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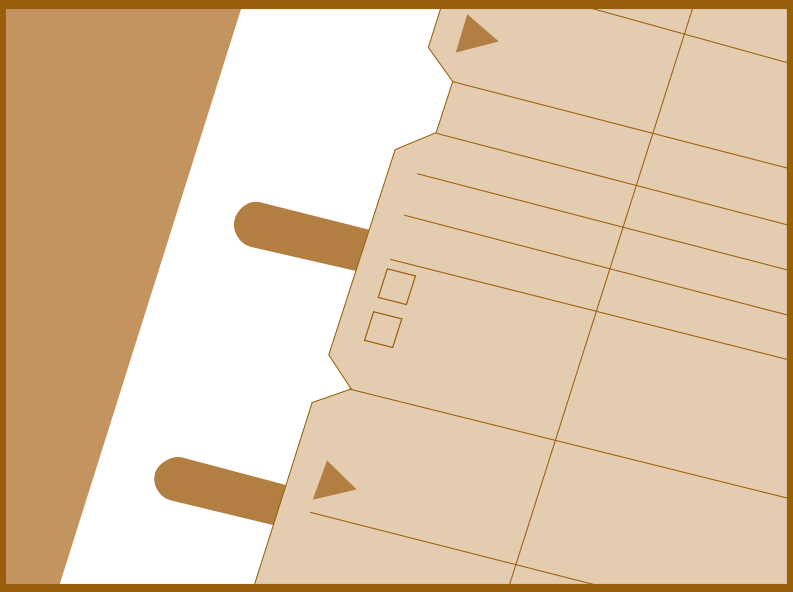
Medical Examiners' and Coroners' Handbook on Death Registration and Fetal Death Reporting

2003 Revision



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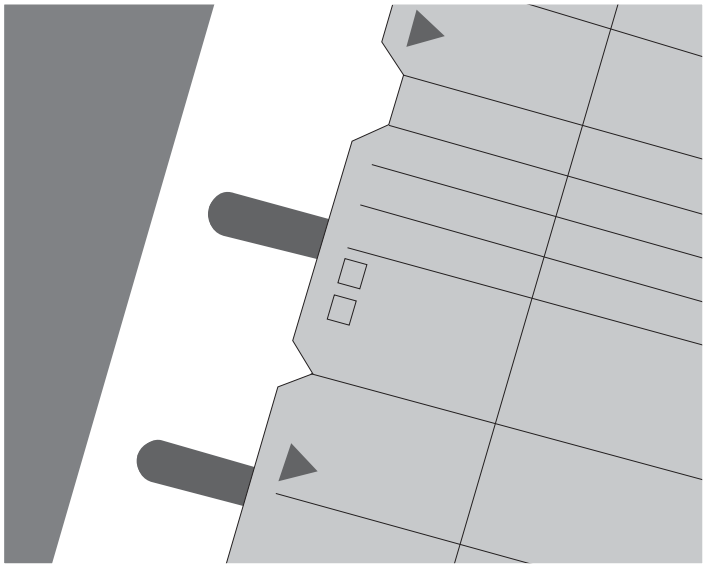

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

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Preface

This handbook contains instructions for medical examiners and coroners on the registration of deaths and the reporting of fetal deaths. It was prepared by the Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics (NCHS). These instructions pertain to the 2003 revisions of the U.S. Standard Certificate of Death and the U.S. Standard Report of Fetal Death and the 1992 revision of the Model State Vital Statistics Act and Regulations. This handbook is intended to serve as a model that can be adapted by any vital statistics registration area.

Other handbooks and references on preparing and registering vital records are mentioned at the end of the section on "Medical Certification of Death" and are listed in the references. For most of these resources, the State vital statistics office or NCHS will be able to provide as many copies as requested.

Acknowledgments

This publication was prepared by staff from the Division of Vital Statistics led by Donna L. Hoyert, Ph.D., and Arialdi M. Minino, M.P.H. Martha L. Munson, M.S., provided content for fetal death items. Robert N. Anderson, Ph.D., also contributed to this handbook. Mary Anne Freedman, M.A., the Director of the Division of Vital Statistics while this publication was being prepared, reviewed and commented on the contents. Expert medical review and comments were provided by Randy Hanzlick, M.D.; Gregory G. Davis, M.D.; and Lillian R. Blackmon, M.D.

This handbook was edited by Kathy Sedgwick, typeset by Jacqueline M. Davis, and the graphics produced by Jarmila G. Ogburn of the Publications Branch, Division of Data Services.

Questions about mortality and cause-of-death issues may be directed to staff in the Mortality Statistics Branch, whereas questions about fetal death issues may be directed to Joyce A. Martin, M.P.H., or other staff in the Reproductive Statistics Branch of the Division of Vital Statistics, the Centers for Disease Control and Prevention's National Center for Health Statistics, Hyattsville, MD 20782.

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Introduction

Purpose

This handbook is designed to acquaint medical examiners and coroners with the vital registration system in the United States and to provide instructions for completing and filing death certificates and fetal death reports. Emphasis is directed toward the certification of medical information relating to these events when they come within the jurisdiction of the medical-legal officer (i.e., medical examiner or coroner).

A significant number of the deaths occurring in the United States must be investigated and certified by a medical-legal officer. Although State laws vary in specific requirements, deaths that typically require investigation are those due to unusual or suspicious circumstances, violence (accident, suicide, or homicide), those due to natural disease processes when the death occurred suddenly and without warning, when the decedent was not being treated by a physician, or the death was unattended (1).

In those cases where death is not the result of accident, suicide, or homicide, some States include in their laws a specific time period regarding how recently treatment must have been provided by a physician for that physician to be authorized to complete the medical certification of cause of death. These time limits vary from State to State. In some States where no time limit is specified, it is left to interpretation or local custom to determine whether the cause of death should be completed by a physician or by the medical examiner or coroner. The medical-legal officer should investigate the case and ensure that the medical certification of cause of death is properly completed.

Because State laws, regulations, and customs vary significantly regarding which cases must be investigated by a medical-legal officer, each medical examiner or coroner must become familiar with practices within the officer's area and ensure that all cases falling within his or her jurisdiction are properly investigated. If there is any doubt as to jurisdiction, the medical-legal officer should assume jurisdiction.

Importance of death registration and fetal death reporting

The death certificate is a permanent record of the fact of death, and depending on the State of death, may be needed to get a burial permit. The information in the record is considered as *prima facie* evidence of the fact of death that can be introduced in court as evidence. State law specifies the required time for completing and filing the death certificate.

The death certificate provides important personal information about the decedent and about the circumstances and cause of death. This information has many uses related to the settlement of the estate and provides family members' closure, peace of mind, and documentation of the cause of death.

The death certificate is the source for State and national mortality statistics (figures 1–3) and is used to determine which medical conditions receive research and development funding, to set public health goals, and to measure health status at local, State, national, and international levels. The Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) publishes summary mortality data in the *National Vital Statistics Report* publication "Deaths: Final data" and on the Internet at http://www.cdc.gov/nchs (under vital statistics, mortality).

These mortality data are valuable to physicians indirectly by influencing funding that supports medical and health research (which may alter clinical practice) and directly as a research tool. Research topics include identifying disease etiology, evaluating diagnostic and therapeutic techniques, examining medical or mental health problems that may be found among specific groups of people (2), and indicating areas in which medical research can have the greatest impact on reducing mortality.

Analyses typically focus on a single condition reported on the death certificate, but some analyses do consider all conditions mentioned. Such analyses are important in studying certain diseases and conditions and in investigating relationships between conditions reported on the same death certificate (for example, types of fatal injuries and automobile crashes or types of infections and HIV).

Because statistical data derived from death certificates can be no more accurate than the information provided on the certificate, it is very important that all persons concerned with the registration of deaths strive not only for complete registration, but also for accuracy and promptness in reporting these events. Furthermore, the potential usefulness of detailed specific information is greater than more general information.

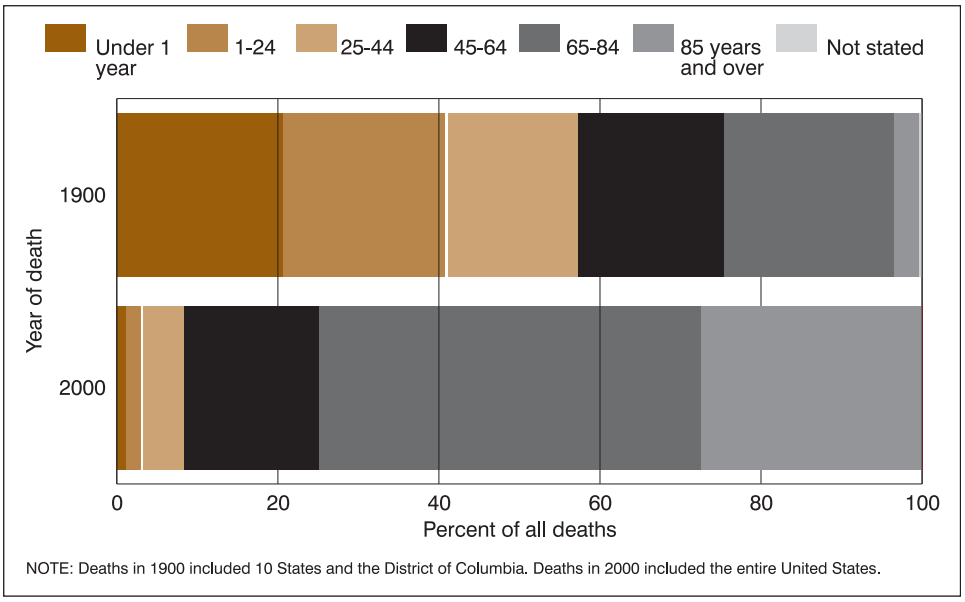


Figure 1. Deaths by age

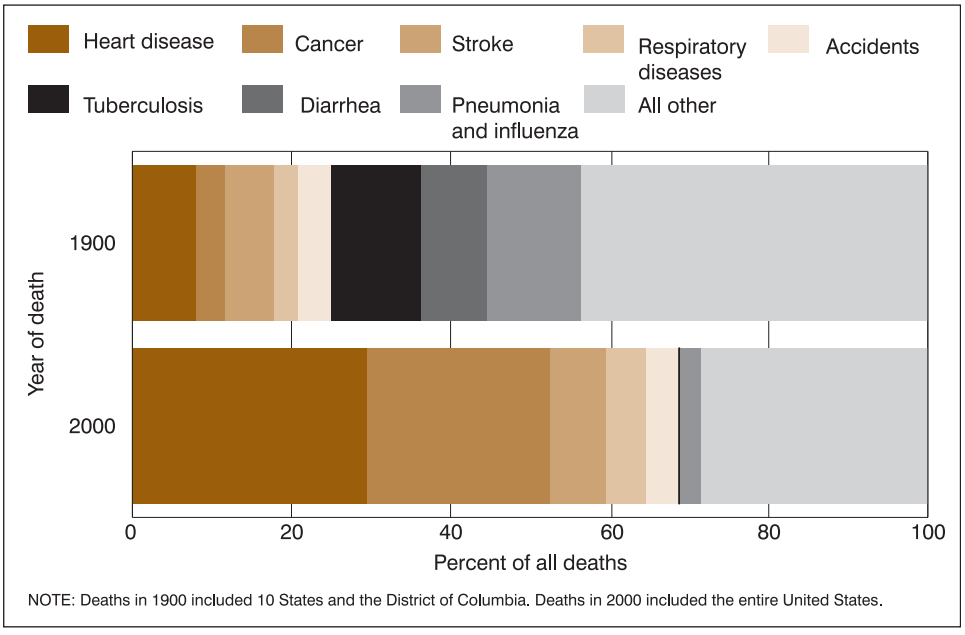


Figure 2. Deaths by cause

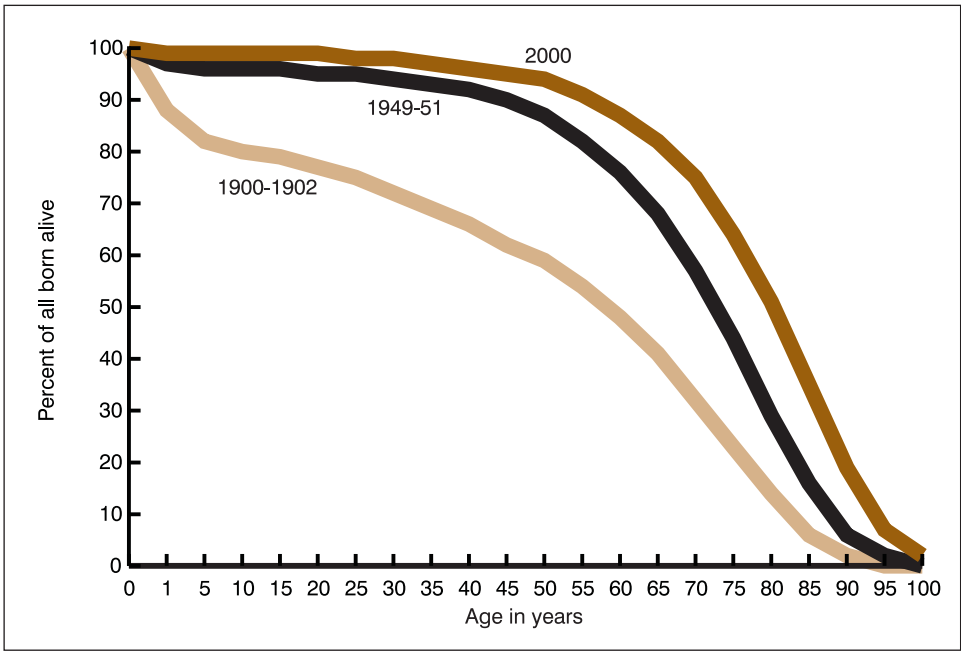


Figure 3. Percent of persons born alive in selected years surviving to specific ages

The fetal death report is recommended as a legally required statistical report designed primarily to collect information for statistical and research purposes. In most States, these reports are not maintained in the official files of the State health department, and certified copies of these reports are rarely issued. However, in a number of States, it remains a legal certificate. The record, whether a certificate or a report, provides valuable health and research data. The information is used to study the causes of poor pregnancy outcome. These data are also essential in planning and evaluating prenatal care services and obstetrical programs. They are also used to examine the consequences of possible environmental and occupa tional exposures of parents on the fetus.

U.S. Standard Certificates and Reports

The registration of deaths and fetal deaths is a State function supported by individual State laws and regulations. The original certificates are filed in the States and stored in accordance with State practice. Each State has a contract with NCHS that allows the Federal Government to use informa tion from the State records to produce national vital statistics. The na tional data program is called the National Vital Statistics System (NVSS) (3,4).

To ensure consistency in the NVSS, NCHS provides leadership and coordination in the development of a standard certificate of death for the States to use as a model. The standard certificate is revised periodically to ensure that the data collected relate to current and anticipated needs. In the revision process, stakeholders review and evaluate each item on the standard certificate for its registration, legal, genealogical, statistical, medical, and research value. The associations on the stakeholder panel that recommended the current U.S. Standard Certificate of Death included the American Medical Association, the National Association of Medical Examiners, the College of American Pathologists, and the American Hospital Association (3). For the U.S. Standard Report of Fetal Death, the associations included the American Academy of Pediatrics, American College of Obstetricians and Gynecologists, Association of State and Territorial Health Officers (Maternal and Child Health Affiliate), American Medical Association, and American College of Nurse Midwives (3).

Most State certificates conform closely in content and arrangement to the standard. Minor modifications are sometimes necessary to comply with State laws or regulations or to meet specific information needs. Having similar forms promotes uniformity of data and comparable national statistics. They also allow the comparison of individual State data with national data and data from other States. Uniformity of death certificates among the States also increases their acceptability as legal records.

Confidentiality of vital records

To encourage appropriate access to vital records, NCHS promotes the development of model vital statistics laws concerning confidentiality (1). State laws and supporting regulations define which persons have authorized access to vital records. Some States have few restrictions on access to death certificates. However, there are restrictions on access to death certificates in the majority of States. Legal safeguards to the confidentiality of vital records have been strengthened over time in some States.

The fetal death report is designed primarily to collect information for statistical and research purposes. In many States these records are not maintained in the official files of the State health department. Most States never issue certified copies of these records; the other States issue certified copies very rarely.

Responsibility of the medical examiner or coroner

Death registration

The principal responsibility of the medical examiner or coroner in death registration is to complete the medical part of the death certificate. Before

delivering the death certificate to the funeral director, he or she may add some personal items for proper identification such as name, residence, race, and sex. Under certain circumstances and in some jurisdictions, he or she may provide all the information, medical and personal, required on the certificate.

The funeral director, or other person in charge of interment, will otherwise complete those parts of the death certificate that call for personal informa tion about the decedent. He or she is also responsible for filing the certifi cate with the registrar where the death occurred. Each State prescribes the time within which the death certificate must be filed with the registrar.

In general, the duties of the medical examiner or coroner are to:

- Complete relevant portions of the death certificate.
- Deliver the signed or electronically authenticated death certificate to the funeral director promptly so that the funeral director can file it with the State or local registrar within the State's prescribed time period.
- Assist the State or local registrar by answering inquiries promptly.
- Deliver a supplemental report of cause of death to the State vital statistics office when autopsy findings or further investigation reveals the cause of death to be different from what was originally reported.

When the cause of death cannot be determined within the statutory time limit, a death certificate should be filed with the notation that the report of cause of death is "deferred pending further investigation." A permit to authorize disposal or removal of the body may then be obtained.

If there are other reasons for a delay in completing the medical portion of the certificate, the registrar should be given written notice of the reason for the delay.

When the circumstances of death (accident, suicide, or homicide) cannot be determined within the statutory time limit, the cause-of-death section should be completed and the manner of death should be shown as "pend ing investigation."

As soon as the cause of death and circumstances or manner of death are determined, the medical examiner or coroner should file a supplemental report with the registrar or correct or amend the death certificate accord ing to State and local regulations regarding this procedure.

When a body has been found after a long period of time, the medical examiner or coroner should estimate the date and time of death as accu rately as possible. If an estimate is made, the information should be entered as "APPROX—date" and/or "APPROX—time."

If completed properly, the cause of death will communicate the same essential information that a case history would (5). For example, the following cause-of-death statement is complete:

I a) Septic shock
  b) Infected decubitus ulcers
  c) Complications of cerebral infarction
  d) Cerebral artery atherosclerosis
II Insulin-dependent diabetes mellitus

If not completed properly, information may be missing from the cause-of-death section, so someone reading the cause of death would not know why the condition on the lowest used line developed. For example:

I a) Pneumonia
  b) Malnutrition
II

This example does not explain what caused malnutrition. A variety of different circumstances could cause malnutrition, so the statement is incomplete and ambiguous.

In some cases, the medical-legal officer will be contacted to verify informa tion reported on a death certificate or to provide additional information to clarify what was meant. The original cause-of-death statement may not be wrong from a clinical standpoint, but may not include sufficient informa tion for assigning codes for statistical purposes. Following guidelines in this handbook should minimize the frequency with which the medical examiner or coroner will need to spend additional time answering follow-up questions about a patient's cause of death.

Fetal death reporting

In some jurisdictions the medical-legal officer is required to complete reports of fetal death when the fetal death occurred without medical atten dance or occurred under strange or unusual circumstances or was a result of an accident, suicide, or homicide. When completing a report of fetal death, the medical examiner or coroner is to:

- Complete the cause-of-fetal-death section.

- Return the fetal death report to the person or institution charged by State law with the responsibility for filing the report.
- If the medical-legal officer is required by State law to fill out a report of fetal death when the fetal death occurs outside a hospital or other institution, complete such a report and send it directly to the local or State registrar.

When an abandoned infant or apparent newborn is found dead, a problem may arise as to whether the event should be registered as a fetal death or an infant death (see appendix E for definitions). If the infant is considered to have lived, even for a very short time, following delivery, then the medical examiner or coroner will use the death certificate usually em ployed. He or she must also ensure that the birth of this infant is properly registered. If the infant is considered to be a fetal death or stillborn, then the appropriate fetal death report must be completed.

General Instructions for Completing Certificates and Reports

Aside from the facts related to medical certification, the medical examiner or coroner may need to obtain some or all of the personal information required on the certificate or report.

In some jurisdictions the medical-legal officer is not required to complete all of the personal items. He or she may complete and sign the medical certification section and add a few identifying items, such as name, age, sex, race, and residence. The certificate or report is then given to the funeral director who completes the remainder of the record.

In other jurisdictions the medical-legal officer customarily completes all the personal items. Under such conditions the medical examiner or coro ner must obtain the information from an informant who has knowledge of the facts.

The informant is usually a member of the family or a friend of the family. The following individuals can be the informant and are listed in order of preference: spouse, a parent, a child of the decedent, another relative, or other person who has knowledge of the facts. At times the medical exam iner or coroner will have to obtain personal information from a physician or a hospital official. In some cases, information will be obtained from the police.

Whatever the source may be, the name, relationship to decedent, and mailing address of the informant must appear on the certificate in the space provided.

It is essential that certificates and reports be prepared as permanent durable records. Completing a death certificate involves the following guide-lines:

- Use the current form designated by the State.
- Complete each item, following the specific instructions for that item.
- Take care to make entry legible. Use a computer printer with high resolution, typewriter with good black ribbon and clean keys, or print legibly using permanent **black** ink.

- Do not use abbreviations except those recommended in the specific item instructions.
- Verify with the informant the spelling of names, especially those that have different spellings for the same sound (Smith or Smyth, Gail or Gayle, Wolf or Wolfe, and so forth).
- Refer problems not covered in these instructions to the State office of vital statistics or to the local registrar.
- Obtain all signatures; rubber stamps or other facsimile signatures are not acceptable. If jurisdiction provides, authenticate electronically.
- Do not make alterations or erasures.
- File the original certificate or report with the registrar. Reproductions or duplicates are not acceptable.
- File a supplemental report after investigation is completed for records previously filed as "pending further investigation."

Medical Certification of Death

Certifying the cause of death

The medical examiner or coroner's primary responsibility in death regis tration is to complete the medical part of the death certificate. The medical certification includes:

- Date and time pronounced dead;
- Date and time of death;
- Question on whether the case was referred to the medical examiner or coroner;
- Cause-of-death section including cause of death, manner of death, tobacco use, and pregnancy status items;
- Injury items for cases involving injuries;
- Certifier section with signatures.

The proper completion of this section of the certificate is of utmost impor tance to the efficient working of a medical-legal investigative system.

Cause of death

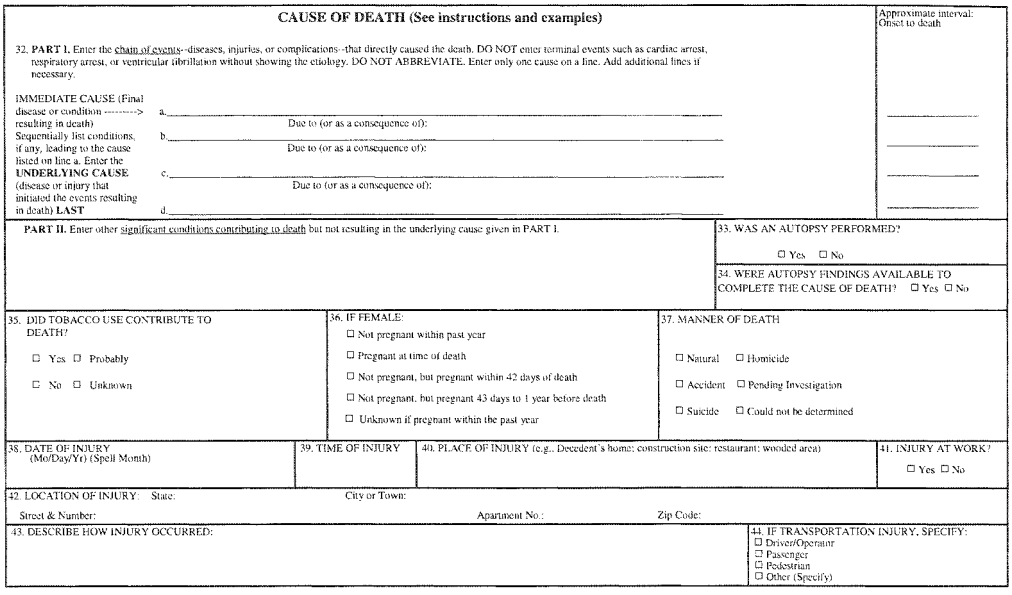
This section must be completed by the medical examiner or coroner. The cause-of-death section, a facsimile of which is shown on page 12, follows guidelines recommended by the World Health Organization. An important feature is the reported underlying cause of death determined by the medi cal examiner or coroner and defined as (a) the disease or injury that initiated the train of morbid events leading directly to death, or (b) the circumstances of the accident or violence that produced the fatal injury. In addition to the underlying cause of death, this section provides for report ing the entire sequence of events leading to death as well as other condi tions significantly contributing to death (6).

The cause-of-death section is designed to elicit the opinion of the medical certifier. Causes of death on the death certificate represent a medical opinion that might vary among individual medical-legal officers. A properly

completed cause-of-death section provides an etiological explanation of the order, type, and association of events resulting in death. The initial condition that starts the etiological sequence is specific if it does not leave any doubt as to why it developed. For instance, sepsis is not specific because a number of different conditions may have resulted in sepsis, whereas Human immunodeficiency virus infection is specific.

In certifying the cause of death, any disease, abnormality, injury, or poi soning, if believed to have adversely affected the decedent, should be reported. If the use of alcohol and/or other substance, a smoking history, or a recent pregnancy, injury, or surgery was believed to have contributed to death, then this condition should be reported. The conditions present at the time of death may be completely unrelated, arising independently of each other; or they may be causally related to each other, that is, one condition may lead to another which in turn leads to a third condition, and so forth. Death may also result from the combined effect of two or more conditions.

The mechanism of death, such as cardiac or respiratory arrest, should not be reported as it is a statement not specifically related to the disease process, and it merely attests to the fact of death. The mechanism of death therefore provides no additional information on the cause of death.



CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

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)

As can be seen, the cause-of-death section consists of two parts. The first part is for reporting the sequence of events leading to death, proceeding backwards from the final disease or condition resulting in death. So, each condition in Part I should cause the condition above it. A specific cause of death should be reported in the last entry in Part I so there is no ambiguity about the etiology of this cause. Other significant conditions that contrib uted to the death, but did not lead to the underlying cause, are reported in Part II.

In addition, there are questions relating to autopsy, manner of death (for example, accident), and injury. The cause of death should include infor mation provided by the pathologist if an autopsy or other type of postmor tem examination is done. For deaths that have microscopic examinations pending at the time the certificate is filed, the additional information should be reported as soon as it is available. If the medical examiner or coroner has any questions about the procedure for doing this, contact the registrar.

The completion of the cause-of-death section for a medical-legal case requires careful consideration due to special problems that may be in volved. The medical-legal case may depend upon toxicological examination for its ultimate cause-of-death certification (a situation not encountered as frequently in ordinary medical practice). Occasionally the medical exam iner or coroner must deal with death certifications in which the cause of death is not clear, even after autopsy and toxicological examination. De- spite these special problems that the medical examiner or coroner may encounter in dealing with causes of death, it is important that the medical certification be as accurate and complete as circumstances allow.

For statistical and research purposes, it is important that the causes of death and, in particular, the underlying cause of death, be reported as specifically and as precisely as possible. Careful reporting results in sta tistics for both underlying and multiple causes of death (i.e., all conditions mentioned on a death certificate) reflecting the best medical opinion.

Every cause-of-death statement is coded and tabulated in the statistical offices according to the latest revision of the *International Classification of Diseases* (6). When there is a problem with the reported cause of death (e.g., when a causal sequence is reported in reverse order), the rules provide a consistent way to select the most likely underlying cause. How- ever, it is better when rules designed to compensate for poor reporting are not invoked, so that the rules are confirming the physician's statement rather than imposing assumptions about what the physician meant.

Statistically, mortality research focuses on the underlying cause of death because public health interventions seek to break the sequence of causally

related medical conditions as early as possible. However, all cause information reported on death certificates is important and is analyzed.

In the sections that follow, detailed instructions are given on how to complete Parts I and II. A number of examples of properly completed certificates with case histories are provided in this section to illustrate how the cause of death should be reported. Some common problems are also discussed later in this section.

Changes to cause of death

Should additional medical information or autopsy findings become available that would change the cause or causes of death originally reported, the original death certificate should be amended by the medical-legal officer by **immediately** reporting the revised cause of death to the State vital records office or local registrar.

Instructions

The cause-of-death section consists of two parts. **Part I** is for reporting a chain of events leading directly to death, with the **immediate cause** of death (the final disease, injury, or complication directly causing death) on line (a) and the **underlying cause** of death (the disease or injury that initiated the chain of events that led directly and inevitably to death) on the lowest used line. **Part II** is for reporting all other significant diseases, conditions, or injuries that contributed to death but which did not result in the underlying cause of death given in **Part I**.

The cause-of-death information should be the medical examiner's or coroner's best medical OPINION. Report each disease, abnormality, injury, or poisoning that the medical examiner or coroner believe adversely affected the decedent. A condition can be listed as "probable" even if it has not been definitively diagnosed.

If an organ system failure (such as congestive heart failure, hepatic failure, renal failure, or respiratory failure) is listed as a cause of death, always report its etiology on the line(s) beneath it (for example, renal failure **due to** Type I diabetes mellitus or renal failure **due to** ethylene glycol poisoning).

When indicating neoplasms as a cause of death, include the following: a) primary site or that the primary site is unknown, b) benign or malignant, c) cell type or that the cell type is unknown, d) grade of neoplasm, and e) part or lobe of organ affected (for example, a primary well-differentiated squamous cell carcinoma, lung, left upper lobe).

For each fatal injury (for example, stab wound of chest or gunshot wound) or poisoning, always report the trauma (for example, transection of sub clavian vein or perforation of heart or pulmonary hemorrhage), and impair ment of function (for example, air embolism or cardiac tamponade) that contributed to death.

Part I of the cause-of-death section

Only one cause is to be entered on each line of Part I. Additional lines should be added between the printed lines when necessary. For each cause, indicate in the space provided the approximate interval between the date of onset (not necessarily the date of diagnosis) and the date of death. For clarity, do not use parenthetical statements and abbreviations when reporting the cause of death. The underlying cause of death should be entered on the LOWEST LINE USED IN PART I. The underlying cause of death is the disease or injury that started the sequence of events leading directly to death or the circumstances of the accident or violence that produced the fatal injury. In the case of a violent death, the form of external violence or accident is antecedent to an injury entered, although the two events may be almost simultaneous.

Conditions in Part I should represent a distinct sequence so that each condition may be regarded as being the consequence of the condition entered immediately below it. When a condition does not seem to fit into such a sequence, consider whether it belongs in Part II.

Line (a) immediate cause

In Part I, the immediate cause of death is reported on line (a). This is the final disease, injury, or complication directly causing the death. An imme diate cause of death must always be reported on line (a). It can be the sole entry in the cause-of-death section if that condition is the only condition causing the death.

In the case of a violent death, enter the result of the external cause (for example, fracture of vault of skull, crushed chest).

The immediate cause does not mean the mechanism of death or terminal event (for example, cardiac arrest or respiratory arrest). The mechanism of death (for example, cardiac or respiratory arrest) should not be reported as the immediate cause of death as it is a statement not specifically related to the disease process, and it merely attests to the fact of death. The mecha nism of death therefore provides no additional information on the cause of death.

Lines (b), (c), and (d) due to (or as a consequence of)

On line (b) report the disease, injury, or complication, if any, that gave rise to the immediate cause of death reported on line (a). If this, in turn, resulted from a further condition, record that condition on line (c). If this in turn resulted from a further condition, record that condition on line (d). For as many conditions as are involved, write the full sequence, one condition per line, with the most recent condition at the top, and the underlying cause of death reported on the lowest line used in Part I. If more than four lines are needed, add additional lines (writing "due to" between conditions on the same line is the same as drawing an additional line) rather than using space in Part II to continue the sequence. The certification on page 18 is an example in which an additional line was necessary.

The words "due to (or as a consequence of)," which are printed between the lines of Part I, apply not only in sequences with an etiological or pathologi cal basis and usually a chronological time ordering, but also to sequences in which an antecedent condition is believed to have prepared the way for a subsequent cause by damage to tissues or impairment of function.

If the immediate cause of death arose as a complication of or from an error or accident in surgery or other medical procedure or treatment, it is important to report what condition was being treated, what medical pro cedure was performed, what the complication or error was, and what the result of the complication or error was.

In case of injury, the form of external violence or accident is antecedent to an injury entered although the two events are almost simultaneous (for example, automobile accident or fallen on by tree).

Approximate interval between onset and death

Space is provided to the right of lines (a), (b), (c), and (d) for recording the interval between the presumed onset of the condition (not the diagnosis of the condition) and the date of death. This should be entered for all condi tions in Part I. These intervals usually are established by the medical examiner or coroner on the basis of available information. In some cases the interval will have to be estimated. The terms "unknown" or "approxi mately" may be used. General terms, such as minutes, hours, or days, are acceptable, if necessary. If the time of onset is entirely unknown, state that the interval is "unknown." Do not leave these items blank.

This information is useful in coding certain diseases and also provides a useful check on the accuracy of the reported sequence of conditions.

Part II of the cause-of-death section (other significant conditions)

All other important diseases or conditions that were present at the time of death and that may have contributed to the death, but did not lead to the underlying cause of death listed in Part I or were not reported in the chain of events in Part I, should be recorded on these lines. (More than one condition can be reported per line in Part II.)

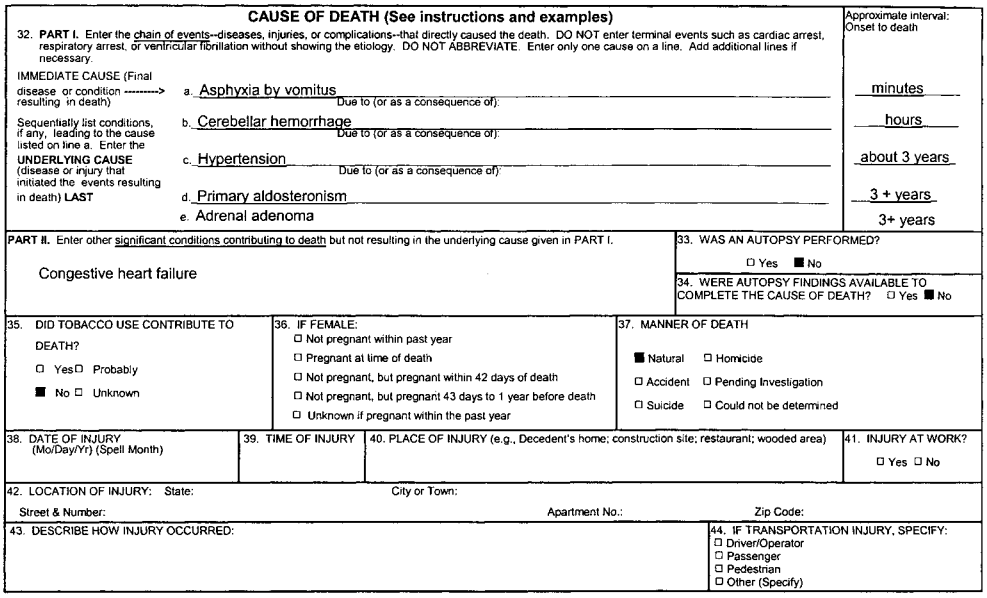
For example, a patient who died of alcoholism may also have had a hypertensive heart disease that contributed to the death. In this case, the hypertensive heart disease would be entered in Part II as a contributory cause of death. If a decedent was pregnant, or less than 43 days postpartum at the time of death, and the pregnancy contributed to death, the fact of pregnancy should be indicated here. If the presence of infectious disease has not been noted in Part I, record it here.

Multiple conditions and sequences of conditions resulting in death are common, particularly among the elderly. When there are two or more possible sequences resulting in death, or if two conditions seem to have added together (e.g., stabbing caused both right intrathoracic hemorrhage and air embolism), choose and report in Part I the sequence or condition thought to have had the greatest impact (7). Other conditions or conditions from the other sequence(s) should be reported in Part II. For example, in the case of a diabetic male with chronic ischemic heart disease who dies from pneumonia, the medical examiner or coroner must choose the sequence of conditions that had the greatest impact and report this sequence in Part I. One possible sequence that the certifier might report would be pneumonia due to diabetes mellitus in Part I with chronic ischemic heart disease reported in Part II. Another possibility would be pneumonia due to the chronic ischemic heart disease entered in Part I with diabetes mellitus reported in Part II. Or the certifier might consider the pneumonia to be due to the ischemic heart disease that was due to the diabetes mellitus and report this entire sequence in Part I. Because these three different possibilities would be coded very differently, it is very important for the certifying medical examiner or coroner to decide which sequence most accurately describes the conditions causing death.

For some cases it may not be possible to make a precise determination of interacting causes of death. For these cases a judgment may be made. In cases of doubt, it may be necessary to use qualifying phrases in either Part I or Part II to reflect uncertainty as to which conditions led to death. In cases where the certifier is unable to establish a cause of death based upon reasonable medical certainty or that such a condition was more probably than not the cause of death, he or she should enter “unknown” in

the cause-of-death section. However, "unknown" should be used only after all possible efforts, including an autopsy, have been made to determine the cause.

The following certification is an example in which the cause-of-death sec tion was modified to record all conditions related to the immediate cause of death.



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. Asphyxia by vomitus	minutes
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the	b. Cerebellar hemorrhage Due to (or as a consequence of):	hours
UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) **LAST**	c. Hypertension Due to (or as a consequence of):	about 3 years
	d. Primary aldosteronism	3 + years
	e. Adrenal adenoma	3+ years

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

Congestive heart failure

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)

Other items for medical certification

The remaining items that require the medical examiner's or coroner's certification relate to autopsy, manner of death, female decedent's preg nancy status, if tobacco use contributed to death, and injury.

Autopsy—The medical examiner or coroner should indicate whether an autopsy was performed and whether the findings were available to com plete the cause of death. A separate report provides case histories and examples of medical certification after autopsy (8).

If additional medical information or autopsy findings are received after the medical examiner or coroner has certified to the cause of death and he or she determines the cause to be different from that originally entered on the death certificate, the original certificate should be amended by filing a

supplemental report of cause of death with the State registrar. Information on the proper form to use and procedure to follow can be obtained from his or her State registrar.

Circumstances of injury or violence—Space is provided on the death certifi cate for reporting the manner of death; check one of the following boxes: Natural, Accident, Suicide, Homicide, Pending Investigation, or Could not be determined. If "Pending Investigation" is checked, it should be changed after the investigation is completed. The appropriate State amendment procedures should be used to modify this item.

When the death was the result of an external cause, the medical examiner or coroner should specify whether it was an accident, suicide, or homicide and describe the circumstances in items 38–44. In item 43 a clear, brief statement as to how the injury occurred should be made, indicating the circumstances or cause, such as "Burned using gasoline to light stove," "Slipped and fell while shoveling snow," "Self-inflicted handgun wound," or "Stabbed by sharp instrument."

Bearing in mind that accident prevention programs, assessment of motor vehicle fatalities, and so forth, depend upon the proper wording of this item, the medical examiner or coroner should, in as few words as possible, describe the injury-producing situation. If the death was due to a vehicu lar accident, be sure to indicate whether the decedent was a driver, pas senger, or pedestrian, and the type of vehicle(s) involved.

The medical examiner or coroner should state whether the injury occurred while the deceased was at work at his or her usual occupation and give the specific location where the accident took place.

The National Association of Medical Examiners has put together a guide on how **manner** of death may be determined (9). In certain cases, the manner of death preferred by the medical examiner community and the disease classification differ. As a result, it is important to specify the circum stances (e.g., item 43) involved so that both communities are able to make appropriate use of the information.

In the cases of violent death where the medical examiner or coroner cannot decide which of the terms—accident, suicide, or homicide—best describes the manner of death, "Could not be determined" should be checked. The medical examiner or coroner should bear in mind that "Could not be determined" is intended solely for cases in which it is impossible to estab lish with reasonable medical certainty the circumstances of death after thorough investigation. This category should not be used for cases "Pend ing Investigation."

Special problems for the medical-legal officer

The medical examiner or coroner may experience little difficulty complet ing most of the items on the death certificate if death occurred under well-defined circumstances. Frequently, however, direct evidence related to cause of death is nonexistent, or there is some doubt concerning facts related to the individual. Under these circumstances, the medical-legal officer should report the facts when they are available, make estimations where such are possible, and where no facts are known and no estima tions possible, indicate "Unknown."

Some special problems related to certification by a medical-legal officer are discussed below.

Precision of knowledge required to complete death certificate items

The cause-of-death section in the medical examiner's or coroner's certifi cation is always a medical **opinion**. This opinion is, of course, a synthesis of all information derived from both the investigation into the circum stances surrounding the death and the autopsy, if performed. It repre sents the best effort of the medical examiner or coroner to reduce to a few words his or her entire synthesis of the cause of death.

In some cases, certain items (such as age or race) may be unknown and the medical examiner or coroner must make his or her best estimate of these items. A best estimate of the manner of death and the time and date of injury may also be required when neither investigation nor examination of the deceased provides definitive information.

The medical examiner or coroner may wish to devote some thought to the degree of "proof" necessary to properly certify deaths that may later be involved in litigation. He or she may wish to consider that the proof required in a criminal proceeding is of a higher degree of positivity than that required in a civil proceeding.

Trauma as a cause of death

It should be noted by all medical-legal officers that if trauma is either the underlying cause of death or a contributing cause of death, the manner of the onset of the trauma must be indicated; that is, the trauma must have been initiated by an accident, a suicidal venture, or a homicidal event. It may be impossible for the certifier to determine which of these three fits the particular case at hand, in which case it may be necessary to state that the manner of death could not be determined. If trauma is listed in Part I or II of item 32, then items 38–44 must be completed.

The National Association of Medical Examiners makes the following distinctions between manners of death (9):

Natural—"due solely or nearly totally to disease and/or the aging process."

Accident—"there is little or no evidence that the injury or poisoning occurred with intent to harm or cause death. In essence, the fatal outcome was unintentional."

Suicide—"results from an injury or poisoning as a result of an intentional, self-inflicted act committed to do self-harm or cause the death of one's self."

Homicide—"occurs when death results from…" an injury or poisoning or from "…a volitional act committed by another person to cause fear, harm, or death. Intent to cause death is a common element but is not required for classification as homicide."

Could not be determined—"used when the information pointing to one manner of death is no more compelling than one or more other competing manners of death when all available information is considered."

Pending investigation—used when determination of manner depends on further information.

One of the more difficult tasks of the medical examiner or coroner is to determine whether a death is an accident or the result of an intent to end life. The medical examiner or coroner must use all information available to make a determination about the death. This may include information from his or her own investigation, police reports, staff investigations, and discussions with the family and friends of the decedent.

Determining a suicide

- There is evidence that death was self-inflicted. Pathological (autopsy), toxicological, investigatory, and psychological evidence, and statements of the decedent or witnesses, may be used for this determination.
- There is evidence (explicit and/or implicit) that at the time of injury the decedent intended to kill self or wished to die and that the decedent understood the probable consequences of his or her actions.
    - Explicit verbal or nonverbal expression of intent to kill self
    - Implicit or indirect evidence of intent to die, such as the following:

- Expression of hopelessness
- Effort to procure or learn about means of death or rehearse fatal behavior
- Preparations for death, inappropriate to or unexpected in the context of the decedent's life
- Expression of farewell or desire to die, or acknowledgment of impending death
- Precautions to avoid rescue
- Evidence that decedent recognized high potential lethality of means of death
- Previous suicide attempt
- Previous suicide threat
- Stressful events or significant losses (actual or threatened)
- Serious depression or mental disorder (10,11)

When cause cannot be determined

It is well known that a professionally competent, searching autopsy and toxicological examination of the body fluids and organs, coupled with the best available bacteriologic, virologic, and immunologic studies, may fail to reveal the cause of death.

If this is the case and if the investigation has been pursued as far as possible, then the medical examiner or coroner will have no recourse but to indicate in one form or another that the cause of death "Could not be determined." One possible phrase is "Cause of death not determined at autopsy and toxicological examination." This is better than the term "Un known" as it at least indicates the extent of the investigation undertaken.

Deferred "pending investigation"

Most, if not all, medical-legal investigative systems make provisions for cases in which the cause or manner of death cannot be immediately determined. Local laws vary somewhat as to how to handle such cases.

The procedure followed most frequently is to require that the death certifi cate be completed insofar as possible and filed within the time limits specified by law. Once the cause and/or manner of death are determined, a supplemental report must be prepared and filed by the medical-legal officer. This supplemental report becomes a part of the death certificate that is on file for the decedent.

It should be emphasized that the death certificate that is filed is to be completed insofar as possible. In other words, if the cause of death is known, but it is not known whether it was the result of an accident, suicide, or homicide, the death certificate that is filed should include the cause of death and show the manner of death in item 37 as "Pending Investigation." THE CAUSE OF DEATH SHOULD NEVER BE LEFT BLANK OR SHOWN AS "PENDING" WHEN IT IS KNOWN BUT THE MANNER OF DEATH, ACCIDENT, SUICIDE, OR HOMICIDE IS UNKNOWN.

The concept of "pending investigation" is made more necessary by the gradual increase in the sophistication of toxicological and immunologic methods of investigation. This concept, however, poses some complica tions. One of these is the proper issuing of certified copies of death certifi cates when the certificate is not complete. Another is the establishment of the maximum amount of time that may elapse between the time of the issue of the "pending" certificate and the final completion of the certificate. This time interval is established by statute in some jurisdictions, by cus tom or local arrangements in others. The medical-legal officer must oper ate within the legal limitations set in his or her area.

Because such cases should be held to a minimum, the following guidelines were recommended by the Subcommittee on the Medical Certification of Medicolegal Cases of the U.S. National Committee on Vital and Health Statistics (12).

1. The term "pending" is intended to apply only to cases in which there is a reasonable expectation that an autopsy, other diagnos tic procedure, or investigation may significantly change the di agnosis.

2. Certifications of cause of death should not be deferred merely because "all details" of a case are not available. Thus, for ex- ample, if it is clear that a patient died of "cancer of the stomach," reporting of the cause should not be deferred while a determina tion of the histological type is being carried out. Similarly, if a death is from "influenza," there is no justification for delaying the certification because a virological test is being carried out.

3. In cases where death is known to be from an injury, but the circumstances surrounding the death are not yet established, the injury should be reported immediately. The circumstances of the injury should be noted as "pending investigation" and a supple- mental report filed.

4. Lastly, the term "pending" is not intended to apply to cases in which the cause of death is in doubt and for which no further

diagnostic procedures can be carried out. In this case, the "prob able" cause should be entered on the basis of the facts available and the certification made in accordance with the best judgment of the certifier.

The medical examiner or coroner must realize that when a death certificate is "pending," the final settlement of burial expenses, insurance claims, veterans benefits, and so forth, is slowed. Indeed, many such matters will be held open until the certificate is properly completed. Therefore, the use of the term "pending investigation," or similar deferring terms, should be avoided whenever possible.

Certifier section

The medical examiner or coroner certifies that "On the basis of examina tion and/or investigation, in my opinion, death occurred at the time, date, and place, and due to the cause(s) and manner as stated."

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)

The phrase "in my opinion" is included because it is recognized that in medical-legal cases, it is not always possible to make precise determina tions of the date and the cause(s) of death. The date may be obscure in the case of bodies found some time after death occurred, and the relationship between the existing diseases or the sequence in which diseases or injuries occurred is not always clear.

However, except in unusual circumstances, the medical examiner or coro ner is in a better position than any other individual to make a judgment as to which of the conditions led directly to death and to state the antecedent conditions, if any, that gave rise to this cause.

Space is provided for the time of death and for the date the decedent was pronounced dead. When the exact time of death is unknown, but there is sufficient basis for the medical examiner or coroner to render an opinion, the approximate time of death as estimated by the medical examiner or coroner will be given. This information should be entered as "APPROX— time." Local time should be used, recording hours and minutes according to a 24-hour clock (for example, 0725).

The medical examiner or coroner signs the completed statement, adding his or her degree or title and license number. The date of certification and mailing address of the medical examiner or coroner should also be pro vided.

Examples of medical certification

This section contains several examples of medical certification for the guidance of the medical examiner or coroner.

Case No. 1

On January 2, 2003, a 21-year-old female was critically injured in an automobile accident and died from a fractured skull causing cerebral contusion soon after being brought to the hospital. Police records indi cated she was the driver in a two-car collision that occurred at 2:15 a.m. at the corner of 21st Street and Ash Street. The decedent crossed the center line and struck an oncoming car head on. Autopsy showed injuries and blood ethanol of 0.240 grams percent.

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. Cerebral contusion	30 minutes
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the	b. Fractured skull (Due to (or as a consequence of))	30 minutes
UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST	c. Blunt impact to head (Due to (or as a consequence of))	30 minutes
	d. Collision of two motor vehicles	30 minutes

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

Acute ethanol intoxication

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?
January 2, 2003	0215	City street	☐ Yes ■ No

42. LOCATION OF INJURY: State: Nevada City or Town: Xylene

Street & Number: 21st and Ash Street Apartment No.: Zip Code: 89511-4444

43. DESCRIBE HOW INJURY OCCURRED:

Decedent unrestrained driver in an auto-auto collision. Decedent crossed line and hit oncoming vehicle head on.

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

Case No. 2

On May 15, 2003, a 49-year-old male gardener was brought to the emer gency room with an infected wound of the right foot. Because of repeated convulsions, he was admitted to the hospital. The examining physician made a diagnosis of tetanus. His wife reported that while employed as a gardener on April 1, 2003, he stepped on a garden rake. He treated the laceration himself. Patient died of asphyxia during convulsions May 16, 2003. Autopsy supported diagnosis.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Convulsions — Due to (or as a consequence of): — 2 days

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. Clostridium tetanus infection — Due to (or as a consequence of): — 6 weeks
c. Infected puncture laceration of foot — Due to (or as a consequence of): — 6 weeks
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?
April 1, 2003	1500	Private yard	■ Yes ☐ No

42. LOCATION OF INJURY: State: Vermont — City or Town: Lowell
Street & Number: 221 Folk Avenue — Apartment No.: — Zip Code: 05847-3333

43. DESCRIBE HOW INJURY OCCURRED:
Stepped on rake while gardening in a residential yard

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

Case No. 3

On May 10, 2003, a 25-year-old male was admitted to the hospital with a gunshot wound to the head. He had been at home in his study cleaning his gun when the shot was fired at approximately 9 p.m. He died at 11:05 p.m. on the same day. Autopsy showed contact gunshot wound of right temple.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Penetration brain injury — Due to (or as a consequence of): — 2 hours

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. Gunshot wound to head — Due to (or as a consequence of): — 2 hours
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): May 10, 2003

39. TIME OF INJURY: 2100

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area): Decedent's home

41. INJURY AT WORK? ☐ Yes ■ No

42. LOCATION OF INJURY: State: Alabama — City or Town: Columbus
Street & Number: 3129 Discus Avenue — Apartment No.: — Zip Code: 36102-8888

43. DESCRIBE HOW INJURY OCCURRED:
Decedent cleaning gun had contact wound to right temple.

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

NOTE: Autopsy findings in this case indicate an intentionally inflicted gunshot wound rather than accidental discharge of a firearm.

Case No. 4

On June 21, 2003, a 39-year-old male had been in a powerboat that capsized after striking an underwater obstruction at about 2 p.m. The body was recovered 2 hours later by the water patrol. Blood alcohol was measured at 0.31 grams percent.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

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

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. Drowning — Due to (or as a consequence of): — Unknown
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.

Alcohol intoxication at 0.31 grams percent

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?
June 21, 2003	1400	Public lake	□ Yes ■ No

42. LOCATION OF INJURY: State: Idaho — City or Town: Elkton
Street & Number: Lake Tarpon — Apartment No.: — Zip Code: 83722

43. DESCRIBE HOW INJURY OCCURRED:

Boat operator fell in lake from powerboat when it hit underwater obstruction

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

Case No. 5

On January 12, 2003, a 2-year-old female was admitted to the hospital with salicylate poisoning. She had been under treatment for tonsillitis and upper respiratory infection. She had been given multiple excessive doses of aspirin (adult rather than baby tablets). She died on January 13, 2003.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ----------> resulting in death)	a. Acute salicylate poisoning	Due to (or as a consequence of):	23 hours
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the	b. Overdose of aspirin	Due to (or as a consequence of):	23 hours
UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) **LAST**	c. Treatment for acute tonsillitus	Due to (or as a consequence of):	2 days
	d.		

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

Upper respiratory infection

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?
January 12, 2003	0705	Own home	□ Yes ■ No

42. LOCATION OF INJURY: State: Oregon City or Town: New Haven
Street & Number: 2139 Carlton Avenue Apartment No.: 12 Zip Code: 97323-9999

43. DESCRIBE HOW INJURY OCCURRED:
Overdose of aspirin given

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

Case No. 6

On May 5, 2003, a 54-year-old male was found dead from carbon monox ide poisoning in an automobile in a closed garage. A hose, running into the passenger compartment of the car, was attached to the exhaust pipe. The deceased had been despondent for some time as a result of a malignancy, and letters found in the car indicated intent to take his own life.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)	a. Carbon monoxide poisoning Due to (or as a consequence of):	Unknown
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. Inhaled auto fumes Due to (or as a consequence of):	Unknown
	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.

Cancer of stomach

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?
May 5, 2003	Unknown	Own home garage	☐ Yes ■ No

42. LOCATION OF INJURY: State: Missouri City or Town: Alexandria
Street & Number: 898 Sylvan Road Apartment No.: Zip Code: 65100-1234

43. DESCRIBE HOW INJURY OCCURRED:
Inhaled carbon monoxide from auto exhaust through hose in an enclosed garage

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

Case No. 7

A 32-year-old male was admitted to the hospital on August 23, 2003, with several stab wounds. He had been found in an alley off Smith Street at 4 a.m. by the police. No weapon was discovered. He died at 6:30 p.m. on the same day. Autopsy revealed that the intrathoracic hemorrhage due to the stab wound of the lung could be considered fatal.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Intrathoracic hemorrhage — 15 hours
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. Stab wound of lung — 15 hours
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.

Several stab wounds of abdomen and extremities

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): August 23, 2003

39. TIME OF INJURY: 0330

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area): Alley

41. INJURY AT WORK? ☐ Yes ■ No

42. LOCATION OF INJURY: State: Maryland City or Town: Davidsonville
Street & Number: Alley between 331 and 333 Smith Street Apartment No.: Zip Code: 21035-3333

43. DESCRIBE HOW INJURY OCCURRED:
Stabbed by a sharp instrument

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

Case No. 8

On July 4, 2003, a 56-year-old male was found dead in a hotel. Autopsy revealed no anatomic cause of death. Blood alcohol level was 0.450 grams percent.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition --------> resulting in death)
a. Acute alcohol poisoning — Due to (or as a consequence of): — Unknown

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.

Alcoholic cirrhosis

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): July 4, 2003

39. TIME OF INJURY: Unknown

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area): In bed in a hotel room

41. INJURY AT WORK? ☐ Yes ■ No

42. LOCATION OF INJURY: State: Hawaii City or Town: Haiku
Street & Number: 666 Beach Highway Apartment No.: 301 Zip Code: 96899

43. DESCRIBE HOW INJURY OCCURRED:

Over ingested ethanolic beverages. Decedent's blood alcohol level was 0.450 grams percent.

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

Case No. 9

On March 18, 2003, a 2-month-old male was found dead in his crib. There was no previous illness, and, although autopsy revealed congestion of the lungs, the medical examiner determined that this did not cause the death. Because no other condition could be found that could have led to the death of the infant, the cause of death was determined to be sudden infant death syndrome.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition --------> resulting in death)
a. Sudden infant death syndrome — Unknown
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)

NOTE: There are established protocols for investigating possible SIDS deaths and criteria for distinguishing between SIDS, consistent with SIDS, and unexpected and undetermined causes. This will be discussed in greater detail in a later section.

Case No. 10

On August 18, 2003, a 32-year-old female was found dead at home. Initial investigation did not reveal cause of death; neither did autopsy or toxico logical examination.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Cause of death not determined upon autopsy and toxicologic examination — Unknown
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)

NOTE: This example is one way in which the medical-legal officer, after reasonable investigation, can indicate that the cause has not been determined. Presumably, such a death certificate would have been initially issued with the term "Pending Investigation" checked in item 37 and, at a later time, the phrase "Could not be determined" substituted.

Case No. 11

On September 4, 2003, a 50-year-old alcoholic male was found uncon scious in an abandoned house at 4 a.m. by police. He was admitted to the hospital where he died at 10 a.m. on the same day. Examination on admission to the hospital revealed a large subdural hematoma causing intracerebral hemorrhage. There was a large subgaleal hemorrhage over the area of the subdural hematoma.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

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

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. Blunt force impact to head — Due to (or as a consequence of): — Unknown
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?
September 4, 2003	Unknown	Abandoned house	☐ Yes ■ No

42. LOCATION OF INJURY: State: Florida — City or Town: Miami
Street & Number: 3131 Smith Street — Apartment No.: — Zip Code: 33109-1233

43. DESCRIBE HOW INJURY OCCURRED:
Unknown

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

NOTE: The above certificate was issued before police investigation was completed. After a thorough investigation, the legal-medical officer made the judgment that the decedent probably fell down the stairs next to which the body was found. The certificate should be amended in item 37 to "Accident."

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. Subdural hematoma Due to (or as a consequence of):	Unknown
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. Blunt force injury to top of head Due to (or as a consequence of):	Unknown
	c. Probable fall Due to (or as a consequence of):	Unknown
	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?
September 4, 2003	Unknown	Abandoned house	☐ Yes ■ No

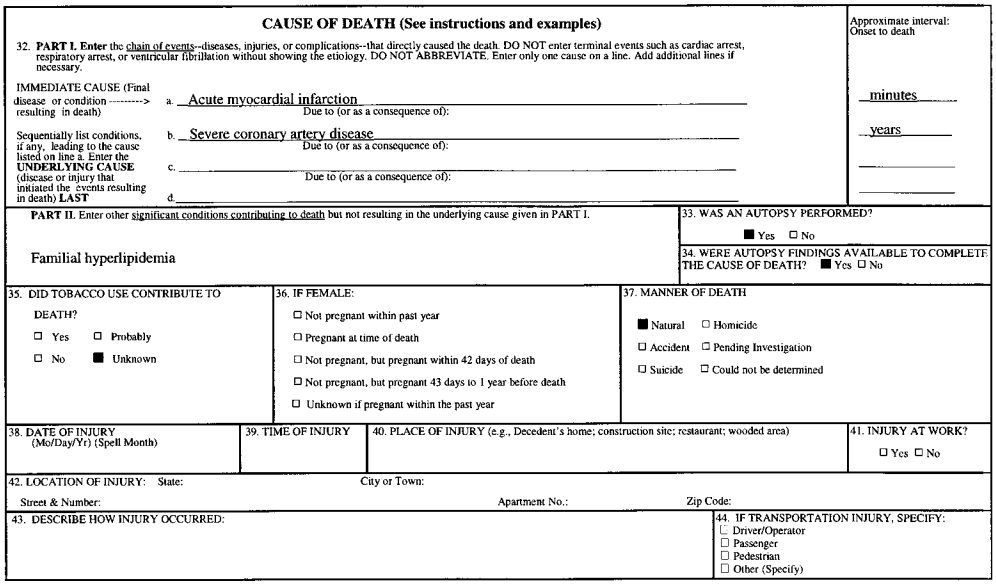
42. LOCATION OF INJURY: State: Florida City or Town: Miami
Street & Number: 3131 Smith Street Apartment No.: Zip Code: 33109-1233

43. DESCRIBE HOW INJURY OCCURRED:
Decedent probably fell down stairs in abandoned house

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

Case No. 12

On March 4, 2003, a 40-year-old male collapsed at a swimming pool. He had no history of heart problems but had complained 2 days earlier of chest pains and indigestion. Autopsy revealed an acute myocardial infarction due to severe coronary artery disease. The serum was milky. A family history of hyperlipidemia was identified.



CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition ---------> resulting in death)
a. Acute myocardial infarction — 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. Severe coronary artery disease — Due to (or as a consequence of):
c. _____ — Due to (or as a consequence of):
d. _____

minutes
years

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

Familial hyperlipidemia

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)

Case No. 13

On July 26, 2003, a 32-year-old male was found along a roadway lying in some brambles. He was thrashing about and grinding his teeth. His body temperature was 103° F. He steadily went into full arrest and later died in the emergency room at a medical center. He had a history of cocaine and cannabis abuse. Toxicological examination revealed that he died of cocaine toxicity.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

IMMEDIATE CAUSE (Final disease or condition --------> resulting in death)
a. Agitated delirium — minutes
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. Cocaine toxicity with cocaine level of 2150 nanograms per mililiter — minutes
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.

History of cocaine and cannabis abuse

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?
July 26, 2003	Unknown evening	Unknown	☐ Yes ■ No

42. LOCATION OF INJURY: State: Illinois City or Town: Morton
Street & Number: Elm Street Apartment No.: Zip Code: 61550

43. DESCRIBE HOW INJURY OCCURRED:
When found, the decedent was experiencing an adverse reaction to cocaine. Decedent had a history of substance abuse.

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

Case No. 14

On October 1, 2003, at 2:30 p.m., a 22-year-old male was found hanging by the neck in the garage at the rear of his residence. He had a history of despondency and drug abuse and was last seen by his mother 30 minutes earlier.

CAUSE OF DEATH (See instructions and examples)

Approximate interval: Onset to death

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.

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

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. Hanging by the neck — Due to (or as a consequence of): — minutes
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.

Substance abuse, depression

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): October 1, 2003

39. TIME OF INJURY: 1430

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area): Garage at decedent's home

41. INJURY AT WORK? ☐ Yes ■ No

42. LOCATION OF INJURY: State: Kansas City or Town: Wichita
Street & Number: 217 Kirk Avenue Apartment No.: Zip Code: 67204-6666

43. DESCRIBE HOW INJURY OCCURRED:
Hanging by rope from rafters

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

Common problems in death certification

Often several acceptable ways of writing a cause-of-death statement exist. Optimally, a certifier will be able to provide a simple description of the process leading to death that is etiologically clear and be confident that this is the correct sequence of causes. However, realistically, description of the process is sometimes difficult because the certifier is **not certain**.

In this case, the certifier should think through the causes about which he/she is confident and what possible etiologies could have resulted in these conditions. The certifier should select the causes that are suspected to have been involved and use words such as "probable" or "presumed" to indicate that the description provided is not completely certain. If the initiating condition reported on the death certificate could have arisen from a pre-existing condition but the certifier cannot determine the etiology, he/she should state that the etiology is unknown, undetermined, or unspecified, so it is clear that the certifier did not have enough information to provide even a qualified etiology. Reporting a cause of death as unknown should be a last resort.

The **elderly decedent** should have a clear and distinct etiological sequence for cause of death, if possible. Terms such as senescence, infirmity, old age, and advanced age have little value for public health or medical research. Age is recorded elsewhere on the certificate. When a number of conditions resulted in death, the medical examiner or coroner should choose the single sequence that, in his or her opinion, best describes the process leading to death, and place any other pertinent conditions in Part II. "Multiple system failure" could be included in Part II, but the systems need to be specified to ensure that the information is captured.

The **infant decedent** should have a clear and distinct etiological sequence for cause of death, if possible. "Prematurity" should not be entered without explaining the etiology of prematurity. Maternal conditions may have initiated or affected the sequence that resulted in infant death, and such maternal causes should be reported in addition to the infant causes on the infant's death certificate (e.g., Hyaline membrane disease **due to** prematurity, 28 weeks **due to** placental abruption **due to** blunt trauma to mother's abdomen).

When **SIDS** is suspected, a complete investigation should be conducted, typically by a medical examiner or coroner. Issues relating to pathology, role of injury, and concern about forms of abuse have influenced certification practices for SIDS and other deaths for which cause is difficult to determine (9).

Protocols exist for determining if an infant death under 1 year of age is a SIDS death including thorough scene investigation, review of clinical history, and a complete autopsy (9,13). The investigation results usually fit within one of the following (9):

- Disease or injury—Investigation identifies a cause of death such as pneumonia, meningitis, overlaying, head trauma, asphyxia from plastic bag, or other cause. The disease condition or conditions should be reported on the death certificate.
- Sudden Infant Death Syndrome—Investigation finds no reason to question the preliminary diagnosis of SIDS. That is, toxicology tests and histology are negative, there are no unusual scene findings or sleeping conditions, there is no medical/clinical history that would predispose the baby to die, and the autopsy did not reveal any other explanation.
- Consistent with Sudden Infant Death Syndrome but with disease condition—Investigation results are consistent with a diagnosis of SIDS; however, a disease or other condition (e.g., focal bronchiolitis) is identified. If the role of the condition in causing or contributing to death is not known or is difficult to ascertain, this finding would not preclude reporting "Consistent with Sudden Infant Death Syndrome" in Part I and the disease conditions in Part II of the death certificate.
- Consistent with Sudden Infant Death Syndrome but risk factor exists—Investigation results are consistent with a diagnosis of SIDS; however, a risk factor or external condition (e.g., bed sharing or sleeping on a soft pillow) is identified. If the role of the external condition or risk factor in causing or contributing to death is not known or is difficult to prove, this finding would not preclude reporting "Consistent with Sudden Infant Death Syndrome" in Part I and the risk factor or external conditions in Part II of the death certificate.
- Unexpected and undetermined cause—Investigation results rule out Sudden Infant Death Syndrome but the cause is not determined. Other possible findings that are found but for which the role is unclear may be reported in Part II.

Most certifiers will find themselves, at some point, in the circumstance in which they are **unable to provide a simple description of the process of death**. In this situation, the certifier should try to provide a clear sequence, qualify the causes about which he/she is uncertain, and be able to explain the certification chosen.

When processes such as the following are reported, additional information about the etiology should be reported:

Abscess
Abdominal hemorrhage
Adhesions
Adult respiratory distress syndrome
Acute myocardial infarction
Altered mental status
Anemia
Anoxia
Anoxic encephalopathy
Arrhythmia
Ascites
Aspiration
Atrial fibrillation
Bacteremia
Bedridden
Biliary obstruction
Bowel obstruction
Brain injury
Brain stem herniation
Carcinogenesis
Carcinomatosis
Cardiac arrest
Cardiac dysrhythmia
Cardiomyopathy
Cardiopulmonary arrest
Cellulitis
Cerebral edema
Cerebrovascular accident
Cerebellar tonsillar herniation
Chronic bedridden state
Cirrhosis
Coagulopathy
Compression fracture
Congestive heart failure
Convulsions
Decubiti
Dehydration
Dementia (when not otherwise specified)
Diarrhea
Disseminated intravascular coagulopathy
Dysrhythmia
End-stage liver disease
End-stage renal disease
Epidural hematoma
Exsanguination
Failure to thrive
Fracture
Gangrene
Gastrointestinal hemorrhage
Heart failure
Hemothorax
Hepatic failure
Hepatitis
Hepatorenal syndrome
Hyperglycemia
Hyperkalemia
Hypovolemic shock
Hyponatremia
Hypotension
Immunosuppression
Increased intracranial pressure
Intracranial hemorrhage
Malnutrition
Metabolic encephalopathy
Multi-organ failure
Multi-system organ failure
Myocardial infarction
Necrotizing soft-tissue infection
Old age
Open (or closed) head injury
Pancytopenia
Paralysis
Perforated gallbladder
Peritonitis
Pleural effusions
Pneumonia
Pulmonary arrest
Pulmonary edema
Pulmonary embolism
Pulmonary insufficiency
Renal failure
Respiratory arrest
Seizures
Sepsis
Septic shock
Shock
Starvation
Subarachnoid hemorrhage
Subdural hematoma
Sudden death
Thrombocytopenia
Uncal herniation
Urinary tract infection
Ventricular fibrillation
Ventricular tachycardia
Volume depletion

If the certifier is unable to determine the etiology of a process such as those shown above, the process must be qualified as being of an unknown, undetermined, probable, presumed, or unspecified etiology so it is clear that a distinct etiology was not inadvertently or carelessly omitted.

The following conditions and types of death might seem to be specific or natural, but when the medical history is examined further, may be found to be complications of an injury or poisoning (possibly occurring long ago):

Asphyxia
Bolus
Choking
Drug or alcohol overdose/drug or alcohol abuse
Epidural hematoma
Exsanguination
Fall
Fracture
Hip fracture
Hyperthermia
Hypothermia
Open reduction of fracture
Pulmonary emboli
Seizure disorder
Sepsis
Subarachnoid hemorrhage
Subdural hematoma
Surgery
Thermal burns/chemical burns

Additional resources

In addition to the series of handbooks, additional resources include manuals, guidelines, and Web sites (5,7,8,14–20). Resources on completing death certificates should be kept with or near blank death certificates for easy reference. Additional copies of government-produced resources are available from the State vital statistics offices, the National Center for Health Statistics (8,14–16), and the Internet at http://www.cdc.gov/nchs (look under vital statistics, mortality, writing cause-of-death statements).

Several resources (5,7) are available for purchase from the College of American Pathologists. These resources have more examples of cause-of-death certification and address some situations such as peri-procedural deaths that are not as straightforward as many deaths.

Completing Other Items on the Death Certificate

These instructions pertain to the 2003 revision of the U.S. Standard Certificate of Death. Usually the funeral director completes items l–23 and 51–55. Another physician may have completed some of the medical items, but under certain circumstances the medical examiner or coroner may be responsible for completing the entire certificate. Therefore, instructions for completing all items on the certificate are included.

NAME OF DECEDENT: For use by physician or institution

The left-hand margin of the certificate contains a line where the physician or hospital can write in the name of the decedent. This allows the hospital to assist in completing the death certificate before the body is removed by the funeral director. However, because the funeral director is responsible for completing the personal information about the decedent and because the hospital frequently does not have the complete legal name of the decedent, the hospital or physician should enter the name they have for the decedent in this item, and the funeral director will then enter the full legal name in item 1.

1. DECEDENT'S LEGAL NAME (Include AKAs if any)(First, Middle, Last)

Enter the full first, middle, and last names of the decedent. Do not abbreviate. Do not copy any name from the left-hand margin of the certificate into item 1 on the certificate; the name in the margin may be incomplete or incorrect.

It is suggested that the medical examiner or coroner print the name as provided to him or her by the informant and have the informant check the spelling and order of names before entering the name on the certificate.

If there appears to be more than one spelling of any name provided, and the correct spelling cannot be verified, use the most common spelling. The name must consist of English alphabetic characters and punctuation marks.

If the medical examiner or coroner cannot determine the name of a found body, enter "Unknown" in the name field. Do not enter names such as "John Doe" or "Jane Doe."

Multiple first or middle names

If the informant indicates two first names separated by a space, such as "Mary Louise Carter," verify that "Louise" is part of the first name and is not a middle name. Enter the two first names with a blank space between them. If several middle names are given, enter all with a space between the names.

Initials

If the informant indicates that the person uses a first initial such as "E. Charles Jones," try to obtain the whole first name.

If the first name can be obtained, enter the whole first name. If not, enter just the initial followed by a period.

If the informant indicates two initials and a surname such as "H.S. Green," determine if these are a first and middle initial, or two first initials with no middle name or initial. Try to obtain the whole name(s).

If the names can be obtained, enter the whole names in the appropriate spaces. If there are no whole names, then enter the initials in the appropriate spaces. Each initial should be followed by a period.

Religious names and titles

If there is a title preceding the name, such as "Doctor," do not enter the title in any of the name fields.

For religious names such as "Sister Mary Lawrence," enter "Sister Mary" in the first name field.

No first or middle names (infants)

If a name such as "Baby Boy Watts" is obtained from medical records for the death of a newborn, check with the parents or other informant to see if the child had a given name.

If the child had not been given a name, leave the first and middle name fields blank and enter only the surname.

Alias(es)

Complete the current legal name before entering any other names (**alias** or AKA, "also known as," names such as AKA Smith) the decedent used or was known as. The alias should be listed if it is substantially different from the decedent's legal name (e.g., Samuel Langhorne Clemens AKA Mark Twain, but not Jonathon Doe AKA John Doe). Record the alias name with AKA preceding the name (e.g., AKA Smith). Repeat until there are no other names provided.

The State may enter the full alias rather than just the part of the name that differs from the legal name.

AKA does not include:

- Nicknames, unless used for legal purposes or at the family's request
- Spelling variations of the first name
- Presence or absence of middle initial
- Presence or absence of punctuation marks or spaces
- Variations in spelling of common elements of the surname, such as "Mc" and "Mac" or "St." and "Saint"

This item is used to identify the decedent. This is the most important item on the certificate for legal and personal use by the family. There are alternate spellings to many names, and it is critical for the family to have the name spelled correctly.

2. SEX

Enter male or female based on observation. Do not abbreviate or use other symbols. If sex cannot be determined after verification with medical records, inspection of the body, or other sources, enter "Unknown." Do not leave this item blank.

This item aids in the identification of the decedent. It is also used in research and statistical analysis to determine sex-specific death rates.

3. SOCIAL SECURITY NUMBER (SSN)

Enter the decedent's 9-digit **social security number** (SSN). Read the number back to the informant or check against the document from which it is being copied before moving to the next item.

If the informant does not know the decedent's SSN at the time of the interview, leave the item blank until the informant can supply the number.

If the decedent has no social security number, for example, a recent immigrant or a person from a foreign country visiting the United States, enter "None."

If the deceased's social security number is not known, enter "Unknown."

If the decedent's SSN is not obtainable, enter "Not Obtainable."

This item is useful in identifying the decedent and facilitates the filing of social security claims.

4a–c. AGE

Make one entry only in either 4a, 4b, or 4c depending on the age of the decedent.

4a. AGE—Last Birthday (Years)

Enter the decedent's exact age in years at his or her last birthday.

If the decedent was under 1 year of age, leave this item blank.

Drop all fractions, such as "75 and a half years"; record as "75."

For responses such as "about 90 years," enter "90" in the Years box.

4b. UNDER 1 YEAR—Months, Days

Enter the exact age in either months or days at time of death for infants surviving at least 1 month.

If the infant was 1–11 months of age inclusive, enter the age in completed months.

If the infant was less than 1 month old, enter the age in completed days.

If the infant was over 1 year or under 1 day of age, leave this item blank.

For responses such as "almost 4 months," enter "3" in the Months box.

4c. UNDER 1 DAY—Hours, Minutes

Enter the exact number of hours or minutes the infant lived for infants who did not survive for an entire day.

If the infant lived l–23 hours inclusive, enter the age in completed hours.

If the infant was less than 1 hour old, enter the age in minutes.

If the infant was more than 1 day old, leave this item blank.

If the informant gives an unspecified answer such as several hours or a few minutes, ASK—Can you give me a number? If a range is given, use the lower number. If the informant cannot give a number, be sure to identify the units, if possible, by entering a "?" in the appropriate unit box.

If the informant does not know and cannot obtain the age, record "Unknown" in box 4a.

Information from this item is used to study differences in age-specific mortality and in planning and evaluating public health programs.

5. DATE OF BIRTH (Month, Day, Year)

Enter the full name of the month (January, February, March, etc.), day, and 4-digit year that decedent was born. Do not use a number or abbreviation to designate the month.

If the date of birth is unknown, then enter "Unknown." If part of date of birth is unknown, then enter the known parts and leave the remaining parts blank.

For example, for a person who is born in 1913, but the month and day are not known, enter 1913. If the month and year are known and the day is not known, enter February, "blank," 1913.

This item is useful in identification of the decedent for legal purposes. It also helps verify the accuracy of the ''age'' item.

6. BIRTHPLACE (City and State or Foreign Country)

If the decedent was born in the United States, enter the name of the city and State.

(NOTE: Canadian provinces and Canadian territories are not collected for decedent's place of birth.)

If the decedent was not born in the United States, enter the name of the country of birth whether or not the decedent was a U.S. citizen at the time of death.

If the decedent was born in the United States but the city is unknown, enter the name of the State only. If the State is unknown, enter "U.S.—unknown."

If the decedent was born in a foreign country but the country is unknown, enter "Foreign—unknown."

If no information is available regarding place of birth, enter "Unknown."

This item is used to match birth and death certificates of a deceased individual. Matching these records provides information from the birth certificate that is not contained on the death certificate and may give insight into which conditions led to death. Information from the birth certificate is especially important in examining the causes of infant mortality.

7a–g Residence of Decedent

The residence of the decedent (State, county, city, and street address) is the place where his or her household is located, the place where the decedent actually resided, or where the person lives and sleeps most of the time. This is not necessarily the same as "home State," "voting residence," "mailing address," or "legal residence."

Do not enter addresses that are post office boxes or rural route numbers. Get the building number and "street" name for the residence address rather than the postal address.

Temporary residence

Never enter a temporary residence, such as one used during a visit, business trip, or a vacation. However, usual onshore place of residence during a tour of military duty is not considered temporary and should be entered as the place of residence on the certificate. Similarly, usual place of residence during attendance at college is not considered temporary and should be entered as the place of residence on the certificate.

Multiple residences

If the decedent lived in more than one residence (parent living in a child's household, children in joint custody, person owning more than one residence, or commuters living elsewhere while working), enter the residence lived in most of the year. If a child lives an equal amount of time in each residence, report the residence staying at when death occurred.

Institutions or group homes

If a decedent had been living in a facility where an individual usually resides for a long period of time, such as a group home, mental institution, nursing home, penitentiary, hospital for the chronically ill, long-term care facility, congregate care facility, foster home, or board and care home, this facility should be entered as the place of residence in items 7a through 7g.

Children

If the decedent was a child, residence is the same as that of the parent(s), legal guardian, or custodian unless the child was living in an institution where individuals usually reside for long periods of time, as indicated above. In those instances the residence of the child is shown as the facility. Children residing at a boarding school are considered to live at a parent's residence. Residence for foster children is the place they live most of the time.

Infants

If the decedent was an infant who never resided at home, the place of residence is that of the mother or legal guardian. Do not use an acute care hospital as the place of residence for any infant.

7a. RESIDENCE—STATE

Enter the name of the State in which the decedent lived. This may differ from the State in the mailing address. If the decedent was not a resident of the United States, enter the name of the country and the name of the unit of government that is the nearest equivalent of a State.

This item is where the U.S. States and territories and the Canadian provinces are recorded.

If a Canadian province or territory, enter the name of the province or territory followed by "/ Canada." If resident of any other country, enter the name of the country in the space for State.

If the decedent's residence is unknown, enter "Unknown."

7b. RESIDENCE—COUNTY

Enter the name of the county in which the decedent lived.

If the decedent resided in any country other than the United States and its territories, leave this item blank.

7c. RESIDENCE—CITY OR TOWN

Enter the name of the city, town, or location in which the decedent lived. This may differ from the city, town, or location used in the mailing address.

7d. RESIDENCE—STREET AND NUMBER

Enter the number and street name of the place where the decedent lived.

If the "street" name has a direction as a prefix, enter the prefix in front of the street name. If the "street name" has a direction after the name, enter the direction after the name (e.g., South Main Street or Florida Avenue NW). Report the "street" designator (Street, Road, Avenue, Court, etc.).

Enter the building number assigned to the decedent's residence. If the number is unknown, enter "Unknown."

7e. RESIDENCE—APARTMENT NUMBER

Enter the apartment or room number associated with the residence.

If there is no apartment or room number associated with this residence, leave the item blank.

7f. RESIDENCE—ZIP CODE

Enter the ZIP Code of the place where the decedent lived. This may differ from the ZIP Code used in the mailing address.

The 9-digit ZIP Code is preferred over the 5-digit ZIP Code. If only the 5-digit ZIP code is known, report that.

If the decedent was not a resident of the United States or its territories, leave this item blank.

7g. RESIDENCE—INSIDE CITY LIMITS?

Enter "Yes" if the location entered in 7c is incorporated and if the decedent's residence is inside its boundaries. Otherwise enter "No."

If it is not known if the residence is inside the city or town limits, enter "Unknown" in the space.

Mortality data by residence are used with population data to compute death rates for detailed geographic areas. These data are important in environmental studies. Data on deaths by place of residence of the decedent are

also used to prepare population estimates and projections. Local officials use this information to evaluate the availability and use of services in their area. Information on residence inside city limits is used to properly assign events within a county. Information on ZIP Code and whether the decedent lived inside city limits is valuable for studies of deaths for small areas.

8. EVER IN U.S. ARMED FORCES?

If the decedent ever served in the U.S. Armed Forces, enter "Yes." If not, enter "No." If the medical examiner or coroner cannot determine whether the decedent served in the U.S. Armed Forces, enter "Unknown." Do not leave this item blank.

This item is used to identify decedents who were veterans. This information is of interest to veteran groups.

9. MARITAL STATUS AT TIME OF DEATH

Enter the marital status of the decedent at time of death. Specify one of the following: Married; Married, but separated; Never married; Widowed; or Divorced. Just because a spouse may be the informant does not preclude the possibility of "Married, but separated." A person is legally married even if separated. A person is no longer legally married when the divorce papers are signed by a judge.

- "Annulled and not remarried" and "never previously married" are considered "Never Married."
- "Annulled and not remarried" and "married previously" are classified as how the previous marriage terminated (Widowed, Divorced).
- "Common Law marriage" is considered "Married."
- "Indian marriage" is considered "Married."

If marital status cannot be determined, enter "Unknown." Do not leave this item blank.

This information is used in determining differences in mortality by marital status.

10. SURVIVING SPOUSE'S NAME (If wife, give name prior to first marriage)

If the decedent was married at the time of death, enter the full name of the surviving spouse.

If the surviving spouse is the wife, enter her name prior to first marriage (e.g., maiden name).

This item is used in genealogical studies and in establishing proper insurance settlements and other survivor benefits.

11 and 12 PARENTS

11. FATHER'S NAME (First, Middle, Last)

Enter the first, middle, and last name of the father of the decedent.

It is suggested that the medical examiner or coroner print the name as provided to him or her by the informant and have the informant check the spelling before entering the name on the certificate.

If there appears to be more than one spelling of any name provided, and the correct spelling cannot be verified, use the most common spelling. The name must consist of English alphabetic characters and punctuation marks.

If the father's name cannot be determined, enter "Unknown" in the name field.

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

Enter the name (first, middle, and surname) of the mother of the decedent used prior to first marriage, commonly known as the maiden name. This is the name given at birth or adoption, not a name acquired by marriage. This name is useful because it remains constant throughout life.

The names of the decedent's mother and father aid in identification of the decedent's record. The mother's name prior to first marriage or maiden surname is important for matching the record with other records because it remains constant throughout a lifetime in contrast to other names which may change because of marriage or divorce. These items are also of importance in genealogical studies.

13a–c INFORMANT

13a. INFORMANT'S NAME

Enter the name of the person who supplied the personal facts about the decedent and his or her family.

13b. RELATIONSHIP TO DECEDENT

Enter the relationship of the informant to the decedent. For example, this may be a husband, wife, parent, son, daughter, brother, sister, or friend.

13c. MAILING ADDRESS (Street and Number, City, State, ZIP Code)

Enter the complete mailing address of the informant whose name appears in item 13a. Be sure to include the ZIP Code.

The name and mailing address of the informant are used to contact the informant when inquiries must be made to correct or complete any items on the death certificate.

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

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):

Check the type of place where the decedent was pronounced dead.

Hospital deaths

If the decedent was pronounced dead in a hospital, check the box indicating the decedent's status at the hospital: Inpatient, Emergency Room/ Outpatient (ER), or Dead on Arrival (DOA). Hospitals are licensed institutions with medical staff providing diagnostic and therapeutic services to patients.

Nonhospital deaths

If the decedent was pronounced dead somewhere else, check the box indicating whether pronouncement occurred at a Hospice facility, Nursing home/Long term care facility, Decedent's home, or Other location.

Hospice facility refers to a licensed institution providing hospice care (e.g., palliative and supportive care for the dying), not to hospice care that might be provided in a number of different settings, including a patient's home.

If death was pronounced at a licensed long-term care facility, check the "Nursing home/Long term care facility" box. A long-term care facility is not a hospital, but provides patient care beyond custodial care (e.g., nursing home, skilled nursing facility, long-term care facilities, convalescent care facility, extended care facility, intermediate care facility, residential care facility, congregate care facility).

If death was pronounced in the decedent's home, check the box that indicates decedent's home. A decedent's home includes independent living units such as private homes, apartments, bungalows, and cottages.

If death was pronounced at a licensed ambulatory/surgical center, orphanage, prison ward, public building, birthing center, facilities offering housing and custodial care, but not patient care (e.g., board and care home, group home, custodial care facility, foster home), check "Other (Specify)." If "Other (Specify)" is checked, specify where death was legally pronounced, such as prison ward, physician's office, the highway where a traffic accident occurred, a vessel, orphanage, group home, or at work.

If the place of death is unknown but the body is found in a State, enter the place where the body is found as the place of death.

15. FACILITY NAME (If not institution, give street & number)

Institution deaths

If the death occurred in a hospital, enter the full name of the hospital.

If death occurred en route to or on arrival at a hospital, enter the full name of the hospital. Deaths that occur in an ambulance or emergency squad vehicle en route to a hospital fall in this category.

If the death occurred in another type of institution such as a nursing home, enter the name of the institution where the decedent died.

Noninstitution deaths

If the death occurred at home, enter the house number and street name.

If the death occurred at some place other than those described above, enter the number and street name of the place or building (if at a building) where the decedent died.

If the death occurred on a moving conveyance, enter the name of the vessel, for example, *S.S. Olive Seas* (at sea) or *Eastern Airlines Flight 296* (in flight).

16. CITY OR TOWN, STATE, AND ZIP CODE

Enter the name of the city, town, village, or location, State, and ZIP code where death occurred.

17. COUNTY OF DEATH

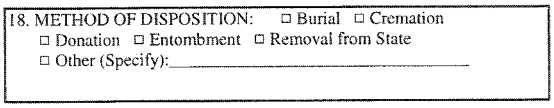
Enter the name of the county of the institution or address given in item 15 for where death occurred. If the death occurred on a moving conveyance in the United States and the body is first removed from the conveyance in this State, complete a death certificate and enter as the place of death the address where the body was first removed from the conveyance.

If the death occurred on a moving conveyance in international waters, international airspace, or in a foreign country or its airspace, and the body is first removed from the conveyance in this State, register the death in this State, but enter the actual place of death insofar as can be determined.

These items are used to identify the place of death which is needed to determine who has jurisdiction for deaths that legally require investigation by a medical examiner or coroner. These items are also used for research and statistics comparing hospital and nonhospital deaths. Valuable information is also provided for health planning and on the utilization of health facilities.

18–20 DISPOSITION

18. METHOD OF DISPOSITION


18. METHOD OF DISPOSITION: □ Burial □ Cremation
□ Donation □ Entombment □ Removal from State
□ Other (Specify):_____

Check the box corresponding to the method of disposition of the decedent's body. If the body is to be used by a hospital or a medical or mortuary school for scientific or educational purposes, enter "Donation" and specify the name and location of the institution in items 19 and 20. "Donation" refers only to the entire body, not to individual organs. If "Other (Specify)" is checked, enter the method of disposition on the line provided.

The response reflects the wishes of the next of kin or informant.

19. PLACE OF DISPOSITION (Name of cemetery, crematory, other place)

Enter the name of the cemetery, crematory, or other place of disposition. If the body is removed from the State, specify the name of the cemetery, crematory, or other place of disposition to which the body is removed.

If the body is to be used by a hospital or medical or mortuary school for scientific or educational purposes, give the name of that institution.

20. LOCATION—CITY, TOWN, AND STATE

Enter the name of the city, town, or village and the State where the place of disposition is located.

If the body of the decedent is to be used by a hospital or medical or mortuary school for scientific or educational purposes, enter the name of the city, town, or village and the State where the institution is located.

If there is any question about how to record the place of disposition, contact the State or local registrar.

This information indicates whether the body was properly disposed of as required by law. It also serves to locate the body in case exhumation, autopsy, or transfer is required later.

21–23 FUNERAL FACILITY

21. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY

Enter the name and complete address (including ZIP Code) of the facility handling the body prior to burial or other disposition.

These items assist in quality control in filling out and filing death certificates. They identify the person who is responsible for filing the certificate with the registrar.

22. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT

The funeral service licensee or other person first assuming custody of the body and charged with responsibility for completing the death certificate should sign in permanent black ink. If jurisdiction permits, authenticate electronically. Rubber stamps or facsimile signatures are not permitted.

23. LICENSE NUMBER (Of Licensee)

Enter the personal State license number of the funeral service licensee. If some other person who is not a licensed funeral director assumes custody of the body, identify the category of the license and corresponding State license number, or, if the individual possesses no license at all, enter "None."

ITEMS ON WHEN DEATH OCCURRED

Items 24 and 25 and 29–31 should always be completed. If the facility uses a separate pronouncer or other person to indicate that death has taken place and another person more familiar with the case completes the remainder of the medical portion of the death certificate, the *pronouncer* completes items 24–28. In all other cases, the certifier completes items 24 and 25, 29–37, and 45–49, and items 26–28 are left blank.

24. DATE PRONOUNCED DEAD (Month, Day, Year)

Enter the exact month, day, and 4-digit year that the decedent was pronounced dead. Complete this item even when it is the same as item 29, the actual or presumed date.

Enter the full name of the month—January, February, March, etc. Do not use a number or abbreviation to designate the month.

This is used to identify the date the decedent was legally pronounced dead. This information is very helpful in those cases where a body of a person who has been dead for some time is found and the death is pronounced by a medical examiner or coroner.

25. TIME PRONOUNCED DEAD

Enter the exact time (hour and minute using a 24-hour clock) the decedent was pronounced dead according to local time. If daylight saving time is the official prevailing time where death occurs, it should be used to record the time of death. Be sure to indicate the time using a 24-hour clock.

24-hour clock	12-hour clock
0000 (medical facilities); 2400 (military facilities)	12 midnight
0100	1:00 a.m.
0200	2:00 a.m.
0300	3:00 a.m.
0400	4:00 a.m.
0500	5:00 a.m.
0600	6:00 a.m.
0700	7:00 a.m.
0800	8:00 a.m.
0900	9:00 a.m.
1000	10:00 a.m
1100	11:00 a.m.
1200	12 noon
1300	1:00 p.m.
1400	2:00 p.m.
1500	3:00 p.m.
1600	4:00 p.m.
1700	5:00 p.m.
1800	6:00 p.m.
1900	7:00 p.m.
2000	8:00 p.m.
2100	9:00 p.m.
2200	10:00 p.m.
2300	11:00 p.m

A death that occurs at 2400 or 0000 midnight belongs to the start of the new day. One minute after 12 midnight is entered as 0001 of the new day.

If the exact time of death is unknown, the time should be approximated by the person who pronounces the body dead. "Approx" should be placed before the time.

26–28 PRONOUNCING PHYSICIAN ONLY

Items 26–28 are to be completed only when the physician responsible for completing the medical certification of cause of death is not available at the time of death to certify the cause of death and the State has a law providing for a pronouncing physician. In this situation, a pronouncing physician is the person who determines that the decedent is legally dead but who was not in charge of the patient's care for the illness or condition that resulted in death. This hospital physician certifies to the fact and time of death (items 24 and 25) and signs and dates the death certificate (items 26–28) so the body can be released. The attending physician is normally responsible for completing the cause-of-death section (item 32), but in medical examiner cases, the medical examiner may complete the cause of death. See section on medical certification of death in this handbook for a more detailed discussion of the completion of item 32.

COMPLETE ITEMS 26–28 ONLY WHEN CERTIFYING PHYSICIAN IS NOT AVAILABLE AT TIME OF DEATH TO CERTIFY CAUSE OF DEATH.

26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable)

Obtain the signature in ink and the degree or title of the physician who pronounces death. This physician certifies to the time, date, and place of death only. Rubber stamps or facsimile signatures are not permitted on paper certificates. Jurisdictions with electronic death certificates may have other ways to authenticate the certification than by using a signature.

27. LICENSE NUMBER (Only when applicable)

Enter the State license number of the physician who pronounces death.

28. DATE SIGNED (Month, Day, Year) (Only when applicable)

Enter the exact month, day, and year that the pronouncing physician signs the certificate. Do not use a number to designate the month.

This information is useful for the quality control program by indicating that the medical certification was provided by the attending physician.

Items 24 and 25 must be completed by the person who pronounces death—the pronouncing physician, pronouncing/certifying physician, or medical examiner/coroner.

29. ACTUAL OR PRESUMED DATE OF DEATH (Month, Day, Year)

Enter the exact month, day, and year that death occurred.

Enter the full name of the month—January, February, March, etc. Do not use a number or abbreviation to designate the month.

Pay particular attention to the entry of month, day, or year when a death occurs around midnight or December 31. Consider a death at midnight to have occurred at the beginning of the next day rather than the end of the previous day. For instance, the date for a death that occurs at 11:59 p.m. or 2359 on December 31 should be recorded as December 31 while those occurring the next minute 0000 should be recorded as January 1.

If the exact date of death is unknown, it should be approximated by the person completing the medical certification. ”Approx—“ should be placed before the date. If date cannot be determined by approximating, the date found should be entered and identified as such.

This item is used in conjunction with the hour of death to establish the exact time of death of the decedent. Epidemiologists also use date of death in conjunction with the cause-of-death section for research on intervals between injuries, onset of conditions, and death.

30. ACTUAL OR PRESUMED TIME OF DEATH

Enter the exact time (hour and minute using a 24-hour clock) of death according to local time. If daylight saving time is the official prevailing time where death occurs, it should be used to record the time of death. Be sure to indicate the time using a 24-hour clock.

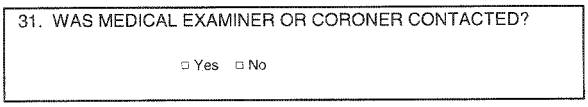
24-hour clock	**12-hour clock**
0000 (medical facilities); 2400 (military facilities)	12 midnight
0100	1:00 a.m.
0200	2:00 a.m.
0300	3:00 a.m.
0400	4:00 a.m.
0500	5:00 a.m.
0600	6:00 a.m.
0700	7:00 a.m.
0800	8:00 a.m.
0900	9:00 a.m.
1000	10:00 a.m
1100	11:00 a.m.
1200	12 noon
1300	1:00 p.m.
1400	2:00 p.m.
1500	3:00 p.m.
1600	4:00 p.m.
1700	5:00 p.m.
1800	6:00 p.m.
1900	7:00 p.m.
2000	8:00 p.m.
2100	9:00 p.m.
2200	10:00 p.m.
2300	11:00 p.m

A death that occurs at 2400 or 0000 midnight belongs to the start of the new day. One minute after 12 midnight is entered as 0001 of the new day.

If the exact time of death is unknown, the time should be approximated by the person who certifies the death. "Approx—" should be placed before the time.

This item establishes the exact time of death which is important in inheritance cases when there is a question of who died first. This is often important in the case of multiple deaths in the same family.

31. WAS MEDICAL EXAMINER OR CORONER CONTACTED?



Enter "Yes" if the medical examiner or coroner was contacted in reference to this case. Otherwise enter "No." Do not leave this item blank.

In cases of accident, suicide, or homicide, the medical examiner or coroner must be notified.

This item records whether the medical examiner or coroner was informed when the circumstances require such action. In such cases, the physician must ensure that this is done.

32. CAUSE OF DEATH

Detailed instructions for this item, together with case records, are contained in the section on Medical Certification of Death in this handbook.

These items are to be completed by the attending physician or medical examiner/coroner certifying or reporting his or her opinion on the cause of death.

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.

The cause of death means the disease, abnormality, injury, or poisoning that caused the death, not the mechanism of death, such as cardiac or respiratory arrest, shock, or heart failure.

In Part I, the immediate cause of death (final disease or condition resulting in death) is reported on line (a). Antecedent conditions, if any, that gave rise to the cause are reported on lines (b), (c), and (d). The underlying cause (disease or injury that initiated events resulting in death) should be reported on the last line used in Part I. No entry is necessary on lines (b), (c), and (d) if the immediate cause of death on line (a) describes completely the sequence of events. ONLY ONE CAUSE SHOULD BE ENTERED ON A LINE.

Provide the best estimate of the interval between the onset of each condition and death. Do not leave the space for the interval blank; if unknown, so specify.

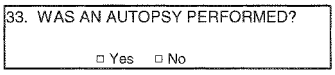
Part II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in Part I.

In Part II, enter other important diseases or conditions that contributed to death but did not result in the underlying cause of death given in Part I.

Cause of death is the most important statistical research item on the death certificate. It provides medical information that serves as a basis for describing trends in human health and mortality and for analyzing the conditions leading to death. Mortality statistics provide a basis for epidemiological studies that focus on leading causes of death by age, race, or sex (for example, AIDS, heart disease, and cancer). They also provide a basis for research in disease etiology and evaluation of diagnostic techniques, which in turn lead to improvements in patient care.

All conditions reported are important and are analyzed. For example, analyses may examine associations between conditions reported on the same death certificates such as types of conditions reported in combination with hepatitis.

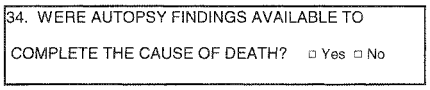
33. WAS AN AUTOPSY PERFORMED?



Enter "Yes" if a partial or complete autopsy was performed. Otherwise enter "No."

An autopsy is important in giving additional insight into the conditions that lead to death. This additional information is particularly important in arriving at the immediate and underlying causes when the cause is not immediately clear.

34. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH?



Enter "Yes," if the autopsy findings were available at the time that cause of death was determined. Otherwise enter "No." Leave this item blank if no autopsy was performed.

This information assists in determining whether, for the 9 percent of cases for which an autopsy is done, the information was available to assist in determining the cause of death. Knowing whether the autopsy results were available for determining the cause of death gives insight into the quality of the cause-of-death data.

35. DID TOBACCO USE CONTRIBUTE TO DEATH?

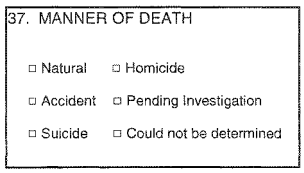
Check "Yes" if, in the medical examiner's or coroner's opinion, any use of tobacco or tobacco exposure contributed to death. Tobacco use may contribute to deaths due to a wide variety of diseases; for example, tobacco use contributes to many deaths due to emphysema or lung cancer and some heart disease and cancers of the head and neck. Check "No" if, in his or her opinion, the use of tobacco did not contribute to death.

36. IF FEMALE, WAS DECEDENT PREGNANT AT TIME OF DEATH OR WITHIN PAST YEAR?

If the decedent is a female, check the appropriate box in item 36. If the decedent is a male, leave the item blank. If the female is either too old or too young to be fecund, check the not pregnant within the past year box.

This information is important in determining the scale of mortality among this population and will be of assistance with maternal mortality review programs.

37. MANNER OF DEATH



Complete this item for all deaths. Check the box corresponding to the manner of death. Deaths not due to external causes should be identified as "Natural." Usually, these are the only types of deaths a physician will certify.

Indicate "Pending Investigation" if the manner of death cannot be determined to be accident, homicide, or suicide within the statutory time limit for filing the death certificate. This should be changed later to one of the other terms.

Indicate "Could not be determined" ONLY when it is impossible to determine the manner of death.

In cases of accidental death this information is used to justify the payment of double indemnity on life insurance policies. It is also used to obtain a more accurate determination of cause of death.

All deaths due to external causes must be referred to the medical examiner or coroner. If the manner of death checked in item 37 was anything other than natural, items 38–44 must be completed.

The National Association of Medical Examiners has put together a guide on how manner of death should be determined (9). In certain cases, the manner of death preferred by the medical examiner community and the disease classification conflict. As a result, it is important to specify the circumstances involved so that both communities are able to make use of the information.

38–44 ACCIDENT OR INJURY—to be filled out in all cases of deaths due to injury or poisoning

Complete these items in cases where injury caused or contributed to the death. All deaths resulting from injury must be reported to a medical examiner or coroner, who will usually certify to the cause of death.

38. DATE OF INJURY (Month, Day, Year)

Enter the exact month, day, and year that the injury occurred. Enter the full name of the month—January, February, March, etc. Do not use a number or abbreviation to designate the month.

The date of injury may not necessarily be the same as the date of death.

Estimates may be provided with "Approx—" placed before the date.

39. TIME OF INJURY

Enter the exact time (hour and minute using a 24-hour clock) when the injury occurred, according to local time. If daylight saving time is the official prevailing time where death occurs, it should be used to record the time of death. Be sure to indicate the time using a 24-hour clock.

24-hour clock	**12-hour clock**
0000 (medical facilities); 2400 (military facilities)	12 midnight
0100	1:00 a.m.
0200	2:00 a.m.
0300	3:00 a.m.
0400	4:00 a.m.
0500	5:00 a.m.
0600	6:00 a.m.
0700	7:00 a.m.
0800	8:00 a.m.
0900	9:00 a.m.
1000	10:00 a.m
1100	11:00 a.m.
1200	12 noon
1300	1:00 p.m.
1400	2:00 p.m.
1500	3:00 p.m.
1600	4:00 p.m.
1700	5:00 p.m.
1800	6:00 p.m.
1900	7:00 p.m.
2000	8:00 p.m.
2100	9:00 p.m.
2200	10:00 p.m.
2300	11:00 p.m

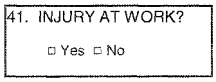
If the exact time of death is unknown, the time should be approximated by the person who certifies the death. "Approx—" should be placed before the time.

The date of injury may differ from the date of death.

40. PLACE OF INJURY (e.g., Decedent's home; construction site; restaurant; wooded area)

Enter the general type of place (such as restaurant, vacant lot, baseball field, construction site, office building, or decedent's home) where the injury occurred. DO NOT enter firm or organization names. (For example, enter "factory," not "Standard Manufacturing, Inc.")

41. INJURY AT WORK?



Complete if anything other than natural disease is mentioned in Part I or Part II of the medical certification (item 32), including homicides, suicides, and accidents or if anything other than natural is checked for manner of death (item 37). This includes all motor vehicle deaths. The item must be completed for decedents ages 14 years or over and may be completed for those less than 14 years of age if warranted.

Enter "Yes" if the injury occurred at work. Otherwise enter "No." An injury may occur at work regardless of whether the injury occurred in the course of the decedent's "usual" occupation.

Examples of injury at work and injury not at work follow:

Injury at work
Injury while working or in vocational training on job premises
Injury while on break or at lunch or in parking lot on job premises
Injury while working for pay or compensation, including at home
Injury while working as a volunteer law enforcement official, etc.
Injury while traveling on business, including to or from business contacts

Injury <u>not</u> at work
Injury while engaged in personal recreational activity on job premises
Injury while a visitor (not on official work business) to job premises
Homemaker working at homemaking activities
Student in school
Working for self for no profit (mowing yard, repairing own roof, hobby)
Commuting to or from work

These guidelines were developed jointly by: The National Association for Public Health Statistics and Information Systems (NAPHSIS), the National Institute of Occupational Safety and Health (NIOSH), the National Center for Health Statistics (NCHS), and the National Center for Environmental Health and Injury Control (NCEHIC). For questions contact the State Vital Statistics Office.

42. LOCATION OF INJURY (Street and Number, City or Town, State, Apartment No., Zip Code)

Enter the complete address where the injury took place including ZIP Code. Fill in as many of the items as is known.

43. DESCRIBE HOW INJURY OCCURRED

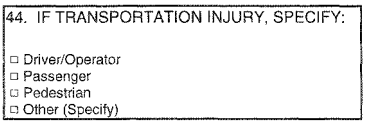
Enter, in narrative form, a brief but specific and clear description of how the injury occurred. Explain the circumstances or cause of the injury, such as "fell off ladder while painting house," "driver of car ran off roadway," or "passenger in car in car-truck collision." Specify **type of gun** (e.g., handgun, hunting rifle) or **type of vehicle** (e.g., car, bulldozer, train, etc.)

when it is relevant to circumstances. Indicate if more than one vehicle is involved; specify type of vehicle decedent was in. For motor vehicle accidents, indicate whether the decedent was a driver, passenger, or pedestrian.

If known, indicate what activity the decedent was engaged in when the injury occurred (e.g., playing a sport, working for income, hanging out at a bar).

In cases of accidental death, items 38–43 are used in justifying the payment of double indemnity on life insurance policies. They are also needed for a more accurate determination of causes of death. Information from these items forms the basis of statistical studies of occupational injuries.

44. IF TRANSPORTATION INJURY, SPECIFY:


44. IF TRANSPORTATION INJURY, SPECIFY:

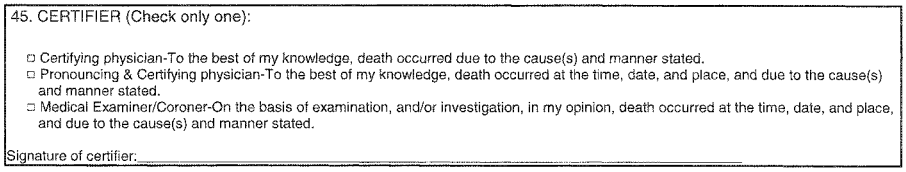
□ Driver/Operator
□ Passenger
□ Pedestrian
□ Other (Specify)

Specify role of decedent (e.g., driver, passenger) in the transportation accident. Driver/operator and passenger should be designated for modes other than motor vehicles such as bicycles. "Other" applies to watercraft, aircraft, animal, or people attached to outside of vehicles (e.g., "surfers") who are not bonafide passengers or drivers.

Details will help assign deaths to categories that may be used to assess trends and effectiveness of safety programs.

45–49 CERTIFIER

45. CERTIFIER (Check only one)


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:

The CERTIFYING PHYSICIAN box should be checked only in those cases when the person who is completing the medical certification of cause of death (item 32) is not the person who pronounced death (items 24 and 25). The certifying physician is responsible for completing items 32–49.

The PRONOUNCING & CERTIFYING PHYSICIAN box should be checked when the same person is responsible for completing items 24–49, that is, when the same physician has both pronounced death and certified the cause of death. If this box is checked, items 26–28 should be left blank.

The MEDICAL EXAMINER/CORONER box should be checked when investigation is required by the Post Mortem Examination Act and the cause of death is completed by a medical examiner or coroner. The medical examiner/coroner is responsible for completing items 24–49.

SIGNATURE OF CERTIFIER

The medical-legal officer who certifies the cause of death in item 32 signs the certificate in permanent black ink. Jurisdictions with an electronic death certificate may allow electronic authentication. The degree or title of the medical-legal officer should also be indicated. Rubber stamps or facsimile signatures are not permitted.

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

Enter the full name and address of the person whose signature or authentication appears in item 45.

This information is used by the State office of vital statistics for querying the certifier when a question about cause of death arises.

48. LICENSE NUMBER

Enter the State license number of the medical-legal officer who signs or authenticates the certificate in item 45.

This number assists in State quality control programs when it is necessary to contact the certifier for additional information concerning the death.

49. DATE CERTIFIED (Month, Day, Year)

Enter the exact month, day, and year that the certifier signed the certificate.

Enter the full name of the month—January, February, March, etc. Do not use a number or an abbreviation to designate the month.

These items are of legal value in attesting that the medical certification was completed and signed within the time limit required by statute.

51. DECEDENT'S EDUCATION

Check the box that corresponds to the highest level of education that the decedent completed.

Show the informant the education level categories on a card (see appendix B), and ask the informant to choose the category that, to the best of his or her knowledge, describes the highest education level completed by the decedent.

☐ 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)

If the decedent was currently enrolled, mark the previous grade of highest degree received. If the respondent does not know or is not sure, select "Unknown." If the respondent refuses, enter "Refused." If there is no informant or for some other reason the information is not available, enter "Not obtainable."

If the respondent indicates that the decedent has a degree that is not listed on the card, enter "Not classifiable."

This information is used to study the relationship between mortality and education (which roughly corresponds with socioeconomic status). This information is valuable in medical studies of causes of death and in programs to prevent illness and death.

52. DECEDENT OF HISPANIC ORIGIN?

Based on the informant's response, check the box (see card in appendix C) that best corresponds with the decedent's ethnic identity as given by the informant. The response should reflect what the decedent considered himself or herself to be. The informant is encouraged to select only one response. If the informant is unable to select a single response, mark all boxes that apply; for example "Mexican" and "Cuban," enter both responses. If the respondent indicates an ethnic origin not on the list, it should be recorded in the "Specify" space. Enter the informant's response even if it is not a Hispanic origin.

The choices are as follows:

☐ No, Not Spanish/Hispanic/Latino
☐ Yes, Mexican, Mexican American, Chicano
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, Other Spanish/Hispanic/Latino
(Specify) _____

Each question, Race and Hispanic Origin, should be asked independently. "Hispanic" is not a race, and a decedent of Hispanic origin may be of any race. Do not leave item 52 blank. "Hispanic" is a self-designated classification for people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Caribbean, or those identifying themselves generally as Spanish or Spanish-American. Origin can be viewed as ancestry, nationality, or country of birth of the person or person's parents or ancestors prior to their arrival in the United States. Although the prompts include the major Hispanic groups, other groups may be specified under "Other."

If the informant does not know, enter "Unknown."

If there is no informant, enter "Not obtainable."

If respondent refuses, enter "Refused."

Hispanics comprise a substantial population group within this country. Reliable data are needed to identify and assess public health problems of Hispanics. Information from item 52 will permit the production of mortality data for the Hispanic community. Identifying health problems will make it possible to target public health resources to this important segment of our population.

53. DECEDENT'S RACE

Ask the informant to look at the card (see appendix C) and indicate the race or races of the decedent. Enter the race or races of the decedent as stated by the informant. Each question, Race and Hispanic origin, should be asked independently. Do not leave item 53 blank. If there is no box for the informant's response for one or more race, check the box "Other" and enter the informant's literal (written) response even if the response is not a race or race(s).

Check one or more of the following choices to indicate what the decedent considered himself/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) _____

American Indian and Alaska Native refer only to those native to North and South America (including Central America) and does not include Asian Indian. Please specify the name of enrolled or principal tribe (e.g., Navajo, Cheyenne, etc.) for the American Indian or Alaska Native.

For Asians and Pacific Islanders, enter the national origin of the decedent. For Asians check Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or specify other Asian group; for Pacific Islanders check Native Hawaiian, Guamanian or Chamorro, Samoan, or specify Other Pacific Islander.

If more than one race is indicated, enter each race (e.g., Samoan-Chinese-Filipino or White, American Indian).

If there is no informant or other reliable source of this information, enter "Not obtainable." If the respondent does not know, enter "Unknown." If the respondent refuses, enter "Refused."

Race is essential for identifying specific mortality patterns and leading causes of death among different racial groups. It is also used to determine if specific health programs are needed in particular areas and to make population estimates.

54 and 55 OCCUPATION AND INDUSTRY OF DECEDENT

These items are to be completed for all decedents 14 years of age and over. Enter the information even if the decedent was retired, disabled, or institutionalized at the time of death.

This information is useful in studying deaths related to jobs and in identifying any new risks. For example, the link between lung disease and lung cancer and asbestos exposure in jobs such as shipbuilding or construction was discovered by analyzing this sort of information on death certificates.

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

Enter the usual occupation of the decedent. This means the type of job the individual was engaged in for most of his or her working life. It is not necessarily the highest paid job nor the job considered the most prestigious, but the one occupation, of perhaps several, that accounted for the greatest number of working years. For example, usual occupation may include claim adjuster, farmhand, coal miner, janitor, store manager, college professor, or civil engineer. Never enter "Retired."

If the decedent was a homemaker at the time of death but had worked outside the household during his or her working life, enter that occupation. If the decedent was a "homemaker" during most of his or her working life, or never worked outside the household, enter "Homemaker." Enter "Student" if the decedent was a student at the time of death and was never regularly employed or employed full time during his or her working life.

If not known, enter "Unknown."

55. KIND OF BUSINESS/INDUSTRY

Enter the kind of business or industry to which the occupation listed in item 54 is related, such as insurance, farming, coal mining, hardware store, retail clothing, university, or government. Do not enter firm or organization names.

If the decedent was a homemaker during his or her working life, and "Homemaker" is entered as the decedent's usual occupation in item 54, enter "Own home" or "Someone else's home," whichever is appropriate.

If the decedent was a student at the time of death and "Student" is entered as the decedent's usual occupation in item 54, enter the type of school, such as high school or college, in item 55.

These items are useful in studying occupationally related mortality and in identifying job-related risk areas. For example, correlating asbestos used in particular occupations in the shipbuilding industry to respiratory cancer was possible with this information. If the medical examiner or coroner have

questions about what classification to use for a decedent's occupation or industry, refer to the handbook "Guidelines for Reporting Occupation and Industry on Death Certificates (21)."

If not known, enter "Unknown."

Completing the Cause of Fetal Death

The primary responsibility of the medical examiner or coroner whose name appears in item 14 of the Fetal Death Report is to complete the cause-of-fetal-death section (items 18a and b, e–h on the report which are collected using items 33–38 on the facility worksheet).

Cause of fetal death

A facsimile of the section on cause of fetal death of the Fetal Death Report is shown on the following page. It is designed to facilitate the reporting of the causes of fetal death and places upon the medical examiner or coroner the responsibility for indicating the conditions and events resulting in the fetal death.

The cause-of-death section consists of two parts. The initiating cause/condition (item 18a) is for reporting a single condition that most likely began the sequence of events resulting in the death of the fetus. Other significant causes or conditions (item 18b) include all other conditions contributing to death. These conditions may be conditions that are triggered by the initiating cause (item 18a) or causes that are not among the sequence of events triggered by the initiating cause (item 18a).

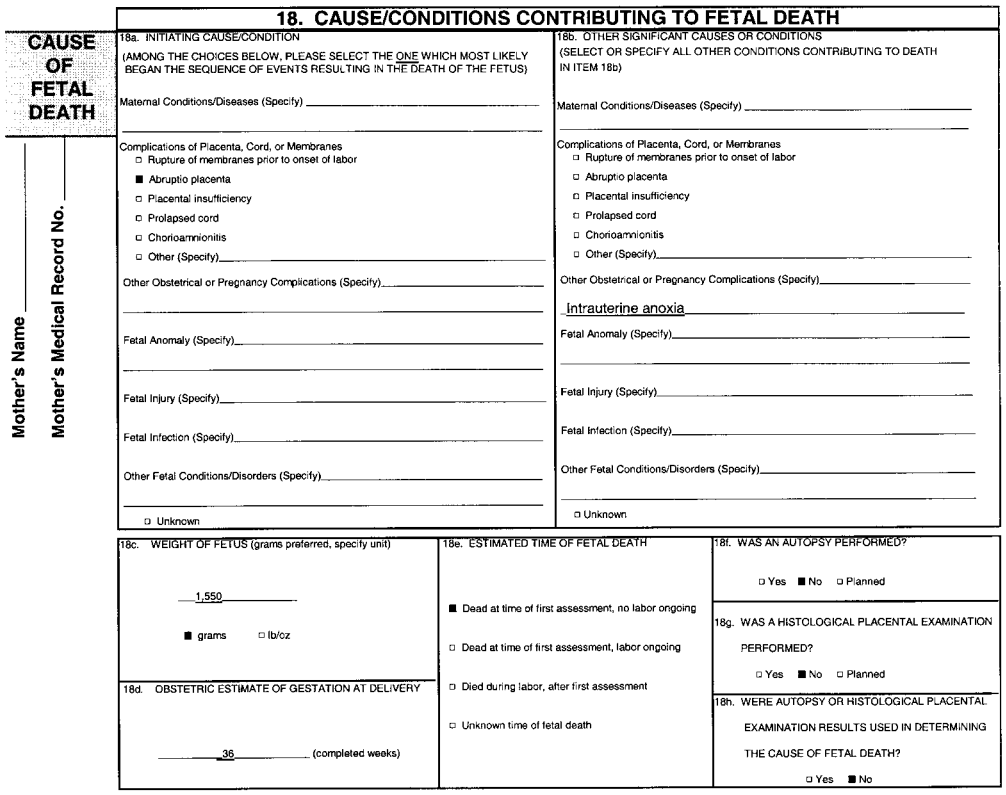
The cause-of-death information should be the medical examiner's or coroner's best medical opinion. Report a specific condition in the space most appropriate to the given situation. A condition can be listed as "probable" if it has not been definitively diagnosed. In reporting the causes of fetal death, conditions in the fetus or mother, or of the placenta, cord, or membranes, should be reported if they are believed to have adversely affected the fetus.

The American College of Obstetrics and Gynecology Technical bulletin number 176 provides guidelines on a full investigation of a fetal death. Cause of fetal death should include information provided by the pathologist if tissue analysis, autopsy, or another type of postmortem exam was done. If microscopic exams for a fetal death are still pending at the time the report is filed, the additional information should be reported to the registrar as soon as it is available.

For statistical and research purposes, it is important that the reporting of the medical information on the fetal death report be specified as precisely as possible. Cause of death is used for medical and epidemiological research on disease etiology and to evaluate the effectiveness of diagnostic and therapeutic techniques. It is a measure of health status at local, State, national, and international levels.

Responsibility of medical examiner or coroner

When a death occurs without medical attendance at or immediately after the delivery, or when further investigation is required by State regulations, a medical examiner or coroner may investigate the fetal death. The death should be reported to the medical examiner or coroner as required by State law.



18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

Mother's Name

Mother's Medical Record No.

18a. INITIATING CAUSE/CONDITION

(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ■ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____

Fetal Anomaly (Specify)_____

Fetal Injury (Specify)_____

Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders (Specify)_____

☐ Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS

(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____

Intrauterine anoxia

Fetal Anomaly (Specify)_____

Fetal Injury (Specify)_____

Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders (Specify)_____

☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)

1,550

■ grams ☐ lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY

36 (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH
- ■ Dead at time of first assessment, no labor ongoing
- ☐ Dead at time of first assessment, labor ongoing
- ☐ Died during labor, after first assessment
- ☐ Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED?

☐ Yes ■ No ☐ Planned

18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?

☐ Yes ■ No ☐ Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?

☐ Yes ■ No

Instructions for completing cause of fetal death

Cause-of-death information should be the medical examiner's or coroner's best medical opinion. Abbreviations and parenthetical statements should be avoided in reporting causes of death. The terminal event should not be used. The medical examiner or coroner should report the initiating cause of the terminal event in 18a.

If two or more possible sequences resulted in death, or if two conditions seem to have an interactive effect, the condition that most directly caused death, in the opinion of the certifier, should be reported in 18a.

If an organ system failure is listed as a cause of death, always report its etiology. Always report the fatal injury (e.g., stab wound of mother's abdomen), the trauma, and impairment of function.

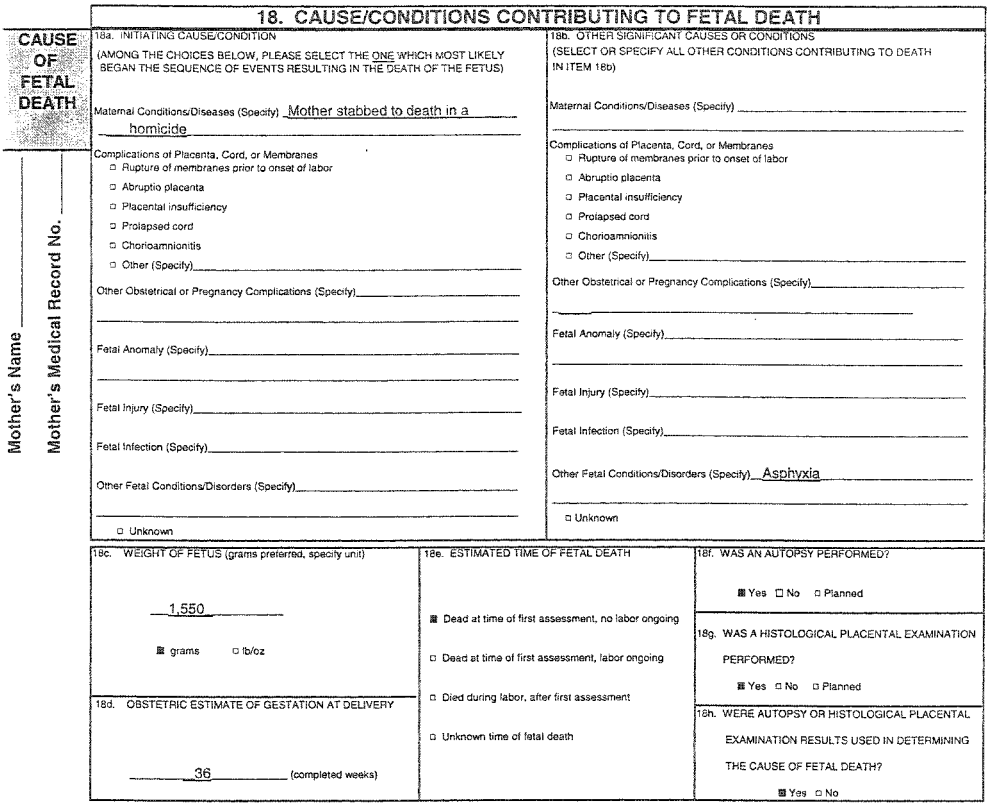
In 18b, report all diseases or conditions contributing to death that were not reported in 18a and that did not result in the initiating cause of death.

The original fetal death report should be amended if additional medical information or autopsy or histological placental findings become available that would change the cause of death originally reported.

Specify conditions as fetal or maternal

The conditions are set up to facilitate reporting maternal conditions on the "Maternal Conditions/Diseases (Specify)" lines and fetal conditions and obstetrical or pregnancy complications on the remaining lines.

For example, the completed cause of fetal death below indicates asphyxia to the fetus due to a homicide by stabbing of the mother.



18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

Mother's Name

Mother's Medical Record No.

18a. INITIATING CAUSE/CONDITION

(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify) Mother stabbed to death in a homicide

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)

Other Obstetrical or Pregnancy Complications (Specify)

Fetal Anomaly (Specify)

Fetal Injury (Specify)

Fetal Infection (Specify)

Other Fetal Conditions/Disorders (Specify)

☐ Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS

(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify)

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)

Other Obstetrical or Pregnancy Complications (Specify)

Fetal Anomaly (Specify)

Fetal Injury (Specify)

Fetal Infection (Specify)

Other Fetal Conditions/Disorders (Specify) Asphyxia

☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)

1,550

☒ grams ☐ lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY

36 (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH

☒ Dead at time of first assessment, no labor ongoing

☐ Dead at time of first assessment, labor ongoing

☐ Died during labor, after first assessment

☐ Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED?

☒ Yes ☐ No ☐ Planned

18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?

☒ Yes ☐ No ☐ Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?

☒ Yes ☐ No

Supplemental report of cause of fetal death

In many instances, information on the cause of fetal death may be pending further study of tissue or autopsy results, cytogenetic study, or a pathology report. When additional information is obtained, the medical examiner or coroner should file a supplemental report of cause of fetal death.

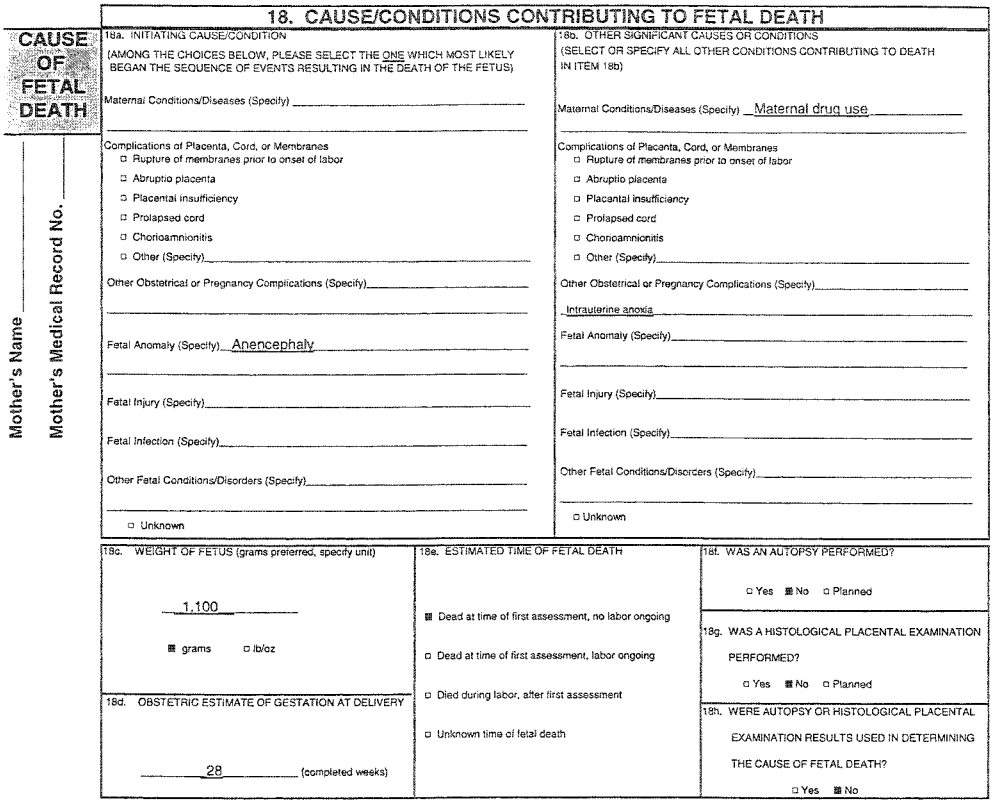
Other items for medical certification

Additional information required from the medical examiner or coroner includes estimated time of fetal death (item 18e), was an autopsy performed? (item 18f), was a histological placental examination performed? (item 18g), and were autopsy or histological placental examination results used in determining the cause of fetal death? (item 18h).

Examples of reporting cause of fetal death

Case History No. 1

The mother was a 29-year-old gravida 1, para 0 woman with a history of drug abuse. She had a normal pregnancy until 28 weeks' gestation when hydramnios was noted. Ultrasonography suggested anencephaly. No fetal movement was noted, nor were fetal heart sounds audible. Labor was induced, and a stillborn anencephalic fetus weighing 1,100 grams was delivered.



18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

Mother's Name

Mother's Medical Record No.

18a. INITIATING CAUSE/CONDITION

(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify) _____

Other Obstetrical or Pregnancy Complications (Specify) _____

Fetal Anomaly (Specify) Anencephaly

Fetal Injury (Specify) _____

Fetal Infection (Specify) _____

Other Fetal Conditions/Disorders (Specify) _____

☐ Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS

(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify) Maternal drug use

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify) _____

Other Obstetrical or Pregnancy Complications (Specify) _____

Intrauterine anoxia

Fetal Anomaly (Specify) _____

Fetal Injury (Specify) _____

Fetal Infection (Specify) _____

Other Fetal Conditions/Disorders (Specify) _____

☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)

1,100

■ grams ☐ lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY

28 (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH

■ Dead at time of first assessment, no labor ongoing

☐ Dead at time of first assessment, labor ongoing

☐ Died during labor, after first assessment

☐ Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED?

☐ Yes ■ No ☐ Planned

18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?

☐ Yes ■ No ☐ Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?

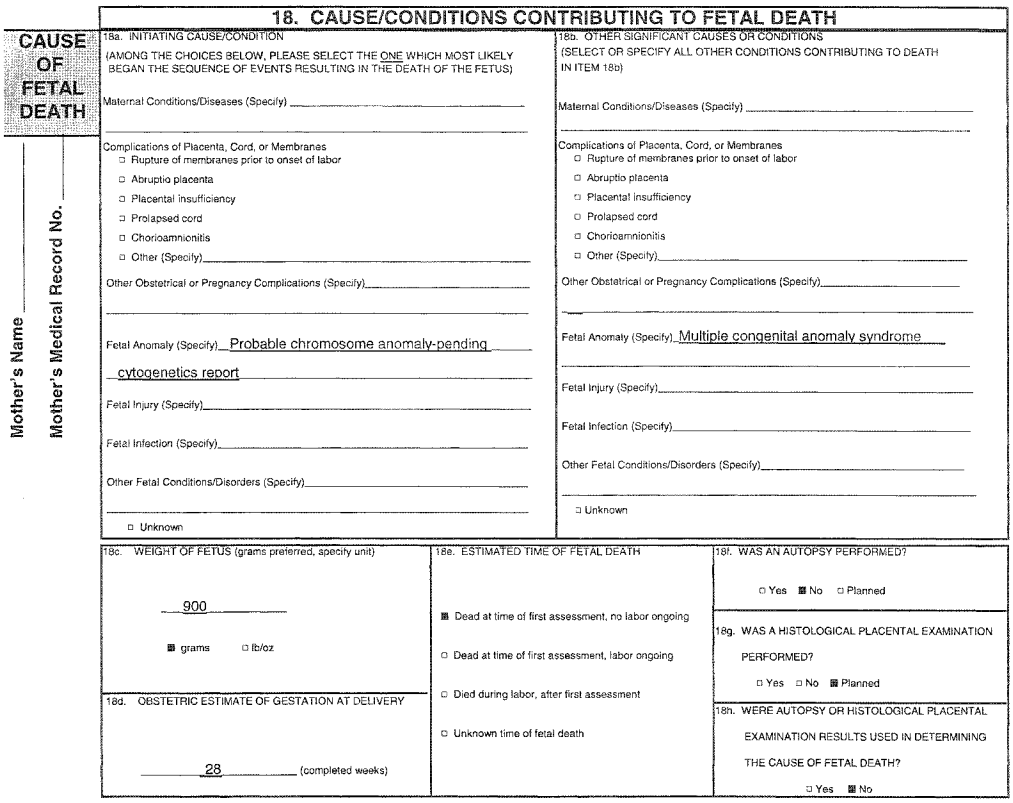
☐ Yes ■ No

Note: The drug(s) should be specified when known.

Case History No. 2

The mother had a normal pregnancy until 28 weeks' gestation when she noticed the absence of fetal movement, which was confirmed by ultrasound. There were no audible fetal heart sounds. Labor was induced and the mother was delivered of a 900-gram fetus, apparently female, delivered after prostaglandin.

The facies was abnormal with depressed nasal bridge, anteverted nostrils, small mouth, small posteriorly rotated ears, and midline frontal bossing. There was an umbilical hernia and a sacral neural tube defect (meningocele).



18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

Mother's Name

Mother's Medical Record No.

18a. INITIATING CAUSE/CONDITION
(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify)

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)

Other Obstetrical or Pregnancy Complications (Specify)

Fetal Anomaly (Specify) Probable chromosome anomaly-pending cytogenetics report

Fetal Injury (Specify)

Fetal Infection (Specify)

Other Fetal Conditions/Disorders (Specify)

☐ Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS
(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify)

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify)

Other Obstetrical or Pregnancy Complications (Specify)

Fetal Anomaly (Specify) Multiple congenital anomaly syndrome

Fetal Injury (Specify)

Fetal Infection (Specify)

Other Fetal Conditions/Disorders (Specify)

☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)

900

■ grams ☐ lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY

28 (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH
- ■ Dead at time of first assessment, no labor ongoing
- ☐ Dead at time of first assessment, labor ongoing
- ☐ Died during labor, after first assessment
- ☐ Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED?
☐ Yes ■ No ☐ Planned

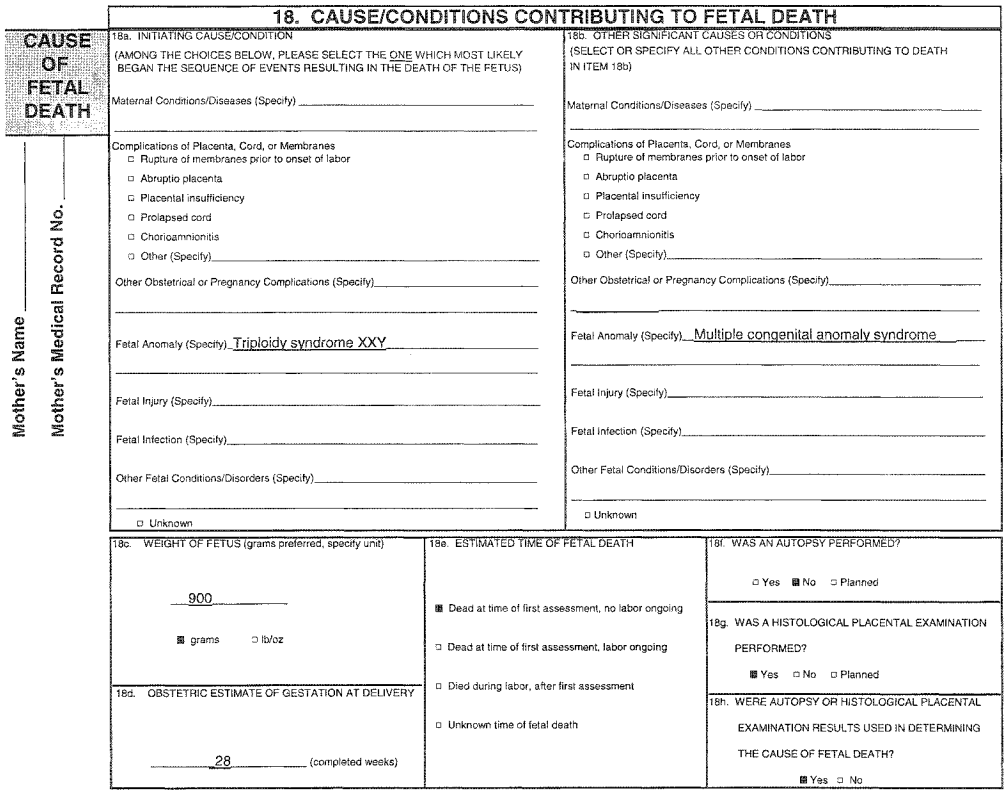
18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?
☐ Yes ☐ No ■ Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?
☐ Yes ■ No

The external genitalia were ambiguous. There was syndactyly of toes two and three, and rockerbottom feet bilaterally. The fingers were short and edematous; there were no flexion creases on the palms of either hand.

Gross autopsy revealed internally that the genitalia were those of a normal male. The adrenals were small. There were several accessory spleens, partial malrotation of the gut, and an atrial septal defect. The placenta had trophoblastic cysts. Tissues (muscle and fetal membranes) were taken for future chromosome analysis.

Two weeks later a chromosome analysis report became available that provided a diagnosis of triploidy, karyotype XXY. A supplemental report of cause of fetal death was filed with the registrar of vital statistics.



18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

Mother's Name

Mother's Medical Record No.

18a. INITIATING CAUSE/CONDITION

(AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify) _____

Other Obstetrical or Pregnancy Complications (Specify) _____

Fetal Anomaly (Specify) Triploidy syndrome XXY

Fetal Injury (Specify) _____

Fetal Infection (Specify) _____

Other Fetal Conditions/Disorders (Specify) _____

☐ Unknown

18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS

(SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)

Maternal Conditions/Diseases (Specify) _____

Complications of Placenta, Cord, or Membranes
- ☐ Rupture of membranes prior to onset of labor
- ☐ Abruptio placenta
- ☐ Placental insufficiency
- ☐ Prolapsed cord
- ☐ Chorioamnionitis
- ☐ Other (Specify) _____

Other Obstetrical or Pregnancy Complications (Specify) _____

Fetal Anomaly (Specify) Multiple congenital anomaly syndrome

Fetal Injury (Specify) _____

Fetal Infection (Specify) _____

Other Fetal Conditions/Disorders (Specify) _____

☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)

900

■ grams ☐ lb/oz

18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY

28 (completed weeks)

18e. ESTIMATED TIME OF FETAL DEATH

■ Dead at time of first assessment, no labor ongoing

☐ Dead at time of first assessment, labor ongoing

☐ Died during labor, after first assessment

☐ Unknown time of fetal death

18f. WAS AN AUTOPSY PERFORMED?

☐ Yes ■ No ☐ Planned

18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?

■ Yes ☐ No ☐ Planned

18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?

■ Yes ☐ No

Common problems in fetal death certification

Uncertainty

Often several acceptable ways of writing a cause-of-death statement exist. Optimally, a certifier will be able to provide a simple description of the initiating cause and other contributing causes that is etiologically clear and to be confident that this is correct. However, realistically, description of the process is sometimes difficult because the certifier is not certain.

In this case, the certifier should think through the causes about which he/she is confident and what possible etiologies could have resulted in these conditions. The certifier should select the causes that are suspected to have been involved and use words such as "probable" or "presumed" to indicate that the description provided is not completely certain. Causes of death on the fetal death report should not include terms such as "prematurity" without explaining the etiology because they have little value for public health or medical research.

Reporting a cause of fetal death as unknown should be a last resort.

When a number of conditions or multiple organ/system failure resulted in death, the physician, medical examiner, or coroner should choose a single condition which most likely began the sequence of events resulting in the fetal death and list the other conditions in 18b of the certification section. "Multiple system failure" could be included as an "other significant cause or condition," but also specify the systems involved to ensure that the detailed information is captured. Maternal conditions may have initiated or affected the sequence that resulted in a fetal death. These maternal conditions should be reported in the cause-of-death statement in addition to the fetal causes.

Avoid ambiguity

Most certifiers will find themselves, at some point, unable to provide a simple description of the process of death. In this situation, the certifier should try to provide an initiating condition, qualify the causes about which he/she is uncertain, and be able to explain the certification chosen.

When conditions such as the following are reported, information about the etiology should be reported if possible:

Unknown	Low birthweight
Prematurity	Intrauterine hypoxia
Immaturity	

If the certifier is unable to determine the etiology of a process such as those shown above, the process must be qualified as being of an unknown, undetermined, probable, presumed, or unspecified etiology so it is clear that a distinct etiology was not inadvertently or carelessly omitted.

Mechanisms of death

Mechanistic terminal events such as respiratory failure preferably should not be the initiating cause in a cause-of-death statement. Please enter the condition that triggered the events resulting in this terminal event as the initiating cause.

Completing the Report of Fetal Death

These instructions pertain to the 2003 revision of the U.S. Standard Report of Fetal Death. Information for the U.S. Standard Report of Fetal Death is collected using worksheets (see appendixes D and E). Although the hospital usually completes the facility worksheet and the mother completes the patient's worksheet, under certain circumstances the medical examiner or coroner may be responsible for completing them (22). Therefore, instructions for completing all items on the worksheets are included; information on the worksheets subsequently is transferred to the report form.

FACILITY WORKSHEET

These instructions pertain to the 2003 revision of the U.S. Standard Report of Fetal Death. Information needed to complete the facility worksheet should come from the medical records. Please see the "Guide to Completing the Facility Worksheets for the Certificate of Live Birth and Report of Fetal Death" for more detailed instructions (21).

1. Facility name (If not institution, give street and number)

Type or print the name of the facility where the fetal death occurred. If this fetal death did not occur in a hospital or freestanding birthing center, type or print the street and number of the place where the fetal death occurred. If the fetal death occurred en route, (that is, in a moving conveyance), type or print the city, town, village, or location where the fetus was first removed from the conveyance. If the fetal death occurs in international airspace or waters, enter "plane" or "boat."

2. Facility I.D.

Print the facility's National Provider Identification Number (NPI) or, if no NPI, the State hospital code.

3. City, Town, or Location of delivery

Type or print the name of the city, township, village or other location where the fetal death occurred. If the fetal death occurred in international waters or airspace, enter the location where the fetus was first removed from the boat or plane.

4. County of delivery

Type or print the name of the county where the fetal death occurred. If the fetal death occurred in international waters or airspace, enter the name of the county where the fetus was first removed from the boat or plane.

5. Place of delivery

Check the box that best describes the type of place where the fetal death occurred. If the type of place is not known, type or print "unknown" in the space.

☐ Hospital
☐ Freestanding birthing center
☐ Home delivery
Planned to deliver at home ☐ Yes ☐ No
☐ Clinic/Doctor's Office
☐ Other (specify) _____

Items 1–5 identify the place of delivery, which is used to study relationships of hospital and nonhospital pregnancy terminations. It is also used by many States to produce statistical data by specific facility. Information on place of delivery, together with residence information, provides data to evaluate the utilization and distribution of health services.

6a. Date of first prenatal care visit (Prenatal care begins when a physician or other health professional first examines and/or counsels the pregnant woman as part of an ongoing program of care for the pregnancy)

Print or type the month, day, and year of the first prenatal care visit. Complete all parts of the date that are available; leave the rest blank.

If it is not known whether the patient had prenatal care, or if she had care but the date of the first visit is not known, write "unknown."

If the patient had no prenatal care, check the "no prenatal care" box and leave the date blank.

This item identifies when during the pregnancy the patient entered prenatal care and is needed as the basis for measures of how soon patients initiate prenatal care and for measures of the appropriate utilization of services. This information is also used to study the impact of prenatal care on pregnancy outcome.

6b. Date of last prenatal care visit (Enter the date of the last visit recorded in the patient's prenatal records)

Print or type the month, day, and year of the last prenatal care visit recorded in the records. Complete all parts of the date that are available; leave the rest blank.

If it is not known whether the patient had prenatal care, or if she had care but the date of the last visit is not known, write "unknown."

If the patient had no prenatal care, check the "no prenatal care" box and leave the date blank.

7. Total number of prenatal care vists for this pregnancy (Count only those visits in the record. If none, enter "0.")

If the patient had no prenatal care, type or print "0" in the space. Note: the "no prenatal care" box should also be checked in items 6a and 6b.

If the patient had prenatal care but the number of visits is not known, type or print "unknown" in the space.

Type or print the total number of prenatal care visits for this pregnancy in this space.

This item is needed as the basis for measures of utilization of prenatal care services. It is also used in conjunction with "Date of First Prenatal Care Visit" to assess the adequacy of prenatal care.

8. Date last normal menses began

Print or type all parts of the date that the patient's last normal menses began.

If no parts of the date are known, write in "unknown."

This item provides information on the length of gestation, which can be associated with weight of fetus to determine the maturity of the fetus at delivery. It is also associated with infant morbidity and mortality, and is important in medical research.

9. Number previous live births now living (For multiple deliveries, includes live born infants born before this fetus in the multiple set)

When completing this item, do not include this fetal death; include all previous live-born infants. For multiple deliveries, include all live-born

infants preceding this fetal death in the delivery. If first delivered in a multiple delivery, do not include this fetus. If second delivered, include the first live born, etc.

Type or print the number of previous born infants still living in item 9.

The information in items 9–14 are essential for determining live-birth and total-birth order, which are important in studying trends in childbearing and child spacing. The information is useful in studying health problems associated with birth order. The dates of last live birth and last other pregnancy outcome permit the calculation of intervals between live births and fetal deaths and between pregnancies. This information allows researchers to analyze the relationship of various maternal characteristics and pregnancy outcomes with birth and pregnancy intervals.

10. Number of previous live births now dead (For multiple deliveries, includes live born infants born before this fetus in the multiple set who subsequently died)

When completing this item, do not include this fetal death but include all previous live-born infants who are now dead.

Please type or print the number of infants born alive but now dead in item 10.

11. Date of last live birth

If the date of delivery is not known, type or print "unknown" in the space.

12. Total number of other pregnancy outcomes (Include fetal losses of any gestational age—spontaneous losses, induced losses, and/or ectopic pregnancies. If this was a multiple delivery, include all fetal losses delivered before this fetus in the pregnancy.)

If there were none, check the "none" box. If the number is unknown, type or print "unknown" in the space.

13. Date of last other pregnancy outcome (Date when last pregnancy which did not result in a live birth ended)

If the date of the event is not known, type or print "unknown" in the space.

14. Risk factors in this pregnancy

The patient may have more than one risk factor; check all that apply. If the patient had none of the risk factors, check the "none of the above" box.

If it is unknown whether the patient had any of the risk factors, type or print unknown.

Diabetes - (Glucose intolerance requiring treatment)

- ☐ Prepregnancy - (Diagnosis prior to this pregnancy)
- ☐ Gestational - (Diagnosis in this pregnancy)

Hypertension - (Elevation of blood pressure above normal for age, gender, and physiological condition)

- ☐ Prepregnancy (Chronic) - (Diagnosis prior to this pregnancy)
- ☐ Gestational - (PIH, preeclampsia) (Diagnosis during this pregnancy)
- ☐ Eclampsia - (Diagnosis during this pregnancy)

☐ Previous preterm births - (History of pregnancy(ies) terminating in a live birth of less than 37 completed weeks of gestation)

☐ Other previous poor pregnancy outcome - (Includes perinatal death, small for gestational age/intrauterine growth restricted birth) (History of pregnancies continuing into the 20th week of gestation and resulting in any of the listed outcomes. Perinatal death includes fetal and neonatal deaths.)

☐ Pregnancy resulted from infertility treatment - (Any assisted reproduction treatment whether artificial insemination, drugs (e.g., Clomid, Pergonal) or technical procedures (e.g., in vitro fertilization) used to initiate the pregnancy)

☐ Patient had a previous cesarean delivery - (Previous operative delivery by extraction of the fetus, placenta and membranes through an incision in the maternal abdominal and uterine walls)
If Yes, how many _____

☐ None of the above

The risk factors contribute to the national data set and provide more specific information regarding fetal death events. For example, diabetes information is associated with macrosomia, cesarean delivery, metabolic abnormalities, and congenital anomalies. Management during pregnancy can reduce poor maternal and infant outcomes. Hypertension is associated with increased risk for preterm delivery, intrauterine growth restriction, maternal and perinatal morbidity and mortality. Vaginal bleeding during the pregnancy prior to the onset of labor is associated with increased risk for multiple adverse pregnancy outcomes. Pregnancy resulting from infertility treatment increases the incidence of multiple births.

15. Infections present and/or treated during this pregnancy (Present at start of pregnancy or confirmed diagnosis during pregnancy with or without documentation of treatment)

If the prenatal record is not available and the information is not available from other medical records, write "unknown" in the space. More than one infection may be checked.

☐ Gonorrhea - (a diagnosis of or positive test for *Neisseria gonorrhoeae*)
☐ Syphilis - (also called lues - a diagnosis of or positive test for *Treponema pallidum*)
☐ Chlamydia - (a diagnosis of or positive test for *Chlamydia trachomatis*
☐ Listeria (LM) - (a diagnosis of or positive test for *Listeria monocytogenes*)
☐ Group B Streptococcus (GBS) - (a diagnosis of or positive test for *Streptococcus agalactiae* or group B streptococcus)
☐ Cytomegalovirus (CMV) - (a diagnosis of or positive test for *cytomegalovirus*)
☐ Parvo virus (B19) - (a diagnosis of or positive test for parvovirus B19)
☐ Toxoplasmosis (Toxo) - (a diagnosis of or positive test for *Toxoplasma gondii)*
☐ None of the above
☐ Other (specify) _____

All of the listed infections are known to cause concomitant fetal and/or subsequent neonatal infection and thus have significant public health implications. In addition, there is no current national reporting system for these infections that focuses on the prevalence of perinatal transmission.

16. Date of delivery

Print or type the month, day, and 4-digit year. Standard numeric abbreviations are acceptable.

This item is used in conjunction with the date the last normal menses began to calculate the length of gestation, which is an essential element in the study of low birth weight deliveries.

17. Time of delivery

Print or type the hour and minute of birth using a 24–hour clock. If the time of delivery is not known, enter "unknown" in the space. The time recorded should be the exact time when the delivery is complete.

This item documents the exact time of delivery for various legal uses, such as the order of delivery in plural deliveries. When the delivery occurs around

midnight, the exact hour and minute may affect the date of death. For deliveries occurring at the end of the year, the hour and minute affect not only the day but also the year of death.

18. Name and title of person completing report

This item is to be completed by the facility. If the delivery did not occur in a facility, it is to be completed by the attendant or certifier.

Please print or type the name of the person who attended the delivery and their National Provider Identification (NPI) number.

If the attendant does not have an NPI number, type or print "none." If the attendant should have an NPI number but it is unknown, type or print "unknown."

19. Date report completed

Print or type the month, day, and 4-digit year. Standard numeric abbreviations are acceptable.

20. Was the mother transferred to this facility for maternal medical or fetal indications for delivery? (Transfers include hospital to hospital, birth facility to hospital, etc.)

Check "Yes" if the patient was transferred from another facility to this one, and enter the name of the facility. If the name of the facility is not known, print or type "unknown."

21. Attendant's name, title, and NPI

The attendant at delivery is the individual physically present at the delivery who is responsible for the delivery. For example, if an intern or nurse-midwife delivers a fetus under the supervision of an obstetrician who is present in the delivery room, the obstetrician is to be reported as the attendant.

Please print or type the name of the person who attended the delivery and their NPI number.

If the attendant does not have an NPI number, type or print "none." If the attendant should have an NPI number but it is unknown, type or print "unknown."

Check one box to specify the attendant's title. If the "Other (Specify)" box is checked, please print or type the title of the attendant. Examples include: nurse, father, police officer, EMS technician, etc.

☐ M.D.
☐ D.O.
☐ CNM/CM - (Certified Nurse Midwife/Certified Midwife)
☐ Other Midwife - (Midwife other than CNM/CM)
☐ Other (specify) _____

22. Mother's weight at delivery

If the patient delivery weight is unknown, print or type "unknown" in the item's space.

Record weight in whole pounds only. Do not include fractions.

23a–e. METHOD OF DELIVERY (The physical process by which the complete delivery of the fetus was effected) (Complete 23a, b, c, d, and e)

A response to each section is required.

If any of the information for an individual section is not known at this time, print or type "unknown" in the space for that particular section.

23a. Was delivery with forceps attempted but unsuccessful? (Obstetric forceps were applied to the fetal head in an unsuccessful attempt at vaginal delivery.)

☐ Yes ☐ No

23b. Was delivery with vacuum extraction attempted but unsuccessful? (Ventouse or vacuum cup was applied to the fetal head in an unsuccessful attempt at vaginal delivery.)

☐ Yes ☐ No

23c. FETAL PRESENTATION AT DELIVERY (Check one)

☐ Cephalic - (Presenting part of the fetus as vertex, occiput anterior (OA), occiput posterior (OP))
☐ Breech - (Presenting part of the fetus as breech, complete breech, frank breech, footling breech)
☐ Other - (Any other presentation not listed above)

23d. Final route and method of delivery (Check one)

☐ Vaginal/Spontaneous - (Delivery of the entire fetus through the vagina by the natural force of labor with or without manual assistance from the delivery attendant.)

☐ Vaginal/Forceps -(Delivery of the fetal head through the vagina by application of obstetrical forceps to the fetal head.)

☐ Vaginal/Vacuum - (Delivery of the fetal head through the vagina by application of a vacuum cup or ventouse to the fetal head.)

☐ Cesarean - (Extraction of the fetus, placenta and membranes through an incision in the maternal abdominal and uterine walls.)

If cesarean, was a trial of labor attempted? (Labor was allowed, augmented or induced with plans for a vaginal delivery.)

☐ Yes ☐ No

23e. Hysterotomy/Hysterectomy

A hysterotomy is an incision into the uterus extending into the uterine cavity. It may be performed vaginally or transabdominally. A hysterotomy is applicable to fetal deaths only.

A hysterectomy is the surgical removal of the uterus, which may be performed abdominally or vaginally.

☐ Yes ☐ No

The data collected in items 23a–e provide information on current obstetric practices and outcomes. Attempted forceps/attempted vacuum data are needed to evaluate indications for cesarean delivery and for correlation with reported adverse neonatal outcomes. The final route and method of delivery portion will allow for a more complete report of the obstetric intervention used to effect delivery. Cesarean data are needed to evaluate the impact of the current emphasis on vaginal delivery in pregnancies subsequent to a cesarean delivery.

24. Maternal morbidity (Serious complications experienced by the patient associated with labor and delivery) (Check all that apply)

☐ Maternal transfusion - (Includes infusion of whole blood or packed red blood cells associated with labor and delivery.)

☐ Third or fourth degree perineal laceration - (3° laceration extends completely through the perineal skin, vaginal mucosa, perineal body and anal sphincter. 4° laceration is all of the above with extension through the rectal mucosa.)

☐ Ruptured uterus - (Tearing of the uterine wall.)

☐ Unplanned hysterectomy - (Surgical removal of the uterus that was not planned prior to admission. Includes anticipated but not definitively planned hysterectomy.)

☐ Admission to intensive care unit - (Any admission of the patient to a facility/unit designated as providing intensive care.)

☐ Unplanned operating room procedure following delivery - (Any transfer of the patient back to surgical area for an operative procedure that was not planned prior to admission for delivery. Excludes postpartum tubal ligations.)

☐ None of the above

This item has been added to the report because there is currently no national system of data collection on maternal morbidity and thus no easy mechanism for correlating pregnancy factors on a national basis. Several of the elements included are currently used as clinical quality indicators in various accreditation systems. Having a national database expands the information for assessing perinatal health care delivery systems. Third or fourth degree perineal laceration information may have implications for future problems with anal incontinence—especially for older patients. Ruptured uterus data may indicate whether there are increases in incidences related to vaginal birth after previous c-section. Unplanned hysterectomy, admission to intensive care unit, and unplanned procedure following delivery data are useful for quality assurance purposes.

25. Weight of fetus (Grams) (Do not convert lb/oz to grams)

Wherever possible, weigh and report the fetus' weight in grams. Report weight in pounds and ounces (lb/oz) only if weight in grams is not available. DO NOT convert weight from lb/oz to grams. Please specify whether grams or lb/oz are used.

If the birthweight is not known, print or type "unknown" in the space.

This is the single most important characteristic associated with the viability of the fetus. It is also related to prenatal care, marital status, socioeconomic status, and other factors associated with the delivery of the fetus. It is useful in evaluating the effectiveness of health care.

26. Obstetric estimate of gestation at delivery (Completed weeks)

Please enter the obstetric estimate of the fetus' gestation.

If the obstetric estimate of gestation is unknown, print or type "unknown" in the space. Do not complete this item based on the fetus' date of delivery and the patient's date of LMP.

This item is intended to provide an alternate estimate of gestational age when the date last normal menses began is missing or apparently incompatible with the weight of the fetus.

27. Sex

Print or type whether the fetus is male, female, or if the sex of the fetus is not yet determined. If the sex is unknown print or type "unknown" in the space.

This information is used to measure fetal and perinatal mortality by sex. This information helps identify differences in the impact of environmental and biological factors between the sexes.

28. Plurality

Print or type the plurality of this pregnancy (e.g., single, twin, triplet, etc.). Include all products of the pregnancy, that is, all live births and fetal deaths delivered at any point during the pregnancy. ("Reabsorbed" fetuses, those which are not "delivered"—expulsed or extracted from the patient—should not be counted.)

29. Set order (IF NOT SINGLE DELIVERY)

If this is a singleton delivery, leave this item blank. For multiple deliveries, print the order that this fetus was delivered in the set, e.g., first, second, third, etc. Count all live births and fetal deaths at any point in the pregnancy.

30. If not single delivery, specify number of fetal deaths in this delivery

If this is a singleton delivery, leave this item blank. For multiple deliveries, print or type the number of fetal deaths in this delivery.

The information from items 28–30 is used to study survival differences for multiple births based on order of delivery.

31. Congenital anomalies of the fetus (Malformations of the fetus diagnosed prenatally or after delivery) (Check all that apply)

Anomalies diagnosed should be recorded regardless of whether they contributed to fetal death.

☐ Anencephaly - (Partial or complete absence of the brain and skull. Also called anencephalus, acrainia, or absent brain. Also includes fetuses with craniorachischisis (anencephaly with a contiguous spine defect).)

☐ Meningomyelocele/Spina bifida - (Spina bifida is herniation of the meninges and/or spinal cord tissue through a bony defect of spine closure. Meningomyelocele is herniation of meninges and spinal cord tissue. Meningocele (herniation of the meninges without spinal cord tissue) should also be included in this category. Both open and closed (covered with skin) lesions should be included. Do not include Spina bifida occulta (a midline bony spine defect without protrusion of the spinal cord or meninges).)

☐ Cyanotic congenital heart disease - (Congenital heart defects which cause cyanosis. Includes but is not limited to: transposition of the great arteries (vessels), tetratology of Fallot, pulmonary or pulmonic valvular atresia, truncus arteriosus, total/partial anomalous pulmonary venous return with or without obstruction.)

☐ Congenital diaphragmatic hernia - (Defect in the formation of the diaphragm allowing herniation of abdominal organs into the thoracic cavity.)

☐ Omphalocele - (A defect in the anterior abdominal wall, accompanied by herniation of some abdominal organs through a widened umbilical ring into the umbilical stalk. The defect is covered by a membrane (different from gastroschisis, see below), although this sac may rupture. Also called exomphalos. Do not include umbilical hernia (completely covered by skin) in this category.)

☐ Gastroschsis - (An abnormality of the anterior abdominal wall, lateral to the umbilicus, resulting in herniation of the abdominal contents directly into the amniotic cavity. Differentiated from omphalocele by the location of the defect and absence of a protective membrane.)

☐ Limb reduction defect (excluding congenital amputation and dwarfing syndromes) - (Complete or partial absence of a portion of an extremity associated with failure to develop.)

☐ Cleft Lip with or without Cleft Palate - (Incomplete closure of the lip. May be unilateral, bilateral, or median.)

☐ Cleft Palate alone - (Incomplete fusion of the palatal shelves. May be limited to the soft palate or may extend into the hard palate. Cleft palate in the presence of cleft lip should be included in the "Cleft Lip with or without Cleft Palate" category above.)

☐ Downs Syndrome (Trisomy 21)

- ☐ Karyotype confirmed
- ☐ Karyotype pending

☐ Suspected chromosomal disorder - (Includes any constellation of congenital malformations resulting from or compatible with known syndromes caused by detectable defects in chromosome structure.)

- ☐ Karyotype confirmed
- ☐ Karyotype pending

☐ Hypospadias - (Incomplete closure of the male urethra resulting in the urethral meatus opening on the ventral surface of the penis. Includes first degree on the glans ventral to the tip, second degree in the coronal sulcus, and third degree on the penile shaft.)

☐ None of the anomalies listed above.

The items selected for this section will provide more specific information regarding fetal death events. Identifying the conditions and contributing causes of fetal death is necessary to understanding why they occur and may lead to possible prevention of fetal loss in the future.

32. Method of disposition

☐ Burial
☐ Cremation
☐ Hospital Disposition
☐ Donation
☐ Removal from State
☐ Other (Specify) _____

Check the box corresponding to the method of disposition of the fetus.

This information indicates whether the fetus was disposed of as required by law. It also serves to help locate the fetus in case exhumation, autopsy, or transfer is required later.

33–34. CAUSE OF FETAL DEATH

Detailed instructions for the cause of fetal death section, together with examples of properly completed records, are contained in the section on completing the cause of fetal death. These items are to be completed by the person whose name appears in item 21.

The cause-of-death section consists of two parts. The initiating cause/condition (item 33) is for reporting a single condition that most likely began the sequence of events resulting in the death of the fetus. Other significant causes or conditions (item 34) include all other conditions contributing to death. These conditions may be triggered by the initiating cause (item 33) or causes that are not among the sequence of events triggered by the initiating cause (item 33).

The cause-of-death information should be the certifier's best medical opinion. Report a specific condition in the space most appropriate to the given situation. A condition can be listed as "probable" if it has not been definitively diagnosed. In reporting the causes of fetal death, conditions in the fetus or mother, or of the placenta, cord, or membranes, should be reported if they are believed to have adversely affected the fetus.

Cause of fetal death should include information provided by the pathologist if an autopsy or other type of postmortem examination was done. If microscopic examinations for a fetal death are still pending at the time the report is filed, the medical examiner or coroner should report the additional information as soon as it is available.

This item provides medical information for ranking causes of fetal death and for analyzing the conditions leading to fetal death. Information on cause of fetal death is correlated with information from other items on the report, such as length of gestation and prenatal care.

35. Was an autopsy performed?

Enter "Yes" if a partial or complete autopsy was performed. Otherwise, enter "No."

An autopsy is important in giving additional insight into the conditions that led to death. This additional information is particularly important when the cause is not immediately clear.

36. Was a histological placental examination performed?

Enter "Yes" if any histological placental examination was performed. Otherwise, enter "No."

A histological placental examination provides additional information about the conditions that led to death. This may provide insight into the appropriate causes of death to report.

37. Were autopsy or histological placental examination results used in determining the cause of fetal death?

If "No" is checked for both 35 and 36, leave 37 blank. If "Yes" is checked for either 35 or 36, complete item 37.

This information assists in determining whether information was available to assist in ascertaining the cause of death. Knowing whether the exam results were available gives insight into the quality of the cause-of-death data.

38. Estimated time of fetal death

Indicate when the fetus died by specifying one choice:

☐ Dead at time of first assessment, no labor ongoing
☐ Dead at time of first assessment, labor ongoing
☐ Died during labor, after first assessment
☐ Unknown time of fetal death

This item is used as a check to ensure that the delivery was properly reported as a fetal death and was not a live birth. It also gives information on care.

PATIENT'S WORKSHEET FOR THE REPORT OF FETAL DEATH

1. NAME OF INFANT/FETUS (OPTIONAL) First, Middle, Last, Suffix

2. CURRENT LEGAL NAME OF PATIENT

Type or print the first, middle, and last name of the patient. This is the patient's current legal name.

3. USUAL LOCATION OF PATIENT'S HOUSEHOLD/RESIDENCE

These items refer to the patient's residence address, not her postal address. Do not include post office boxes or rural route numbers.

If the patient is a U.S. resident, print the U.S. State or territory where the patient lives. If the patient is a U.S. resident, do not record "U.S."

If the patient is a Canadian resident, print the name of the province or territory followed by "/ Canada."

If the patient is not a resident of the United States, its territories, or Canada, print the name of the patient's country of residence.

Print the county, city or town or location where the patient lives. If the patient is not a U.S. resident, leave these items blank.

Print the patient's street name and number, apartment or room number, and ZIP Code. If the patient is not a U.S. resident, leave these items blank. For the street name, be sure to include any prefixes, directions, and apartment numbers.

Examples: South Main Street
Walker Street NW

4. INSIDE CITY LIMITS?

Check whether the patient's residence is inside of city or town limits. If it is not known if the residence is inside the city limits, print "unknown."

If the patient is not a U.S. resident, leave this item blank.

5. PATIENT'S MAILING ADDRESS

This item refers to the patient's postal address. Be sure to include post office boxes or rural route numbers.

If the patient is a U.S. resident, print the U.S. State or territory where the patient gets her mail. If the address is in the United States, do not record "U.S."

If the patient is a Canadian resident, print the name of the province or territory followed by "/ Canada."

If the patient is not a resident of the United States, its territories, or Canada, print the name of the patient's country of residence.

Print the county, city or town, or location where the patient lives. If the patient is not a U.S. resident, leave these items blank.

Print the patient's street name and number, apartment or room number, and ZIP Code. If the patient is not a U.S. resident, leave these items blank.

For the street name, be sure to include any prefixes, directions, and apartment numbers.

Examples: South Main Street
Walker Street NW

6. PATIENT'S BIRTHDATE

Print or type the month, day, and 4-digit year of birth. Standard numeric abbreviations are acceptable.

7. PATIENT'S BIRTHPLACE

Print or type the name of the U.S. State or territory in which the patient was born. If she was born outside of the United States, print or type the name of the country in which she was born. United States territories are Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Northern Marianas. If the patient's birthplace is not known, print or type "unknown" in the space. (NOTE: Canadian provinces and territories are not individually identified for place of birth.)

8. PATIENT'S EDUCATION

Check the box that best describes the highest degree or level of schooling completed at the time of delivery. If no box is checked, write "unknown" in the space.

☐ 8th grade or less
☐ 9th–12th grade; no diploma
☐ High school graduate or GED completed
☐ Some college credit, but no degree
☐ Associate degree (eg., AA, AS)
☐ Bachelor's degree (eg., BA, AB, BS)
☐ Master's degree (eg., MA, MS, MEng, MEd, MSW, MBA)
☐ Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)

Education is highly related to fertility, health practices, and pregnancy outcome. It is also used as an indicator of socioeconomic status.

9. HISPANIC ORIGIN

Based on the patient's response, enter all the corresponding boxes and fill in any literal (written) responses on the worksheet. The patient is encouraged to select only one response. If the patient has chosen more than one response, check all that she has selected. For example, if both Mexican and Cuban are selected, check both responses. If the patient indicates an ethnic origin not on the list, record it in the "Specify" space. Enter the patient's response in this space even if it is not a Hispanic origin. If the patient did not respond, type or print "unknown." Check the "No" box if the patient is not Spanish/Hispanic/Latina.

☐ No, not Spanish/Hispanic/Latina
☐ Yes, Mexican, Mexican American, Chicana
☐ Yes, Puerto Rican
☐ Yes, Cuban
☐ Yes, Other Spanish/Hispanic/Latina (e.g., Spaniard, Salvadoran, Dominican, Columbian) (Specify) _____

Each question, Race and Hispanic origin, should be asked independently. "Hispanic" is not a race, and a decedent of Hispanic origin may be of any race. Do not leave item 9 blank. "Hispanic" is a self-designated classification for people whose origins are from Spain, the Spanish-speaking countries of Central or South America, the Caribbean, or those identifying themselves generally as Spanish or Spanish American. Origin can be viewed as ancestry, nationality, or country of birth of the person or person's parents or ancestors prior to their arrival in the United States. Although the prompts include the major Hispanic groups, other groups may be specified under "Other."

10. RACE

Based on the patient's response, select all the corresponding boxes on the worksheet and fill in any literal (written) responses exactly as given

regardless of whether or not any boxes are marked. If more than one response has been chosen, check all selected; for example, if both "Black" and "Chinese" are checked, select both responses. If there is no response, type or print "unknown."

☐ White
☐ Black or African American
☐ American Indian or Alaskan Native
(name of 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) _____

Each question, Race and Hispanic origin, should be answered independently. Do not leave item 10 blank. If there is no box for the response, check the "Other" box, and enter the response even if it is not a race.

American Indian and Alaska Native refer only to those native to North and South America (including Central America) and does not include Asian Indian. Please specify the name of enrolled or principal tribe (e.g., Navajo, Cheyenne, etc.) for the American Indian or Alaska Native.

For Asians and Pacific Islanders, enter the national origin of the patient. For Asians check Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese, or specify other Asian group; for Pacific Islanders check Native Hawaiian, Guamanian or Chamorro, Samoan, or specify Other Pacific Islander.

If more than one race is indicated, enter each race (e.g., Samoan-Chinese-Filipino or White, American Indian).

11. PATIENT EVER MARRIED?

☐ Yes
☐ No

12. PATIENT'S NAME PRIOR TO FIRST MARRIAGE

First, Middle, Last, Suffix

13. WAS PATIENT MARRIED DURING PREGNANCY?

☐ Yes
☐ No

If the patient is currently married or married at time of conception or any time between conception and the fetal death, check the "Yes" box.

If the patient is not currently married or was not married at the time of conception or any time between conception and the fetal death, check the "No" box.

The information on marital status in items 11–13 is used to monitor the substantial differences in fertility patterns and pregnancy outcomes for married and unmarried women. This information can help to identify the need for additional supportive public health and other services.

14. LEGAL NAME OF BABY'S FATHER

First, Middle, Last, Suffix

15. FATHER'S DATE OF BIRTH

Print or type the month, day, and 4-digit year of birth.

If the father's Date of Birth is unknown, print "unknown." If part of the Date of Birth is unknown, enter the known parts and leave the remaining parts blank.

16. FATHER'S BIRTHPLACE

Print or type the name of the U.S. State or territory in which the father was born. If he was born outside of the United States, print or type the name of the country in which he was born. U.S. territories are Puerto Rico, U.S. Virgin Islands, Guam, American Samoa, and Northern Marianas. If the father's birthplace is not known, print or type "unknown" in the space. (NOTE: Canadian provinces and territories are not individually identified for his place of birth.)

17. DID PATIENT RECEIVE WIC (WOMEN, INFANTS and CHILDREN) FOOD FOR HERSELF DURING THIS PREGNANCY?

This item is to be completed based on information obtained from the patient. Either the "Yes" or "No" box must be checked.

If the patient's worksheet indicates "unknown," print or type "unknown."

This item was added as an indicator of program participation as well as socioeconomic status. WIC is the nutrition program for Women, Infants, and Children and gives pregnant women and/or their children food, checks, or vouchers for food.

18. PATIENT'S HEIGHT

Enter the patient's height in feet and inches. If the record indicates height in fractions such as 5 feet 6 and one-half inches, truncate and enter 5 feet, 6 inches.

If the patient's height is unknown, print or type "unknown" in the space.

19. PATIENT'S PREPREGNANCY WEIGHT

If the patient's prepregnancy weight is unknown, print or type "unknown" in the item's space.

Record weight in whole pounds only; do not include fractions.

20. CIGARETTE SMOKING BEFORE AND DURING PREGNANCY

This item is to be completed by the facility based on information obtained from the patient. If the delivery did not occur in a facility, it is to be completed by the attendant or certifier based on information obtained from the patient.

If the patient's worksheet indicates "unknown" or "refused," print or type "unknown." Enter either the average number of cigarettes or the average number of packs of cigarettes smoked for each time period. If none, enter "0."

	# of cigarettes		# of packs
3 months before pregnancy	_____	OR	_____
first 3 months of pregnancy	_____	OR	_____
second 3 months of pregnancy	_____	OR	_____
last 3 months of pregnancy	_____	OR	_____

This item provides information on changes in tobacco use before and during pregnancy, which has an important impact on pregnancy outcome.

Any use of trade names in this handbook is for identification purposes only and does not imply endorsement by the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.

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21. National Center for Health Statistics. Guidelines for reporting occupation and industry on death certificates. Hyattsville, Maryland: National Center for Health Statistics. http://www.cdc.gov/nchs/data/misc/hb_occup.pdf. Jan 3, 2003.
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Appendixes

Appendix A

U.S. Standard Certificate of Death

U.S. STANDARD CERTIFICATE OF DEATH

LOCAL FILE NO. **STATE FILE NO.**

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): John Leonard Palmer	2. SEX: Male; 3. SOCIAL SECURITY NUMBER: 123-45-6789
4a. AGE-Last Birthday (Years): 92; 4b. UNDER 1 YEAR (Months / Days); 4c. UNDER 1 DAY (Hours / Minutes); 5. DATE OF BIRTH (Mo/Day/Yr): April 23, 1911	6. BIRTHPLACE (City and State or Foreign Country): San Francisco, CA
7a. RESIDENCE-STATE: Maryland; 7b. COUNTY: Frederick; 7c. CITY OR TOWN: Thurmont	
7d. STREET AND NUMBER: 245 Lone View Road; 7e. APT. NO.; 7f. ZIP CODE: 20212-1234; 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): Sheila Marie Sonner	
11. FATHER'S NAME (First, Middle, Last): Stanley Leonard Palmer	12. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last): Lorraine Ellen Russell
13a. INFORMANT'S NAME: Sheila Marie Palmer; 13b. RELATIONSHIP TO DECEDENT: Wife	13c. MAILING ADDRESS (Street and Number, City, State, Zip Code): 245 Lone View Road, Thurmont, MD 20212-1234
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): Mountain Memorial Hospital	16. CITY OR TOWN, STATE, AND ZIP CODE: Frederick; 17. COUNTY OF DEATH: Frederick
18. METHOD OF DISPOSITION: ■ Burial ☐ Cremation ☐ Donation ☐ Entombment ☐ Removal from State ☐ Other (Specify)	19. PLACE OF DISPOSITION (Name of cemetery, crematory, other place): Wesley Memorial Cemetery
20. LOCATION-CITY, TOWN, AND STATE: Frederick	21. NAME AND COMPLETE ADDRESS OF FUNERAL FACILITY: Boone and Sons Funeral Home, 475 E. Main Street, Frederick, Maryland 20216-3456
22. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT: Robert J. Boone	23. LICENSE NUMBER (Of Licensee): 2569114

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): June 20, 2003; 25. TIME PRONOUNCED DEAD: 0310
26. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when applicable): Julia R. Kovar, M.D.	27. LICENSE NUMBER: 624998075; 28. DATE SIGNED (Mo/Day/Yr): June 20, 2003
29. ACTUAL OR PRESUMED DATE OF DEATH (Mo/Day/Yr) (Spell Month): June 20, 2003	30. ACTUAL OR PRESUMED TIME OF DEATH: 0300; 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. Pulmonary embolism	Minutes
Sequentially list conditions, if any, leading to the cause listed on line a. Enter the	Due to (or as a consequence of): b. Congestive heart failure	4 days
UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) **LAST**	Due to (or as a consequence of): c. Acute myocardial infarction	7 days
	Due to (or as a consequence of): d. Chronic ischemic heart disease	8 years

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

Diabetes mellitus, Hypertension

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)

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: Edward M. Stone, M.D.

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

Edward Matthew Stone, M.D., 23 Porter Drive, Frederick, Maryland 29885-6789

	47. TITLE OF CERTIFIER	48. LICENSE NUMBER	49. DATE CERTIFIED (Mo/Day/Yr)	50. FOR REGISTRAR ONLY- DATE FILED (Mo/Day/Yr)
	M.D.	1299654	June 22, 2003	June 23, 2003

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) Cherokee

- ☐ 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)

Public accountant

55. KIND OF BUSINESS/INDUSTRY

Self-employed

Appendix B
Decedent's Educational Level Selection Card

Decedent's Formal Education Level

What was the highest degree or level of school the decedent COMPLETED? Choose only ONE. If the decedent is currently enrolled, mark the previous grade or highest degree received.

A. 8th grade or less
B. 9th–12th grade; no diploma
C. High School Graduate or GED completed
D. Some college credit, but no degree
E. Associate Degree (e.g., AA, AS)
F. Bachelor's Degree (e.g., BA, AB, BS)
G. Master's Degree (e.g., MA, MS, MEng, MEd, MSW, MBA)
H. Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD)

Appendix C

Race and Hispanic Origin Selection Cards

Decedent's Hispanic Origin Selection Card

Please review all the responses below. Please pick the response that best describes whether the decedent is Spanish/Hispanic/Latino. Choose the NO response if the decedent is not Spanish/Hispanic/Latino.

A. No, Not Spanish/Hispanic/Latino
B. Yes, Mexican, Mexican American, Chicano
C. Yes, Puerto Rican
D. Yes, Cuban
E. Yes, Other Spanish/Hispanic/Latino
If your choice is E. (Other Spanish/Hispanic/Latino) please specify.

Decedent's Race(s) Selection Card

Decedent's Race(s)

Which item(s) below best describe what race(s) the decedent considered himself/herself to be? Select all that apply.

A. White
B. Black or African American
C. American Indian or Alaska Native
(Name of the enrolled or principal tribe)
D. Asian Indian
E. Chinese
F. Filipino
G. Japanese
H. Korean
I. Vietnamese
J. Other Asian—(Specify) _____
K. Native Hawaiian
L. Guamanian or Chamorro
M. Samoan
N. Other Pacific Islander—(Specify) _____
O. Other—(Specify) _____

Appendix D

U.S. Standard Report of Fetal Death

U.S. STANDARD REPORT OF FETAL DEATH

LOCAL FILE NO. | STATE FILE NUMBER:

MOTHER

1. NAME OF FETUS (optional-at the discretion of the parents)	2. TIME OF DELIVERY	3. SEX (M/F/Unk)	4. DATE OF DELIVERY (Mo/Day/Yr)
	0725 (24hr)	Male	December 31, 2003

5a. CITY, TOWN, OR LOCATION OF DELIVERY	7. PLACE WHERE DELIVERY OCCURRED (Check one)	8. FACILITY NAME (If not institution, give street and number)
El Paso	■ Hospital	Amsterdam Hospital
5b. ZIP CODE OF DELIVERY: 49205-3633	☐ Freestanding birthing center	9. FACILITY ID. (NPI)
6. COUNTY OF DELIVERY: El Paso	☐ Home Delivery: Planned to deliver at home? ☐ Yes ☐ No	
	☐ Clinic/Doctor's office	
	☐ Other (Specify)	

10a. MOTHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix)	10b. DATE OF BIRTH (Mo/Day/Yr)
Carmen Marie Ravoldo	July 26, 1980
10c. MOTHER'S NAME PRIOR TO FIRST MARRIAGE (First, Middle, Last, Suffix)	**10d. BIRTHPLACE (State, Territory, or Foreign Country)**
Carmen Marie Sanchez	New York City

11a. RESIDENCE OF MOTHER-STATE	11b. COUNTY	11c. CITY, TOWN, OR LOCATION
Texas	El Paso	El Paso

11d. STREET AND NUMBER	11e. APT. NO.	11f. ZIP CODE	11g. INSIDE CITY LIMITS?
2277 Gunpowder Drive	315	49205-3630	■ Yes ☐ No

FATHER

12a. FATHER'S CURRENT LEGAL NAME (First, Middle, Last, Suffix)	12b. DATE OF BIRTH (Mo/Day/Yr)	12c. BIRTHPLACE (State, Territory, or Foreign Country)
Jose Manwell Ravoldo	September 9, 1974	Texas

DISPOSITION

13. METHOD OF DISPOSITION: ■ Burial ☐ Cremation ☐ Hospital Disposition ☐ Donation ☐ Removal from State ☐ Other (Specify)

ATTENDANT AND REGISTRATION INFORMATION

14. ATTENDANT'S NAME, TITLE, AND NPI	15. NAME AND TITLE OF PERSON COMPLETING REPORT	16. DATE REPORT COMPLETED	17. DATE RECEIVED BY REGISTRAR
NAME: Edmund Matthew Stone, M.D. NPI: TITLE: ■ MD ☐ DO ☐ CNM/CM ☐ OTHER MIDWIFE ☐ OTHER (Specify)	Name: Julia Lynn Gonzalez Title: ART	12 / 31 / 2003 MM DD YYYY	01 / 01 / 2004 MM DD YYYY

18. CAUSE/CONDITIONS CONTRIBUTING TO FETAL DEATH

CAUSE OF FETAL DEATH

18a. INITIATING CAUSE/CONDITION (AMONG THE CHOICES BELOW, PLEASE SELECT THE ONE WHICH MOST LIKELY BEGAN THE SEQUENCE OF EVENTS RESULTING IN THE DEATH OF THE FETUS)	18b. OTHER SIGNIFICANT CAUSES OR CONDITIONS (SELECT OR SPECIFY ALL OTHER CONDITIONS CONTRIBUTING TO DEATH IN ITEM 18b)
Maternal Conditions/Diseases (Specify): Severe pre-eclampsia	Maternal Conditions/Diseases (Specify):
Complications of Placenta, Cord, or Membranes ☐ Rupture of membranes prior to onset of labor ☐ Abruptio placenta ☐ Placental insufficiency ☐ Prolapsed cord ☐ Chorioamnionitis ☐ Other (Specify)	Complications of Placenta, Cord, or Membranes ☐ Rupture of membranes prior to onset of labor ■ Abruptio placenta ☐ Placental insufficiency ☐ Prolapsed cord ☐ Chorioamnionitis ☐ Other (Specify)
Other Obstetrical or Pregnancy Complications (Specify)	Other Obstetrical or Pregnancy Complications (Specify)
Fetal Anomaly (Specify)	Fetal Anomaly (Specify)
Fetal Injury (Specify)	Fetal Injury (Specify)
Fetal Infection (Specify)	Fetal Infection (Specify)
Other Fetal Conditions/Disorders (Specify)	Other Fetal Conditions/Disorders (Specify): Intrauterine anoxia
☐ Unknown	☐ Unknown

18c. WEIGHT OF FETUS (grams preferred, specify unit)	18e. ESTIMATED TIME OF FETAL DEATH	18f. WAS AN AUTOPSY PERFORMED?
400 ■ grams ☐ lb/oz	☐ Dead at time of first assessment, no labor ongoing ☐ Dead at time of first assessment, labor ongoing ■ Died during labor, after first assessment ☐ Unknown time of fetal death	☐ Yes ■ No ☐ Planned
18d. OBSTETRIC ESTIMATE OF GESTATION AT DELIVERY		**18g. WAS A HISTOLOGICAL PLACENTAL EXAMINATION PERFORMED?**
24 (completed weeks)		☐ Yes ■ No ☐ Planned
		18h. WERE AUTOPSY OR HISTOLOGICAL PLACENTAL EXAMINATION RESULTS USED IN DETERMINING THE CAUSE OF FETAL DEATH?
		☐ Yes ■ No

Mother's Name _____ Mother's Medical Record No. _____

DRAFT 03/11/2003

Mother

19. MOTHER'S EDUCATION (Check the box that best describes the highest degree or level of school completed at the time of delivery)

- ☐ 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)

20. MOTHER OF HISPANIC ORIGIN? (Check the box that best describes whether the mother is Spanish/Hispanic/Latina. Check the "No" box if mother is not Spanish/Hispanic/Latina)

- ☐ No, not Spanish/Hispanic/Latina
- ☐ Yes, Mexican, Mexican American, Chicana
- ☒ Yes, Puerto Rican
- ☐ Yes, Cuban
- ☐ Yes, other Spanish/Hispanic/Latina

(Specify)_____

21. MOTHER'S RACE (Check one or more races to indicate what the mother considers 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)_____

22. MOTHER MARRIED? (At delivery, conception, or anytime between) ☒ Yes ☐ No

23a. DATE OF FIRST PRENATAL CARE VISIT __08_/__03___/_2003_____ (MM DD YYYY) ☐ No Prenatal Care

23b. DATE OF LAST PRENATAL CARE VISIT __12__/__05_/_2003____ (MM DD YYYY)

24. TOTAL NUMBER OF PRENATAL VISITS FOR THIS PREGNANCY ___5___ (If none, enter "0".)

25. MOTHER'S HEIGHT _5 foot 3 inches_ (feet/inches)

26. MOTHER'S PREPREGNANCY WEIGHT ___120___ (pounds)

27. MOTHER'S WEIGHT AT DELIVERY ___133___ (pounds)

28. DID MOTHER GET WIC FOOD FOR HERSELF DURING THIS PREGNANCY? ☐ Yes ☒ No

29. NUMBER OF PREVIOUS LIVE BIRTHS

29a. Now Living: Number __1___ ☐ None

29b. Now Dead: Number ____ ☒ None

30. NUMBER OF OTHER PREGNANCY OUTCOMES (spontaneous or induced losses or ectopic pregnancies)

30a. Other Outcomes: Number (Do not include this fetus) ____ ☒ None

31. CIGARETTE SMOKING BEFORE AND DURING PREGNANCY

For each time period, enter either the number of cigarettes or the number of packs of cigarettes smoked. IF NONE, ENTER "0".

Average number of cigarettes or packs of cigarettes smoked per day.

	# of cigarettes		# of packs
Three Months Before Pregnancy	_____	OR	___1____
First Three Months of Pregnancy	_____	OR	___1____
Second Three Months of Pregnancy	___18____	OR	_____
Last Three Months of Pregnancy	_____	OR	_____

29c. DATE OF LAST LIVE BIRTH __12___/_2000_____ (MM YYYY)

30b. DATE OF LAST OTHER PREGNANCY OUTCOME _____/_____ (MM YYYY)

32. DATE LAST NORMAL MENSES BEGAN _ 07 /_21_/ _2003_ (M M D D Y Y Y Y)

33. PLURALITY - Single, Twin, Triplet, etc. (Specify) Single

34. IF NOT SINGLE BIRTH - Born First, Second, Third, etc. (Specify)_____

35. MOTHER TRANSFERRED FOR MATERNAL MEDICAL OR FETAL INDICATIONS FOR DELIVERY? ☐ Yes ☒ No

Medical and Health Information

36. RISK FACTORS IN THIS PREGNANCY (Check all that apply):

Diabetes
- ☐ Prepregnancy (Diagnosis prior to this pregnancy)
- ☐ Gestational (Diagnosis in this pregnancy)

Hypertension
- ☐ Prepregnancy (Chronic)
- ☒ Gestational (PIH, preeclampsia, eclampsia)

- ☐ Previous preterm birth
- ☐ Other previous poor pregnancy outcome (Includes perinatal death, small-for-gestational age/intrauterine growth restricted birth)
- ☒ Vaginal bleeding during this pregnancy prior to the onset of labor
- ☐ Pregnancy resulted from infertility treatment
- ☐ Mother had a previous cesarean delivery
  If yes, how many _____
- ☐ None of the above

37. INFECTIONS PRESENT AND/OR TREATED DURING THIS PREGNANCY (Check all that apply)

- ☐ Gonorrhea
- ☐ Syphilis
- ☐ Herpes Simplex Virus (HSV)
- ☐ Chlamydia
- ☐ Listeria
- ☐ Group B Streptococcus
- ☐ Cytomegalovirus
- ☐ Parvo virus
- ☐ Toxoplasmosis
- ☐ None of the above
- ☐ Other (Specify)_____

38. METHOD OF DELIVERY

A. Was delivery with forceps attempted but unsuccessful?
☐ Yes ☒ No

B. Was delivery with vacuum extraction attempted but unsuccessful?
☐ Yes ☒ No

C. Fetal presentation at delivery
- ☒ Cephalic
- ☐ Breech
- ☐ Other

D. Final route and method of delivery (Check one)
- ☒ Vaginal/Spontaneous
- ☐ Vaginal/Forceps
- ☐ Vaginal/Vacuum
- ☐ Cesarean
  If cesarean, was a trial of labor attempted?
  - ☐ Yes
  - ☐ No

E. Hysterotomy/Hysterectomy
☐ Yes ☒ No

39. MATERNAL MORBIDITY (Complications associated with labor and delivery)

- ☒ Maternal transfusion
- ☐ Third or fourth degree perineal laceration
- ☐ Ruptured uterus
- ☐ Unplanned hysterectomy
- ☐ Admission to intensive care unit
- ☐ Unplanned operating room procedure following delivery
- ☐ None of the above

40. CONGENITAL ANOMALIES OF THE FETUS (Check all that apply)

- ☐ Anencephaly
- ☐ Meningomyelocele/Spina bifida
- ☐ Cyanotic congenital heart disease
- ☐ Congenital diaphragmatic hernia
- ☐ Omphalocele
- ☐ Gastroschisis
- ☒ Limb reduction defect (excluding congenital amputation and dwarfing syndromes)
- ☐ Cleft Lip with or without Cleft Palate
- ☐ Cleft Palate alone
- ☐ Down Syndrome
  - ☐ Karyotype confirmed
  - ☐ Karyotype pending
- ☐ Suspected chromosomal disorder
  - ☐ Karyotype confirmed
  - ☐ Karyotype pending
- ☐ Hypospadias
- ☐ None of the anomalies listed above

Mother's Name _____ **Mother's Medical Record No.** _____

Appendix E

Definitions of Live Birth and Fetal Death

The following definitions come from the 1992 model law[1] and are based upon World Health Organization definitions and are recommended for use in the United States.

Live birth

Live birth means the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy, which, after such expulsion or extraction, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

Important—If an infant breathes or shows any other evidence of life after complete delivery, even though it may be only momentary, the birth must be registered as a live birth and a death certificate must also be filed.

Fetal death

Fetal death means death prior to the complete expulsion or extraction from its mother of a product of human conception, irrespective of the duration of pregnancy and which is not an induced termination of pregnancy. The death is indicated by the fact that after such expulsion or extraction, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Heartbeats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps.

Important—The States differ with respect to the minimum period of gestation for which a fetal death report is required to be reported. If the medical examiner or coroner has any questions about the requirements used in his or her State, he or she should contact the State office of vital statistics.

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1. National Center for Health Statistics. Model State vital statistics act and regulations: 1992 revision. Hyattsville, Maryland: Public Health Service. 1995.

Appendix F

Facility Worksheet for the Report of Fetal Death

Patient's medical record #_____
Patient's name_____

DRAFT (2/6/02)

FACILITY WORKSHEET FOR THE REPORT OF FETAL DEATH

Complete this worksheet for pregnancies resulting in fetal death. The Model State Vital Statistics Act and Regulations recommend the following definition of fetal death. "Fetal death" means death prior to the complete expulsion or extraction from its mother of a production of human conception, irrespective of the duration of the pregnancy and which is not an induced termination of pregnancy. The death is indicated by the fact that after such expulsion or extraction, the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles. Heart beats are to be distinguished from transient cardiac contractions; respirations are to be distinguished from fleeting respiratory efforts or gasps. For detailed definitions, instructions, information on sources, and common key words and abbreviations for many of the items included in the worksheet please see "The Guide to Completing Facility Worksheets for the Certificate of Live Birth."

1. **Facility name:*** _____
(If not institution, give street and number)

2. **Facility I.D.** (National Provider Identifier): _____

3. **City, Town or Location of delivery:** _____ **Zip code:** _____

4. **County of delivery:** _____

5. **Place of delivery:**
- ❑ Hospital
- ❑ Freestanding birthing center (Freestanding birthing center is defined as one which has no direct physical connection with an operative delivery center.)
- ❑ Home delivery
  Planned to deliver at home ❑ Yes ❑ No
- ❑ Clinic/Doctor's Office
- ❑ Other (specify, e.g., taxi cab, train, plane, etc.)_____

*Facilities may wish to have pre-set responses (hard-copy and/or electronic) to questions 1-5 for deaths which occur at their institutions.

Prenatal

Sources: Prenatal care records, patient's medical records, labor and delivery records

Information for the following items should come from the patient's prenatal care records and from other medical reports in the patient's chart. If the patient's prenatal care record is not in her hospital chart, please contact her prenatal care provider to obtain the record, or a copy of the prenatal care information. Preferred and acceptable sources are given before each section. Please do not provide information from sources other than those listed.

6(a). Date of first prenatal care visit (Prenatal care begins when a physician or other health professional first examines and/or counsels the pregnant woman as part of an ongoing program of care for the pregnancy):

M M D D Y Y Y Y

☐ **No prenatal care** (The mother did not receive prenatal care at any time during the pregnancy. If this box is checked skip 6(b)

6(b). Date of last prenatal care visit (Enter the date of the last visit recorded in the mother's prenatal records):

M M D D Y Y Y Y

7. Total number of prenatal care visits for this pregnancy (Count only those visits recorded in the record. If none enter "0"): _____

8. Date last normal menses began: M M D D Y Y Y Y

9. Number of previous live births now living (For multiple deliveries, includes live born infants born before this fetus in the multiple set.):

____ Number ☐ None

10. Number of previous live births now dead (For multiple deliveries, includes live born infants born before this fetus in the multiple set who subsequently died):

____ Number ☐ None

11. Date of last live birth: M M Y Y Y Y

12. Total number of other pregnancy outcomes (Include fetal losses of any gestational age- spontaneous losses, induced losses, and/or ectopic pregnancies. If this was a multiple delivery, include all fetal losses delivered before this fetus in the pregnancy):

____ Number ☐ None

13. Date of last other pregnancy outcome (Date when last pregnancy which did not result in a live birth ended):

M M Y Y Y Y

14. Risk factors in this pregnancy (Check all that apply):

Diabetes - (Glucose intolerance requiring treatment)

- ☐ Prepregnancy - (Diagnosis prior to this pregnancy)
- ☐ Gestational - (Diagnosis in this pregnancy)

Hypertension - (Elevation of blood pressure above normal for age, gender, and physiological condition.)

- ☐ Prepregnancy - (Chronic) (Diagnosis prior to this pregnancy)
- ☐ Gestational - (PIH, preeclampsia, eclampsia) (Diagnosis during this pregnancy)

☐ Previous preterm births - (History of pregnancy(ies) terminating in a live birth of less than 37 completed weeks of gestation)

☐ Other previous poor pregnancy outcome - (Includes perinatal death, small for gestational age/intrauterine growth restricted birth) - (History of pregnancies continuing into the 20th week of gestation and resulting in any of the listed outcomes. Perinatal death includes fetal and neonatal deaths.)

☐ Vaginal bleeding during this pregnancy prior to the onset of labor - (Any vaginal bleeding occurring any time in the pregnancy prior to the onset of labor.)

☐ Pregnancy resulted from infertility treatment - (Any assisted reproduction treatment whether artificial insemination, drugs (e.g., Clomid, Pergonal) or technical procedures (e.g., in-vitro fertilization) used to initiate the pregnancy.)

- ❑ Patient had a previous cesarean delivery - (Previous operative delivery by extraction of the fetus, placenta and membranes through an incision in the maternal abdominal and uterine walls.)
  If Yes, how many____

- ❑ None of the above

15. Infections present and/or treated during this pregnancy - (Present at start of pregnancy or confirmed diagnosis during pregnancy with or without documentation of treatment.) (Check all that apply):

- ❑ Gonorrhea - (a diagnosis of or positive test for *Neisseria gonorrhoeae)*
- ❑ Syphilis - (also called lues - a diagnosis of or positive test for *Treponema pallidum)*
- ❑ Herpes Simplex Virus (HSV) - (a diagnosis of or positive test for the herpes simplex virus)
- ❑ Chlamydia - (a diagnosis of or positive test for *Chlamydia trachomatis*)
- ❑ Listeria (LM) - (a diagnosis of or positive test for *Listeria monocytogenes*)
- ❑ Group B Streptococcus (GBS) - (a diagnosis of or positive test for *Streptococcus agalactiae* or group B streptococcus)
- ❑ Cytomegalovirus (CMV) - (a diagnosis of or positive test for the *cytomegalovirus*)
- ❑ Parvovirus (B19) - (a diagnosis of or positive test for parvovirus B19)
- ❑ Toxoplasmosis (Toxo) - (a diagnosis of or positive test for *Toxoplasma gondii*)
- ❑ None of the above
- ❑ Other (specify)_____

Labor and Delivery
Sources: Labor and delivery records, patient's medical records

16. Date of delivery: __ __ __ __ __ __ __ __
M M D D Y Y Y Y

17. Time of delivery: _____ 24 hour clock

18. Name and title of person completing report:
(May be, but need not be, the same as the attendant at delivery.)

Name: _____
Title: _____

19. Date report completed: __ __ __ __ __ __ __ __
M M D D Y Y Y Y

20. Was the mother transferred to this facility for maternal medical or fetal indications for delivery?
(Transfers include hospital to hospital, birth facility to hospital, etc.)
❑ Yes ❑ No

If Yes, enter the name of the facility mother transferred from:

_____

21. Attendant's name, title, and N.P.I. (National Provider Indentifier) (The attendant at delivery is the individual physically present at the delivery who is responsible for the delivery. For example, if an intern or nurse-midwife delivers a fetus under the supervision of an obstetrician who is present in the delivery room, the obstetrician is to be reported as the attendant):

Attendant's name _____ N.P.I. _____

Attendant's title:

- ❑ M.D.
- ❑ D.O.
- ❑ CNM/CM - (Certified Nurse Midwife/Certified Midwife)
- ❑ Other Midwife - (Midwife other than CNM/CM)
- ❑ Other specify):_____

22. Mother's weight at delivery (pounds):_____

23. Method of delivery (The physical process by which the complete delivery was effected)
(Complete A, B, C, D, and E):

A. Was delivery with forceps attempted but unsuccessful? - (Obstetric forceps was applied to the fetal head in an unsuccessful attempt at vaginal delivery.)
□ Yes □ No

B. Was delivery with vacuum extraction attempted but unsuccessful? - (Ventouse or vacuum cup was applied to the fetal head in an unsuccessful attempt at vaginal delivery.)
□ Yes □ No

C. Fetal presentation at delivery (Check one):
- ❑ Cephalic - (Presenting part of the fetus listed as vertex, occiput anterior (OA), occiput posterior (OP))
- ❑ Breech - (Presenting part of the fetus listed as breech, complete breech, frank breech, footling breech)
- ❑ Other - (Any other presentation not listed above)

D. Final route and method of delivery (Check one):
- ❑ Vaginal/Spontaneous - (Delivery of the entire fetus through the vagina by the natural force of labor with or without manual assistance from the delivery attendant.)
- ❑ Vaginal/Forceps - (Delivery of the fetal head through the vagina by application of obstetrical forceps to the fetal head.)
- ❑ Vaginal/Vacuum - (Delivery of the fetal head through the vagina by application of a vacuum cup or ventouse to the fetal head.)
- ❑ Cesarean - (Extraction of the fetus, placenta and membranes through an incision in the maternal abdominal and uterine walls)

If cesarean, was a trial of labor attempted? - (Labor was allowed, augmented or induced with plans for a vaginal delivery.)
□ Yes □ No

E. Hysterotomy/Hysterectomy
□ Yes □ No

24. Maternal morbidity (Serious complications experienced by the patient associated with labor and delivery)
(Check all that apply):

- ❑ Maternal transfusion - (Includes infusion of whole blood or packed red blood cells associated with labor and delivery.)
- ❑ Third or fourth degree perineal laceration - (3° laceration extends completely through the perineal skin, vaginal mucosa, perineal body and anal sphincter. 4° laceration is all of the above with extension through the rectal mucosa.)
- ❑ Ruptured uterus - (Tearing of the uterine wall.)
- ❑ Unplanned hysterectomy - (Surgical removal of the uterus that was not planned prior to the admission. Includes anticipated but not definitively planned hysterectomy.)
- ❑ Admission to intensive care unit - (Any admission of the mother to a facility/unit designated as providing intensive care.)
- ❑ Unplanned operating room procedure following delivery - (Any transfer of the patient back to a surgical area for an operative procedure that was not planned prior to the admission for delivery. Excludes postpartum tubal ligations.)
- ❑ None of the above

25. Weight of fetus: _____(grams) (Do not convert lb/oz to grams)
If weight in grams is not available, weight of fetus: _____(lb/oz)

26. Obstetric estimate of gestation at delivery (completed weeks):_____
(The delivery attendant's final estimate of gestation based on all perinatal factors and assessments. Do not compute based on date of the last menstrual period and the date of delivery.)

27. Sex (Male, Female, or Unknown): _____

28. Plurality (Specify 1 (single), 2 (twin), 3 (triplet), 4 (quadruplet), 5 (quintuplet), 6 (sextuplet), 7 (septuplet), etc.)
(Include all live births and fetal losses resulting from this pregnancy.):_____

29. If not single delivery (Order delivered in the pregnancy, specify 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, etc.) (Include all live births and fetal losses resulting from this pregnancy): _____

30. If not single delivery, specify number of fetal deaths in this delivery:_____

31. Congenital anomalies of the fetus (Malformations of the fetus diagnosed prenatally or after delivery.)
(Check all that apply):

- ❑ Anencephaly - (Partial or complete absence of the brain and skull. Also called anencephalus, acrania, or absent brain. Also includes fetuses with craniorachischisis (anencephaly with a contiguous spine defect).)
- ❑ Meningomyelocele/Spina bifida - (Spina bifida is herniation of the meninges and/or spinal cord tissue through a bony defect of spine closure. Meningomyelocele is herniation of meninges and spinal cord tissue. Meningocele (herniation of meninges without spinal cord tissue) should also be included in this category. Both open and closed (covered with skin) lesions should be included. Do not include Spina bifida occulta (a midline bony spinal defect without protrusion of the spinal cord or meninges).)
- ❑ Cyanotic congenital heart disease - (Congenital heart defects which cause cyanosis. Includes but is not limited to: transposition of the great arteries (vessels), tetratology of Fallot, pulmonary or pulmonic valvular atresia, tricuspid atresia, truncus arteriosus, total/partial anomalous pulmonary venous return with or without obstruction.)
- ❑ Congenital diaphragmatic hernia - (Defect in the formation of the diaphragm allowing herniation of abdominal organs into the thoracic cavity.)
- ❑ Omphalocele - (A defect in the anterior abdominal wall, accompanied by herniation of some abdominal organs through a widened umbilical ring into the umbilical stalk. The defect is covered by a membrane (different from gastroschisis, see below), although this sac may rupture. Also called exomphalos. Do not include umbilical hernia (completely covered by skin) in this category.)
- ❑ Gastroschisis - (An abnormality of the anterior abdominal wall, lateral to the umbilicus, resulting in herniation of the abdominal contents directly into the amniotic cavity. Differentiated from omphalocele by the location of the defect and absence of a protective membrane.)
- ❑ Limb reduction defect (excluding congenital amputation and dwarfing syndromes) - (Complete or partial absence of a portion of an extremity associated with failure to develop.)

❑ Cleft Lip with or without Cleft Palate - (Incomplete closure of the lip. May be unilateral, bilateral or median.)

❑ Cleft Palate alone - (Incomplete fusion of the palatal shelves. May be limited to the soft palate or may extend into the hard palate. Cleft palate in the presence of cleft lip should be included in the "Cleft Lip with or without Cleft Palate" category above.)

❑ Down Syndrome - (Trisomy 21)
- ❑ Karyotype confirmed
- ❑ Karyotype pending

❑ Suspected chromosomal disorder - (Includes any constellation of congenital malformations resulting from or compatible with known syndromes caused by detectable defects in chromosome structure.)
- ❑ Karyotype confirmed
- ❑ Karyotype pending

❑ Hypospadias - (Incomplete closure of the male urethra resulting in the urethral meatus opening on the ventral surface of the penis. Includes first degree - on the glans ventral to the tip, second degree - in the coronal sulcus, and third degree - on the penile shaft.)

❑ None of the anomalies listed above

32. Method of Disposition
- ❑ Burial
- ❑ Cremation
- ❑ Hospital Disposition
- ❑ Donation
- ❑ Removal from State
- ❑ Other (Specify)_____

Cause-of-Death Section

Causes/Conditions Contributing to Fetal Death

Previous questions collected details on anomalies, morbidities, and risk factors known to be present for this patient and the fetus. The purpose of the next section is to get a description of those conditions that, in your opinion, **contributed** to the fetal death. Please report any condition judged to be a cause of death even if it has been reported elsewhere on the worksheet.

33. Initiating Cause/Condition

Among the choices below, please select the ONE which most likely began the sequence of events resulting in the death of the fetus. If it is not clear to you where to report a condition, write it on the "(Specify)" line that seems most appropriate.

Maternal Conditions/Diseases
(Specify)_____

Complications of Placenta, Cord or Membranes

- ❑ Rupture of membranes prior to onset of labor
- ❑ Abruptio placenta
- ❑ Placental insufficiency
- ❑ Prolapsed cord
- ❑ Chorioamnionitis
- ❑ Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____
Fetal Anomaly (Specify)_____
_____
Fetal Injury (Specify)_____
Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders
(Specify)_____

❑ Unknown

34. Other Significant Causes or Conditions

Select or Specify All Other Conditions Contributing to Death in Item 34.

Maternal Conditions/Diseases
(Specify)_____

Complications of Placenta, Cord or Membranes
- ❑ Rupture of membranes prior to onset of labor
- ❑ Abruptio placenta
- ❑ Placental insufficiency
- ❑ Prolapsed cord
- ❑ Chorioamnionitis
- ❑ Other (Specify)_____

Other Obstetrical or Pregnancy Complications (Specify)_____
Fetal Anomaly (Specify)_____
_____
Fetal Injury (Specify)_____
Fetal Infection (Specify)_____

Other Fetal Conditions/Disorders
(Specify)_____

❑ Unknown

35. Was an autopsy performed?
☐ Yes ☐ No ☐ Planned

36. Was a histological placental examination performed?
☐ Yes ☐ No ☐ Planned

37. Were autopsy or histological placental examination results used in determining the cause of fetal death?
☐ Yes ☐ No

38. Estimated time of fetal death
- ❑ Dead at time of first assessment, no labor ongoing
- ❑ Dead at time of first assessment, labor ongoing
- ❑ Died during labor, after first assessment
- ❑ Unknown time of fetal death

Appendix G

Patient's Worksheet for the Report of Fetal Death

Patient's Medical Record #_____
FOR HOSPITAL USE ONLY

DRAFT (2/6/02)

Patient's Name_____

Patient's Worksheet for the Report of Fetal Death

We are truly sorry about the loss you have experienced. We understand that this is a difficult time for you and your loved ones. We need to ask you a few questions to assist in the completion of the official report of fetal death. State laws provide protection against the unauthorized release of identifying information from the report of fetal death to ensure confidentiality of the parents. This information may also help researchers understand some of the factors that are related to miscarriage and stillbirth. Your assistance in providing complete and accurate information is very important. We appreciate your help, especially during this very difficult time.

PLEASE PRINT CLEARLY

1. Would you like to name the child? This is entirely optional.

_____ _____ _____ _____
First Middle Last Suffix (Jr., III, etc.)

2. What is your current legal name?

_____ _____ _____ _____
First Middle Last Suffix (Jr., III, etc.)

3. Where do you usually live--that is--where is your household/residence located?

Complete number and street:_____ Apartment Number: _____
(Do not enter rural route numbers)
City, Town, or Location:_____
County: _____ State: _____
Zip Code:_____ (or U.S. Territory, Canadian Province)
If not United States, *country*_____

4. Is this household inside city limits (inside the incorporated limits of the city, town, or location where you live)?

- ☐ Yes
- ☐ No
- ☐ Don't know

Patient's Name_____

5. What is your mailing address?

❒ Same as residence [Go to next question]

Complete number and street: _____
Apartment Number: _____ P. O. Box._____
City, Town, or Location: _____
State: _____ Zip Code:_____
(or U.S. Territory, Canadian Province)

If not in the United States, *country*_____

6. What is your date of birth? (Example: 3 - 4 - 1977)

_____ _____ _____
Month Day Year

7. In what State, U.S. territory, or foreign country were you born? Please specify one of the following:

State _____

or

U.S. territory, i.e., Puerto Rico, U.S. Virgin Islands, Guam, American Samoa or Northern Marianas

_____

or

Foreign country _____

8. What is the highest level of schooling that you have completed at the time of delivery? (Check the box that best describes your education. If you are currently enrolled, check the box that indicates the previous grade or highest degree received).

❒ 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)

Patient's Name_____

9. Are you Spanish/Hispanic/Latina? If not Spanish/Hispanic/Latina, check the "No" box. If Spanish/Hispanic/Latina, check the appropriate box.

- ❒ No, not Spanish/Hispanic/Latina
- ❒ Yes, Mexican, Mexican American, Chicana
- ❒ Yes, Puerto Rican
- ❒ Yes, Cuban
- ❒ Yes, other Spanish/Hispanic/Latina (e.g. Spaniard, Salvadoran, Dominican, Columbian)(specify)_____

10. What is your race? (Please check one or more races to indicate what you consider yourself to be).

- ❒ White
- ❒ Black or African American
- ❒ American Indian or Alaska Native (name of 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) _____

11. Have you ever been married?

- ❒ **Yes** [Please go to question 12]
- ❒ **No** [Please go to question 14]

12. What name did you use prior to your first marriage?

First	Middle	Last	Suffix(Jr., III, etc.)
_____	_____	_____	_____

Patient's Name_____

13. Were you married at the time you conceived this child, at the time of delivery, or at any time between conception and delivery?

- ❒ **Yes**
- ❒ **No**

14. What is the current legal name of your baby's father?

_____ _____ _____ _____
First Middle Last Suffix(Jr., III, etc.)

15. What is the father's date of birth? (Example: 3 - 4 - 1976)

_____ _____ _____
Month Day Year

❒ Don't know

16. In what State, U.S. territory, or foreign country was the father born? Please specify one of the following:

State_____

or

U.S. territory, i.e., Puerto Rico, U.S. Virgin Islands, Guam, American Samoa or Northern Marianas

_____

or

Foreign country_____

17. Did you receive WIC (Women, Infants & Children) food for yourself during this pregnancy?

- ❒ No
- ❒ Yes
- ❒ Don't know

Patient' Name_____

18. What is your height?

_____feet _____ inches

19 What was your prepregnancy weight, that is, your weight immediately before you became pregnant with this child?

_____lbs

14. How many cigarettes OR packs of cigarettes did you smoke on an average day during each of the following time periods? If you NEVER smoked, enter zero for each time period.

	# of cigarettes	# of packs
Three months before pregnancy	_____	OR_____
First three months of pregnancy	_____	OR_____
Second three months of pregnancy	_____	OR_____
Last three months of pregnancy	_____	OR_____

Thank you for completing this worksheet at this very difficult time. The information you have provided is very important; it will be used by researchers to better understand factors related to miscarriage and stillbirth and lead to improved prevention strategies for the future.

Appendix H

The Vital Statistics Registration System in the United States

The registration of births, deaths, fetal deaths, and other vital events in the United States is a State and local function[1]. The civil laws of every State provide for a continuous, permanent, and compulsory vital registration system. Each system depends to a very great extent upon the conscientious efforts of the physicians, hospital personnel, funeral directors, coroners, and medical examiners in preparing or certifying information needed to complete the original records. For a graphic presentation of the registration system, see the accompanying chart, "The Vital Statistics Registration System in the United States."

Most States are divided geographically into local registration districts or units to facilitate the collection of vital records. A district may be a township, village, town, city, county, or other geographic area or a combination of two or more of these areas. In some States, however, the law provides that records of birth, death, and/or fetal death be sent directly from the reporting source (hospital, physician, or funeral director) to the State vital statistics office. In this system, functions normally performed by a local registration official are assumed by the staff of the State office.

In States with a local registrar system, the local registrar collects the records of events occurring in his or her area and transmits them to the State vital statistics office. The local registrar is required to see that a complete certificate is filed for each event occurring in that district. In many States this official also has the duty of issuing burial-transit permits to authorize the disposition of dead human bodies. In many States this official is also required to keep a file of all events occurring within his or her district and, if authorized by State law and subject to the restrictions on issuance of copies as specified by the law, may be permitted to issue copies of these records.

The State vital statistics office inspects each record for promptness of filing, completeness, and accuracy of information; queries for missing or

[1]Vital events are defined as live births, deaths, fetal deaths, marriages, divorces, and induced terminations of pregnancy, together with any change in civil status that may occur during an individual's lifetime.

inconsistent information; numbers the records; prepares indexes; processes the records; and stores the documents for permanent reference and safekeeping. Statistical information from the records is tabulated for use by State and local health departments, other governmental agencies, and various private and voluntary organizations. The data are used to evaluate health problems and to plan programs and services for the public. An important function of the State office is to issue certified copies of the certificates to individuals in need of such records and to verify the facts of birth and death for agencies requiring legal evidence of such facts.

The Centers for Disease Control and Prevention's National Center for Health Statistics (NCHS) is vested with the authority for administering the vital statistics functions at the national level[2]. Electronic data files derived from individual records registered in the State offices or, in a few cases, copies of the individual records themselves are transmitted to NCHS. From these data, monthly, annual, and special statistical reports are prepared for the United States as a whole and for the component parts—cities, counties, States, and regions—by various characteristics such as sex, race, and cause of death. These statistics are essential in the fields of social welfare, public health, and demography. They are also used for various administrative purposes, in both business and government. NCHS serves as a focal point, exercising leadership in establishing uniform practices through model laws, standard certificate forms, handbooks, and other instructional materials for the continued improvement of the vital statistics system in the United States.

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[2]Hetzel AM. History and organization of the vital statistics system. Hyattsville, Maryland: National Center for Health Statistics. 1997.

The Vital Statistics Registration System in the United States

Responsible Person or Agency	*Birth Certificate*	*Death Certificate*	*Fetal Death Report*
Hospital authority	1. Completes entire certificate using mother and facility worksheets. 2. Files certificate with local office or State office per State law.	When death occurs in hospital, may initiate preparation of certificate: Completes information on name, date, and place of death; obtains certification of cause of death from physician; and gives certificate to funeral director. NOTE: If the attending physician is unavailable to certify to the cause of death, some States allow a hospital physician to certify to only the fact and time of death. With legal pronouncement of the death and permission of the attending physician, the body can then be released to the funeral director. The attending physician still must complete the cause-of-death section prior to final disposition of the body.	1. Completes entire report using patient and facility worksheets. 2. Obtains cause of fetal death from physician. 3. Obtains authorization for final disposition of fetus. 4. Files report with local office or State office per State law.
Funeral director		1. Obtains personal facts about decedent and completes certificate. 2. Obtains certification of cause of death from attending physician or medical examiner or coroner. 3. Obtains authorization for final disposition per State law. 4. Files certificate with local office or State office per State law.	If fetus is to be buried, the funeral director is responsible for obtaining authorization for final disposition. NOTE: In some States, the funeral director, or person acting as such, is responsible for all duties shown under hospital authority.
Physician or other professional attendant	For inhospital birth, verifies accuracy of medical information and signs certificate. For out-of-hospital birth, duties are same as those for hospital authority, shown above.	Completes certification of cause of death and signs certificate.	Provides cause of fetal death and information not available from the medical records.

Local office* (may be local registrar or city or county health department)	1. Verifies completeness and accuracy of certificate and queries incomplete or inconsistent certificates. 2. If authorized by State law, makes copy or index for local use. 3. Sends certificates to State registrar.	1. Verifies completeness and accuracy of certificate and queries incomplete or inconsistent certificates. 2. If authorized by State law, makes copy or index for local use. 3. If authorized by State law, issues authorization for final disposition on receipt of completed certificate. 4. Sends certificates to State registrar.	If State law requires routing of fetal death reports through local office, performs the same functions as shown for the birth and death certificate.
City and county health departments	1. Use data derived from these records in allocating medical and nursing services. 2. Follow up on infectious diseases. 3. Plan programs. 4. Measure effectiveness of services. 5. Conduct research studies.		
State registrar, office of vital statistics	1. Queries incomplete or inconsistent information. 2. Maintains files for permanent reference and is the source of certified copies. 3. Develops vital statistics for use in planning, evaluating, and administering State and local health activities and for research studies. 4. Compiles health-related statistics for State and civil divisions of State for use of the health department and other agencies and groups interested in the fields of medical science, public health, demography, and social welfare. 5. Sends data for all events filed to the National Center for Health Statistics.		
Centers for Disease Control and Prevention, National Center for Health Statistics	1. Evaluates quality of State vital statistics data and works with States to assure quality. 2. Compiles national statistical data file and runs edits to fully process data. 3. Prepares and publishes national statistics of births, deaths, and fetal deaths; constructs the official U.S. life tables and related actuarial tables. 4. Conducts health and social research studies based on vital records and on sampling surveys linked to records. 5. Conducts research and methodological studies in vital statistics methods, including the technical, administrative, and legal aspects of vital records registration and administration. 6. Maintains a continuing technical assistance program to improve the quality and usefulness of vital statistics. 7. Provides leadership and coordination in the development of standard certificates and report and model laws.		

* Some States do not have local vital registration offices. In these States, the certificates or reports are transmitted directly to the State office of vital statistics.