# Your NDI Results

This chapter describes the different files you will receive on the NDI Search Results CD. Before you begin **working** with these files, NCHS strongly recommends that you also review Chapter 4 for suggestions on how to assess your results.

## Overview of NDI Output Files

- The NDI system generates **eight basic output files** for each NDI search. If you opted for NDI Plus service, you will receive **two additional files** containing the cause of death codes for your closer or more likely NDI matches. These two files also contain complete lists of the ICD–9 and ICD–10 cause of death codes.

- Five of the 10 files are in PDF table formats and five are in standard text formats. All are stored on a CD–ROM entitled, "NDI Search Results." A brief description of each NDI output file is presented in Exhibit 3.

- The following five NDI output files are in PDF format to be **printed** at your discretion:

  ◊ User File Edit Results [ **EDITS** ]

  ◊ Summary Retrieval Statistics [ **SUMMARY** ]

  ◊ NDI Retrieval Report [ **REPORT** ]

  ◊ Cause of Death Report [ **PRTCAUSE** ]

  ◊ Death Certificate Request Forms [ **REQFORMS** ]

- After you review the content and size of each of these files, decide which you want to print, either partially or completely. When printing these files, use the **landscape** format and, if necessary, reduce the size of your margins or fonts to capture all information.

- The following two files are in text file format for those users who submit a large number of records and who prefer to use their own software to assess the NDI results:

  ◊ Combined File of Matching User and NDI Records [ **COMBINED** ]

  ◊ Cause of Death File [ **CAUSE** ]

- The files labeled **MATCH**, **NOMATCH**, and **REJECTS** contain only the 100-character records that you submitted. These three files are in text file format. Your records are distributed among these files depending on whether they were involved in at least one NDI match, not involved in any matches, or rejected by the NDI edit program.

- Your package will also contain the CD you submitted for the NDI search. Your identifying information and the NDI search results are backed up on CDC's computers until NDI staff determine that your NDI search has been successfully completed.

- The remainder of this chapter describes each of the 10 NDI output files.

Exhibit 3

# NDI Output File Descriptions

Each file name begins with a user's NDI Search Number, followed by a period and a file name identifier (e.g., 2012-X099.EDITS, 2012-X099.SUMMARY, etc.). The last column of the table below indicates which files are **PDF** files and which are **text** files. NOTE: Each file on the CD that contains the NDI Search Results may not always have the PDF or text file extensions appearing at the end of the file. **If you submit a large volume of records, the following three files may contain only a partial listing of the search results: EDITS, REPORT, PRTCAUSE, and REQFORMS.**

| FILE NAME | FILE DESCRIPTION | FILE TYPE |
|---|---|---|
| EDITS | **Edit Results [ EDITS ]**—List of rejected user records and statistics on the completeness and quality of each data item. | **PDF** |
| SUMMARY | **Summary Retrieval Statistics [ SUMMARY ]**—Statistics on the number of matches, multiple matches, and matches by state of death. | **PDF** |
| REPORT | **NDI Retrieval Report [ REPORT ]**—User records and corresponding NDI record matches, in preprinted format with column headings. Intended solely for the visual inspection of matches. | **PDF** |
| COMBINED | **Combined File of Matching User and NDI Records [ COMBINED ]**—User record information appears in positions 1–100; NDI record information (from the Retrieval Report) appears in positions 101–178. A separate combined record is created for each multiple match. This file is intended solely for designing computer programs to assess a large number of matches. It contains probabilistic scoring in positions 172–178. | **Text: 178 positions** |
| CAUSE * | **Cause-of-Death File [ CAUSE ]**—Contains only those possible NDI record matches that are ranked first or assigned a high probabilistic score. Positions 1–178 are identical to those in the **COMBINED** file. Positions 180–438 contain the coded causes of death. | **Text: 438 positions** |
| PRTCAUSE * | **Cause-of-Death Report [ PRTCAUSE ]**—Intended to be *printed* solely for the visual inspection of the coded causes of death for the same NDI record matches included in the **CAUSE** file. | **PDF** |
| REQFORMS | **Death Certificate Request Forms [ REQFORMS ]**—List of NDI record matches by STATE to be used when requesting copies of death certificates. Each state vital statistics office has a separate form. | **PDF** |
| MATCH | **MATCHING User Records [ MATCH ]**—User records involved in matches, in the same record format as submitted by the user. | **Text: 100 positions** |
| NOMATCH | **NONMATCHING User Records [ NOMATCH ]**—User records not involved in matches with any NDI records, in the same record format as submitted by the user. | **Text: 100 positions** |
| REJECTS | **REJECTED User Records [ REJECTS ]**—User records rejected by the NDI edit program and not included in the NDI search, in the same record format as submitted by the user. | **Text: 100 positions** |

*Provided only to NDI users who request the NDI *Plus* service to obtain cause-of-death codes.

EXHIBIT 4

## User File Edit Results [ EDITS ]

*All names and other data elements used in this exhibit are hypothetical.*

**NDI** — **EDIT RESULTS** — **CDC**

| NDI User : | University of Southern North Dakota |
|---|---|
| Address : | 12345 South Dakota Way |
| | Southern, ND 54321 |
| Phone No : | 999-888-7777 |
| E-mail : | Efg@snd.edu |

NDI Search Number : 2001-X516

### EDIT STATISTICS

| Data Items | "TOTAL" RECORDS EDITED | | | | RECORDS REJECTED | | | |
|---|---|---|---|---|---|---|---|---|
| | VALID DATA | | INVALID DATA | MISSING DATA | VALID DATA | | INVALID DATA | MISSING DATA |
| | Number | Percent* | Out Of Range | Blank/ Unknown | Number | Percent** | Out of Range | Blank/ Unknown |
| Last Name | 41 | 78.85 | 0 | 11 | 5 | 45.45 | 0 | 6 |
| First Name | 43 | 82.69 | 0 | 9 | 6 | 54.54 | 0 | 5 |
| Middle Initial | 21 | 40.38 | 0 | 31 | 3 | 27.27 | 0 | 8 |
| Social Security Number | 34 | 65.38 | 5 | 13 | 7 | 63.64 | 0 | 4 |
| Birth Month | 47 | 90.38 | 0 | 5 | 8 | 72.73 | 0 | 3 |
| Birth Day | 41 | 78.85 | 0 | 11 | 6 | 54.55 | 0 | 5 |
| Birth Year | 39 | 75.00 | 8 | 5 | 7 | 63.64 | 0 | 4 |
| Father's Surname | 5 | 9.62 | 0 | 47 | 2 | 18.18 | 0 | 9 |
| Age Unit | 37 | 71.15 | 0 | 15 | 7 | 63.64 | 0 | 4 |
| Age - Number of Units | 23 | 44.23 | 14 | 15 | 7 | 63.64 | 0 | 4 |
| Sex | 34 | 65.38 | 0 | 18 | 6 | 54.54 | 0 | 5 |
| Race | 32 | 61.54 | 0 | 20 | 8 | 72.72 | 0 | 3 |
| Marital Status | 0 | 0.00 | 0 | 52 | 8 | 0.00 | 0 | 11 |
| State of Residence | 35 | 67.31 | 0 | 17 | 2 | 72.72 | 0 | 3 |
| State of Birth | 0 | 0.00 | 0 | 52 | 0 | 18.18 | 0 | 9 |

| *DENOMINATOR : | Total Records Edited | = | 52 |
|---|---|---|---|
| **DENOMINATOR : | Records Rejected & Listed | = | 11 |
| | Records Passed To NDI Retrieval | = | 41 |

EXHIBIT 4

# User File Edit Results [ EDITS ]—Cont.

*All names and other data elements used in this exhibit are hypothetical.*

## LIST OF USER RECORDS REJECTED BY NDI EDIT PROGRAM

(List is Limited to a Maximum Of 250 Records)

**The following records do not contain minimum data needed for a search:**

| Control or ID Number | Last Name | First Name | Middle Initial | Social Security Number | Birth Date | Father's Surname | Age | Sex | Race | Marital Status | Res. State | Birth State |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12834 | WILSON | - | R | 566666666 | - | - | 35 | - | 1 | - | 33 | - |
| 13278 | - | ROBERT | - | 623456789 | - | - | 45 | F | 1 | - | 33 | 45 |
| 15893 | SMITH | - | - | 345678901 | 01/23/1909 | - | 75 | - | 2 | - | 33 | - |
| 16444 | - | - | - | 987654321 | 01/ /1909 | - | 90 | F | 1 | - | 33 | 33 |
| 16947 | - | - | - | 123456789 | /23/1909 | - | 55 | F | 1 | - | 33 | - |
| 18456 | WILLIAMS | - | - | 234567890 | 01/23/1909 | - | 58 | - | 2 | - | 33 | - |
| 20654 | - | MARIA | F | 79588607 | 01/23/1909 | - | 44 | F | 1 | - | 33 | - |
| 22345 | ANDERSON | JANE | - | - | 09/02/ | - | - | F | 1 | - | - | - |
| 27222 | JONES | V | H | - | 09/02/ | - | - | - | - | - | - | - |
| 34567 | - | MARY | - | - | 09/ /1899 | FRANKLIN | - | - | - | - | - | - |
| 35678 | - | JOHN | - | - | 09/ /1945 | DAVIS | - | M | - | - | 22 | - |

## Edit Results [ EDITS ]

1. The **EDITS** file is intended only for you to view or print. It is a PDF file. Use the landscape print format and reduce margin widths if necessary. A sample of the edit results is shown in Exhibit 4.

2. It is important to review your Edit Results first, to confirm that each of the data items you submitted met NDI specifications and to determine if any of your records were rejected, and why. The edit results will provide you with the following information:

   - A listing of your rejected records with a reason for the rejection.

   - The total number and percentage of rejected records.

   - Statistics on the overall completeness of each data item.

   - Statistics on the accuracy of each data item (i.e., how many records contained data that were out of range).

3. The file(s) of records you submit for an NDI file search are first run against the NDI edit program to determine whether your file conforms to NDI file format requirements and coding specifications, described in Chapter 2. If your data file has significant problems, the data will be returned to you for revision and resubmission at no extra charge.

4. **User records rejected by the edit program are not eligible for an NDI search.** To be eligible for an NDI search, a record must contain **at least one** of the following combinations of data items:

   - **FIRST** and **LAST NAME** and **SOCIAL SECURITY NUMBER**

   - **FIRST** and **LAST NAME** and **MONTH** and **YEAR OF BIRTH**

   - **SOCIAL SECURITY NUMBER** and **DATE OF BIRTH** and **SEX**

## Summary Retrieval Statistics [ SUMMARY ]

The **SUMMARY** file is a PDF file intended only for you to view or print. Use the **landscape** print format and reduce margin widths if necessary.

This file contains a two-page report (see Exhibit 5) that provides the following summary information about your NDI file search:

1. Your assigned NDI search number and the date of the search. (The search date is not shown in Exhibit 5.)

2. The year(s) of death that your records were searched against and the total number of **NDI records** searched.

3. The number of NDI RECORDS involved in **possible** record matches (i.e., satisfying any one of the seven NDI matching criteria). Also shown is the number of possible record matches that were EXACT matches (i.e., ALL items provided on the user record agreed exactly with the items on the matching NDI record).

4. The total number of **user records** you submitted, the number of your records involved in possible matches, the number of nonmatching records, and the number of your records rejected by the NDI edit program.

5. The extent to which user records were involved in **multiple** matches with **NDI records** (i.e., how many user records matched with only one NDI record, how many matched with exactly two NDI records, and so on, up to how many user records matched with 11 or more NDI records). **NOTE**: Data on the number of multiple possible matches are intended only to show you how many possible matches can be generated by the NDI's liberal matching criteria. The matching criteria are designed to maximize the number of TRUE matches that are generated (listed), but this process requires that you expend time and effort to carefully assess your NDI results to ensure that you select only the correct matches.

6. The number of **NDI records** involved in possible matches by state of death.

Exhibit 5

# Summary Retrieval Statistics [ SUMMARY ]
*All data elements used in this exhibit are hypothetical.*

## SUMMARY RETRIEVAL STATISTICS

**NDI**     **CDC**

Year(s) searched : **1979-2007**     NDI search number: **2003-X456**

### Records on the National Death Index file:

| | |
|---|---|
| Total NDI records searched : | 66,645,785 |
| No. of NDI records involved in possible record matches : | 385 |
| All items matched : | 51 |
| Other possible matches : | 334 |

### Request records submitted by the user:

| | |
|---|---|
| Total user request records submitted : | 180 |
| No. of user records involved in matches: | 159 |
| No. of non-matching user records : | 21 |
| No. of rejected user records : | 0 |

### NUMBER OF USER REQUEST RECORDS INVOLVED IN MATCHES WITH ONE OR MORE NDI RECORDS

| Possible NDI record matches | Number of user request records |
|---|---|
| 1 NDI Records | 100 |
| 2 NDI Records | 22 |
| 3 NDI Records | 15 |
| 4 NDI Records | 8 |
| 5 NDI Records | 0 |
| 6 NDI Records | 1 |
| 7 NDI Records | 3 |
| 8 NDI Records | 2 |
| 9 NDI Records | 1 |
| 10 NDI Records | 0 |
| 11+ NDI Records | 7 |
| **Total user records involved in matches** | **159** |

EXHIBIT 5

## Summary Retrieval Statistics [ SUMMARY ]—Cont.

*All data elements used in this exhibit are hypothetical.*

**NDI** | **SUMMARY RETRIEVAL STATISTICS** | **CDC**

**NUMBER OF NDI RECORDS INVOLVED IN POSSIBLE RECORD MATCHES WITH THE USER'S REQUEST RECORDS BY REGISTRATION AREA OF DEATH**

| States | Total Possible Record Matches | Matches On All Items Provided* | Other Possible Record Matches** | States | Total Possible Record Matches | Matches On All Items Provided* | Other Possible Record Matches** |
|---|---|---|---|---|---|---|---|
| Alabama | 7 | 1 | 6 | Nebraska | 0 | 0 | 0 |
| Alaska | 0 | 0 | 0 | Nevada | 6 | 0 | 6 |
| Arizona | 7 | 1 | 6 | New Hampshire | 1 | 0 | 1 |
| Arkansas | 6 | 2 | 4 | New Jersey | 14 | 3 | 11 |
| California | 35 | 2 | 33 | New Mexico | 1 | 0 | 1 |
| Colorado | 4 | 1 | 3 | New York | 13 | 1 | 12 |
| Connecticut | 0 | 0 | 0 | New York City | 23 | 3 | 20 |
| Delaware | 2 | 0 | 2 | North Carolina | 9 | 1 | 8 |
| District of Columbia | 3 | 0 | 3 | North Dakota | 1 | 0 | 1 |
| Florida | 18 | 1 | 17 | Ohio | 10 | 0 | 10 |
| Georgia | 7 | 0 | 7 | Oklahoma | 4 | 0 | 4 |
| Hawaii | 1 | 0 | 1 | Oregon | 4 | 0 | 4 |
| Idaho | 2 | 0 | 2 | Pennsylvania | 26 | 4 | 22 |
| Illinois | 23 | 5 | 18 | Rhode Island | 2 | 0 | 2 |
| Indiana | 11 | 2 | 9 | South Carolina | 6 | 1 | 5 |
| Iowa | 2 | 1 | 1 | South Dakota | 0 | 0 | 0 |
| Kansas | 1 | 0 | 1 | Tennessee | 16 | 3 | 13 |
| Kentucky | 8 | 1 | 7 | Texas | 32 | 8 | 24 |
| Louisiana | 11 | 1 | 10 | Utah | 3 | 3 | 0 |
| Maine | 2 | 0 | 2 | Vermont | 2 | 0 | 2 |
| Maryland | 5 | 0 | 5 | Virginia | 13 | 1 | 12 |
| Massachusetts | 6 | 1 | 5 | Washington | 7 | 1 | 6 |
| Michigan | 10 | 0 | 10 | West Virginia | 3 | 0 | 3 |
| Minnesota | 5 | 0 | 5 | Wisconsin | 7 | 2 | 5 |
| Mississippi | 3 | 1 | 2 | Wyoming | 0 | 0 | 0 |
| Missouri | 2 | 0 | 2 | Puerto Rico | 0 | 0 | 0 |
| Montana | 1 | 0 | 1 | Virgin Islands | 0 | 0 | 0 |
| | | | | **Total U.S.** | **385** | **51** | **334** |

\* This column indicates how many of the 'TOTAL POSSIBLE RECORD MATCHES' resulted from situations where 'ALL' items provided on a user's request record matched with items on an NDI record.

\*\* This column indicates how many of the 'TOTAL POSSIBLE RECORD MATCHES' resulted from situations where 'ONLY SOME' of the items provided on a user's request record matched with items on an NDI record.

## NDI Retrieval Report [ REPORT ]

**NOTE**: If you decide to use computer software to assess the quality of NDI record matches or to manipulate the NDI output, use the record format provided in the "Combined File of Matching User and NDI Records" (file name = **COMBINED**).

The NDI Retrieval Report [ **REPORT** ] file is a PDF file intended only for you to print in **landscape** print format. Reduce margin widths if necessary.

The Retrieval Report is the primary output of an NDI file search. This report indicates which user records are involved in **possible** record matches with one or more NDI records. These possible matches are based on the seven matching criteria detailed at the beginning of Chapter 4. Major features of the **REPORT** file are:

1.  Only your user records that generate **possible** record matches with NDI records (according to the seven matching criteria) are listed in the Retrieval Report. Your user records are listed in the same sequence in which you submitted them. User records that do not generate any possible NDI record matches are not included in the **REPORT** file. **If you submit a large volume of records, your REPORT file may only contain a partial listing of your matching results.**

2.  The Retrieval Report first shows the information contained on the user record, followed by a listing of the NDI record or records that were identified as **possible** record matches.

3.  More than one possible NDI record match may be generated for a particular user record. Several user records and their associated possible NDI record matches are listed in the sample Retrieval Report shown in Exhibit 6.

4.  Information on each possible NDI record match includes state of death, death certificate number, and date of death. Next is indicated which data items on the NDI record agreed or disagreed with data items on your user record.

5.  NDI record matches are listed in **ranked order** based solely on the number of data items that are in agreement with those on the user record. The NDI record match containing the greatest number of matching data items is listed first. In addition, if all nine digits of the Social Security number agree, that NDI record would be listed first.

6.  When ALL of the data items provided on your user record agree exactly with the related items on an NDI record, the NDI record match will be listed with an asterisk (*) in the left margin. This does not imply that the NDI record is a **true** or correct match, especially if you provided only a limited number of data items on the subject's record, or if the subject had a common name.

7.  To properly assess your NDI results, it is important to become very familiar with the abbreviations and symbols used in the Retrieval Report. A description of the abbreviations and symbols is presented in Exhibit 6A. Geographic codes and abbreviations are listed in Exhibit 2B. Additional information regarding the assessment of your NDI results is provided in Chapter 4.

8.  If you submit a large number of records, you may find even the partial printout of this entire file too cumbersome to use. You may need to use the **COMBINED** file described in the next section.

Exhibit 6

# NDI Retrieval Report [ REPORT ]

*All names and other data elements used in this exhibit are hypothetical.*

## NDI NATIONAL DEATH INDEX RETRIEVAL REPORT    CDC

USER RECORD: ( POSSIBLE MATCHES = 001 )    NDI Search NO : 2003-X456    CONTROL NO: 0046    USER DATA: 092698

| POSSIBLE DECEDENT NAME | FATHER'S SURNAME | S S N | BIRTH DATE MO DAY YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State |
|---|---|---|---|---|---|---|---|---|---|
| RAYMOND ALDER | - | 3 5 1 7 6 6 1 5 3 | 05 / 16 / 1948 | 47 | M | - | - | CA | CA |

POSSIBLE NDI RECORD MATCHES ( IN RANKED ORDER)

| STATE OF DEATH | CERTIFICATE NUMBER | DATE OF DEATH | FN | MI | LN | FATHER'S SURNAME | LN/FS | S S N | BIRTH MO | DATE DAY | +/- YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *California | 513478 | 06/15/1995 | X | B | X | - | - | X X X X X X X X X | X | X | X | X | X | - | - | X | X | 1 |

==========================================================

USER RECORD: ( POSSIBLE MATCHES = 001 )    NDI APPL NO : Y3-X456    CONTROL NO: 0035    USER DATA: 091598

| POSSIBLE DECEDENT NAME | FATHER'S SURNAME | S S N | BIRTH DATE MO DAY YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State |
|---|---|---|---|---|---|---|---|---|---|
| JANE C THOMPSON | SMITH | 5 0 8 3 5 5 4 7 3 | 11 / 03 / 1960 | 42 | F | - | - | NY | - |

POSSIBLE NDI RECORD MATCHES ( IN RANKED ORDER)

| STATE OF DEATH | CERTIFICATE NUMBER | DATE OF DEATH | FN | MI | LN | FATHER'S SURNAME | LN/FS | S S N | BIRTH MO | DATE DAY | +/- YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 010725 | 11/14/2002 | X | X | X | X | - | X X X X X X X X X | X | X | X | X | X | - | - | - | 1 |

==========================================================

USER RECORD: ( POSSIBLE MATCHES = 004)    NDI APPL NO : Y3-X456    CONTROL NO: 0156    USER DATA: 050988

| POSSIBLE DECEDENT NAME | FATHER'S SURNAME | S S N | BIRTH DATE MO DAY YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State |
|---|---|---|---|---|---|---|---|---|---|
| ALBERT N BRADLEY | - | 0 7 8 3 6 3 4 8 5 | 01 / 27 / 1953 | 40 | M | - | - | NC | LA |

POSSIBLE NDI RECORD MATCHES ( IN RANKED ORDER)

| STATE OF DEATH | CERTIFICATE NUMBER | DATE OF DEATH | FN | MI | LN | FATHER'S SURNAME | LN/FS | S S N | BIRTH MO | DATE DAY | +/- YEAR | AGE | SEX | RACE | Marital Status | Res State | Birth State | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North Carolina | 069943 | 09/18/1993 | X | ? | X | - | - | X X X X X X X X X | X | X | X | X | X | - | - | X | X | 1 |
| Utah | 130911 | 12/06/1999 | X | | N | - | - | - X X - - - - - - | X | X | -44 | | X | - | - | | - | 0 |
| Maine | 002151 | 01/23/2000 | X | ? | N | - | - | - X - X - - - - X | X | | +01 | | X | - | - | | - | 0 |
| California | 173589 | 10/26/1985 | X | | N | - | - | - - - - - - X - - | X | | +01 | | X | - | - | | - | 0 |

==========================================================

# Retrieval Report (Abbreviations and Symbols)

## Column heading abbreviations

| Abbreviation | Definition |
|---|---|
| LN/FS | The **LAST NAME (LN)** supplied on the user record is compared with the **FATHER'S SURNAME (FS)** on the NDI record. This column is relevant only when SEX is female AND the user does not supply a FATHER'S SURNAME. A dash (-) appears in this column whenever this check is not performed; that is, whenever (a) sex is male or unknown or (b) father's surname is supplied on the user's record (for a direct comparison with the father's surname on the NDI record). |
| AGE | Age at death (actual or estimated) |
| YR | Year(s) |
| MO | Month(s) |
| WK | Week(s) |
| DY | Day(s) |
| HR | Hour(s) |
| MI | Minutes(s) |
| SEX | |
| M | Male |
| F | Female |
| MS | Marital Satus |
| S | Single |
| M | Married |
| W | Widowed |
| D | Divorced |
| RACE | |
| WH | White |
| BL | Black |
| IN | Indian |
| CH | Chinese |
| FI | Filipino |
| JA | Japanese |
| HA | Hawaiian |
| OA | Other Asian or Pacific Islander |
| ON | Other nonwhite |
| Res State | State of residence (see abbreviations in Exhibit 2B, Chapter 2) |
| Birth State | State of birth (see abbreviations in Exhibit 2B, Chapter 2) |

## Symbols used within report

| Symbols | Definition |
|---|---|
| X | User's data item matches exactly with the comparable data item on the NDI record. |
| Blank | Data item supplied by the user DOES NOT match the data item on the NDI record. |

# Retrieval Report (Abbreviations and Symbols)—Cont.

## Symbols used within report

| Symbols | Definition |
|---|---|
| ? | Insufficient information on the NDI record; data item was provided on the user record. |
| - (dash) | General usage: Data item NOT provided on user record; see exceptions below.[†] |
| * | Asterisk in the left margin indicates that ALL data items provided on the user record match exactly with the related items on the NDI record. |
| N | Names match only New York State Identification and Intelligence System (NYSIIS) phonetic codes; see http://www.dropby.com/NYSIIS.html. |
| I | Only the first initials of the first names agreed on the user and NDI records. (The remaining characters of the first names on both records either did not agree or were not provided.) |
| B | Middle initials were NOT provided on either the user record or the NDI record (i.e., BOTH fields were blank). This occurrence is treated as a match on middle initial and ASSUMES that the individual(s) did not have a middle name. (A "blank" signifies that middle initials were provided but did not agree. An "X" signifies agreement on the middle initials. A dash (-) signifies that a middle initial existed only on the NDI record, while a "?" signifies that the middle initial existed only on the user record.) |
| A | The NDI record is an **ALIAS** record (also referred to as an "Also Known As" or "AKA" record).  Some states will create and submit more than one NDI record for a decedent whenever the death certificate indicates that the decedent went by more than one first name and/or last name.  The death certificate numbers on these NDI records will be the same, indicating only one death certificate on file in that state. (Beginning with deaths for 2010, NDI will also create two alias records if the main state death record is submitted with a dash (-) between two names in the last name field. Such state records, if listed as possible matches, will also have an "A" preceding the death certificate numbers.) |
| +01 | The birth year on the NDI record is one year <u>more</u> than the birth year on the user record; for example, 19<u>10</u> (NDI record) minus 19<u>09</u> (user record) = +01. (Matching criteria 2 or 3 may have been satisfied; see **Chapter 4**.) |
| -01 | The birth year on the NDI record is one year <u>less</u> than the birth year on the user record; for example, 19<u>10</u> (NDI record) minus 19<u>11</u> (user record) = -01. (Matching criteria 2 or 3 may have been satisfied; see **Chapter 4**.) |
| ±02 through ±99 | Difference between the years of birth on the NDI and user records. The four-digit birth year on the user record is always subtracted from the four-digit birth year on the NDI record. For example, 19<u>05</u> (NDI record) minus 19<u>20</u> (user) = -15 years. |
| >99 | **Difference** between the **BIRTH YEARS** on the NDI record and the user record is greater than 99 years. For example, 2001 (NDI record) minus 1898 (user record) = 101 years or *greater than* 99 years. |

[†]Exceptions for dashes:

- SSN: Specific digits of Social Security Number did not agree.

- SSN: When Social Security Number is not provided on user record, only one "-" is printed.

- Middle initial: No middle initial was provided on user record; however, a middle initial was provided on NDI record.

- LN/FS: No cross-check was performed between the LAST NAME (LN) on the user record and the FATHER'S SURNAME (FS) on the NDI record as described above.

## Combined File of Matching User and NDI Records [ COMBINED ]

Note: This file contains the same information on each possible match as presented in the **Retrieval Report**.

1. The **COMBINED** file is intended for those NDI users who receive a large number of possible NDI record matches and would like to write computer programs to assist them in assessing the quality of the matches. This file (containing 178-character records) is not intended to be printed or read on a personal computer screen.

2. This file **combines** the information provided on a user record with information on the matching NDI record(s). Each **COMBINED** record on this file contains information from only one user record and only one matching NDI record. A separate **COMBINED** record is created for each NDI record match listed for a given user record in the NDI Retrieval Report. In such instances, all of the information from the user record is repeated at the beginning of each COMBINED RECORD.

3. The record layout for the **COMBINED** file is presented in Exhibit 7.

4. The **first 100 positions** of each **COMBINED** record contain the actual data from the user record. Refer to Chapter 2, Exhibit 2, for more detailed information about the code structure for this portion of the COMBINED RECORD.

5. **Positions 101–171** contain data related to the matching NDI record listed in the NDI Retrieval Report [ **REPORT** ] file. Refer to **Retrieval Report Abbreviations and Symbols** (Exhibit 6A) for more detailed information about the code structure for this portion of the **COMBINED** record.

6. **Positions 172–178** of each **COMBINED** record contain probabilistic scoring information on each match. Refer to Appendix A for information on probabilistic scoring.

7. The **COMBINED** record contains the state of death (data element 14) as well as the state of death **code** (data element 15) to permit users to assess agreements between the state of death code and the codes for the state of residence or state of birth (data elements 9 and 10, respectively).

8. The **COMBINED** record also indicates whether multiple NDI record matches occurred for a particular user record. Refer to **data element 32** (matching sequence) and **data element 33** (number of possible NDI record matches).

# Exhibit 7

# Record Layout for Combined File [ COMBINED ]

> *SPECIAL NOTE: This record layout is identical to the first 178 positions of the CAUSE file (see Exhibit 8). However, all of the NDI matching records listed in the COMBINED file do not appear in the CAUSE file (see Cause of Death File).

### USER RECORD INFORMATION: Data elements 1–13, positions 1–100 (*Actual* information provided by NDI user)

| Data Elements | Positions | Code Structure |
|---|---|---|
| 1. Name of person in study group: | | |
|     Last name | 1–20 | Alpha, left justified (see Exhibit 2A, Chapter 2) |
|     First name | 21–35 | Alpha, left justified (see Exhibit 2A, Chapter 2) |
|     Middle initial | 36 | Alpha or blank |
| 2. Social Security Number | 37–45 | Alpha/Numeric or blank |
| 3. Date of birth: | | |
|     Month | 46–47 | 01–12, 99, or blanks |
|     Day | 48–49 | 01–31, 99, or blanks |
|     Year | 50–53 | 1850–20xx or blanks |
| 4. Father's surname | 54–71 | Alpha, left justified; or blanks (see Exhibit 2A, Chapter 2) |
| 5. Age at death: | | |
|     Unit | 72 | 0–6, 9, or blanks (see Exhibit 2, element 5, Chapter 2) |
|     Number of units | 73–74 | 00–98, 99, or blanks (see Exhibit 2, element 5, Chapter 2) |
| 6. Sex | 75 | 1, 2, 9, M, F, or blank (see Exhibit 2, element 6, Chapter 2) |
| 7. Race | 76 | 0–8, 9, or blank (see Exhibit 2, element 7, Chapter 2) |
| 8. Marital status | 77 | 1–4, 9, or blank (see Exhibit 2, element 8, Chapter 2) |
| 9. State of residence | 78–79 | 01–57, 59, 99, or blanks (see Exhibit 2B, Chapter 2) |
| 10. State of birth | 80–81 | 01–57, 59, 99, or blanks (see Exhibit 2B, Chapter 2) |
| 11. Control or sequence number (optional) | 82–91 | Alpha/Numeric, left justified. (If this field is blank on user's record, NCHS assigns a sequence number.) |
| 12. Optional user data | 92–97 | Alpha/Numeric, left justified; or blanks. User may provide information or codes to assess each match (e.g., date of last contact or date of death; see Exhibit 2, element 12). |
| 13. Blank field | 98–100 | Blanks |

EXHIBIT 7

# Record Layout for Combined File [ COMBINED ]—Cont.

| NDI RECORD INFORMATION: Data elements 14–33, positions 101–178 (Information on matching NDI records) | | | |
|---|---|---|---|

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 14. | State of death | 101–112 | Alpha, left justified |
| 14A. | Year of death | 113–116 | Beginning with death year 1979 (4-digit year) |
| 15. | State of death CODE | 117–119 | 01–57, 59, left justified; 33C if New York City (see Exhibit 2B, Chapter 2) |
| 16. | Alias indicator | 120 | "A" if an alias record; otherwise, blank |
| 17. | Death certificate number | 121–126 | Numeric (numbers are reassigned for each year of death) |
| 18. | Date of death: | | |
| | Month | 127–128 | 01–12 |
| | Day | 129–130 | 01–31 |
| | Year (last 2 digits) | 131–132 | 00–99 |
| **For items 19–31 (positions 133–165) below, see Exhibits 6 and 6A, Chapter 3** | | | |
| 19. | Name (NDI record): | | |
| | First name | 133–134 | bX, bN, b?, lb, IN, bb (b = blank space) |
| | Middle initial | 135 | X, B, ?, -, b (b = blank space) |
| | Last name | 136 | X, N, ?, b (b = blank space) |
| 20. | Father's surname (NDI record) | 137 | X, N, ?, -, b (b = blank space) |
| 21. | Last name (**on user record**) compared with father's surname (**on NDI record**) | 138 | X, N, ?, -, b (b = blank space) |
| 22. | Social Security Number (NDI record) | 139–147 | A string of 9 X's and/or dashes (-) to show agreement or disagreement on each digit; or one dash in position 143 (surrounded by blanks) to indicate that the SSN was not reported on user's record; or a question mark (?) in position 143 to indicate that the SSN was not reported only on the NDI record. |
| 23. | Birth date (NDI record): | | |
| | Month | 148 | X, ?, -, b (b = blank space) |
| | Day | 149 | X, ?, -, b (b = blank space) |
| | Year | 150–152 | Xbb, ?bb, -b (b = blank space) +01, -01, +02, -02, … +99, -99, >99 |
| 24. | Age at death (NDI record) | 153 | X, ?, -, b (b = blank space) |
| 25. | Sex  (NDI record) | 154 | X, ?, -, b (b = blank space) |
| 26. | Race (NDI record) | 155 | X, ?, -, b (b = blank space) |
| 27. | Marital status (NDI record) | 156 | X, ?, -, b (b = blank space) |
| 28. | State of residence (NDI record) | 157 | X, ?, -, b (b = blank space) |
| 29. | State of birth  (NDI record) | 158 | X, ?, -, b (b = blank space) |

Exhibit 7

# Record Layout for Combined File [ COMBINED ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 30. | Blank field | 159–164 | Blanks |
| 31. | Exact match indicator | 165 | Asterisk (*) or blank (An "*" means all items provided on the user record match exactly with the corresponding items on the NDI record.) |
| 32. | Matching sequence | 166–168 | 001–050<br><br>This number indicates which multiple NDI record match is represented on this "User/NDI record" (e.g., **003** of 010 possible NDI record matches). **NOTE**: Virtually all of the NDI records presented in the **CAUSE** file will be the first ranked NDI record match (e.g., **001** of 010 possible matches). The **CAUSE** file may also include a few matches that were NOT ranked **first**; however, each of these matches had a probabilistic score high enough for the match to be assigned a status code of "1" (true match; assumed dead); see data element 36, position 178 below. |
| 33. | Number of possible NDI record matches | 169–171 | 001–050<br><br>This number indicates how many multiple NDI record matches were listed for a given user record (e.g., 003 of **010** possible NDI record matches; also refer to data element 32 above). |
| | **PROBABILISTIC SCORING INFORMATION** | | (See Appendix A for more detailed information on probabilistic scoring.) |
| 34. | PROBABILISTIC SCORE | 172–176 | |
| 35. | CLASS CODE | 177 | 1, 2, 3, 4, or 5 |
| 36. | STATUS CODE | 178 | 0 = FALSE match (assumed alive)<br>1 = TRUE match (assumed dead) |

## Cause of Death File [ CAUSE ]

**NOTE: DO NOT ACCESS THIS FILE FIRST. The NDI user must first access other NDI files to identify TRUE matches from all of the possible matches listed (see item 5). The CAUSE file does not contain all of the matches—it contains only those NDI matches (and their related cause of death codes) that were ranked first or had a high probabilistic score (see "Important Limitations" section).**

**If you selected true matches for which cause of death codes are not available on the CAUSE or PRTCAUSE files, contact NDI staff before attempting to purchase copies of death certificates. The staff may be able to provide you with the appropriate cause of death codes.**

1. The NDI Plus **CAUSE** file does not appear on the NDI Results CD for those users who requested only a **routine** NDI search (which provides only the state of death, date of death, and death certificate number for each possible match).

2. The **CAUSE** file contains 438 positions for each record, as described in Exhibit 8. The **CAUSE** file is not intended to be printed. It is a text file that can be used with your own software. Its primary use is to link the **true** matches identified in the **COMBINED** file with their cause of death codes in the **CAUSE** file.

3. The **CAUSE** file begins with the same 178-record format as the **COMBINED** file (positions 1–178). The remaining fields on the **CAUSE** file contain the coded causes of death (see positions 180–438). The order of the user records listed in the **CAUSE** file will be the same as the order in the **COMBINED** file.

4. The underlying and multiple cause of death codes reported for deaths occurring from 1979 through 1998 come from the *International Classification of Diseases, Ninth Revision* (ICD–9), while the cause of death codes for deaths occurring in 1999 and later come from the *International Classification of Diseases, Tenth Revision* (ICD–10). All ICD–9

codes are three or four digits. All ICD–10 codes begin with an alpha character followed by two or three digits. NOTE: NDI results do not include decimals in the underlying and multiple cause of death codes. The decimal is implied between the third and fourth digits for ICD–9 codes and between the second and third digits for ICD–10 codes.

5. The CD that contains your NDI results has a folder named "**CAUSE CODES.**" **BEFORE OPENING THE FILES CONTAINING THE ICD‒9 AND ICD‒10 CODES, REFER TO APPENDIX B OF THIS USER'S GUIDE TO LEARN MORE ABOUT THE DIFFERENT TYPES OF CAUSE OF DEATH CODES. It is important that you understand the differences among the underlying cause of death codes, the entity-axis codes, and the record-axis codes. (This same Appendix B is included on your NDI Search Results CD and is named "Read Me First.")**

6. Before using the **CAUSE** file, the NDI user should determine which of the possible NDI record matches are likely to be **true** matches and which are only **questionable** matches. This may be done by accessing either of the following two files, depending on the overall number of possible NDI record matches you have to assess:

   • NDI Retrieval Report [ **REPORT** ]

   • Combined File of Matching User and NDI Records [ **COMBINED** ]

7. Once the true and questionable NDI record matches have been determined, the user can link these records to the **CAUSE** file to obtain the associated coded causes of death. The linkage may be performed based on the following fields on both the **COMBINED** and the **CAUSE** files:

   • State of death code (positions 117–119)

   • Death certificate number (positions 121–126)

   • Year of death (positions 131–132)

## Important limitations

NDI is authorized to release only the coded causes of death for either of the following two types of NDI record matches:

1. **Matches that are ranked first in the NDI list of possible NDI record matches.** NDI record matches are ranked based on the number of data items that agree, with a record containing an agreement on Social Security number always being ranked first. If you use the **COMBINED** file to assess the NDI matches, refer to positions 166–168 to determine how the record was ranked. **NOTE: Many matches that are ranked first can still be false matches.**

2. **Any match (regardless of its rank) that has a high-enough probabilistic score to be assigned a Status Code of "1" (meaning true match; assumed dead).** To determine whether an NDI record was assigned a Status Code of 1, refer to any of the following files:

   - NDI Retrieval Report [ **REPORT** ]—last printed column

   - Combined File of Matching User and NDI Records [ **COMBINED** ]— position 178

   - Cause of Death File [ **CAUSE** ]— position 178

   - Cause of Death Report [ **PRTCAUSE** ]— last printed column

**NOTE: Most NDI record matches that are good enough to be assigned a Status Code of 1 will also tend to be ranked first in the list of possible matches. However, the Status Codes are intended only as a guide for the NDI user. The probabilistic scoring system gives fairly conservative results. Consequently, most of the records assigned a Status Code of 1 will actually be TRUE matches, while a number of additional true matches may be found among those records assigned the Status Code of 0 (meaning a false match; assumed alive). IT IS THE USER'S RESPONSIBILITY TO MAKE A FINAL DETERMINATION OF THE TRUE AND FALSE MATCHES. Refer to Appendix A for information on the assignment of probabilistic scores.**

## Other limitations

**Illinois cause of death codes**: Illinois state law prohibits the release of identifying cause of death information whenever selected causes of death appear on a death certificate. In such instances, the NDI Plus service is restricted from releasing any cause of death codes appearing on that record. This restriction pertains to only 1 percent of all the Illinois deaths occurring after 1986. For these records, the underlying cause field will contain "N/A" to indicate that the code is not available. The multiple-cause fields will be left blank. (Note: Whenever Illinois releases copies of such death certificates, they are required by law to remove all the causes of death that appear on the document.)

**Unlinkable cause of death information**: Because of minor differences each year in the cutoff dates before the creation of the NDI file and the NCHS Multiple Cause of Death files, a few instances may occur in which coded cause of death information is not available for the matching NDI records. For these records, the underlying cause field will contain "N/A" to indicate that the code is not available. The multiple cause of death fields will be left blank. This is especially true for those few **belated records** that arrive after a particular year of death has been closed.

**1981 and 1982 multiple-cause data**: With the exception of calendar years 1981 and 1982, all deaths occurring annually in the United States are processed. Although underlying cause data have been processed for all 54 registration areas, in 1981 and 1982 multiple-cause data were coded on only a 50 percent sample basis for deaths occurring in 19 registration areas. The remaining 35 registration areas had multiple-cause data processed on a 100 percent basis in 1981 and 1982. (The registration areas are the 50 states, New York City, District of Columbia, Puerto Rico, and Virgin Islands.) The multiple-cause data for the following 19 registration areas were coded for only a 50 percent sample of their 1981 and 1982 deaths:

| | | |
|---|---|---|
| Alabama | Illinois | Oklahoma |
| Arizona | Indiana | Rhode Island |
| Arkansas | Kentucky | Tennessee |
| California | Montana | Texas |
| Florida | North Dakota | Washington |
| Georgia | Ohio | West Virginia |
| Idaho | | |

# Exhibit 8

## Record Layout for Cause File [ CAUSE ]

> NOTE: Positions 1–178 are identical to "Exhibit 7: Record Layout for the **COMBINED** File."

| USER RECORD INFORMATION: Data elements 1–13, positions 1–100 (*Actual* information provided by NDI user) | | |
|---|---|---|
| **Data Elements** | **Positions** | **Code Structure** |
| 1.  Name of person in study group: | | |
|     Last name | 1–20 | Alpha, left justified (see Exhibit 2A, Chapter 2) |
|     First name | 21–35 | Alpha, left justified (see Exhibit 2A, Chapter 2) |
|     Middle initial | 36 | Alpha or blank |
| 2.  Social Security Number | 37–45 | Alpha/Numeric or blank |
| 3.  Date of birth: | | |
|     Month | 46–47 | 01–12, 99, or blanks |
|     Day | 48–49 | 01–31, 99, or blanks |
|     Year | 50–53 | 1850–20xx or blanks |
| 4.  Father's surname | 54–71 | Alpha, left justified; or blanks (see Exhibit 2A, Chapter 2) |
| 5.  Age at death: | | |
|     Unit | 72 | 0–6, 9, or blanks (see Exhibit 2, element 5, Chapter 2) |
|     Number of units | 73–74 | 00–98, 99, or blanks (see Exhibit 2, element 5, Chapter 2) |
| 6.  Sex | 75 | 1, 2, 9, M, F, or blank (see Exhibit 2, element 6, Chapter 2) |
| 7.  Race | 76 | 0–8, 9, or blank (see Exhibit 2, element 7, Chapter 2) |
| 8.  Marital status | 77 | 1–4, 9, or blank (see Exhibit 2, element 8, Chapter 2) |
| 9.  State of residence | 78–79 | 01–57, 59, 99, or blanks (see Exhibit 2B, Chapter 2) |
| 10.  State of birth | 80–81 | 01–57, 59, 99, or blanks (see Exhibit 2B, Chapter 2) |
| 11.  Control or sequence number (optional) | 82–91 | Alpha/Numeric, left justified. (If this field is blank on user's record, NCHS assigns a sequence number.) |
| 12.  Optional user data | 92–97 | Alpha/Numeric, left justified; or blanks. User may provide information or codes to assess each match (e.g., date of last contact or date of death; see Exhibit 2, element 12). |
| 13.  Blank field | 98–100 | Blanks |

EXHIBIT 8

# Record Layout for Cause File [ CAUSE ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| **NDI RECORD INFORMATION: Data elements 14–33, positions 101–178 (Information on matching NDI records)** | | | |
| 14. | State of death | 101–112 | Alpha, left justified |
| 14A. | Year of death | 113–116 | Beginning with death year 1979 (4-digit year) |
| 15. | State of death CODE | 117–119 | 01–57, 59, left justified; 33C if New York City (see Exhibit 2B, Chapter 2) |
| 16. | Alias indicator | 120 | "A" if an alias record; otherwise, blank |
| 17. | Death certificate number | 121–126 | Numeric (numbers are reassigned for each year of death) |
| 18. | Date of death: | | |
| | Month | 127–128 | 01–12 |
| | Day | 129–130 | 01–31 |
| | Year (last 2 digits) | 131–132 | 00–99 |
| **For items 19–31 (positions 133–165) below, see Exhibit 6 and 6A, Chapter 3** | | | |
| 19. | Name (NDI record): | | |
| | First name | 133–134 | bX, bN, b?, lb, IN, bb (b = blank space) |
| | Middle initial | 135 | X, B, ?, -, b (b = blank space) |
| | Last name | 136 | X, N, ?, b (b = blank space) |
| 20. | Father's surname (NDI record) | 137 | X, N, ?, -, b (b = blank space) |
| 21. | Last name (**on user record**) compared with father's surname (**on NDI record**) | 138 | X, N, ?, -, b (b = blank space) |
| 22. | Social Security Number (NDI record) | 139–147 | A string of 9 Xs and/or dashes (-) to show agreement or disagreement on each digit; or one dash in position 143 (surrounded by blanks) to indicate that the SSN was not reported on user's record; or a question mark (?) in position 143 to indicate that the SSN was not reported only on the NDI record. |
| 23. | Birth date (NDI record): | | |
| | Month | 148 | X, ?, -, b (b = blank space) |
| | Day | 149 | X, ?, -, b (b = blank space) |
| | Year | 150–152 | Xbb, ?bb, -b (b = blank space) +01, -01, +02, -02, … +99, -99, >99 |
| 24. | Age at death (NDI record) | 153 | X, ?, -, b (b = blank space) |
| 25. | Sex (NDI record) | 154 | X, ?, -, b (b = blank space) |
| 26. | Race (NDI record) | 155 | X, ?, -, b (b = blank space) |
| 27. | Marital status (NDI record) | 156 | X, ?, -, b (b = blank space) |
| 28. | State of residence (NDI record) | 157 | X, ?, -, b (b = blank space) |
| 29. | State of birth (NDI record) | 158 | X, ?, -, b (b = blank space) |
| 30. | Blank field | 159–164 | Blanks |

Exhibit 8

# Record Layout for Cause File [ CAUSE ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 31. | Exact match indicator | 165 | Asterisk (*) or blank (An "*" means all items provided on the user record match exactly with the corresponding items on the NDI record.) |
| 32. | Matching sequence | 166–168 | 001–050<br><br>This number indicates which multiple NDI record match is represented on this "User/NDI record" (e.g., **003** of 010 possible NDI record matches). **NOTE**: Virtually all of the NDI records presented in the **CAUSE** file will be the first ranked NDI record match (e.g., **001** of 010 possible matches). The **CAUSE** file may also include a few matches that were NOT ranked **first**; however, each of these matches had a probabilistic score high enough for the match to be assigned a status code of "1" (true match; assumed dead); see data element 36, position 178 below. |
| 33. | Number of possible NDI record matches | 169–171 | 001–050<br><br>This number indicates how many multiple NDI record matches were listed for a given user record (e.g., 003 of **010** possible NDI record matches; also refer to data element 32 above). |
| | **PROBABILISTIC SCORING INFORMATION** | | (See Appendix A for more detailed information on probabilistic scoring.) |
| 34. | PROBABILISTIC SCORE | 172–176 | |
| 35. | CLASS CODE | 177 | 1, 2, 3, 4, or 5 |
| 36. | STATUS CODE | 178 | 0 = FALSE match (assumed alive)<br>1 = TRUE match (assumed dead) |
| 37. | Blank field | 179 | Blank |

EXHIBIT 8

# Record Layout for Cause File [ CAUSE ]—Cont.

> CAUSE OF DEATH CODES: Data elements 38–83, positions 180–438
> NOTE: ICD–9 codes are used for 1979–1998 deaths. ICD–10 codes are used for deaths beginning 1999 and begin with alpha characters. When cause of death codes are NOT available, positions 180–183 will contain N/A and positions 184–438 will be blank.

| UNDERLYING CAUSE OF DEATH | 180–194 | These four fields contain the ICD code for the underlying cause of death and recodes of the ICD code into selected groups. |
|---|---|---|

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 38. | **Underlying Cause of Death Code**: ICD codes (9th or 10th Revisions)<br><br>Refer to Appendix B for more information about the Underlying Cause of Death Code and the recodes assigned by NCHS. (Note: The recodes are usually not used by researchers using NDI.) | 180–183 | (1) Sources: World Health Organization. Manual of the International Classification of Diseases, Injuries, and Causes of Death, based on recommendations of the Ninth Revision Conference, 1975. Geneva: World Health Organization. 1977.<br><br>(2) World Health Organization. International Statistical Classification of Diseases and Related Health Problems, Tenth Revision. Geneva: World Health Organization. 1992. (Refer to your *NDI Search Results* CD for files of all ICD codes.)<br><br>**NOTE**: Whenever the ICD code has four positions, an implied decimal occurs after the third position. Position 183 is blank for those causes that do not have a fourth digit. Also note that the ICD–9 codes for *External Causes of Death* are actually E800–E999; however, for data processing purposes, NCHS never includes the letter "E" in positions 180–183. Any 800–999 codes in positions 180–183 are *external* cause codes. Do not confuse these external cause codes with the ICD–9 *Nature of Injury* codes (800–999), which can appear **only** in the *multiple* cause data fields for entity-axis conditions (positions 197–336) and for record-axis conditions (positions 339–438). *Nature of Injury* codes are <u>never</u> used for the underlying cause of death. (Refer to your **NDI Search Results** CD for a separate list of ICD–9 *Nature of Injury* Codes; ICD–10 *Nature of Injury* codes range from S00–T98.) |
| 39. | 282 ICD–9 or 358 ICD–10 Cause **Recode** | 184–188 | A recode of the ICD–9 or ICD–10 cause code into 282 or 358 groups for use in NCHS publications. (Refer to your **NDI Search Results** CD for a complete list of recodes and the causes included.)<br><br>**Code ranges: ICD–9** (00100–35800), not inclusive; **ICD–10** (00100– 45600), not inclusive. |

EXHIBIT 8

# Record Layout for Cause File [ CAUSE ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 40. | 72 ICD–9 or 113 ICD–10 Cause *Recode* | 189–191 | A recode of the ICD–9 or ICD–10 cause code into 72 or 113 groups for use in NCHS publications. (Refer to your *NDI Search Results* CD for a complete list of these recodes.) |
| | | | **Code ranges: ICD–9** (010–840), not inclusive; **ICD–10** (001–135), not inclusive. |
| 41. | 61 ICD–9 or 130 ICD–10 Infant Cause *Recode* | 192–194 | A recode of the ICD–9 or ICD–10 cause code into 61 or 130 groups for use in NCHS publications. Note that while records for all age groups will have a recode in this field (positions 192–194), the field is only applicable when compiling statistics on infants under age 1 year. |
| | | | **Code ranges: ICD–9** (010–680), not inclusive; I**CD–10** (001–158), not inclusive. |
| **MULTIPLE CAUSES: *ENTITY*-AXIS CONDITIONS** | | | |
| | **ENTITY-AXIS CONDITIONS** <br><br> Refer to Appendix B for more information on entity-axis codes (or conditions). | 197–336 | Space has been provided for a maximum of 20 conditions. Each condition takes 7 positions in the record. Records that do not have 20 conditions are blank in the unused positions or area. <br><br> Position 1: Part/line number on certificate <br> 1 ….. Part I, line 1 (a) <br> 2 ….. Part I, line 2 (b) <br> 3 ….. Part I, line 3 (c) <br> 4 ….. Part I, line 4 (d) <br> 5 ….. Part I, line 5 (e) <br> 6 ….. Part II <br><br> Position 2: Sequence of condition within part/line code range: 1–7 <br><br> Position 3–6: Condition code (See ICD–9 or ICD–10 codes on your *NDI Search Results* CD.) <br> **NOTE**: Whenever a four-position code occurs, an implied decimal always occurs after the third position. <br><br> Position 7: Nature of Injury flag (only for ICD–9 codes) <br> 1 ..... Indicates that the code in positions 3–6 is a Nature of Injury ICD–9 code <br><br> 0 …. All other codes |
| 43. | 1st Condition | 197–203 | |
| 44. | 2nd Condition | 204–210 | |
| 45. | 3rd Condition | 211–217 | |
| 46. | 4th Condition | 218–224 | |
| 47. | 5th Condition | 225–231 | |
| 48. | 6th Condition | 232–238 | |
| 49. | 7th Condition | 239–245 | |
| 50. | 8th Condition | 246–252 | |
| 51. | 9th Condition | 253–259 | |

EXHIBIT 8

# Record Layout for Cause File [ CAUSE ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 52. | 10th Condition | 260–266 | |
| 53. | 11th Condition | 267–273 | |
| 54. | 12th Condition | 274–280 | |
| 55. | 13th Condition | 281–287 | |
| 56. | 14th Condition | 288–294 | |
| 57. | 15th Condition | 295–301 | |
| 58. | 16th Condition | 302–308 | |
| 59. | 17th Condition | 309–315 | |
| 60. | 18th Condition | 316–322 | |
| 61. | 19th Condition | 323–329 | |
| 62. | 20th Condition | 330–336 | |
| **MULTIPLE CAUSES: _RECORD_-AXIS CONDITIONS** | | | |
| 63. | Number of Record Axis Conditions | 337–338 | Code range: 00–20 |
| | **RECORD-AXIS CONDITIONS**<br><br>Refer to Appendix B for more information on record-axis codes (or conditions). | | Space has been provided for a maximum of 20 conditions. Each condition takes 5 positions in the record. Records that do not have 20 conditions are blank in the unused positions or area.<br><br>Positions 1–4: Condition Code (see ICD–9 or ICD–10 codes on your **NDI Search Results** CD.) **NOTE**: Whenever a four-position code occurs, an implied decimal always occurs after the third position.<br><br>Position 5: Nature of Injury Flag (only for ICD–9 codes)<br><br>1 ..... Indicates that the code in position 1–4 is a Nature of Injury ICD–9 code<br>0 ..... All other codes |
| 64. | 1st Condition | 339–343 | |
| 65. | 2nd Condition | 344–348 | |
| 66. | 3rd Condition | 349–353 | |
| 67. | 4th Condition | 354–358 | |
| 68. | 5th Condition | 359–363 | |
| 69. | 6th Condition | 364–368 | |
| 70. | 7th Condition | 369–373 | |
| 71. | 8th Condition | 374–378 | |
| 72. | 9th Condition | 379–383 | |
| 73. | 10th Condition | 384–388 | |
| 74. | 11th Condition | 389–393 | |
| 75. | 12th Condition | 394–398 | |
| 76. | 13th Condition | 399–403 | |
| 77. | 14th Condition | 404–408 | |

Exhibit 8

## Record Layout for Cause File [ CAUSE ]—Cont.

| | Data Elements | Positions | Code Structure |
|---|---|---|---|
| 78. | 15th Condition | 409–413 | |
| 79. | 16th Condition | 414–418 | |
| 80. | 17th Condition | 419–423 | |
| 81. | 18th Condition | 424–428 | |
| 82. | 19th Condition | 429–433 | |
| 83. | 20th Condition | 434–438 | |

## Cause of Death Report [ PRTCAUSE ]

The **PRTCAUSE** file represents the PRINTCAUSE file.

The **PRTCAUSE** file contains the **Cause of Death Report** that is formatted solely to generate an easy-to-read printout of the same coded causes of death included in the **Cause of Death File** (**CAUSE** file). An example of a printed page of this report appears in Exhibit 9. The cause of death codes used in Exhibit 9 are intended only to show the relative positions and lengths of the cause of death codes that would appear in an actual report.

The **PRTCAUSE** file is intended primarily for NDI users who:

3. Submit a small number of records for an NDI Plus search. (**Note: If you submitted a large volume of records, your PRTCAUSE file may contain only a partial listing of your search results.**)

4. Expect to identify only a small number of deaths.

5. Do not plan to write computer programs to link the coded causes of death from the CAUSE file with other data on the study subjects.

6. Want to quickly inspect the coded causes of death associated with **true** NDI record matches.

As discussed with the **CAUSE** file in the previous section, the **PRTCAUSE** file also lists only those NDI record matches that were either ranked first among the possible matches or received probabilistic scores high enough to be assumed to be TRUE matches. Based on the probabilistic score, each record is assigned a Status Code. The Status Codes can be found in the last column of the printed PRTCAUSE file. Each NDI record match listed will have either a status code of "1" (meaning TRUE match; assumed dead) or a status code of "0" (meaning FALSE match; assumed alive).

**NOTE: Most NDI record matches that are good enough to be assigned a Status Code of 1 will also tend to be ranked first in the list of possible matches. However, the Status Codes are intended only as a guide for the NDI user. The probabilistic scoring system gives fairly conservative results. Consequently, most of the records assigned a Status Code of 1 will actually be TRUE matches, while a number of additional TRUE matches may be found among those records assigned the Status Code of 0 (meaning a FALSE match; assumed alive). IT IS THE USER'S RESPONSIBILITY TO MAKE A FINAL**

**DETERMINATION OF THE TRUE AND FALSE MATCHES. Refer to Appendix A for information on the assignment of probabilistic scores.**

The order in which possible NDI record matches are listed in the printed Cause of Death Report is as follows:

1. The matches are first grouped BY STATE (in alphabetical order; however, Puerto Rico and Virgin Islands are listed last).

2. The matches are then listed BY YEAR OF DEATH (in ascending order).

3. Within a given year, the matches are listed BY DEATH CERTIFICATE NUMBER (in ascending order).

Refer to your "NDI Search Results" CD for files containing lists of all ICD cause of death codes. To better understand the various cause of death codes and conditions, *you are strongly encouraged to review Appendix B of this Users Guide first.* Note that ICD–9 codes are used for deaths occurring through 1998, and ICD–10 codes are used from 1999 onward. Furthermore, all ICD–10 codes start with an alpha character while ICD–9 codes are composed only of numbers.

<u>Underlying cause of death</u>: The following information about the codes for underlying cause of death and multiple causes of death is repeated from item 38 of the CAUSE file in the previous section:

**Note: Whenever the ICD code has four positions, a decimal is implied after the third position.** The fourth position is blank for those causes that do not have a 4th digit. Also note that the ICD–9 codes for External Causes of Death are actually E800–E999; however, for data processing purposes, NCHS never includes the letter "E" in the first position. Any 800–999 codes listed in the underlying cause of death box in Exhibit 9 are **external** cause codes. Do not confuse these external cause codes with the ICD–9 Nature of Injury codes (800–999), which can only appear in the multiple-cause rows for entity-axis conditions and for record-axis conditions. Nature of Injury codes are **never** used for the underlying cause of death. (Refer to your "NDI Search Results" CD for a separate list of ICD–9 Nature of Injury codes. For ICD–10, the Nature of Injury codes and the External Causes of Death codes do not overlap. ICD–10 Nature of Injury codes range from S00 through T98, and External Causes of Death codes range from U01 through Y89.)

**Entity-axis conditions**: Each of these codes includes a prefix that indicates the relative order in which the condition was listed in the cause of death section of a death certificate. These prefixes are in positions 1–2. Positions 3–6 are the actual conditions—with an implied decimal after the 5th position. The 7th position is the Nature of Injury flag (only for ICD–9 codes). These various positions are further described as follows:

Space has been provided for a maximum of 20 conditions. Each condition takes 7 positions in the record. Records that do not have 20 conditions are blank in the unused positions or area.

Position 1: Part/line number on certificate

   1 .......... Part I, line 1 (a)

   2 .......... Part I, line 2 (b)

   3 .......... Part I, line 3 (c)

   4 .......... Part I, line 4 (d)

   5 .......... Part I, line 5 (e)

   6 .......... Part II

Position 2: Sequence of condition within part/line— Code range: 1–7

Positions 3-6: Condition code (See files containing ICD–9 and ICD–10 codes on your "NDI Search Results" CD.) Note: Whenever a 4-position condition code occurs, a decimal is always implied after the 3rd position of that condition code.

Position 7: Nature of Injury flag (**only for ICD–9 codes**)

   1 ....... Indicates that the code in positions 3–6 is a Nature of Injury ICD–9 code

   0 ....... All other codes

**Record-axis conditions**: Whenever a 4-position code occurs, a decimal is always implied after the 3rd position. Record axis codes and conditions are further described as follows:

Space has been provided for a maximum of 20 conditions. Each condition takes five positions in the record. Records that do not have 20 conditions are blank in the unused positions or area.

Positions 1–4: Condition code (See files containing ICD–9 and ICD–10 codes on your "NDI Search Results" CD.)

Position 5: Nature of Injury flag (**only for ICD–9 codes**)

   1 ....... Indicates that the code in position 1–4 is a Nature of Injury ICD–9 code

   0 ....... All other codes

Exhibit 9

## Cause of Death Report [ PRTCAUSE ]
*All names and other data elements used in this exhibit are hypothetical.*

**NDI** — **NATIONAL DEATH INDEX RETRIEVAL REPORT** — **CDC**

| Death Year | State Code | State Name | Certificate No | Control No | Last Name (As Sent) | Underlying Cause Code | 282 or 358 Cause Recode | 72 or 113 Cause Recode | 61 or 130 Cause Recode | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|
| 2002 | 01 | ALABAMA | 019137 | 0046 | ALDER | X31 | 423 | 123 | | 1 |

ENTITY AXIS CODES:    11I469    21T68    22X31

RECORD AXIS CODES:    I469    T68    X31

| Death Year | State Code | State Name | Certificate No | Control No | Last Name (As Sent) | Underlying Cause Code | 282 or 358 Cause Recode | 72 or 113 Cause Recode | 61 or 130 Cause Recode | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|
| 2002 | 01 | ALABAMA | 035414 | 0035 | JONES | C499 | 103 | 043 | | 1 |

ENTITY AXIS CODES:    11J969    21C499

RECORD AXIS CODES:    C499    J969

| Death Year | State Code | State Name | Certificate No | Control No | Last Name (As Sent) | Underlying Cause Code | 282 or 358 Cause Recode | 72 or 113 Cause Recode | 61 or 130 Cause Recode | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|
| 2002 | 04 | ARKANSAS | 014670 | 0146 | MURPHY | K703 | 298 | 094 | | 0 |

ENTITY AXIS CODES:    11K922    21F102    61K703    62I850

RECORD AXIS CODES:    F102    I850    K703    K922

| Death Year | State Code | State Name | Certificate No | Control No | Last Name (As Sent) | Underlying Cause Code | 282 or 358 Cause Recode | 72 or 113 Cause Recode | 61 or 130 Cause Recode | Status Code |
|---|---|---|---|---|---|---|---|---|---|---|
| 1992 | 05 | CALIFORNIA | 013392 | 0087 | WILSON | 3310 | 15300 | 780 | | 1 |

ENTITY AXIS CODES:    1103800    21485    0    3133100

RECORD AXIS CODES:    03800    33100    485    0

## Death Certificate Request Forms
## [ REQFORMS ]

### General information

1. The **REQFORMS** file contains a list of all the possible NDI record matches grouped by the states (registration areas) in which the deaths occurred. **(Note: If you submitted a large volume of records, your REQFORMS file may only contain a partial listing of your Request Forms.)** If you need death certificates for your study, you are encouraged to use these Death Certificate Request Forms for requesting copies of death certificates from state vital statistics offices. Listed below are a few reasons why an NDI user may find it necessary to purchase some copies of death certificates directly from the states:

   a. Whenever you feel that a **true** match has occurred for other than a first ranked (or highly probable) NDI match. (However, call NDI staff **before** requesting such state death certificates to see if the staff can provide you with cause of death codes for the true matches you selected.)

   b. To confirm whether **questionable** matches are actually **true** matches, especially when only phonetic rather than exact agreements occur on the names of the study subjects.

   c. To obtain other statistical information from the death certificate such as place of death, education, or industry or occupation data.

   d. To be able to initiate follow-back investigations involving contacts with next of kin, physicians, or hospitals.

   e. Whenever the coded cause of death information is NOT AVAILABLE for a matching NDI record.

2. A separate Death Certificate Request Form is generated for each state that had at least one NDI record match. A sample form for one state is presented in Exhibit 10.

3. The NDI record matches for each state are sorted (in ascending order) first by year of death and then by death certificate number.

4. Selected information from each matching user record is presented with the NDI record. This is intended to assist the state vital statistics offices in confirming that they are releasing the correct certificate.

5. The column labeled **"ID or CONTROL Number"** represents the ID or control number that appears in positions 82–91 of the user record. (NCHS will assign a number if one is not provided by the user; for example, ID000001, ID000002, ID000003, etc.)

6. The column labeled **Optional User Data** contains data that appear in positions 92–97 of the user record. (This information is left blank if a user record does not contain optional user data.) These optional user data are usually provided by the user as date of last contact or date of death.

7. The column labeled **"Record Number"** contains the **sequence numbers** assigned to NDI record matches listed for a particular state. These numbers are intended to make it easier to refer to specific NDI records listed for that state.

8. After you have carefully evaluated each possible NDI record match listed in the NDI Retrieval Report:

   a. Check off boxes on the left of the Death Certificate Request Forms for those death certificates you would like to obtain from each state office.

   b. Contact the appropriate state offices to determine (1) their fees, (2) how to make out the checks, and (3) what additional information you need to attach before the office will release copies of the requested certificates.

   c. Always complete the first page of a state's Death Certificate Request Form. To minimize the number of pages sent to a particular state, eliminate all other pages that do not contain requests for any death certificates; that is, those that do not have any check marks in the lefthand boxes.

   d. Include a copy of your NDI application form with your requests for state certificates.

   e. Mail the forms to the appropriate state offices. Attach your payment to each form and include any additional information the state may require. The NCHS website has information on how to contact each state

and on each state's procedures for obtaining copies of death certificates, available from: http://www.cdc.gov/nchs/w2w.htm.

    f.    State offices are encouraged to return these forms to you when they send you copies of the requested certificates. Each form has space for the state office to indicate how many certificates were furnished, how many certificates were not furnished, which certificates were not furnished, and the reason a particular certificate was not furnished.

9.    A copy of the U.S. Standard Certificate of Death appears in Exhibit 11 with instructions for completing the cause of death sections appearing in Exhibit 11A.

## Matching User Records [ MATCH ], Nonmatching User Records [ NOMATCH ], and Rejected User Records [ REJECTS ]

1.    These three files contain only the user record information you provided. These records are in the same record format as the records you submitted to NCHS.

2.    The user records are grouped as follows:

    a.    Matching users records (**MATCH** file): Contains user records involved in a possible match with at least one NDI record.

    b.    Nonmatching user records (**NOMATCH** file): Contains user records not involved in any match with NDI records.

    c.    Rejected user records (**REJECTS** file): Contains user records that failed to satisfy the basic criteria of the NDI edit program and were thus rejected **prior to** the search of the NDI file.

3.    These three files are generated strictly for your information. They potentially can be used as follows:

    a.    **MATCH** file: After you determine which of the MATCHING USER RECORDS were not involved in **true** matches, you can delete these records from the **MATCH** file and add them to the **NOMATCH** file.

    b.    **NOMATCH** file: This file may be saved and then resubmitted to NCHS for repeat NDI file searches as subsequent years of death become available.

    c.    **REJECTS** file: Each record on this file was REJECTED because it did not contain at least a first and last name and either a Social Security number or a month and year of birth. Note, however, that if a user record does not contain a first and last name, it will not be rejected as long as it at least has a Social Security number, date of birth, and sex. If the missing information on some or all of these user records can be obtained and added to the file, the records could be resubmitted for an NDI file search at no extra charge.

4.    The record format and code structure for the user records on these three files are presented in Exhibit 2, Chapter 2.

Exhibit 10

# Death Certificate Request [ REQFORMS ]

*All names and other data elements used in this exhibit are hypothetical.*

Registration Area :

**Alabama**

NDI Search No :

**2003-X456**

We Are Requesting Copies Of Only Those Death Certificates Which We Have Checked In the LEFT MARGIN.

**PLEASE SEND COPIES TO :**

No. of Certificates Requested : _____

State Charge Per Certificate : $ _____

Total State Charge (Attached) : $ _____

Questions Should be Directed To :

Name : _____

Telephone : ( )

To Be Completed By Registration Area :

Number Of Certificates

FURNISHED : _____   NOT FURNISHED : _____

Please Return This Form to the NDI user Along with Copies of The Requested Certificates. If Your Registration Area Is Unable To Furnish A Particular Certificate, Please Place an "X" In The Left Margin And Provide The User With a Brief Explanation In The Space Below The Record.

**NDI  Records**    **U S E R    R E C O R D    I N F O R M A T I O N**

| | Certificate Number | Date Of Birth | Name Of Study Subject | | Father's Surname | Social Security Number | Birth Date | Control No / Data | Seq No |
|---|---|---|---|---|---|---|---|---|---|
| | 027231 | 09/05/1992 | MARY SMITH | (N) | - | 123-45-6789 | 01/15/1949 | ID2185389 102989 | 1 |
| | 038172 | 09/12/1993 | HELEN JONES | (N) | - | 987-65-4321 | 09/16/1929 | ID2126893 030985 | 2 |
| | A047710 | 02/03/1996 | JAMES WILLIAMS | | - | 666-55-4444 | 08/17/1937 | ID1998430 121679 | 3 |
| | 003745 | 04/28/1999 | MARGARET WILSON | | - | 333-22-1111 | 02/18/1942 | ID2299732 051582 | 4 |
| | 025843 | 07/07/1999 | ROBERT BROWN | (N) | - | 999-77-6666 | 03/20/1936 | ID2206822 190787 | 5 |
| | 002414 | 07/23/2001 | GEORGE  JOHNSON | | - | 444-44-4444 | 04/21/1950 | ID1914686 110781 | 6 |
| | 012964 | 03/30/2005 | THOMAS MOORE | (N) | - | 888-12-3456 | 01/22/1955 | ID2189132 042190 | 7 |
| | 043667 | 12/04/2007 | ELIZABETH  ANDERSON | (N) | - | 222-66-3333 | 06/23/1941 | ID2733631 093086 | 8 |

(A)  ALIAS  RECORD          (N)  NYSIIS PHONETIC MATCH ON NAME (S)

Exhibit 11

# U.S. Standard Certificate of Death

LOCAL FILE NO.　　　　　　　　　　　　　　　　　　　　　STATE FILE NO.

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

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

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

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

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

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

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

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

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

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

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

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

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

ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH | 24. DATE PRONOUNCED DEAD (Mo/Day/Yr) | 25. TIME PRONOUNCED DEAD

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

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

## CAUSE OF DEATH (See instructions and examples)

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

Approximate interval: Onset to death

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

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

PART II. Enter other significant conditions contributing to death but not resulting in the underlying cause given in PART I | 33. WAS AN AUTOPSY PERFORMED? ☐ Yes ☐ No

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

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

36. IF FEMALE: ☐ Not pregnant within past year ☐ Pregnant at time of death ☐ Not pregnant, but pregnant within 42 days of death ☐ Not pregnant, but pregnant 43 days to 1 year before death ☐ Unknown if pregnant within the past year

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

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

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

43. DESCRIBE HOW INJURY OCCURRED: | 44. IF TRANSPORTATION INJURY, SPECIFY: ☐ Driver/Operator ☐ Passenger ☐ Pedestrian ☐ Other (Specify)

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

Signature of certifier: _____

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

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

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

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

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

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

55. KIND OF BUSINESS/INDUSTRY

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

REV. 11/2003

# Cause of Death—Background, Examples, and Common Problems

Accurate cause of death information is important
•to the public health community in evaluating and improving the health of all citizens, and
•often to the family, now and in the future, and to the person settling the decedent's estate.

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 YOUR best medical OPINION.** A condition can be listed as "probable" even if it has not been definitively diagnosed.

Examples of properly completed medical certifications

### 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. Rupture of myocardium — Minutes
   Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the

b. Acute myocardial infarction — 6 days
   Due to (or as a consequence of):

UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST

c. Coronary artery thrombosis — 5 years
   Due to (or as a consequence of):

d. Atherosclerotic coronary artery disease — 7 years

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

Diabetes, Chronic obstructive pulmonary disease, smoking

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

---

### 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. Aspiration pneumonia — 2 Days
   Due to (or as a consequence of):

Sequentially list conditions, if any, leading to the cause listed on line a. Enter the

b. Complications of coma — 7 weeks
   Due to (or as a consequence of):

UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST

c. Blunt force injuries — 7 weeks
   Due to (or as a consequence of):

d. Motor vehicle accident — 7 weeks

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)
August 15, 2003

39. TIME OF INJURY
Approx. 2320

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

41. INJURY AT WORK?
□ Yes ■ No

42. LOCATION OF INJURY: State: Missouri
City or Town: near Alexandria
Street & Number: mile marker 17 on state route 46a
Apartment No.:
Zip Code:

43. DESCRIBE HOW INJURY OCCURRED:
Decedent driver of van, ran off road into tree

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

### Common problems in death certification

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 physician 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. If after careful consideration the physician cannot determine a sequence that ends in death, then the medical examiner or coroner should be consulted about conducting an investigation or providing assistance in completing the cause of death.

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. If the infant is under 1 year of age, no cause of death is determined after scene investigation, clinical history is reviewed, and a complete autopsy is performed, then the death can be reported as Sudden Infant Death Syndrome.

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

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

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

REV. 11/2003