RD</td>
<td>Raynaud's disease; respiratory disease</td>
</tr>
<tr>
<td>RDS</td>
<td>respiratory distress syndrome</td>
</tr>
<tr>
<td>RE</td>
<td>regional enteritis</td>
</tr>
<tr>
<td>REG</td>
<td>radioencephalogram</td>
</tr>
<tr>
<td>RESP</td>
<td>respiratory</td>
</tr>
<tr>
<td>RHD</td>
<td>rheumatic heart disease</td>
</tr>
<tr>
<td>RLF</td>
<td>retrolental fibroplasia</td>
</tr>
<tr>
<td>RLL</td>
<td>right lower lobe</td>
</tr>
<tr>
<td>RLQ</td>
<td>right lower quadrant</td>
</tr>
<tr>
<td>RMCA</td>
<td>right middle cerebral artery</td>
</tr>
<tr>
<td>RMCAT</td>
<td>right middle cerebral artery thrombosis</td>
</tr>
<tr>
<td>RML</td>
<td>right middle lobe</td>
</tr>
<tr>
<td>RMLE</td>
<td>right mediolateral episiotomy</td>
</tr>
<tr>
<td>RNA</td>
<td>ribonucleic acid</td>
</tr>
<tr>
<td>RND</td>
<td>radical neck dissection</td>
</tr>
<tr>
<td>R/O</td>
<td>rule out</td>
</tr>
<tr>
<td>RSA</td>
<td>reticulum cell sarcoma</td>
</tr>
<tr>
<td>RSR</td>
<td>regular sinus rhythm</td>
</tr>
<tr>
<td>Rt</td>
<td>right</td>
</tr>
<tr>
<td>RT</td>
<td>recreational therapy; right</td>
</tr>
<tr>
<td>RTA</td>
<td>renal tubular acidosis</td>
</tr>
<tr>
<td>RUL</td>
<td>right upper lobe</td>
</tr>
<tr>
<td>RUQ</td>
<td>right upper quadrant</td>
</tr>
<tr>
<td>RV</td>
<td>right ventricle</td>
</tr>
<tr>
<td>RVH</td>
<td>right ventricular hypertrophy</td>
</tr>
<tr>
<td>RVT</td>
<td>renal vein thrombosis</td>
</tr>
<tr>
<td>RX</td>
<td>drugs or other therapy or treatment</td>
</tr>
<tr>
<td>SA</td>
<td>sarcoma; secondary anemia</td>
</tr>
<tr>
<td>SACD</td>
<td>subacute combined degeneration</td>
</tr>
<tr>
<td>SARS</td>
<td>severe acute respiratory syndrome</td>
</tr>
<tr>
<td>SBE</td>
<td>subacute bacterial endocarditis</td>
</tr>
</tbody>
</table>
SBO  small bowel obstruction
SBP  spontaneous bacterial peritonitis
SC  sickle cell
SCC  squamous cell carcinoma
SCI  subcomia insulin; spinal cord injury
SD  spontaneous delivery; septal defect; sudden death
SDAT  senile dementia Alzheimer's type
SDII  sudden death in infancy
SDS  sudden death syndrome
SEPT  septicemia
SF  scarlet fever
SGA  small for gestational age
SH  serum hepatitis
SI  saline injection
SIADH  syndrome of inappropriate antidiuretic hormone
SICD  sudden infant crib death
SID  sudden infant death
SIDS  sudden infant death syndrome
SIRS  systemic inflammatory response syndrome
SLC  short leg cast
SLE  systemic lupus erythematosus; Saint Louis encephalitis
SMR  submucous resection
SNB  scalene node biopsy
SO or S&O  salpingo-oophorectomy
SOB  shortness of breath
SOM  secretory otitis media
SOR  suppurative otitis, recurrent
S/P  status post
SPD  sociopathic personality disturbance
SPP  suprapubic prostatectomy
SQ  subcutaneous
S/R  schizophrenic reaction; sinus rhythm
S/p P/T  schizophrenic reaction, paranoid type
SSE  soapsuds enema
SSKI  saturated solution potassium iodide
SSPE  subacute sclerosing panencephalitis
STAPH  staphylococcal; staphylococcus
STB  stillborn
STREP  streptococcal; streptococcus
STS  serological test for syphilis
STSG  split thickness skin graft
SUBQ  subcutaneous
SUD  sudden unexpected death
SUDI  sudden unexplained death of an infant
VC vincristine
VD venereal disease
VDRL venereal disease research lab
VEE Venezuelan equine encephalomyelitis
VF ventricular fibrillation
VH vaginal hysterectomy; viral hepatitis
VL vas ligation
VM viomycin
V&P vagotomy and pyloroplasty
VPC, VPCS ventricular premature contractions
VR valve replacement
VSD ventricular septal defect
VT ventricular tachycardia
WBC white blood cell
WC whooping cough
WE Western encephalomyelitis
W/O without
WPW Wolfe-Parkinson-White syndrome
YF yellow fever
ZE Zollinger-Ellison (syndrome)
' minute
" second(s)
< less than
> greater than
↓ decreased
↑ increased; elevated
\(\overline{c}\) with
\(\overline{s}\) without
Appendix E - Synonymous Sites/Terms

When a condition of a stated anatomical site is indexed in Volume 3, code condition of stated site as indexed. If stated site is not indexed, code condition of synonymous site.

<table>
<thead>
<tr>
<th>Alimentary canal</th>
<th>Gastrointestinal tract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Torso, trunk</td>
</tr>
<tr>
<td>Brain</td>
<td>Anterior fossa, basal ganglion, central nervous system, cerebral, cerebrum, frontal, occipital, parietal, pons, posterior fossa, prefrontal, temporal, III and IV ventricle</td>
</tr>
<tr>
<td>NOTE:</td>
<td>Do not use brain when ICD provides for CNS under the reported condition.</td>
</tr>
<tr>
<td>Cardiac</td>
<td>Heart</td>
</tr>
<tr>
<td>Chest</td>
<td>Thorax</td>
</tr>
<tr>
<td>Geriatric</td>
<td>Senile</td>
</tr>
<tr>
<td>Greater sac</td>
<td>Peritoneum</td>
</tr>
<tr>
<td>Hepatic</td>
<td>Liver</td>
</tr>
<tr>
<td>Hepatocellular</td>
<td>Liver</td>
</tr>
<tr>
<td>Intestine</td>
<td>Bowel, colon</td>
</tr>
<tr>
<td>Kidney</td>
<td>Renal</td>
</tr>
<tr>
<td>Larynx</td>
<td>Epiglottis, subglottis, supraglottis, vocal cords</td>
</tr>
<tr>
<td>Lesser sac</td>
<td>Peritoneum</td>
</tr>
<tr>
<td>Nasopharynx, pharynx</td>
<td>Throat</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>Lung</td>
</tr>
<tr>
<td>Right\left hemispheric</td>
<td>Code brain</td>
</tr>
<tr>
<td>Hemispheric NOS</td>
<td>Do not assume brain</td>
</tr>
<tr>
<td>Right\left ventricle</td>
<td>Heart</td>
</tr>
<tr>
<td>Third\fourth ventricle</td>
<td>Brain</td>
</tr>
<tr>
<td>LLL, LUL, RLL, RML, RUL</td>
<td>Lobes of the lungs when reported with lobectomy, pneumonia, etc.</td>
</tr>
</tbody>
</table>
Appendix F - Invalid and Substitute Codes

The following categories are invalid for underlying cause coding in the United States registration areas. Substitute code(s) for use in underlying cause coding appears to the right.

Use the substitute codes when conditions classifiable to the following codes are reported:

<table>
<thead>
<tr>
<th>Invalid Codes</th>
<th>Substitute Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A150-A153</td>
<td>A162</td>
</tr>
<tr>
<td>A154</td>
<td>A163</td>
</tr>
<tr>
<td>A155</td>
<td>A164</td>
</tr>
<tr>
<td>A156</td>
<td>A165</td>
</tr>
<tr>
<td>A157</td>
<td>A167</td>
</tr>
<tr>
<td>A158</td>
<td>A168</td>
</tr>
<tr>
<td>A159</td>
<td>A169</td>
</tr>
<tr>
<td>A160-A161</td>
<td>A162</td>
</tr>
<tr>
<td>B95-B97</td>
<td>Code the disease(s) classified to other chapters modified by the organism. Do not enter a code for the organism.</td>
</tr>
<tr>
<td>F70.-</td>
<td>F70 (3-characters only)</td>
</tr>
<tr>
<td>F71.-</td>
<td>F71 (3-characters only)</td>
</tr>
<tr>
<td>F72.-</td>
<td>F72 (3-characters only)</td>
</tr>
<tr>
<td>F73.-</td>
<td>F73 (3-characters only)</td>
</tr>
<tr>
<td>F78.-</td>
<td>F78 (3-characters only)</td>
</tr>
<tr>
<td>F79.-</td>
<td>F79 (3-characters only)</td>
</tr>
<tr>
<td>I151-I158</td>
<td>R99</td>
</tr>
<tr>
<td>I23.-</td>
<td>I21 or I22</td>
</tr>
<tr>
<td>I240</td>
<td>I21 or I22</td>
</tr>
<tr>
<td>Code</td>
<td>Code</td>
</tr>
<tr>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>I252</td>
<td>I258</td>
</tr>
<tr>
<td>I65-I66</td>
<td>I63</td>
</tr>
<tr>
<td>O08.-</td>
<td>O00 - O07</td>
</tr>
<tr>
<td>O80.-</td>
<td>O95</td>
</tr>
<tr>
<td>O81-O84</td>
<td>O759</td>
</tr>
<tr>
<td>P95</td>
<td>P969</td>
</tr>
<tr>
<td>R69</td>
<td>R95-R99</td>
</tr>
</tbody>
</table>
Appendix G - Codes for Special Purposes (U00-U99)

Provisional assignment of new codes (U00-U99)

1. Terrorism Classification (*U01-*U03)

NCHS has developed a set of new codes within the framework of the ICD that will allow the identification of deaths from terrorism reported on death certificates through the National Vital Statistics System. Terrorism-related ICD-10 codes for mortality have been assigned to the “U” category which has been designated by WHO for use by individual countries. The asterisk preceding the alphanumeric code indicates the code was introduced by the United States and is not officially part of the ICD.

To classify a death as terrorist-related, it is necessary for the incident to be designated as such by the Federal Bureau of Investigation (FBI). Neither a medical examiner nor a coroner who would be completing/certifying the death certificate, nor the nosologist coding the death certificate would determine that an incident is an act of terrorism. If an incident or event is confirmed by the FBI as terrorism, it may be so described on the certificate. If the incident is confirmed as terrorism after the death certificate is completed, the certificate can be recoded at a later date.

Not to be used unless notified by NCHS

Tabular List
Assault (homicide)
*U01-*U02

*U01 Terrorism

Includes: assault-related injuries resulting from the unlawful use of force or violence against persons or property to intimidate or coerce a Government, the civilian population, or any segment thereof, in furtherance of political or social objectives

*U01.0 Terrorism involving explosion of marine weapons

Depth-charge
Marine mine
Mine NOS, at sea or in harbor
Sea-based artillery shell
Torpedo
Underwater blast

*U01.1 Terrorism involving destruction of aircraft

Includes: aircraft used as a weapon

Aircraft:
- burned
- exploded
- shot down
 Crushed by falling aircraft
**U01.2**  
**Terrorism involving other explosives and fragments**  
Antipersonnel bomb (fragments)  
Blast NOS  
Explosion (of):  
- NOS  
- artillery shell  
- breech-block  
- cannon block  
- mortar bomb  
- munitions being used in terrorism  
- own weapons  
Fragments from:  
- artillery shell  
- bomb  
- grenade  
- guided missile  
- land-mine  
- rocket  
- shell  
- shrapnel  
Mine NOS

**U01.3**  
**Terrorism involving fires, conflagration and hot substances**

| Asphyxia | originating from fire caused directly by fire-producing device or indirectly by any conventional weapon |
| Burns | |
| Other injury | |
| Petrol bomb | |
| Collapse of | |
| Fall from | |
| Falling from | burning building or structure |
| Hit by object | |
| Jump from | |
| Conflagration | |
| Fire | |
| Melting | of fittings or furniture |
| Smoldering | |

**U01.4**  
**Terrorism involving firearms**  
Bullet  
- carbine  
- machine gun  
- pistol  
- rifle  
- rubber (rifle)
Pellets (shotgun)

**U01.5 Terrorism involving nuclear weapons**
- Blast effects
- Exposure to ionizing radiation from nuclear weapon
- Fireball effects
- Heat
- Other direct and secondary effects of nuclear weapons

**U01.6 Terrorism involving biological weapons**
- Anthrax
- Cholera
- Smallpox

**U01.7 Terrorism involving chemical weapons**
- Gases, fumes and chemicals:
  - Hydrogen cyanide
  - Phosgene
  - Sarin

**U01.8 Terrorism, other specified**
- Lasers
- Battle wounds
- Drowned in terrorist operations NOS
- Piercing or stabbing object injuries

**U01.9 Terrorism, unspecified**

**U02 Sequelae of terrorism**

**U03 Terrorism**

**U03.0 Terrorism involving explosions and fragments**

*Includes:* destruction of aircraft used as a weapon

Aircraft:
- burned
- exploded
- shot down

Antipersonnel bomb (fragments)
Blast NOS
Explosion (of):
- NOS
- artillery shell
- breech-block
- cannon block
• mortar bomb
• munitions being used in terrorism
• own weapons
Fragments from:
• artillery shell
• bomb
• grenade
• guided missile
• land-mine
• rocket
• shell
• shrapnel
Mine NOS

*U03.9  Terrorism by other and unspecified means

SECTION II – External causes of injury

Air
- blast in terrorism U01.2

Asphyxia, asphyxiation
- by
  - chemical in terrorism U01.7
  - fumes in terrorism (chemical weapons) U01.7
  - gas (see also Table of drugs and chemicals)
  - - in terrorism (chemical weapons) U01.7
- from
  - fire (see also Exposure, fire)
  - - in terrorism U01.3

Bayonet wound
- in
  - terrorism U01.8

Blast (air) in terrorism U01.2
- from nuclear explosion U01.5
- underwater U01.0

Burn, burned, burning (by) (from) (on)
- chemical (external) (internal)
  - in terrorism (chemical weapons) U01.7
  - in terrorism (from fire-producing device) NEC U01.3
  - nuclear explosion U01.5
  - petrol bomb U01.3

Casualty (not due to war) NEC
- terrorism U01.9

Collapse
- building
  - burning (uncontrolled fire)
  - - in terrorism U01.3
  - structure
  - - burning (uncontrolled fire)
  - - - in terrorism U01.3
Crash
- aircraft (powered)
- in terrorism U01.1
Crushed
- by, in
- falling
- aircraft
- in terrorism U01.1
Cut, cutting (any part of body) (by) (see also Contact, with, by object or machine)
- terrorism U01.8
Drowning
- in
- terrorism U01.8
Effect(s) (adverse) of
- nuclear explosion or weapon in terrorism (blast) (direct) (fireball) (heat) (radiation) (secondary) U01.5
Explosion (in) (of) (on) (with secondary fire)
- terrorism U01.2
Exposure to
- fire (with exposure to smoke or fumes or causing burns, or secondary explosion)
- in, of, on, starting in
- terrorism (by fire-producing device) U01.3
- fittings or furniture (burning building) (uncontrolled fire) U01.3
- from nuclear explosion U01.5
Fall, falling
- from, off
- building
- burning (uncontrolled fire)
- in terrorism U01.3
- structure NEC
- burning (uncontrolled fire)
- in terrorism U01.3
Fireball effects from nuclear explosion in terrorism U01.5
Heat (effects of) (excessive)
- from
- nuclear explosion in terrorism U01.5
Infection, infected (opportunistic)
- coronavirus NEC
- severe acute respiratory syndrome (SARS) U04.9
Injury, injured NEC
- by, caused by, from
- terrorism – see Terrorism
- due to
- terrorism – see Terrorism
Jumped, jumping
- from
  - - building (see also Jumped, from, high place)
  - - - burning (uncontrolled fire)
  - - - in terrorism U01.3
  - - structure (see also Jumped, from, high place)
  - - - burning (uncontrolled fire)
  - - - in terrorism U01.3
Poisoning (by) (see also Table of drugs and chemicals)
- in terrorism (chemical weapons) U01.7
Radiation (exposure to)
- in
  - - terrorism (from or following nuclear explosion) (direct) (secondary) U01.5
  - - - laser(s) U01.8
  - laser(s)
  - - in terrorism U01.8
Sequelae (of)
- in terrorism U02
Shooting, shot (see also Discharge, by type of firearm)
- in terrorism U01.4
Struck by
- bullet (see also Discharge, by type of firearm)
  - - in terrorism U01.4
  - - missile
  - - in terrorism – see Terrorism, missile
  - object
  - - falling
  - - - from, in, on
  - - - - building
  - - - - - burning (uncontrolled fire)
  - - - - - in terrorism U01.3
Suicide, suicidal (attempted) (by)
- explosive(s) (material)
  - - in terrorism U03.0
  - - in terrorism U03.9
Terrorism (by) (in) (injury) (involving) U01.9
  - air blast U01.2
  - aircraft burned, destroyed, exploded, shot down U01.1
  - - used as a weapon U01.1
  - anthrax U01.6
  - asphyxia from
  - - chemical (weapons) U01.7
  - - fire, conflagration (caused by fire-producing device) U01.3
  - - - from nuclear explosion U01.5
  - - gas or fumes U01.7
  - bayonet U01.8
  - biological agents (weapons) U01.6
  - blast (air) (effects) U01.2
- from nuclear explosion U01.5
- underwater U01.0
-bomb (antipersonnel) (mortar) (explosion) (fragments) U01.2
- petrol U01.3
-bullet(s) (from carbine, machine gun, pistol, rifle, rubber (rifle), shotgun) U01.4
-burn from
- chemical U01.7
-fire, conflagration (caused by fire-producing device) U01.3
- - from nuclear explosion U01.5
- - gas U01.7
-burning aircraft U01.1
-chemical (weapons) U01.7
-cholera U01.6
-conflagration U01.3
-crushed by falling aircraft U01.1
-depth-charge U01.0
-destruction of aircraft U01.1
-disability as sequelae one year or more after injury U02
-drowning U01.8
-effect (direct) (secondary) of nuclear weapon U01.5
- - sequelae U02
-explosion (artillery shell) (breech-block) (cannon block) U01.2
- - aircraft U01.1
- - bomb (antipersonnel) (mortar) U01.2
- - - nuclear (atom) (hydrogen) U01.5
- - - depth-charge U01.0
- - - grenade U01.2
- - - injury by fragments (from) U01.2
- - - land-mine U01.2
- - - marine weapon(s) U01.0
- - - mine (land) U01.2
- - - - at sea or in harbor U01.0
- - - - marine U01.0
- - missile (explosive) (guided) NEC U01.2
- - munitions (dump) (factory) U01.2
- - nuclear (weapon) U01.5
- - other direct and secondary effects of U01.5
- - own weapons U01.2
- - sea-based artillery shell U01.0
- - torpedo U01.0
-exposure to ionizing radiation from nuclear explosion U01.5
-falling aircraft U01.1
-fire or fire-producing device U01.3
-firearms U01.4
-fireball effects from nuclear explosion U01.5
-fragments from artillery shell, bomb NEC, grenade, guided missile, land-mine, rocket, shell, shrapnel U01.2
-gas or fumes U01.7
- grenade (explosion) (fragments) U01.2
- guided missile (explosion) (fragments) U01.2
- - nuclear U01.5
- heat from nuclear explosion U01.5
- hot substances U01.3
- hydrogen cyanide U01.7
- land-mine (explosion) (fragments) U01.2
- laser(s) U01.8
- late effect (of) U02
- lewisite U01.7
- lung irritant (chemical) (fumes) (gas) U01.7
- marine mine U01.0
- mine U01.2
- - at sea U01.0
- - in harbor U01.0
- - land (explosion) (fragments) U01.2
- - marine U01.0
- missile (explosion) (fragments) (guided) U01.2
- - marine U01.0
- - nuclear U01.5
- mortar bomb (explosion) (fragments) U01.2
- mustard gas U01.7
- nerve gas U01.7
- nuclear weapons U01.5
- pellets (shotgun) U01.4
- petrol bomb U01.3
- piercing object U01.8
- phosgene U01.7
- poisoning (chemical) (fumes) (gas) U01.7
- radiation, ionizing from nuclear explosion U01.5
- rocket (explosion) (fragments) U01.2
- saber, sabre U01.8
- sarin U01.7
- screening smoke U01.7
- sequelae effect (of) U02
- shell (aircraft) (artillery) (cannon) (land-based) (explosion) (fragments) U01.2
- - sea-based U01.0
- shooting U01.4
- - bullet(s) U01.4
- - pellet(s) (rifle) (shotgun) U01.4
- shrapnel U01.2
- smallpox U01.6
- stabbing object(s) U01.8
- submersion U01.8
- torpedo U01.0
- underwater blast U01.0
- vesicant (chemical) (fumes) (gas) U01.7
Date of death 9/11/2001

PLACE I  (a) Burns T300
(b) Terrorist attack on the Pentagon &U011

MOD II
H

Homicide The Pentagon Date of injury 9/11/2001

Code as terrorism involving destruction of aircraft. The FBI declared the Pentagon incident an act of terrorism.

Date of death 9/11/2001

PLACE I  (a) Chest trauma S299
(b) World Trade Center Disaster &U011

MOD II
H

Homicide World Trade Center Date of injury 9/11/2001

Code as terrorism involving destruction of aircraft. The FBI declared the World Trade Center incident an act of terrorism.

2. Severe Acute Respiratory Syndrome [SARS] (U04)

Tabular List

U04 Severe acute respiratory syndrome [SARS]

U04.9 Severe acute respiratory syndrome [SARS], unspecified

SECTION I – Alphabetic index to diseases and nature of injury

Syndrome
- respiratory
- severe acute U04.9
- severe acute respiratory syndrome (SARS) U04
Appendix H - List of conditions that can cause diabetes

Acceptable sequences for diabetes "due to" other diseases

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Similar terms include modifiers such as many, numerous, recurrent, repeated, serial, series, or several.