TABLE OF CONTENTS

INSTRUCTIONS FOR CLASSIFYING THE UNDERLYING CAUSE OF DEATH, 2007

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. F100 will not be used by the US registration areas beginning in 2007. Certain terms involving alcohol, such as alcohol intoxication and intoxication NOS, will be considered as alcohol poisoning and coded to X45. Instructions and examples in appropriate sections throughout the manual reflect these changes.

3. External category X59 has been expanded from a 3-character category to:
   X590 Exposure to unspecified factor causing fracture
   X599 Exposure to unspecified factor causing other and unspecified injury
   Examples throughout the manual have been corrected to reflect these changes.

4. Section I - D, Created Codes, added created codes for multiple intracerebral hemorrhages, multiple cerebral infarctions, multiple strokes, and sequela of each of the categories modified as "multiple".

5. Section I - D, Created Codes, deleted created code G3500 for advanced, grave, or severe multiple sclerosis.

6. Section I - E, Invalid Codes for Underlying Cause-of-Death Classification, deleted list. This information is available in Instruction Manual, Part 2c.

7. Section III - Editing and Interpreting Entries, Intent of certifier, added category #1 for coding spinal abscess as nontuberculous spinal abscess.

8. Section III - Editing and Interpreting Entries, Intent of certifier, added category # 24 for coding alveolar hemorrhage to lung hemorrhage.

9. Section III - Editing and Interpreting Entries, Intent of certifier, added category #34 for coding brain damage, newborn to anoxic brain damage.

10. Section III - Editing and Interpreting Entries, Effect of age on classification, added "neonatal" and "neonatorum" to list of terms meaning less than 28 days of age.

11. Section IV - Classification of Categories, Category F17.-, added statement that the category is not to be used if the resultant physical condition is known.

12. Section IV - Classification of Categories, Y60-Y83, Adverse effects and misadventures occurring as a result of a surgical procedure, added "radical neck dissection" to list of surgical procedures to code R99 if other surgery instructions do not apply.

13. Section IV - Classification of Categories, Y85-Y89, Sequela of external causes of morbidity and mortality, added "chronic" to list of modifiers that indicate sequela of external cause.

14. Appendix A, Infrequent and Rare Cause-of-Death Edits for Underlying and Multiple Cause-of-Death Classification, added J09 for Influenza due to identified avian influenza virus and U049 for Severe acute respiratory syndrome (SARS), unspecified.

15. Appendix B, Created Codes and Their Complimentary Valid ICD-10 Codes, added new created codes.

16. Appendix D, Standard Abbreviations and Symbols, added symbols for "less than" and "greater than".

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, 2007

Part 2c, ICD-10 ACME Decision Tables for Classifying Underlying Causes of Death, 2007.

Part 2s, SuperMICAR Data Entry Instruction, 2007

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.

Section I - B. Medical Certification

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

U.S. STANDARD CERTIFICATE OF DEATH

LOCAL FILE NO. STATE FILE NO.

NAME OF DECEDENT — For use by physician or institution

To Be Completed/ Verified By: FUNERAL DIRECTOR

1. DECEDENT'S LEGAL NAME (Include AKA's if any) (First, Middle, Last) | 2. SEX | 3. SOCIAL SECURITY NUMBER

4a. AGE-Last Birthday (Years) | 4b. UNDER 1 YEAR (Months / Days) | 4c. UNDER 1 DAY (Hours / Minutes) | 5. DATE OF BIRTH (Mo/Day/Yr) | 6. BIRTHPLACE (City and State or Foreign Country)

7a. RESIDENCE-STATE | 7b. COUNTY | 7c. CITY OR TOWN

7d. STREET AND NUMBER | 7e. APT. NO. | 7f. ZIP CODE | 7g. INSIDE CITY LIMITS? ☐ Yes ☐ No

8. EVER IN US ARMED FORCES? ☐ Yes ☐ No | 9. MARITAL STATUS AT TIME OF DEATH ☐ Married ☐ Married, but separated ☐ Widowed ☐ Divorced ☐ Never Married ☐ Unknown | 10. SURVIVING SPOUSE'S NAME (If wife, give name prior to first marriage)

11. FATHER'S NAME (First, Middle, Last) | 12. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last)

13a. INFORMANT'S NAME | 13b. RELATIONSHIP TO DECEDENT | 13c. MAILING ADDRESS (Street and Number, City, State, Zip Code)

14. PLACE OF DEATH (Check only one; see instructions)

IF DEATH OCCURRED IN A HOSPITAL: ☐ Inpatient ☐ Emergency Room/Outpatient ☐ Dead on Arrival

IF DEATH OCCURRED SOMEWHERE OTHER THAN A HOSPITAL: ☐ Hospice facility ☐ Nursing home/Long term care facility ☐ Decedent's home ☐ Other (Specify):

15. FACILITY NAME (If not institution, give street & number) | 16. CITY OR TOWN , STATE, AND ZIP CODE | 17. COUNTY OF DEATH

18. METHOD OF DISPOSITION: ☐ Burial ☐ Cremation ☐ Donation ☐ Entombment ☐ Removal from State ☐ Other (Specify):_____ | 19. PLACE OF DISPOSITION (Name of cemetery, crematory, other place)

20. LOCATION-CITY, TOWN, AND STATE | 21. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY

22. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT | 23. LICENSE NUMBER (Of Licensee)

To Be Completed By: MEDICAL CERTIFIER

ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH

24. DATE PRONOUNCED DEAD (Mo/Day/Yr) | 25. TIME PRONOUNCED DEAD

26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable) | 27. LICENSE NUMBER | 28. DATE SIGNED (Mo/Day/Yr)

29. ACTUAL OR PRESUMED DATE OF DEATH (Mo/Day/Yr) (Spell Month) | 30. ACTUAL OR PRESUMED TIME OF DEATH | 31. WAS MEDICAL EXAMINER OR CORONER CONTACTED? ☐ Yes ☐ No

CAUSE OF DEATH (See instructions and examples)

32. **PART I.** Enter the chain of events--diseases, injuries, or complications--that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary.

Approximate interval: Onset to death

IMMEDIATE CAUSE (Final disease or condition ——> resulting in death) a._____ Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the **UNDERLYING CAUSE** (disease or injury that initiated the events resulting in death) **LAST**

b._____ Due to (or as a consequence of):

c._____ Due to (or as a consequence of):

d._____

PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I

33. WAS AN AUTOPSY PERFORMED? ☐ Yes ☐ No

34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? ☐ Yes ☐ No

35. DID TOBACCO USE CONTRIBUTE TO DEATH? ☐ Yes ☐ Probably ☐ No ☐ Unknown

36. IF FEMALE: ☐ Not pregnant within past year ☐ 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 ☐ Unknown if pregnant within the past year

37. MANNER OF DEATH ☐ Natural ☐ Homicide ☐ Accident ☐ Pending Investigation ☐ Suicide ☐ Could not be determined

38. DATE OF INJURY (Mo/Day/Yr) (Spell Month) | 39. TIME OF INJURY | 40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area) | 41. INJURY AT WORK? ☐ Yes ☐ No

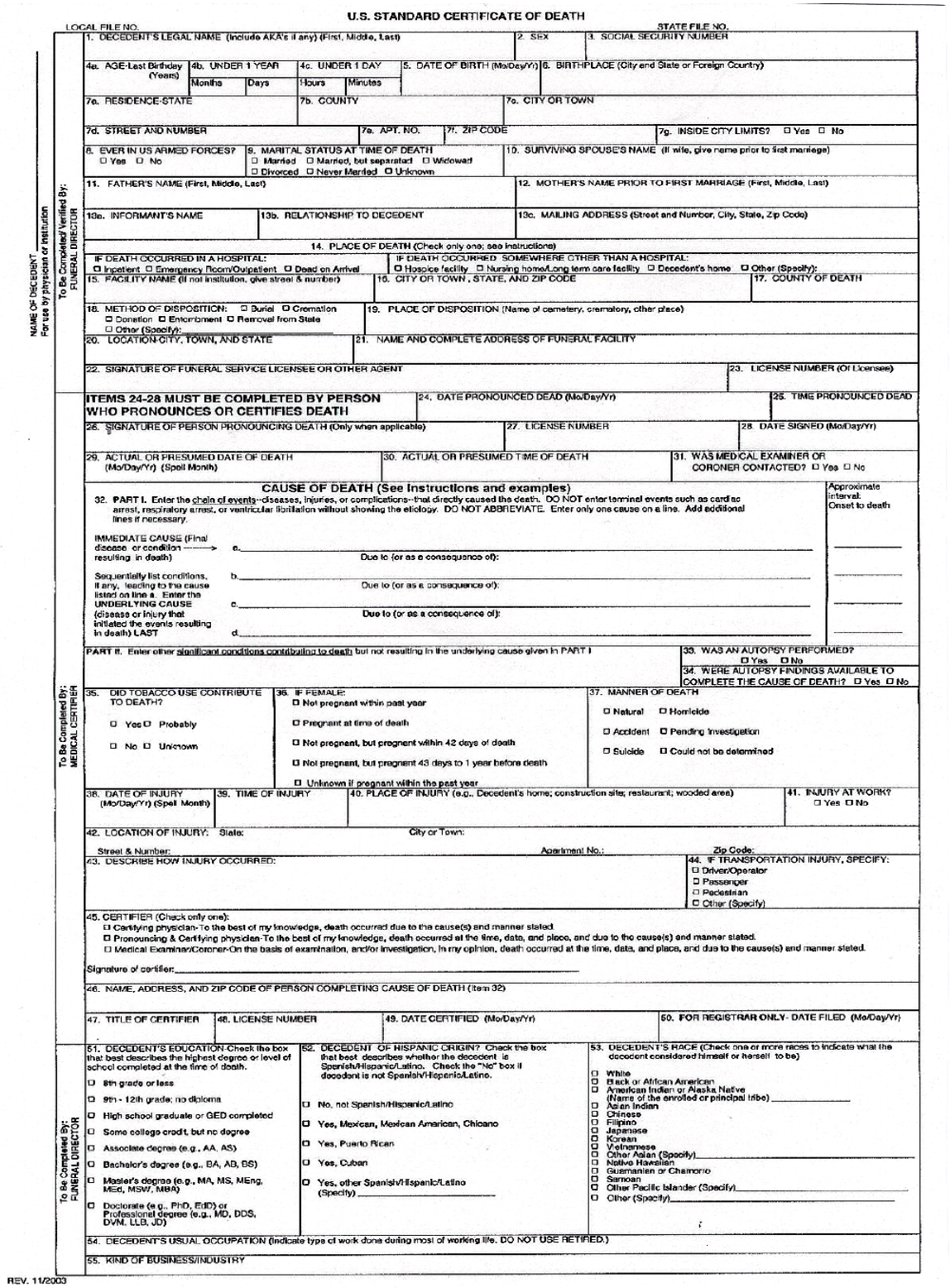
42. LOCATION OF INJURY: State: City or Town: Street & Number: Apartment No.: Zip Code:

43. DESCRIBE HOW INJURY OCCURRED:

44. IF TRANSPORTATION INJURY, SPECIFY: ☐ Driver/Operator ☐ Passenger ☐ Pedestrian ☐ Other (Specify)

Section I - B. Medical Certification

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



U.S. STANDARD CERTIFICATE OF DEATH

LOCAL FILE NO. STATE FILE NO.

NAME OF DECEDENT — For use by physician or institution — To Be Completed/Verified By: FUNERAL DIRECTOR

1. DECEDENT'S LEGAL NAME (Include AKA's if any) (First, Middle, Last) | 2. SEX | 3. SOCIAL SECURITY NUMBER

4a. AGE-Last Birthday (Years) | 4b. UNDER 1 YEAR: Months, Days | 4c. UNDER 1 DAY: Hours, Minutes | 5. DATE OF BIRTH (Mo/Day/Yr) | 6. BIRTHPLACE (City and State or Foreign Country)

7a. RESIDENCE-STATE | 7b. COUNTY | 7c. CITY OR TOWN

7d. STREET AND NUMBER | 7e. APT. NO. | 7f. ZIP CODE | 7g. INSIDE CITY LIMITS? ☐ Yes ☐ No

8. EVER IN US ARMED FORCES? ☐ Yes ☐ No | 9. MARITAL STATUS AT TIME OF DEATH ☐ Married ☐ Married, but separated ☐ Widowed ☐ Divorced ☐ Never Married ☐ Unknown | 10. SURVIVING SPOUSE'S NAME (If wife, give name prior to first marriage)

11. FATHER'S NAME (First, Middle, Last) | 12. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last)

13a. INFORMANT'S NAME | 13b. RELATIONSHIP TO DECEDENT | 13c. MAILING ADDRESS (Street and Number, City, State, Zip Code)

14. PLACE OF DEATH (Check only one; see instructions)

IF DEATH OCCURRED IN A HOSPITAL: ☐ Inpatient ☐ Emergency Room/Outpatient ☐ Dead on Arrival | IF DEATH OCCURRED SOMEWHERE OTHER THAN A HOSPITAL: ☐ Hospice facility ☐ Nursing home/Long term care facility ☐ Decedent's home ☐ Other (Specify):

15. FACILITY NAME (If not institution, give street & number) | 16. CITY OR TOWN, STATE, AND ZIP CODE | 17. COUNTY OF DEATH

18. METHOD OF DISPOSITION: ☐ Burial ☐ Cremation ☐ Donation ☐ Entombment ☐ Removal from State ☐ Other (Specify): | 19. PLACE OF DISPOSITION (Name of cemetery, crematory, other place)

20. LOCATION-CITY, TOWN, AND STATE | 21. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY

22. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT | 23. LICENSE NUMBER (Of Licensee)

ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH

24. DATE PRONOUNCED DEAD (Mo/Day/Yr) | 25. TIME PRONOUNCED DEAD

26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable) | 27. LICENSE NUMBER | 28. DATE SIGNED (Mo/Day/Yr)

29. ACTUAL OR PRESUMED DATE OF DEATH (Mo/Day/Yr) (Spell Month) | 30. ACTUAL OR PRESUMED TIME OF DEATH | 31. WAS MEDICAL EXAMINER OR CORONER CONTACTED? ☐ Yes ☐ No

CAUSE OF DEATH (See instructions and examples)

32. PART I. Enter the chain of events--diseases, injuries, or complications--that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or ventricular fibrillation without showing the etiology. DO NOT ABBREVIATE. Enter only one cause on a line. Add additional lines if necessary. — Approximate interval: Onset to death

IMMEDIATE CAUSE (Final disease or condition ——> resulting in death) a. _____ Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST
b. _____ Due to (or as a consequence of):
c. _____ Due to (or as a consequence of):
d. _____

PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I

33. WAS AN AUTOPSY PERFORMED? ☐ Yes ☐ No

34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? ☐ Yes ☐ No

To Be Completed By: MEDICAL CERTIFIER

35. DID TOBACCO USE CONTRIBUTE TO DEATH? ☐ Yes ☐ Probably ☐ No ☐ Unknown

36. IF FEMALE: ☐ Not pregnant within past year ☐ 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 ☐ Unknown if pregnant within the past year

37. MANNER OF DEATH ☐ Natural ☐ Homicide ☐ Accident ☐ Pending Investigation ☐ Suicide ☐ Could not be determined

38. DATE OF INJURY (Mo/Day/Yr) (Spell Month) | 39. TIME OF INJURY | 40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area) | 41. INJURY AT WORK? ☐ Yes ☐ No

42. LOCATION OF INJURY: State: City or Town: Street & Number: Apartment No.: Zip Code:

43. DESCRIBE HOW INJURY OCCURRED:

44. IF TRANSPORTATION INJURY, SPECIFY: ☐ Driver/Operator ☐ Passenger ☐ Pedestrian ☐ Other (Specify)

45. CERTIFIER (Check only one):
☐ Certifying physician-To the best of my knowledge, death occurred due to the cause(s) and manner stated.
☐ Pronouncing & Certifying physician-To the best of my knowledge, death occurred at the time, date, and place, and due to the cause(s) and manner stated.
☐ Medical Examiner/Coroner-On the basis of examination, and/or investigation, in my opinion, death occurred at the time, date, and place, and due to the cause(s) and manner stated.

Signature of certifier: _____

46. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH (Item 32)

47. TITLE OF CERTIFIER | 48. LICENSE NUMBER | 49. DATE CERTIFIED (Mo/Day/Yr) | 50. FOR REGISTRAR ONLY- DATE FILED (Mo/Day/Yr)

To Be Completed By: FUNERAL DIRECTOR

51. DECEDENT'S EDUCATION-Check the box that best describes the highest degree or level of school completed at the time of death.
☐ 8th grade or less
☐ 9th - 12th grade; no diploma
☐ High school graduate or GED completed
☐ Some college credit, but no degree
☐ Associate degree (e.g., AA, AS)
☐ Bachelor's degree (e.g., BA, AB, BS)
☐ Master's degree (e.g., MA, MS, MEng, MEd, MSW, MBA)
☐ Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)

52. DECEDENT OF HISPANIC ORIGIN? Check the box that best describes whether the decedent is Spanish/Hispanic/Latino. Check the "No" box if decedent is not Spanish/Hispanic/Latino.
☐ No, not Spanish/Hispanic/Latino
☐ Yes, Mexican, Mexican American, Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, other Spanish/Hispanic/Latino (Specify) _____

53. DECEDENT'S RACE (Check one or more races to indicate what the decedent considered himself or herself to be)
☐ White
☐ Black or African American
☐ American Indian or Alaska Native (Name of the enrolled or principal tribe) _____
☐ Asian Indian
☐ Chinese
☐ Filipino
☐ Japanese
☐ Korean
☐ Vietnamese
☐ Other Asian (Specify) _____
☐ Native Hawaiian
☐ Guamanian or Chamorro
☐ Samoan
☐ Other Pacific Islander (Specify) _____
☐ Other (Specify) _____

54. DECEDENT'S USUAL OCCUPATION (Indicate type of work done during most of working life. DO NOT USE RETIRED.)

55. KIND OF BUSINESS/INDUSTRY

REV. 11/2003

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 concurrently "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.

Section I - C. Definitions

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.
Further linkage----------	another step in the linkage process which must be made to conform with the Classification after one or more linkages have been made.
Intervening cause----------	any causes between the originating antecedent cause and the direct cause of death are called intervening causes.
Late maternal death----------	the death of a woman from direct or indirect obstetric causes more than 42 days but less than one year after termination of pregnancy.
Maternal death----------	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.
Modification table (Table E) ----------	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.
Multiple one-term entity---------	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.
One-term entity----------	a diagnostic entity that is classifiable to a single ICD-10 code. It can be one word or more than one word.

Section I - C. Definitions

Originating antecedent cause ----------	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.
Preference code----------	a code which has priority over other code(s) which may also qualify as a combination code.
Perinatal period----------	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.
Properly positioned----------	condition(s) placed in an appropriate order to form a sequence of events.
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
Grave hypothyroidism
Severe 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

G309 Alzheimer's disease, unspecified
Excludes: Any term indexed to G309 qualified as advanced, grave, severe, or with a similar qualifier (G3090)
*G3090 Advanced Alzheimer's disease
Grave Alzheimer's disease
Severe Alzheimer's disease
Includes: Any term indexed to G309 qualified as advanced, grave, severe, or with a similar qualifier

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 multiple (I6100)
*I6100 Multiple intracerebral hemorrhages in hemisphere, subcortical
Includes: Any term indexed to I610 qualified as multiple

I611 Intracerebral hemorrhage in hemisphere, cortical
Excludes: Any term indexed to I611 qualified as multiple (I6110)
*I6110 Multiple intracerebral hemorrhages in hemisphere, cortical
Includes: Any term indexed to I611 qualified as multiple

I612 Intracerebral hemorrhage in hemisphere, unspecified
Excludes: Any term indexed to I612 qualified as multiple (I6120)
*I6120 Multiple intracerebral hemorrhages, unspecified
Includes: Any term indexed to I612 qualified as multiple

I613 Intracerebral hemorrhage in brain stem
Excludes: Any term indexed to I613 qualified as multiple (I6130)
*I6130 Multiple intracerebral hemorrhages in brain stem
Includes: Any term indexed to I613 qualified as multiple

I614 Intracerebral hemorrhage in cerebellum
Excludes: Any term indexed to I614 qualified as multiple (I6140)
*I6140 Multiple intracerebral hemorrhages in cerebellum
Includes: Any term indexed to I614 qualified as multiple

I615 Intracerebral hemorrhage, intraventricular
Excludes: Any term indexed to I615 qualified as multiple (I6150)
*I6150 Multiple intracerebral hemorrhages, intraventricular
Includes: Any term indexed to I615 qualified as multiple

I618 Other intracerebral hemorrhage
Excludes: Any term indexed to I618 qualified as multiple (I6180)
*I6180 Multiple other intracerebral hemorrhages
Includes: Any term indexed to I618 qualified as multiple

I619 Intracerebral hemorrhage, unspecified
Excludes: Any term indexed to I619 qualified as multiple (I6190)
*I6190 Multiple intracerebral hemorrhages, unspecified
Includes: Any term indexed to I619 qualified as multiple

I630 Cerebral infarction due to thrombosis of precerebral arteries
Excludes: Any term indexed to I630 qualified as multiple (I6300)
*I6300 Cerebral infarction due to multiple thrombi of precerebral arteries
Includes: Any term indexed to I630 qualified as multiple

I631 Cerebral infarction due to embolism of precerebral arteries
Excludes: Any term indexed to I631 qualified as multiple (I6310)
*I6310 Cerebral infarction due to multiple emboli of precerebral arteries
Includes: Any term indexed to I631 qualified as multiple

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

I633 Cerebral infarction due to thrombosis of cerebral arteries
Excludes: Any term indexed to I633 qualified as multiple (I6330)
*I6330 Cerebral infarction due to multiple thrombi of cerebral arteries
Includes: Any term indexed to I633 qualified as multiple

I634 Cerebral infarction due to embolism of cerebral arteries
Excludes: Any term indexed to I634 qualified as multiple (I6340)
*I6340 Cerebral infarction due to multiple emboli of cerebral arteries
Includes: Any term indexed to I634 qualified as multiple

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

I636 Cerebral infarction due to cerebral venous thrombosis, nonpyogenic
Excludes: Any term indexed to I636 qualified as multiple (I6360)
*I6360 Cerebral infarction due to multiple cerebral venous thrombi, nonpyogenic
Includes: Any term indexed to I636 qualified as multiple

I638 Other cerebral infarction
Excludes: Any term indexed to I638 qualified as multiple (I6380)
*I6380 Multiple other cerebral infarctions
Includes: Any term indexed to I638 qualified as multiple

I639 Cerebral infarction, unspecified
Excludes: Any term indexed to I639 qualified as multiple (I6390)
*I6390 Multiple cerebral infarctions, unspecified
Includes: Any term indexed to I639 qualified as multiple

I64 Stroke, not specified as hemorrhage or infarction
Excludes: Any term indexed to I64 qualified as multiple (I6400)
*I6400 Multiple strokes, not specified as hemorrhage or infarction
Includes: Any term indexed to I64 qualified as multiple

I691 Sequelae of intracerebral hemorrhage
Excludes: Any term indexed to I691 qualified as multiple (I6910)
*I6910 Sequela of multiple intracerebral hemorrhages
Includes: Any term indexed to I691 qualified as multiple

I693 Sequelae of cerebral infarction
Excludes: Any term indexed to I693 qualified as multiple (I6930)
*I6930 Sequela of multiple cerebral infarctions
Includes: Any term indexed to I693 qualified as multiple

I694 Sequelae of stroke, not specified as hemorrhage or infarction
Excludes: Any term indexed to I694 qualified as multiple (I6940)
*I6940 Sequela of multiple strokes, not specified as hemorrhage or infarction
Includes: Any term indexed to I694 qualified as multiple

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)

J841 Other interstitial pulmonary diseases with fibrosis
Excludes: Chronic pneumonia, not elsewhere classified (J8410)
*J8410 Chronic pneumonia, not elsewhere classified

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

R99 Other ill-defined and unspecified causes of mortality
Excludes: Cause unknown (R97)
*R97 Cause unknown

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:

I (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.

Section II - Procedures for Selection

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 l 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.

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

I (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 l 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.

			Codes for Record
I	(a) Cerebral hemorrhage	1 mo	I619
	(b) Nephritis	6 mos	N059
	(c) Cirrhosis of liver	2 yrs	K746

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.

			Codes for Record
I	(a) Apoplexy with pneumonia	8 days	I64 J189
	(b)		
	(c) Diabetes	3 yrs	E149
II	Myocarditis		I514

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

			Codes for Record
I	(a) Congestive heart failure	1 yr	I500
	(b) Cerebral hemorrhage	2 days	I619
	(c) Chronic alcoholism		F102
II	Large bowel obstruction		K566

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

		Codes for Record
I	(a) Pulmonary embolism	I269
	(b) Arteriosclerotic heart disease	I251
	(c) Influenza	J1110

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.

		Codes for Record
I (a)	Bronchopneumonia	J180
(b)	Cerebral infarction and hypertensive heart disease	I639 I119

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.

		Codes for Record
I (a)	Cerebral hemorrhage & hypostatic	I619 J182
(b)	pneumonia	
(c)	Prostate hypertrophy, diabetes	N40 E149

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

		Codes for Record
I (a)	Pernicious anemia and gangrene of foot	D510 R02
(b)	Atherosclerosis	I709

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.

		Codes for Record
I (a)	Rheumatic and atherosclerotic heart disease	I099 I251

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

		Codes for Record
I (a)	Coronary occlusion	I219
(b)	Cerebrovascular disease	I679
(c)	HCVD, chronic bronchitis	I119 J42

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 l 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.

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

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. 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.

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 artrial 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.

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 may be assumed to be a consequence of any intestinal infectious disease.

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.

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, 2007. The symbol "DS" identifies Direct Sequel, and the symbol "DSC" identifies Direct Sequel Combination.

		Codes for Record
I	(a) Bronchopneumonia	J180
	(b) Congestive heart failure and	I500 I050
	(c) mitral stenosis	

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	K918
	(b)	
	(c)	
II	Colectomy for cancer of sigmoid	Y836 C187

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	I219
	(b)	
	(c)	
II	Removal of gallbladder (gallstones) 2 months ago	K802

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	N19
	(b)	
	(c) Adhesions	K918
II	Surgery - for diverticulitis	Y839 K579

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:

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

			Codes for Record
I	(a)	Senility and hypostatic pneumonia	R54 J182
	(b)	Rheumatoid arthritis	M069

Code to rheumatoid arthritis (M069). Senility, selected by Rule 2, is ignored and the General Principle applied.

			Codes for Record
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 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.

	Codes for Record
I (a) Dental caries	K029
II Diabetes	E149

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

	Codes for Record
I (a) Ingrowing toenail and acute renal failure	L600 N179

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.

	Codes for Record
I (a) Intraoperative hemorrhage	T810 Y600
(b) Tonsillectomy	
(c) Hypertrophy of tonsils	J351

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

	Codes for Record
I (a) Acute renal failure	N179
(b) Aspirin taken for	Y451
(c) Migraines	G439

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, pages 50-61. 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.

		Codes for Record	
I	(a) Coronary embolism	I219	
	(b) Old myocardial degeneration	I515	
	(c) Arteriosclerotic heart disease	I251	
II	Hypertension, arteriosclerosis	I10	I709

Code to acute coronary embolism (I219). Arteriosclerotic heart disease, selected by the General Principle, links (LMP) with coronary embolism.

		Codes for Record	
I	(a) Pneumonia and emphysema	J189	J439
	(b)		
	(c) Bronchitis	J40	
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	
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.

		Codes for Record
I	(a) Pneumonia, hypertension	J189 I10
	(b) Arteriosclerosis & renal sclerosis	I709 N26
	(c) Cancer of lung	C349

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.

		Codes for Record
I	(a) Ventricular aneurysm	I253
	(b) Hypertensive heart disease	I119
	(c) Chronic renal failure	N189

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 (LMC) 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.

		Code 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, 3 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.

		Codes for Record
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.

		Codes for Record
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.

		Codes for Record
I	(a) Tertiary syphilis	A529
	(b) Primary syphilis	A510

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

		Codes for Record
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 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 direct 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 arrested, cured, healed, inactive, old, ancient, remote, history of, or quiescent, 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		A198
(b)	of bone	6mos	
II	Old pulmonary tuberculosis		B909

Code to active acute miliary tuberculosis of bone (A198) 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.

		Code for Record
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.

		Codes for Record
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.

		Code for Record
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	B91
	(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	B91 G839
(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	B940

(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	B940

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.

		Code for Record
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.

		Codes for Record
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 old, ancient, remote, history of, 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.

		Code for Record
I (a)	St. Louis encephalitis-1 yr	B941

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

		Code for Record
I (a)	Old viral encephalitis	B941

Code to sequela of viral encephalitis (B941), since it is stated "old."

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

		Codes for Record
I	(a) Paralysis	G839
	(b) Viral encephalitis	B941

Code to late effects 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 other and unspecified infectious and parasitic diseases (conditions in A000-A09, 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 arrested, cured, healed, inactive, old, ancient, remote, history of, or quiescent, 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.

			Codes for Record
I	(a)	Reye's syndrome - 1 yr.	G937
	(b)	Chickenpox	B948

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

			Codes for Record
I	(a)	Chronic brain syndrome	F069
	(b)	Meningococcal encephalitis	B948

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

Use Sequela Code	**For Categories**
E640	E40-E46
E641	E500-E509
E642	E54
E643	E550-E559
E648	E51-E53 E56-E60 E610-E638
E649	E639

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 chronic condition or 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 chronic condition or 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, except those marked with an asterisk) 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 chronic condition or 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 old, ancient, remote, history of, 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) Compression of brain	G935
	(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.

		Codes for Record
I	(a) Hydrocephalus	G919
	(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-I64, I670-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 chronic condition or 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-I679 is stated to be chronic, old, ancient, remote, history of 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.

		Code for Record
I (a)	Old intracerebral hemorrhage	I691

Code to sequela of intracerebral hemorrhage since the intracerebral hemorrhage is stated as old.

		Code for Record
I (a) Cerebral arteriosclerosis	6 years	I698

Code to (I698), sequela of other and unspecified cerebrovascular disease since the cerebral arteriosclerosis has a duration of one year or more.

	Code for Record
I (a) History of CVA	I694

Code to sequela of CVA (I694) since history of CVA is reported.

(d) The condition in I600-I64, and I670-I679 is reported with paralysis (any) stated to be chronic, old, ancient, remote, history of, 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.

O97 Sequela of direct 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 chronic condition or 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.

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

	Codes for Record
I (a) Generalized arteriosclerosis	I709
II Cerebral embolism, endocarditis	I634 I38

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

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.

		Codes for Record
I	(a) Cerebral hemorrhage	I619
	(b) Chronic nephritis	N039

   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.

		Codes for Record
I	(a) Mental retardation	F79
	(b) Premature separation	P021
	(c) of placenta	

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:

      - diarrhea and gastroenteritis of presumed infectious origin (A09, B94.8)
      - 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)

      } May be accepted as "due to" any other disease

      - 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 A00-B19 or B25-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);

(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 (J10-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.

adenomatous	embolic	hypoxemic	necrotic
anoxic	erosive	hypoxic	obstructed
congestive	gangrenous	inflammatory	obstructive
cystic	hemorrhagic	ischemic	ruptured

(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.

	Code for Record
I (a) Embolic nephritis	N058

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)

	Code for Record
I (a) Obstructive cystitis	N308

Code to cystitis, specified NEC (N308). The adjectival modifier "obstructive" is not indexed under Cystitis, but "specified NEC" is indexed.

(3) 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.

(4) 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**:**

When reported as:	Code
Endstage Alzheimer's, senile dementia Senile dementia, Alzheimer's Senile dementia, Alzheimer's type Senile dementia of the Alzheimer's	G301

When reported as:	Code
Alzheimer's, dementia Alzheimer's; dementia Alzheimer's disease (dementia) Dementia Alzheimer's Dementia, Alzheimer's Dementia – Alzheimer's Dementia, Alzheimer's type Dementia of Alzheimer's Dementia – Alzheimer's type Dementia; Alzheimer's type Dementia, probable Alzheimer's (disease) Dementia syndrome, Alzheimer's type Endstage dementia (Alzheimer's)	G309

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.

	Codes for Record
I (a) Hypertensive arteriosclerosis	I10 I709

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 for Record
I (a) Hypertensive myocardial ischemia	I259

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.

	Codes for Record
I (a) Arteriosclerosis, hypertensive	I10 I709

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.

	Codes for Record
I (a) Arteriosclerotic nephritis and cardiomyopathy	I129 I429

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.

		Codes for Record
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.

		Codes for Record
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.

		Codes for Record
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.

		Codes for Record
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.

		Code 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. 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.

			Codes for Record
I	(a)	Aspiration pneumonia	J690
	(b)	Cerebrovascular accident due to	I64
	(c)	thrombosis	I633

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 lines

(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.

		Codes for Record
I	(a) CVA	I64
	(b) Thrombosis	I829
	(c) ASHD	I251

Code to ASHD (I251). Since the thrombosis is classified to both sites (reported above and below), code unspecified as to site.

(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.

		Codes for Record
I	(a) Kidney failure	N19
	(b) Vascular insufficiency with thrombosis	I99 I219
	(c) ASHD	I251

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).

		Codes for Record
I	(a) Gastrointestinal hemorrhage	K922
	(b) Peptic ulcer	K279

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).

		Codes for Record
I	(a) Peritonitis	K659
	(b) Ulcer	K279

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	I219
(c)	Arteriosclerosis	I709

Code to cardiac embolism (I219). Relate embolism to site reported. Arteriosclerosis links (LMP) with heart embolism.

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	I469 I509
(b)	insufficiency	

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

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 J, #3)
Neoplasms
Paralysis

		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.

I . Coding conditions classified to injuries as disease conditions

1. Consider "injury," "hematoma," "laceration," (or other condition that is usually but not always traumatic in origin) of a specified organ to be qualified as nontraumatic when it is reported due to or on the same line with a disease, unless a statement on the death certificate indicates the condition was traumatic. If the Classification provides for the condition to be classified as nontraumatic, interpret accordingly. Otherwise, use the category that has been provided for "other" conditions 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.

		Codes for Record
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).

		Codes for Record
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 Undetermined**, consider the condition as traumatic.

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

Accident	Fell while walking

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

Accident

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.

J. 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 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. Spinal Abscess (A180)

Code M462 (Nontuberculous spinal abscess) when reported due to conditions listed in the causation table under address D690:

I	(a)	Spinal Abscess	M462
	(b)	Staphylococcal septicemia	A412

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.

2. Charcot's Arthropathy (A521)

Code G98 (Arthropathy, neurogenic, neuropathic (Charcot's), nonsyphilitic):

When reported due to:

A30	Leprosy	G608	Hereditary sensory neuropathy
E10-E14	Diabetes mellitus	G901	Familial dysautonomia
E538	Subacute combined degeneration (of spinal cord)	G950	Syringomyelia
		Q059	Spina bifida, unspecified
		Y453	Indomethacin
F101	Alcohol abuse	Y458	Phenylbutazone
F102	Alcoholism	Y540	Corticosteroids
G600	Hypertrophic interstitial neuropathy		
G600	Peroneal muscular atrophy		

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

Code to diabetes (E149). The code E149 is listed as a subaddress for G98 in the causation tables so this sequence is accepted.

3. 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 subaddress 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.

4. Viral Hepatitis (B169, B171-B178)

Code:

Chronic Viral Hepatitis	**For Viral Hepatitis in Categories**
B181	B169
B182	B171
B188	B172
B188	B178

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 B181. Code I(b) as chronic viral hepatitis B, since reported as causing a condition classified to K746.

5. 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

Bacterial organisms classified to A49.-	**Viral organisms classified to B34.-**	**Organisms classified *other* than A49.- or B34.-**
Escherichia coli	Adenovirus	Aspergillus
Haemophilus influenzae	Coronavirus	Candida
Pneumococcal	Coxsackie	Cytomegalovirus
Staphylococcal	Enterovirus	Fungus
Streptococcal	Parovirus	Meningococcal

Infectious conditions

Abscess	Infection	Sepsis, Septicemia
Bacteremia	Pneumonia	Septic shock
Empyema	Pyemia	Words ending in "itis"

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 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.

		Code for Record
I	(a) E. Coli diarrhea	A044

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

		Code for Record
I	(a) Pneumonia	J129
	(b) Viral infection	

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

		Codes for Record
I	(a) Meningitis and sepsis	G000 A413
	(b) H. Influenzae	

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

		Code for Record
I (a)	Sepsis with staph	A412

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

		Code for Record
I (a)	Pneumonia c MRSA	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.

		Code for Record
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.

		Code for Record
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.

		Code for Record
I (a)	Pneumonia with coxsackie virus	J128

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

(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.

		Code for Record
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.

		Code for Record
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.

		Code for Record
I	(a) Pyelonephritis and pseudomonas	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	B250

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	B378

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	B279 J029

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.- so 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) Consider each condition as indexed where reported.

	Codes for Record
I (a) Peritonitis	K659
(b) Candidiasis	B379

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) Consider each condition as indexed where reported.

		Codes for Record
I	(a) Pneumonia with candidiasis	J189 B379

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	B24 J189

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 & hepatitis	K819 B159
	(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 hepatitis and code as indexed under Hepatitis, infectious.

		Codes for Record
I	(a) Meningitis	G039
	(b) Infection & brain tumor	D432

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	J180
	(b) Septicemia	A419

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.

6. 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.

7. 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.

8. 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.

9. 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.

		Codes for Record
I	(a) Pneumonia	J189
	(b) Sideroblastic anemia	D641
	(c) Alcoholic cirrhosis	K703

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.

		Codes for Record
I	(a) CHF	I500
	(b) Sideroblastic anemia	D642
	(c) Chloramphenicol	Y402

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.

10. 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.

		Codes for Record
I	(a) CVA	I64
	(b) Hemorrhagic purpura	D690
	(c) Leukemia	C959

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

11. 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.

12. 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.

13. Alcohol (F101, F109, R780, R826, R893)

When reported anywhere on the certificate, code:

Alcohol	F109
Alcohol overindulgence	F101
Blood alcohol (any %)	R780
Body fluid alcohol (any %)	R893
Excessive drinking	F101
Drinking	F109
Urine alcohol (any %)	R826

NOTE: Do not use accident reported in the Manner of Death box to make the above terms poisoning.

		Codes for Record
I	(a) Alcohol overindulgence	F101
	(b) Blood alcohol 3%	R780
	(c)	
II	Excessive drinking	F101

Accident

Code to F101. Accident in the Manner of Death box does not change the code assignment.

EXCEPTIONS:

1. When alcohol intoxication, poisoning, or toxicity is reported anywhere on the certificate, code the previous terms to alcohol poisoning.

		Codes for Record
I	(a) Alcohol intoxication	T519 X45
	(b)	
	(c)	
II	Alcohol toxicity	T519

Code to X45, Accidental poisoning by and exposure to alcohol.

2. When drug poisoning and the previous terms are on the same record, see Section IV, categories X40-X49.

			Codes for Record
I	(a)	Combined action of alcohol	T519 X45 T427 X41
	(d)	intoxication and sedative overdose	
	(c)		

Code to X41, Accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotrophic drugs, not elsewhere classified. Combinations of medicinal agents with alcohol should be coded to the medicinal agent.

3. When intoxication (acute) NOS is reported due to drugs or poisonous substances, code to the drug or poisonous substance.

			Codes for Record
I	(a)	Intoxication	T405
	(b)	Cocaine toxicity	T405 X42

Code to X42, Accidental poisoning by and exposure to narcotics and psychodysleptics (hallucinogens), not elsewhere classified.

14. Korsakov's Disease, Psychosis or Syndrome (F106)

Code F04 (nonalcoholic Korsakov'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.

15. 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	J189
	(b) Psychosis - cerebrovascular	F09 I672
	(c) arteriosclerosis	
	(d) Arteriosclerosis	I709

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.

16. 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	I469
	(b) Heart failure	I509
	(c) Mental disorder	F069
	(d) Multiple sclerosis	G35

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

17. Parkinson's Disease (G20)

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

		Codes for Record
I	(a) Parkinsonism	G219
	(b) Arteriosclerosis	I709
	(c)	

Code to G218. The code I709 is listed as a subaddress to G219 in the causation table so this sequence is accepted. Arteriosclerosis will link (LDC) with parkinsonism in the modification table.

18. 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.

		Codes for Record
I	(a) Cerebral sclerosis	I672
	(b) Diabetes	E149

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

		Codes for Record
I	(a) Cerebral thrombosis	I633
	(b) Cerebral sclerosis	I672

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

19. Myopathy (G729)

Code I429 (Cardiomyopathy) when reported due to conditions listed in the causation table under address code I429.

		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.

20. 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		Codes for Record
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.

21. 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.

22. Pneumonia in J188 or J189
Bronchopneumonia (J180)
Lobar pneumonia, organism unspecified only in J181

Code J182 (Hypostatic pneumonia) when reported anywhere on record with:

Bedbound	Immobilization
Bedfast	Inactivity
Bedrest	Lying in bed
Bedridden	Prolonged recumbency
Bed Patient	Recumbency
Confined to bed	Sitting in chair
Hypostasis	Stasis
Immobility	

		Codes for Record
I	(a) Cardiac arrest	I469
	(b) Bronchopneumonia	J182
	(c) Inactivity	

Code to J182. Bronchopneumonia reported on record with inactivity becomes hypostatic pneumonia.

23. Pneumoconiosis (J64)

Code J60 (Coal worker's pneumoconiosis):

When Occupation is reported as:

Coal miner
Coal worker
Miner

		Codes for Record
Occupation: Coal Miner		
I	(a) Bronchitis	J40
	(b) Pneumoconiosis	J60

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 with conditions listed in the causation table under address R048.

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

Code to R048. The code R048 is listed as a subaddress to J969 in the causation table; therefore, this sequence is accepted.

25. Diaphragmatic Hernia in K44.-

Code I(b) R048, Lung hemorrhage, since alveolar hemorrhage is reported with a condition classified to J969

Code Q790 (Congenital diaphragmatic hernia):

When reported as causing hypoplasia or dysplasia of lung NOS (Q336):

			Codes for Record
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 conditions listed in the causation table under address code K746.

I	(a)	Cardiac arrest	I469
	(b)	Laennec's cirrhosis	K746
	(c)	Diabetes	E149

Code to E149. The code E149 is listed as a subaddress to K746 in the causation table; therefore, this sequence is accepted.

27. Biliary Cirrhosis NOS (K745)

Code K744 (Secondary biliary cirrhosis):

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

		Codes for Record
I	(a) Biliary cirrhosis	K744
	(b) Carcinoma pancreas	C259
	(c)	

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
	(c)		

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.

		Codes for Record
I	(a) COPD	J449
	(b) Kyphosis	M401
	(c) Spinal osteoarthritis	M479

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.

		Codes for Record
I	(a) Pneumonia	J189
	(b) Scoliosis	M415
	(c) Progressive systemic sclerosis	M340

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.

		Codes for Record
I	(a) Septicemia	A419
	(b) Osteonecrosis hip	M873
	(c) Infective myositis	M600

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)
Cervical Dystocia (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.

		Codes for Record
I	(a) Uterine inertia	O621
	(b) Diabetes mellitus of pregnancy	O249

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 conditions listed in the causation table under address P219

Male, 9 hours

I	(a) Brain damage	P219
	(b) Congenital heart disease	Q249

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:

Female, 2 weeks	Codes for Record
I (a) Cerebral hemorrhage	P101
(b) Birth injury	P159
(c)	

Code to P159. The code P159 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:

A500-A509	P220-P229
B200-B24	P280
P000-P009	P350-P399
P011-P013	P612
P050-P073	R75

	Codes for Record
I (a) Hypoplasia lung	P280
(b)	
(c)	
II Prematurity	P073

Code to primary atelectasis of newborn (P280).

Female, 5 hrs.		Codes for Record
I (a) Dysplasia of lung	5 hrs	Q336
(b)		
(c)		
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 conditions listed in the causation table under address code M844.

b. When reported on the same line with:

C40-C41	M83
C795	M88
M80-M81	

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 conditions listed in the causation table under address code E46.

		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.

K. 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
I	(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
I	(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
I	(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
I	(a)	Myocardial ischemia	2 yrs	I259 I219
	(b)	and myocardial		
	(c)	infarction		

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

				Code for Record
I	(a)	Nephritis	2 years	N059

Code to nephritis, unqualified (N059). Do not use duration to qualify as chronic.

				Code for Record
I	(a)	Acute myocardial infarction	3 mos.	I258
	(b)			
	(c)			

Code to Infarction, myocardium, acute, with a stated duration of over 4 weeks, I258.

b. For the purpose of interpreting these provisions, consider the statements: brief, days, hours, immediate, instant, minutes, recent, short, sudden, and weeks (few) (several) NOS as meaning a stated duration of 4 weeks or less or acute.

Consider "1 month" or "longstanding" as meaning over 4 weeks or chronic.

			Duration	Code for Record
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.

		Duration	Codes for Record
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. Acute Exacerbation

Code "acute exacerbation" of a chronic specified disease to the acute and chronic stage of the disease if the ICD-10 provides separate codes for "acute" and "chronic."

		Codes for Record
I	(a) Acute 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.

		Codes for Record
I	(a) Chronic renal and liver failure	N189 K7290

Code 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.

		Duration	Code for Record
I	(a) Ischemic ht dis - 2 weeks	years	I259

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.

Date of death 10-6-98	Duration	Codes for Record
I (a) MI	10-1-98-	I219
(b) Ischemic heart disease	10-6-98	I259

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).

Date of death 10-6-98	Duration	Code for Record
I (a) Aneurysm of heart	10-1-98 - 10-6-98	I219
(b)		

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.

Date of death l0-6-98	Duration	Codes for Record
I (a) Ischemic heart disease	10/1/98-10/6/98	I249
(b) Arteriosclerosis		I709

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 medical 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.

Female, 45 years		Duration	Codes for Record
I	(a) Heart failure		I509
	(b) Stricture of aortic		Q230
	(c) valve	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.

		Codes for Record
I	(a) Renal failure since birth	P960
	(b) Hydronephrosis	Q620

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.

Male, 62 years		Duration	Codes for Record
I	(a) Renal failure	3 months	N19
	(b) Pulmonary stenosis	5 years	Q256

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), O96 (Death from any obstetric cause occurring more than 42 days but less than one year after delivery), and O97 (Death from sequela of direct 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 O96 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 O97 is used to classify deaths from any direct obstetric cause which occur one year or more after termination of the pregnancy.

L. 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

Male, 27 days	Code for Record
I (a) G.I. hemorrhage	P543

   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 l 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.

M. 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.

N. 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.

		Codes 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.

		Code for Record
I (a)	Stroke or heart attack	I99

   Code to Disease, circulatory system (I99). Both conditions are in the 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."

		Code for Record
I (a)	ASCVD or ASHD	I259

   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.

		Code for Record
I (a)	MI or coronary aneurysm	I259

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).

		Code for Record
I (a)	Gallbladder colic or	R688
(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).

		Code for Record
I (a)	Coronary occlusion or	R99
(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.

O. 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
arising in or during	occurred after
as (a) complication of	occurred during
as a result of	occurred in
because of	occurred when
caused by	occurred while
complication(s) of	origin
during	received from
etiology	received in
following	resulting from
for	resulting when
from	secondary to (2°)
in	subsequent to
incident to	sustained as
incurred after	sustained by
incurred during	sustained during
incurred in	sustained in
incurred when	sustained when
	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
cause of	manifested by
caused	producing
causing	resulted in
followed by	resulting in
induced	underlying
leading to	with resultant
	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	with ($\bar{c}$)
accompanied by	precipitated by
also	predisposing (to)
complicated by	superimposed on
complicating	
consistent with	

P. 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
I	(a) Heart block	I459
	(b) Chronic myocarditis	I514 I619
	~~(c)~~ Cerebral hemorrhage	
II	Bronchopneumonia	J180

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
I	(a) Cardiac arrest	I469 K746
	~~(b)~~ Cirrhosis of liver	
	(c) Alcoholism	F102

Code to alcoholic cirrhosis of liver (K703). Alcoholism is selected by the General Principle, and is specificity due to combination (SDC) 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
I	(a)	Cardiorespiratory failure	R092
		Due to, or as a consequence of	
	(b)	Infarction of brain	I639 I251
		~~Due to or~~, as a consequence of	
	(c)	Coronary arteriosclerosis	

Code to infarction of brain (I639) by applying Rule 1. Consider coronary arteriosclerosis as the second entry on I(b).

Q. 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	I219 E149 I10 I709 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	C169 E149
	(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).

R. Terms that stop the sequence

Includes:

Cause not found	No specific etiology identified
Cause unknown	No specific known causes
Cause undetermined	Nonspecific causes
Could not be determined	Not known
Etiology never determined	Obscure etiology
Etiology not defined	Undetermined
Etiology unexplained	Uncertain
Etiology unknown	Unclear
Etiology undetermined	Unexplained cause
Etiology unspecified	Unknown
Final event undetermined	? Cause
Immediate cause not determined	? Etiology
Immediate cause unknown	

S. 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.

			Codes for Record
I	(a)	Congestive heart failure	I500
	(b)	Renal disease	N059
AI	Renal disease was nephritis		

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 certa 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, 2007.

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**.

A09 Diarrhea and gastroenteritis of presumed infectious origin

In the United States, any terms listed in A09 without further specification are assumed to be of noninfectious origin. These conditions should be classified to K52.9. Only if the listed conditions are stated as "infectious," "septic," "dysenteric," or "epidemic," should they be classified to A09.

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.-

A22.- Anthrax

Not to be used as the underlying cause if reported with accident, homicide, suicide anywhere on the record, undetermined in the Manner of Death box only, or designated as an act of terrorism. Code **accident (X58), homicide (Y08), suicide (X83), undetermined (Y33), or terrorism (U016)**

A35 Other tetanus
INCLUDES: accidents *with mention of* tetanus

		Codes for Record
I	(a) Tetanus	A35
	(b) Contusion, foot	S903
II	Accident: Fall	W19

Code to tetanus (A35).

		Codes for Record
I	(a) Tetanus	A35
	(b) Fracture of hip	S720
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
I	(a) Septicemia	A419
	(b) Contusion, foot	S903
II	Accident: Fall	W19

Code to Septicemia (A419).

		Codes for Record
I	(a) Septicemia	A419
	(b) Fracture of hip	S720
II		X590

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 hemangioma.

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.

		Code for Record
I (a)	Melanoma of arm	C436

Code to melanoma of arm (C436) as indexed under site classification.

		Code for Record
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"

		Code for Record
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"

		Code for Record
I (a)	Rhabdomyosarcoma abdomen	C494

Code to rhabdomyosarcoma abdomen (C494). Code the morphological type "Rhabdomyosarcoma" to Neoplasm, connective tissue, malignant.

		Code for Record
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.

		Code for Record
I (a)	Angiosarcoma of liver	C223

Code angiosarcoma of liver as indexed.

		Code for Record
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"

		Code for Record
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

		Code for Record
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.

	Code for Record
I (a) Secondary carcinoma of intestine	C785

Code to secondary carcinoma of intestine (C785).

	Codes for Record
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
(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
	(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
	(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
	(b) Non-Hodgkin's lymphoma	C859
	(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	C910
	(b) Non-Hodgkin's lymphoma	C859

   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	C250
(b)	Carcinoma of tail of pancreas	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.

		Codes for Record
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).

		Codes for Record
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.

		Codes for Record
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.

		Codes for Record
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).

		Codes for Record
I	(a) Cholangiocarcinoma	C221
II	Hepatoma	C220

Code to hepatoma (C220).

		Codes for Record
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).

	Codes for Record
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).

	Codes for Record
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 malignant, 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).

	Codes for Record
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

Bone	Lymph nodes
Brain	Mediastinum
Central nervous system	Meninges
Diaphragm	Peritoneum
Heart	Pleura
Ill-defined sites (sites classifiable to C76)	Retroperitoneum
Liver	Spinal cord
Lung	

	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.

		Codes for Record
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
I (a)	Metastatic brain cancer	C793

Code to secondary malignant neoplasm of brain (C793).

		Code for Record
I (a)	Metastatic carcinoma of lung	C349

Code to malignant neoplasm of lung (C349).

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
I (a)	Cancer of liver	C787
(b)	Cancer of abdomen	C798

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.-.)

		Codes for Record
I (a)	Cancer of brain	C793
(b)	Cancer of lung	C349

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.

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
I (a)	Cancer of lung	C780
(b)	Cancer of breast	C509

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
II	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
II	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
II	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.

		Codes for Record
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	C80
	(b) ovary	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.

		Code for Record
I (a)	Cervix cancer, metastatic	C539

Code to malignant neoplasm of cervix (C539).

		Code for Record
I (a)	Metastatic cancer of lung	C349

Code to primary malignant neoplasm of lung since no other site is mentioned.

b. 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.

		Code for Record
I (a)	Metastatic oat cell carcinoma	C349

Code to malignant neoplasm of lung (C349) since oat cell carcinoma of unspecified site is assigned to the lung in the Alphabetical Index.

c. 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.

		Code for Record
I (a)	Metastatic melanoma of arm	C436

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.

d. 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.

		Code for Record
I (a)	Metastatic mesothelioma of liver	C457

Code to mesothelioma, liver (C457).

		Code for Record
I (a)	Metastatic mesothelioma of mesentery	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.

		Code for Record
I (a)	Metastatic mesothelioma of kidney	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.

		Codes for Record
I (a)	Metastatic mesothelioma of	C459 C779
(b)	lymph nodes	

Code to mesothelioma (C459). Lymph nodes is on the list of common sites and is not indexed under mesothelioma.

		Codes for Record
I (a)	Metastatic Kaposi's sarcoma of brain	C469 C793

Code to Kaposi's sarcoma (C469). Brain is on the list of common sites and is not indexed under Kaposi's sarcoma.

		Code for Record
I (a)	Kaposi's sarcoma of brain	C467

Code to specified site of Kaposi's sarcoma (C467) since not qualified as metastatic.

e. 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.

		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.

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)	Bowel obstruction	K566
(b)	Metastatic adenocarcinoma of bowel	C260
(c)	Metastatic sarcoma of uterus	C55

Code to malignant neoplasms of independent (primary) multiple sites (C97).

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).

		Codes for Record
I (a)	Generalized metastases	C80
(b)	Melanoma of back	C439 C798
(c)	Primary site unknown	

Code to malignant melanoma of unspecified site (C439).

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 and 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).

	Code for Record
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).

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
	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:
	K70.- (Alcoholic liver disease), code **K70.-**
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
F13.9, F14.9
F15.9, F16.9
F18.9, F19.9 Mental and behavioral disorders due to use of drugs

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.

	Codes for Record
I (a) Heroin use	F119
(b)	
II Acute intravenous drug use	F199

Code to heroin use (F119).

	Codes for Record
I (a) Melanoma of back	C435
(b)	
II Use of hypnotics	F139

Code to melanoma of back (C435).

	Code for Record
I (a) Intravenous drug use	F119
(b) (morphine)	
II	
Accident	

Code to intravenous morphine use (F119).

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.

			Codes for Record
I	(a)	Acute bacterial endocarditis	I330
	(b)	Mitral insufficiency	I051
	(c)	Rheumatic endocarditis	I091

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.

		Codes for Record
I	(a) Heart failure	I099
	(b) Rheumatic fever	I00

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.

		Codes for Record
I	(a) Acute congestive failure	I500
	(b) Hypertensive myocarditis	I119
	(c) Rheumatic endocarditis	I091

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.

		Codes for Record
I	(a) Mitral endocarditis,	I059 I051 I050
	(b) insufficiency and stenosis	
	(c) Aortic endocarditis	I069

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.

		Codes for Record
I	(a) Aortic and tricuspid regurgitation	I061 I071
	(b) Aortic stenosis	I060

Code to disorders of both aortic and tricuspid valves (I082). Conditions of both valves are considered as rheumatic since the diseases of the aortic and the tricuspid valves are jointly reported.

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.

			Codes for Record
I	(a)	Mitral stenosis	I050
	(b)	Mitral insufficiency	I051

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.

			Codes for Record
I	(a)	Mitral stenosis	I011
	(b)	Active rheumatic myocarditis	I012

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.

				Codes for Record
I	(a)	Congestive heart failure		I018
	(b)	Rheumatic fever	2 months	I00

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).

			Codes for Record
I	(a)	Acute myocardial dilatation	I018
	(b)	Rheumatic fever	I00

Code to other acute rheumatic heart disease (I018) since the myocardial dilatation is stated as acute.

			Codes for Record
I	(a)	Acute myocardial insufficiency	I012
	(b)	Rheumatic fever	I00

Code to acute rheumatic myocarditis (I012) since the myocardial insufficiency is stated to be acute.

D. The term "pericarditis" is mentioned.

			Codes for Record
I	(a)	Acute pericarditis	I010
	(b)	Rheumatic mitral stenosis	I011

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.

				Codes for Record
I	(a)	Congestive heart failure		I500
	(b)	Endocarditis	6 mos	I011
	(c)	Rheumatic fever	10 yrs	I00

Code to acute rheumatic endocarditis (I011) since the endocarditis is of less than 1year duration.

F. The term(s) in instruction E without a duration is mentioned and the age of the decedent is less than 15 years.

		Codes for Record
Age 5 years		
I (a)	Mitral and aortic endocarditis	I011
(b)	Rheumatic fever	I00

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).

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 renal failure), 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-I51.9 (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 renal failure), 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:

G20 (Parkinson's disease), code **G21.8**.

170.- 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 **G21.8**

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.-**
J10-J18 (Influenza and pneumonia), code **J10-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.-**

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.-**

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.

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 renal failure
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
O96 Death from any obstetric cause occurring more than 42 days but less than one year after delivery
O97 Death from sequela of direct obstetric causes (deaths 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

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.

P70.3-P72.0
P72.2-P74.9 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.

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	exposure NOS
bite of insect (non-venomous)	minor cut
blister	prick
bruise	puncture except trunk
burn of first degree	scratch
contusion (external)	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.

	Code for Term
Fall from building	W13

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.

	Code for Term
House fire	X00

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-17. 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)

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 accidents involving occupants of motor vehicles as traffic when the place is railroad (tracks).

			Codes for Record
I	(a)	Laceration lung	S273
	(b)		
	(c)		
II			V575

Accident	Truck struck bridge - Driver

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.

			Codes for Record
I	(a)	Fractured skull	S029
	(b)		
	(c)		
II			V866

Accident	Farm	Dune buggy overturned - passenger

Code to passenger of all-terrain or other off road vehicle injured in nontraffic accident (V866).

		Codes for Record
I (a)	Drowning	T751 V863
II		

Accident	Snowmobile ran off road and went into pond

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
I (a)	Multiple internal injuries	T065
(b)	Crushed by car on highway	T147 V031

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
I (a)	Fractured skull	S029
(b)	Struck head on windshield when	V476
(c)	car struck tree fell across road	

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:

pedestrian	versus (vs)	any vehicle (car, truck, etc.)
any vehicle (car, truck, etc.)	versus (vs)	pedestrian

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.

		Codes for Record
I	(a) Drowning	T751 V589
II		

Accident	Street	Truck accident

Code to occupant of truck injured in noncollision transport accident (V589).

		Codes for Record
I	(a) Drowning	T751 V435
II		

Accident	Street	Driver-2 car collision

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.

	Codes for Record
I (a) Multiple injuries	T07
II	V583

Accident	Home	Fell from truck in driveway

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).

			Codes for Record
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).

			Codes for Record
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)		
	(c)	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)

			Codes for Record
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.

	Codes for Record
I (a) Head injuries and fracture	S099 S029
II	V892

Accident	Highway

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.

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	
	(c) 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	
(c)	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	V475
(c)	landslide covering road	

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		Codes for Record
I (a)	Overdose of aspirin	T390 X40
(b)	Flu and cold	J1110 J00
(c)		
II	Aspirin given for fever - 10 days	T390 R509

Code to X40, accidental poisoning by and exposure to nonopioid analgesics, antipyretics, and antirheumatics.

		Codes for Record
I (a)	Poisoning by barbiturates	T423 X41

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.

		Codes for Record
I (a)	Respiratory failure	J969
(b)	Digitalis intoxication	T460 X44

Code X44, digitalis intoxication as poisoning when there is no indication the drug was given for therapy.

c. These categories EXCLUDE poisoning, accidental or undetermined whether accidental or purposeful, if drug dependence is mentioned.

		Codes for Record
I (a)	Ingested an overdose of heroin	T401 X42
(b)		
(c)		
II	Drug dependence (heroin)	F112

Code to F112, mental and behavioral disorders due to use of opioids.

d. 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.

		Codes for Record
I	(a) Acute barbiturate intoxication	T423 X41
II	Accident - Took unknown amount of barbiturates and aspirin	T423 T390

Code external cause 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.

		Codes for Record
I	(a) Drug intoxication	T509 X44
	(b) Digitalis & cocaine intoxication	T460 T405

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.

		Codes for Record
I	(a) Acute respiratory failure	J960
	(b) due to synergistic action	T519 X45 T404 X42
	(c) of alcohol and darvon	

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.

		Codes for Record
I (a)	Alcohol and barbiturate intoxication	T519 X45 T423 X41

Code to X41, accidental poisoning by and exposure to antiepileptic, sedative-hypnotic, antiparkinsonism and psychotropic drugs, not elsewhere classified. Alcoholic intoxication or poisoning reported in combination with medicinal agents is classified to poisoning by the medicinal agents.

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.

		Codes for Record
I (a)	Hanging	T71 X70

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.

	Codes for Record
I (a) Gunshot wound	T141 X95

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	Codes for Record
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.

	Codes for Record
I (a) Fx. skull, laceration of brain	S029 S062
II	Y34

Unknown whether accidental or homicide

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).

	Codes for Record
I (a) Cerebral hemorrhage	S062
(b) Shot self in head	S019 Y24

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 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).

		Codes for Record
I	(a) Allergic reaction	T887
	(b) Drug therapy	Y579
	(c) Pyelitis	N12

Code to pyelitis (N12), the condition requiring treatment.

		Codes for Record
I	(a) Diabetes	E139
	(b) Steroid Use	Y427
II	Rheumatoid Arthritis	M069

Code to rheumatoid arthritis (M069), the condition requiring treatment.

			Codes for Record
I	(a)	Pulmonary insufficiency	J984
	(b)	Drug given for tachycardia	Y579
	(c)		R000

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).

			Codes for Record
I	(a)	Respiratory arrest	R092
	(b)	Ulcer of stomach	K259
	(c)	Cortisone therapy	Y420

Code to ulcer of stomach (K259), the complication of the drug therapy as classified in Chapters I-XVIII.

			Codes for Record
I	(a)	Cardiac arrest	I469
	(b)	Drug therapy	Y579

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.

			Codes for Record
I	(a)	Allergic reaction to	T887 Y400
	(b)	penicillin	

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.

		Codes for Record
I	(a) Cardiac arrest	I469
	(b) Digitalis intoxication	T887 Y520
	(c) ASHD	I251

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."

		Codes for Record
I	(a) Adverse reaction	T887
	(b) Valium and sleeping pills	Y478

Code to other sedatives, hypnotics and antianxiety drugs, the combination code for valium and sleeping pills (Y478).

b. When the drugs are classified to different three-character categories, code the E-code to Y578, "Other drugs and medicaments."

		Codes for Record
I	(a) Adverse reaction	T887
	(b) Anticoagulant and aspirin	Y578

Code to other drugs and medicaments, the combination code for anticoagulant and aspirin (Y578).

Y60-Y83 Adverse effects and misadventures occurring as a result of a surgical procedure

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:

Infectious and parasitic diseases	A000-A309, A320-A329, A360-A399, A420-A449, A481-A488, A500-A690, A692-B349, B500-B949
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, K860, L278, R780, R826, R893
Rheumatic fever or rheumatic heart disease	I00-I099
Hypertensive diseases	I11-I139
Coronary artery disease Coronary disease	I251
Ischemic cardiomyopathy	I255
Chronic or degenerative myocarditis	I514
Arteriosclerosis and arteriosclerotic conditions except those classified to I219	
Calculus or stones of any kind	
Influenza	J09-J118

Hernia except ventral (incisional)	K400-K429, K440-K469
Diverticulitis	K570-K579
Rheumatoid arthritis	M050-M089
Collagen disease	M300-M359
Congenital malformations	Q000-Q999

This is not an all inclusive list.

		Codes for Record
I	(a) Myocardial infarction	I219
	(b) Arteriosclerosis	I709
	(c) Surgery	

Code to myocardial infarction (I219) by Rules 1 and C, since arteriosclerosis is not accepted as due to surgery.

		Code for Record
I	(a) Diabetic gangrene	E145
	(b) Leg amputation	

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	K829
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	code hernia
Hip fixation	code hip fracture
Hip pinning	code hip fracture
Hip prosthesis	M259
Hip replacement	M259
Hysterectomy	N859
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 to "Other ill-defined and unspecified causes of mortality" (R99).

   These procedures include:

amputation	pelvic exenteration
arteriovenous shunt	portocaval shunt
chordotomy	radical neck dissection
craniotomy	rhizotomy
cystostomy	sympathectomy
D & C	tracheotomy
gastrostomy	tracheostomy
laminectomy	tubal ligation
laparotomy	vagotomy
lobectomy NOS	vasectomy
lobotomy	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.

		Codes for Record
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.

		Codes for Record
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.

		Codes for Record
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, chronic, 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	N19
	(b) Intestinal obstruction	K566
	(c) Adhesions	K918
II	Surgery – 16 months ago	Y883

Code to Y883, sequela of surgical and medical procedures, since surgery was performed one year or more before death.

5. A chronic condition is reported due to external causes, injuries or trauma, with or without a duration reported.

		Codes for Record
I	(a) Chronic pyelonephritis	N119
	(b) Abdominal injury	T919
	(c) Fall	Y86

Code to Y86, sequela of other accidents.

6. 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	J969
	(b) Paraplegia 2 years	T913
	(c) Motorcycle accident	Y850

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

Conditions classifiable to A00-B99 are NOT to be considered as rare when reported with human immunodeficiency virus (HIV) B20-B24.

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
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

APPENDIX A

Infrequent and Rare Cause-of-Death Edits for Underlying and Multiple Cause-of-Death Classification

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

APPENDIX A

Infrequent and Rare Cause-of-Death Edits for Underlying and Multiple Cause-of-Death Classification

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)
B50-B54	Malaria
B55	Leishmaniasis
B56	African trypanosomiasis (trypanosomiasis)
B57	Chagas' disease (trypanosomiasis)
B65	Schistosomiasis

APPENDIX A

Infrequent and Rare Cause-of-Death Edits for Underlying and Multiple Cause-of-Death Classification

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 identified avian 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

Created Code	Valid ICD-10 Code
A1690	A169
E0390	E039
G1220	G122
G2000	G20
G3090	G309
I4200	I420
I4210	I421
I4220	I422
I4250	I425
I4280	I428
I4290	I429
I5000	I500
I5140	I514
I5150	I515
I6000	I600
I6060	I606
I6070	I607
I6080	I608
I6090	I609
I6100	I610
I6110	I611
I6120	I612
I6130	I613
I6140	I614
I6150	I615
I6180	I618
I6190	I619
I6300	I630
I6310	I631
I6320	I632
I6330	I633
I6340	I634
I6350	I635
I6360	I636
I6380	I638
I6390	I639
I6400	I64
I6910	I691

APPENDIX B

Created Codes and Their Complimentary Valid ICD-10 Codes

Created Code	Valid ICD-10 Code
I6930	I693
I6940	I694
J1010	J101
J1110	J111
J8410	J841
J8490	J849
J9840	J984
K3190	K319
K5500	K550
K6310	K631
K7200	K720
K7210	K721
K7290	K729
M1990	M199
Q2780	Q278
Q2820	Q282
Q2830	Q283
R5800	R58
R97	R99

APPENDIX C

Geographic Codes

State	FIPS Alpha	State	FIPS Alpha
Alabama	AL	Nebraska	NE
Alaska	AK	Nevada	NV
Arizona	AZ	New Hampshire	NH
Arkansas	AR	New Jersey	NJ
California	CA	New Mexico	NM
Colorado	CO	New York	NY
Connecticut	CT	North Carolina	NC
Delaware	DE	North Dakota	ND
District of Columbia	DC	Ohio	OH
Florida	FL	Oklahoma	OK
Georgia	GA	Oregon	OR
Hawaii	HI	Pennsylvania	PA
Idaho	ID	Puerto Rico	PR
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Maryland	MD	Virginia	VA
Massachusetts	MA	Virgin Islands	VI
Michigan	MI	Washington	WA
Minnesota	MN	West Virginia	WV
Mississippi	MS	Wisconsin	WI
Missouri	MO	Wyoming	WY
Montana	MT		

Territories and Outlying Areas

American Samoa	AS	US Minor Outlying Islands	UM*
Federated States of Micronesia	FM	Baker Island	
Guam	GU	Howland Island	
Marshall Islands	MH	Jarvis Island	
Northern Mariana Islands	MP	Johnston Atoll	
Palau	PW	Kingman Reef	
Puerto Rico	PR	Midway Islands	
Virgin Islands (US)	VI	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.

AAA	abdominal aortic aneurysm
AAS	aortic arch syndrome
AAT	alpha-antitrypsin
AAV	AIDS-associated virus
AB	abdomen; abortion; asthmatic bronchitis
ABD	abdomen
ABE	acute bacterial endocarditis
ABS	acute brain syndrome
ACA	adenocarcinoma
ACD	arteriosclerotic coronary disease
ACH	adrenal cortical hormone
ACT	acute coronary thrombosis
ACTH	adrenocorticotrophic hormone
ACVD	arteriosclerotic cardiovascular disease
ADEM	acute disseminated encephalomyelitis
ADH	antidiuretic hormone
ADS	antibody deficiency syndrome
AEG	air encephalogram
AF	auricular or atrial fibrillation; acid fast
AFB	acid-fast bacillus
AGG	agammaglobulinemia
AGL	acute granulocytic leukemia
AGN	acute glomerulonephritis
AGS	adrenogenital syndrome
AHA	acquired hemolytic anemia; autoimmune hemolytic anemia
AHD	arteriosclerotic heart disease
AHHD	arteriosclerotic hypertensive heart disease
AHG	anti-hemophilic globulin deficiency
AHLE	acute hemorrhagic leukoencephalitis
AI	aortic insufficiency; additional information
AIDS	acquired immunodeficiency syndrome
AKA	above knee amputation
ALC	alcoholism
ALL	acute lymphocytic leukemia
ALS	amyotrophic lateral sclerosis
AMI	acute myocardial infarction

APPENDIX D

Standard Abbreviations and Symbols

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

APPENDIX D

Standard Abbreviations and Symbols

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
ATS	arteriosclerosis
ATSHD	arteriosclerotic heart disease
ATV	all-terrain vehicle
AUL	acute undifferentiated leukemia
AV	arteriovenous; atrioventricular; aortic valve
AVF	arterio-ventricular fibrillation; arteriovenous fistula
AVH	acute viral hepatitis
AVP	aortic valve prosthesis
AVR	aortic valve replacement
AWMI	anterior wall myocardial infarction
AZT	azidothymidine
BA	basilar artery; basilar arteriogram; bronchial asthma
B&B	bronchoscopy and biopsy
BBB	bundle branch block
B&C	biopsy and cauterization
BCE	basal cell epithelioma
BE	barium enema
BEH	benign essential hypertension
BGL	Bartholin's gland
BKA	below knee amputation
BL	bladder; bucolingual; blood loss; Burkitt's lymphoma
BMR	basal metabolism rate
BNA	bladder neck adhesions
BNO	bladder neck obstruction
BOMSA	bilateral otitis media serous acute
BOMSC	bilateral otitis media serous chronic
BOW	"bag of water" (membrane)
B/P, BP	blood pressure
BPH	benign prostate hypertrophy

APPENDIX D

Standard Abbreviations and Symbols

BSA	body surface area
BSO	bilateral salpingo-oophorectomy
BSP	Bromosulfaphthalein (test)
BTL	bilateral tubal ligation
BUN	blood, urea, and nitrogen test
BVL	bilateral vas ligation
B&W	Baldy-Webster suspension (uterine)
BX	biopsy
BX CX	biopsy cervix
Ca	cancer
CA	cancer; cardiac arrest; carotid arteriogram
CABG	coronary artery bypass graft
CABS	coronary artery bypass surgery
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-Higaski Disease

APPENDIX D

Standard Abbreviations and Symbols

CHF	congestive heart failure
C_2H_5OH	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
CO_2	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

APPENDIX D

Standard Abbreviations and Symbols

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
DOPS	diffuse obstructive pulmonary syndrome
DPT	diphtheria, pertussis, tetanus vaccine
DR	diabetic retinopathy
DS	Down's syndrome

APPENDIX D

Standard Abbreviations and Symbols

DT	due to; delirium tremens
D/T	due to; delirium tremens
DU	diagnosis unknown; duodenal ulcer
DUB	dysfunctional uterine bleeding
DUI	driving under influence
DVT	deep vein thrombosis
DWI	driving while intoxicated
DX	dislocation; diagnosis; disease
EBV	Epstein-Barr virus
ECCE	extracapsular cataract extraction
ECG	electrocardiogram
E coli	Escherichia coli
ECT	electric convulsive therapy
EDC	expected date of confinement
EEE	Eastern equine encephalitis
EEG	electroencephalogram
EFE	endocardial fibroelastosis
EGL	eosinophilic granuloma of lung
EH	enlarged heart; essential hypertension
EIOA	excessive intake of alcohol
EKC	epidemic keratoconjunctivitis
EKG	electrocardiogram
EKP	epikeratoprosthesis
ELF	elective low forceps
EMC	encephalomyocarditis
EMD	electromechanical dissociation
EMF	endomyocardial fibrosis
EMG	electromyogram
EN	erythema nodosum
ENT	ear, nose, and throat
EP	ectopic pregnancy
ER	emergency room
ERS	evacuation of retained secundines
ESRD	end-stage renal disease
EST	electric shock therapy
ETOH	alcohol
EUA	exam under anesthesia
EWB	estrogen withdrawal bleeding
FB	foreign body
FBS	fasting blood sugar
Fe	symbol for iron

APPENDIX D

Standard Abbreviations and Symbols

FGD	fatal granulomatous disease
FHS	fetal heart sounds
FHT	fetal heart tone
FLSA	follicular lymphosarcoma
FME	full-mouth extraction
FS	frozen section; fracture site
FT	full term
FTA	fluorescent treponemal antibody test
5FU	fluorouracil
FUB	functional uterine bleeding
FULG	fulguration
FUO	fever unknown origin
FX	fracture
FYI	for your information
GAS	generalized arteriosclerosis
GB	gallbladder; Guillain-Barre (syndrome)
GC	gonococcus; gonorrhea; general circulation (systemic)
GE	gastroesophageal
GEN	generalized
GERD	gastroesophageal reflux disease
GI	gastrointestinal
GIST	gastrointestinal stromal tumor
GIT	gastrointestinal tract
GMSD	grand mal seizure disorder
GOK	God only knows
GSW	gunshot wound
GTT	glucose tolerance test
Gtt	drop
GU	genitourinary; gastric ulcer
GVHR	graft-versus-host reaction
GYN	gynecology
HA	headache
HAA	hepatitis-associated antigen
HASCVD	hypertensive arteriosclerotic cardiovascular disease
HASCVR	hypertensive arteriosclerotic cardiovascular renal disease
HASHD	hypertensive arteriosclerotic heart disease
HC	Huntington's chorea
HCT	hematocrit
HCVD	hypertensive cardiovascular disease
HCVRD	hypertensive cardiovascular renal disease

APPENDIX D

Standard Abbreviations and Symbols

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
HN_2	nitrogen mustard
HNP	herniated nucleus pulposus
H/O	history of
HPN	hypertension
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-III/LAV	human T-cell lymphotropic 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

APPENDIX D

Standard Abbreviations and Symbols

IGA	immunoglobin A
IHD	ischemic heart disease
IHSS	idiopathic hypertrophic subaortic stenosis
ILD	ischemic leg disease
IM	intramuscular; intramedullary; infectious mononucleosis
IMPP	intermittent positive pressure
INAD	infantile neuroaxonal dystrophy
INC	incomplete
INE	infantile necrotizing encephalomyelopathy
INF	infection; infected; infantile; infarction
INH	isoniazid; inhalation
INS	idiopathic nephrotic syndrome
IRHD	inactive rheumatic heart disease
ISD	interatrial septal defect
ITP	idiopathic thrombocytopenic purpura
IU	intrauterine
IUCD	intrauterine contraceptive device
IUD	intrauterine device (contraceptive); intrauterine death
IUP	intrauterine pregnancy
IV	intervenous; intravenous
IVC	intravenous cholangiography; inferior vena cava
IVCC	intravascular consumption coagulopathy
IVD	intervertebral disc
IVH	intraventricular hemorrhage
IVP	intravenous pyelogram
IVSD	intraventricular septal defect
IVU	intravenous urethrography
IWMI	inferior wall myocardial infarction
JBE	Japanese B encephalitis
KFS	Klippel-Feil syndrome
KS	Klinefelter's syndrome
KUB	kidney, ureter, bladder
K-W	Kimmelstiel-Wilson disease or syndrome
LAP	laparotomy
LAV	lymphadenopathy-associated virus
LAV/HTLV-III	lymphadenopathy-associated virus/human T-cell lymphotrophic virus-III

APPENDIX D

Standard Abbreviations and Symbols

LBBB	left bundle branch block
LBNA	lysis bladder neck adhesions
LBW	low birth weight
LBWI	low birth weight infant
LCA	left coronary artery
LDH	lactic dehydrogenase
LE	lupus erythematosus; lower extremity; left eye
LKS	liver, kidney, spleen
LL	lower lobe
LLL	left lower lobe
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
MD	muscular dystrophy; manic depressive; myocardial damage
MDA	methylene dioxyamphetamine
MEA	multiple endocrine adenomatosis
MF	myocardial failure; myocardial fibrosis; mycosis fungoides

APPENDIX D

Standard Abbreviations and Symbols

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
NH_3	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

APPENDIX D

Standard Abbreviations and Symbols

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

APPENDIX D

Standard Abbreviations and Symbols

POC	product of conception
POE	point (or portal) of entry
PP	postpartum
POSS	possible; possibly
PPD	purified protein derivative test for tuberculosis
PPH	postpartum hemorrhage
PPLO	pleuropneumonia-like organism
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
PVS	premature ventricular systole (contraction)
PWI	posterior wall infarction
PWMI	posterior wall myocardial infarction
PX	pneumothorax
R	right
RA	rheumatoid arthritis; right atrium; right auricle
RAAA	ruptured abdominal aortic aneurysm
RAD	radiation absorbed dose
RAI	radioactive iodine
RBBB	right bundle branch block

APPENDIX D

Standard Abbreviations and Symbols

RBC	red blood cells
RCA	right coronary artery
RCS	reticulum cell sarcoma
RD	Raynaud's disease; respiratory disease
RDS	respiratory distress syndrome
RE	regional enteritis
REG	radioencephalogram
RESP	respiratory
RHD	rheumatic heart disease
RLF	retrolental fibroplasia
RLL	right lower lobe
RLQ	right lower quadrant
RMCA	right middle cerebral artery
RMCAT	right middle cerebral artery thrombosis
RML	right middle lobe
RMLE	right mediolateral episiotomy
RNA	ribonucleic acid
RND	radical neck dissection
R/O	rule out
RSA	reticulum cell sarcoma
RSR	regular sinus rhythm
Rt	right
RT	recreational therapy; right
RTA	renal tubular acidosis
RUL	right upper lobe
RUQ	right upper quadrant
RV	right ventricle
RVH	right ventricular hypertrophy
RVT	renal vein thrombosis
RX	drugs or other therapy or treatment
SA	sarcoma; secondary anemia
SACD	subacute combined degeneration
SARS	severe acute respiratory syndrome
SBE	subacute bacterial endocarditis
SBO	small bowel obstruction
SBP	spontaneous bacterial peritonitis
SC	sickle cell
SCC	squamous cell carcinoma
SCI	subcoma insulin; spinal cord injury
SD	spontaneous delivery; septal defect; sudden death

APPENDIX D

Standard Abbreviations and Symbols

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

APPENDIX D

Standard Abbreviations and Symbols

SUID	sudden unexpected infant death
SVC	superior vena cava
SVD	spontaneous vaginal delivery
SVT	superventricular tachycardia
Sx	symptoms
SY	syndrome
T&A	tonsillectomy and adenoidectomy
TAH	total abdominal hysterectomy
TAL	tendon achilles lengthening
TAO	triacetyloleandomycin (antibiotic); thromboangiitis obliterans
TAPVR	total anomalous pulmonary venous return
TAR	thrombocytopenia absent radius (syndrome)
TAT	tetanus anti-toxin
TB	tuberculosis; tracheobronchitis
TBC, Tbc	tuberculosis
TCI	transient cerebral ischemia
TEF	tracheoesophageal fistula
TF	tetralogy of Fallot
TGV	transposition great vessels
THA	total hip arthroplasty
TI	tricuspid insufficiency
TIA	transient ischemic attack
TIE	transient ischemic episode
TL	tubal ligation
TM	tympanic membrane
TOA	tubo-ovarian abscess
TP	thrombocytopenic purpura
TR	tricuspid regurgitation, transfusion reaction
TSD	Tay-Sachs disease
TTP	thrombotic thrombocytopenic purpura
TUI	transurethral incision
TUR	transurethral resection (NOS) (prostate)
TURP	transurethral resection of prostate
TVP	total anomalous venous return
UC	ulcerative colitis
UGI	upper gastrointestinal

APPENDIX D

Standard Abbreviations and Symbols

UL	upper lobe	VSD	ventricular septal defect
UNK	unknown	VT	ventricular tachycardia
UP	ureteropelvic	WBC	white blood cell
UPJ	ureteropelvic junction	WC	whooping cough
URI	upper respiratory infection	WE	Western encephalomyelitis
UTI	urinary tract infection	W/O	without
VAMP	vincristine, amethopterine, 6-mercaptopurine, and prednisone	WPW	Wolfe-Parkinson-White syndrome
VB	vinblastine	YF	yellow fever
VC	vincristine	ZE	Zollinger-Ellison (syndrome)
VD	venereal disease	'	minute
VDRL	venereal disease research lab	"	second(s)
VEE	Venezuelan equine encephalomyelitis	<	less than
		>	greater than
VF	ventricular fibrillation	↓	decreased
VH	vaginal hysterectomy; viral hepatitis	↑	increased; elevated
VL	vas ligation	$\overline{c}$	with
VM	viomycin	$\overline{s}$	without
V&P	vagotomy and pyloroplasty	$\frac{00}{11}$	secondary to
VPC, VPCS	ventricular premature contractions		
VR	valve replacement	$\frac{00}{11}$ to	secondary to

APPENDIX E

Synonymous Sites

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.

Alimentary canal	Gastrointestinal tract
Body	Torso, trunk
Brain	Anterior fossa, basal ganglion, central nervous system, cerebral, cerebrum, frontal, occipital, parietal, pons, posterior fossa, prefrontal, temporal, III and IV ventricle **NOTE:** Do not use brain when ICD provides for CNS under the reported condition.
Cardiac	Heart
Chest	Thorax
Greater sac	Peritoneum
Hepatic	Liver
Hepatocellular	Liver
Intestine	Bowel, colon
Kidney	Renal
Lesser sac	Peritoneum
Pharynx	Throat
Pulmonary	Lung
Vocal cords	Larynx
Right\left hemispheric	Code brain
Hemispheric NOS	Do not assume brain
Right\left ventricle	Heart
Third\fourth ventricle	Brain
LLL, LUL, RLL, RML, RUL	Lobes of the lungs when reported with lobectomy, pneumonia, etc.

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:

Invalid Codes	Substitute Codes
A150-A153	A162
A154	A163
A155	A164
A156	A165
A157	A167
A158	A168
A159	A169
A160-A161	A162
B95-B97	Code the disease(s) classified to other chapters modified by the organism. Do not enter a code for the organism.
F70.-	F70 (3-characters only)
F71.-	F71 (3-characters only)

Invalid Codes	Substitute codes
F72.-	F72 (3-characters only)
F73.-	F73 (3-characters only)
F78.-	F78 (3-characters only)
F79.-	F79 (3-characters only)
I151-I158	R99
I23.-	I21 or I22
I240	I21 or I22
I252	I258
I65-I66	I63
O08.-	O00 - O07
O80.-	O95
O81-O84	O759
P95	P969
R69	R95-R99

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

APPENDIX G

Codes for Special Purposes (U00-U99)

***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

APPENDIX G

Codes for Special Purposes (U00-U99)

***U01.3 Terrorism involving fires, conflagration and hot substances**

Asphyxia
Burns
Other injury
} originating from fire caused directly by fire-producing device or indirectly by any conventional weapon

Petrol bomb

Collapse of
Fall from
Falling from
Hit by object
Jump from
} burning building or structure

Conflagration

Fire
Melting
Smoldering
} of fittings or furniture

***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

APPENDIX G

Codes for Special Purposes (U00-U99)

***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**

APPENDIX G

Codes for Special Purposes (U00-U99)

Intentional self-harm (suicide)
***U03**

***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**

APPENDIX G

Codes for Special Purposes (U00-U99)

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

APPENDIX G

Codes for Special Purposes (U00-U99)

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

Injury, injured NEC
- by, caused by, from
- - terrorism – *see* Terrorism
- due to
- - terrorism – *see* Terrorism

APPENDIX G

Codes for Special Purposes (U00-U99)

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

Codes for Special Purposes (U00-U99)

Terrorism----*continued*
- 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

Terrorism----*continued*
- - 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

Codes for Special Purposes (U00-U99)

Terrorism----*continued*
- 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
- weapon burst U01.2

APPENDIX G

Codes for Special Purposes (U00-U99)

Date of death 9/11/2001

PLACE	I	(a) Burns	T300
5		(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
5		(b)	
MOD	II	World Trade Center Disaster	&U011
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 – Alphabetical index to diseases and nature of injury

Syndrome
- respiratory
- - severe acute U04.9
- severe acute respiratory syndrome (SARS) U04.

INDEX

D

INDEX

INDEX