

EXHIBIT 9: Record Layout For The Cause File (CAUSE)

SPECIAL NOTE: Positions 1-178 are identical to "Exhibit 8: 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 3)
	First name	21-35	Alpha, left justified (See Exhibit 3)
	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 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

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
15.	State of death <u>CODE</u>	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 (on NDI record):		
	First name	133-134	bX, bN, b?, lb, lN, bb (<i>b=blank</i>)
	Middle initial	135	X, B, ?, -, b (<i>b=blank</i>)
	Last Name	136	X, N, ?, b (<i>b=blank</i>)
20.	Father's surname (NDI record)	137	X, N, ?, -, b (<i>b=blank</i>)
21.	Last Name (on user record) compared to father's surname (on NDI record)	138	X, N, ?, -, b (<i>b=blank</i>)
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 mark (?) in position 143 to indicate that the SSN was not reported <i>only</i> on the NDI record.

	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
23.	Birth Date (on NDI record):		
	Month	148	X, ?, -, b (b=blank)
	Day	149	X, ?, -, b (b=blank)
	Year	150-152	Xbb, ?bb, -bb +01, -01, +02, -02, ..., +99, -99, >99 (b=blank)
24.	Age at Death (NDI record)	153	X, ?, -, b (b=blank)
25.	Sex (on NDI record)	154	X, ?, -, b (b=blank)
26.	Race (on NDI record)	155	X, ?, -, b (b=blank)
27.	Marital status (on NDI record)	156	X, ?, -, b (b=blank)
28.	State of residence (on NDI record)	157	X, ?, -, b (b=blank)
29.	State of birth (on NDI record)	158	X, ?, -, b (b=blank)
30.	Blank field	159-164	Blanks
31.	Exact match indicator	165	Asterisk (*) or blank (An "*" means ALL items provided on the user record matched EXACTLY with the corresponding items on the NDI record.)
32.	Matching sequence	166-168	001-050
			This number indicates <u>which</u> multiple NDI record match is represented on this "User/NDI record"; e.g. <u>003</u> of 010 possible NDI record matches. NOTE: Virtually all the NDI records presented in <i>Causes of Death (CAUSE)</i> file will be the <i>first ranked</i> NDI record match; e.g., <u>001</u> of 010 possible matches. The CAUSE file may also include a few matches that were NOT ranked <i>first</i> ; however, each of these matches would have had a probabilistic score which was high enough for the match to be assigned a status code of "1" ("true match; assumed deceased") – see data element 36, position 178.
33.	Number of possible NDI record matches	169-171	001-050
			This number indicates <u>how many</u> multiple NDI record matches were listed for a given user record; e.g. 003 of <u>010</u> possible NDI record matches. (Also refer to data element 32 above.)

PROBABILISTIC SCORING INFORMATION:		(See Appendix A for more detailed information on probabilistic scoring.)	
	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
34.	PROBABILISTIC SCORE	172-176	
35.	CLASS CODE	177	1, 2, 3, 4, or 5
36.	STATUS CODE	178	0 = FALSE match; assumed alive 1 = TRUE match; assumed dead)
37.	Blank field	179	Blank

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 (4) fields contain the ICD code for the underlying cause and recodes of the ICD code into selected groups.
	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
38.	ICD Code (9 th or 10 th Revisions)	180-183	<p>(1) Sources: World Health Organization: <u>Manual of the International Classification of Diseases, Injuries, and Causes of Death</u>, Based on Recommendations of the Ninth Revision Conference, 1975. Geneva, World Health Organization, 1977.</p> <p>(2) World Health Organization. <u>International Statistical Classification of Diseases and Related Health Problems</u>, Tenth Revision. Geneva, World Health Organization, 1992. (Refer to <u>User's Guide</u>, Volume II for lists of cause of death and their associated ICD-9 or ICD-10 codes.)</p> <p>Note: Position 183 is blank for those causes that do not have a 4th digit. Also note that the ICD-9 codes for <i>External Causes of Death</i> 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 <i>external</i> cause codes. Do not confuse these external cause codes with the ICD-9 <i>Nature of Injury</i> codes (800-999) which can <u>only</u> appear in the <i>multiple cause</i> data fields for entity-axis conditions (positions 197-336) and for record-axis conditions (positions 339-438). <i>Nature of Injury</i> codes are <u>never</u> used for the underlying cause of death. (Refer to your NDI Search Results for a separate list of ICD-9 <i>Nature of Injury</i> codes. ICD-10 <i>Nature of Injury</i> codes range from S00-T98.)</p>
39.	282 ICD-9 or 358 ICD-10 Cause Recode	184-188	<p>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.</p> <p>Code ranges: ICD-9 (001-456, not inclusive); ICD-10 (00300-35800, not inclusive)</p>
40.	72 ICD-9 or 113 ICD-10 Cause Recode	189-191	<p>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.</p>
41.	61 ICD-9or 130 ICD-10 Infant Cause Recode	192-194	<p>A recode of the ICD-9 or ICD-10 cause code into 61 or 130 group for use in NCHS publications. Please 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 one year of age.</p> <p>Code ranges: ICD-9 (001-158, not inclusive); ICD-10 (010-680, not inclusive)</p>

MULTIPLE CAUSES: ENTITY-AXIS CONDITIONS

	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
42.	Number of Entity-Axis Conditions	195-196	Code range:00-20
	ENTITY-AXIS CONDITIONS	197-336	<p>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.</p> <p><u>Position 1:</u> 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</p> <p><u>Position 2:</u> Sequence of condition within part/line Code range:1-7</p> <p><u>Position 3-6:</u> Condition code (See ICD-9 or ICD-10 codes on your NDI Search Results CD.)</p> <p><u>Position 7:</u> 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</p>
43.	1 st Condition	197-203	
44.	2 nd Condition	204-210	
45.	3 rd Condition	211-217	
46.	4 th Condition	218-224	
47.	5 th Condition	225-231	
48.	6 th Condition	232-238	
49.	7 th Condition	239-245	
50.	8 th Condition	246-252	
51.	9 th Condition	253-259	
52.	10 th Condition	260-266	
53.	11 th Condition	267-273	
54.	12 th Condition	274-280	

	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
55.	13 th Condition	281-287	
56.	14 th Condition	288-294	
57.	15 th Condition	295-301	
58.	16 th Condition	302-308	
59.	17 th Condition	309-315	
60.	18 th Condition	316-322	
61.	19 th Condition	323-329	
62.	20 th Condition	330-336	

MULTIPLE CAUSES: RECORD-AXIS CONDITIONS

	DATA ELEMENTS	POSITIONS	CODE STRUCTURE
63.	Number of Record Axis Conditions	337-338	Code range: 00-20
	RECORD-AXIS CONDITIONS	339-438	<p>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.</p> <p><u>Positions 1-4:</u> Condition Code (See ICD-9 or ICD-10 codes on your NDI Search Results CD.)</p> <p><u>Position 5:</u> 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</p>
64.	1 st Condition	339-343	
65.	2 nd Condition	344-348	
66.	3 rd Condition	349-353	
67.	4 th Condition	354-358	
68.	5 th Condition	359-363	
69.	6 th Condition	364-368	
70.	7 th Condition	369-373	
71.	8 th Condition	374-378	

	<i>DATA ELEMENTS</i>	<i>POSITIONS</i>	<i>CODE STRUCTURE</i>
72.	9 th Condition	379-383	
73.	10 th Condition	384-388	
74.	11 th Condition	389-393	
75.	12 th Condition	394-398	
76.	13 th Condition	399-403	
77.	14 th Condition	404-408	
78.	15 th Condition	409-413	
79.	16 th Condition	414-418	
80.	17 th Condition	419-423	
81.	18 th Condition	424-428	
82.	19 th Condition	429-433	
83.	20 th Condition	434-438	

[Ynnnnnn.PRTCAUSE] – Cause of Death Report

The *PRTCAUSE* file is short for 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 10 at the end of this section. The cause of death codes used in Exhibit 10 are only intended 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:

1. Submit a small number of records for an NDI *Plus* search.
2. Expect to identify only a small number of deaths.
3. 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.
4. Want to quickly inspect the coded causes of death associated with **true** NDI record matches.

As was mentioned for the *CAUSE* file in the previous section, the *PRTCAUSE* file also only lists those NDI record matches which were either ranked first among the possible matches or received probabilistic scores which were 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).

The Status Codes are only intended 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 a FALSE match Status Code of 0. 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 the 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).

EXHIBIT 10: Cause of Death Report (PRTCAUSE)

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*YR * STATE#/STATE NAME**** CERTIFICATE#** CONTROL#**** LAST NAME (AS SENT) *UNDERLYING* *282 CAUSE* *72 CAUSE* *61 INFANT* *STATUS*
*CAUSE CODE* * RECODE * * RECODE * * RECODE * * RECODE * * CODE *
1990 05 CALIFORNIA 55544 99995888 DOE 1919 09500 220 080 1
ENTITY CODES: 1142750 2119190
RECORD CODES: 19190 42750

*YR * STATE#/STATE NAME**** CERTIFICATE#** CONTROL#**** LAST NAME (AS SENT) *UNDERLYING* *282 CAUSE* *72 CAUSE* *61 INFANT* *STATUS*
*CAUSE CODE* * RECODE * * RECODE * * RECODE * * RECODE * * CODE *
1999 05 CALIFORNIA 112233 98765432 WASHINGTON 1426 22700 068 049 1
ENTITY CODES: 11F100 611426 621517 63P160 64E888 65F100
RECORD CODES: E888 1426 1517 R160

*YR * STATE#/STATE NAME**** CERTIFICATE#** CONTROL#**** LAST NAME (AS SENT) *UNDERLYING* *282 CAUSE* *72 CAUSE* *61 INFANT* *STATUS*
*CAUSE CODE* * RECODE * * RECODE * * RECODE * * RECODE * * CODE *
1989 06 COLORADO 123456 32132132 BILGRAD 410 17400 360 680 1
ENTITY CODES: 11410 0 2141409 2240190 6131090 6234290 6344090 6455330
RECORD CODES: 31090 34290 40190 410 0 41100 44090 55330

*YR * STATE#/STATE NAME**** CERTIFICATE#** CONTROL#**** LAST NAME (AS SENT) *UNDERLYING* *282 CAUSE* *72 CAUSE* *61 INFANT* *STATUS*
*CAUSE CODE* * RECODE * * RECODE * * RECODE * * RECODE * * CODE *
2000 06 COLORADO 654321 88887776 GOODIER 8922 30600 111 056 1
ENTITY CODES: 11R571 21K922
RECORD CODES: K922 R571
    
```

★ Note: ICD-9 cause of death codes are used for deaths occurring from 1979-1998. ICD-10 codes (which all begin with alpha characters) are used from 1999 onward. The ICD-9 "recodes" are for 282, 72 and 61 selected causes. The ICD-10 recodes are actually for 358, 113 and 130 selected causes, respectively; however, the column headings in the PRTCAUSE file are only labeled as 282, 72 and 61 recodes.

[Ynnnnnn.REQFORMS] - Death Certificate Request Forms

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. 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 the 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 the user feels that a **true** match has occurred for other than a first ranked (or highly probable) NDI match. (Call NDI staff before requesting such state death certificates.)
 - b. To confirm whether **questionable** matches are actually **true** matches -- especially when there are only phonetic rather than exact agreements on the names of the study subjects.
 - c. To obtain other statistical information from the death certificate such as place of death, education, industry or occupation data.
 - d. To be able to initiate follow-back investigations involving contacts with the 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 California is presented in **Exhibit 11**.
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 also 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 columns labeled "**CONTROL NO/DATA**" contain two possible items of information provided on each user record. The first number (or characters) represents the **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, NCHS 11, NCHS 202.) The second number (or characters) represents any **optional user 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.) The column labeled "**SEQ NO**" 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.
6. After you have carefully evaluated each possible NDI record match listed in the NDI Retrieval Report:
 - a. Check off in the left margins of the Death Certificate Request Forms 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, do not have any check marks in the left margin.

- 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.
 - f. The State offices are encouraged to return these forms to you when they send you copies of the requested certificates. There is space on each form 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.
7. A copy of the U.S Standard Certificate of Death appears in **Exhibit 12** with instructions for completing the cause of death sections appearing in **Exhibit 12A**.

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EXHIBIT 11: Death Certificate Request Form (REQFORMS)

NATIONAL DEATH INDEX: DEATH CERTIFICATE REQUEST FORM RUN DATE: 04/01/05

REGISTRATION AREA *****
 WE ARE REQUESTING COPIES OF ONLY THOSE DEATH CERTIFICATES WHICH WE HAVE CHECKED IN THE LEFT MARGIN. PLEASE SEND COPIES TO: *****
 CALIFORNIA *****
 NDI APPLICATION NO *****
 Y50099N *****
 TELEPHONE:(...):*****

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 RECORD	USER	RECORD	INFORMATION	SEQ NO
CERT NUMBER	NAME OF STUDY SUBJECT	FATHERS SURNAME	SOC SEC NO BIRTH DATE CONTROL NO/DATA	
..... 081888	01-26-1993	ROBERT BILGRAD	123-45-6789 08-18-1950 9876543210	00001
..... 814789	01-03-1995	MICHELLE S. GOODIER	987-54-3333 10-22-1974 6666666666	00002
..... 620876	02-15-2000	JANE Z. DOE	04-05-1961 7777777777	00003
..... 524911	03-02-2001 (N)	JOHN SMITH	444-44-4444 01-23-1958 8888888888	00004
..... A42522	03-04-2002	WILLIAM R. GRAD	555-33-2222 12-02-1946 3333333333	00005
..... 332789	02-24-2003	MARTHA Q. WASHINGTON	02-14-1961 1234567890	00006
..... 237987	03-23-2003 (N)	THOMAS X. JEFFERSON	222-22-3333 09-29-1965 7776665555	00007

(A)=ALIAS RECORD (N)=NYSIIIS PHONETIC MATCH ON NAME(S)

EXHIBIT 12: U.S. Standard Certificate of Death

LOCAL FILE NO.		U.S. STANDARD CERTIFICATE OF DEATH			STATE FILE NO.		
1. DECEDENT'S LEGAL NAME (Print or type in full) (First, Middle, Last)		2. SEX		3. SOCIAL SECURITY NUMBER			
4a. AGE Last Birthday (Year)	4b. UNDER 1 YEAR Month Day	4c. UNDER 1 DAY Hour Minute	5. DATE OF BIRTH (Month/Day/Year)		6. BIRTHPLACE (City and State or Foreign Country)		
7a. FEDERAL STATE		7b. COUNTY		7c. CITY OR TOWN			
7d. STREET AND NUMBER		7e. APTS. NO.	7f. ZIP CODE	7g. INSIDE CITY LIMITS? <input type="checkbox"/> Yes <input type="checkbox"/> No			
8. EVER IN US ARMED FORCES? <input type="checkbox"/> Yes <input type="checkbox"/> No		9. MARITAL STATUS AT TIME OF DEATH <input type="checkbox"/> Married <input type="checkbox"/> Married, but widowed <input type="checkbox"/> Widowed <input type="checkbox"/> Divorced <input type="checkbox"/> Never Married <input type="checkbox"/> Unmarried		10. SURVIVING SPOUSE'S NAME (If same give name prior to last 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)							
15. IF DEATH OCCURRED IN A HOSPITAL: <input type="checkbox"/> Inpatient <input type="checkbox"/> Emergency Room/Outpatient <input type="checkbox"/> Dead on Arrival			16. IF DEATH OCCURRED SOMEWHERE OTHER THAN A HOSPITAL: <input type="checkbox"/> Nursing Home/Long Term Care Facility <input type="checkbox"/> Caretaker's Home <input type="checkbox"/> Other (Specify)				
17. FACILITY NAME (If not institution, give street & number)		18. CITY OR TOWN, STATE, AND ZIP CODE					
19. METHOD OF DISPOSITION: <input type="checkbox"/> Burial <input type="checkbox"/> Cremation <input type="checkbox"/> Donation <input type="checkbox"/> Disposition <input type="checkbox"/> Retained/Not State <input type="checkbox"/> Other (Specify)		20. PLACE OF DISPOSITION (Name of cemetery, crematory, other place)					
21. LOCATION (City, Town, and State)		22. NAME AND COMPLETE ADDRESS OF FUNERAL HOME					
23. SIGNATURE OF FUNERAL SERVICE LICENSEE OR OTHER AGENT		24. LICENSE NUMBER OF Licensee					
ITEMS 24-28 MUST BE COMPLETED BY PERSON WHO PRONOUNCES OR CERTIFIES DEATH							
25. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when appropriate)		26. STATE PRONOUNCING DEATH (M/D/Y/Yr)		27. YEAR PRONOUNCING DEATH		28. LICENSE NUMBER	
29. SIGNATURE OF PERSON PRONOUNCING DEATH (Only when appropriate)		30. DATE PRONOUNCING DEATH (M/D/Y/Yr)		31. TITLE MEDICAL EXAMINER OR CORONER CONTACT? <input type="checkbox"/> Yes <input type="checkbox"/> No		32. DATE PRONOUNCING DEATH	
CAUSE OF DEATH (See instructions and examples)							
33. PART 1. Enter the (date of onset) - (sequence of events) that directly caused the death. DO NOT enter terminal events such as cardiac arrest, respiratory arrest, or circulatory failure without knowing the etiology. DO NOT abbreviate. Enter only one cause on a line. Add additional lines if necessary.						34. Anatomical (Organ) Cause or Effect	
IMMEDIATE CAUSE (Final condition or condition resulting in death)						a. _____ Due to (or as a consequence of)	
Intermediately (or condition) leading to the above						b. _____ Due to (or as a consequence of)	
UNDERLYING CAUSE (Disease or injury that initiated the events resulting in death) (LAST)						c. _____ Due to (or as a consequence of)	
PART 2. Enter (after each cause) conditions contributing to (or as a result of) the underlying cause given in PART 1.						35. WAS AN AUTOPSY PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No	
36. DID TOBACCO USE CONTRIBUTE TO DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Unknown						37. MANNER OF DEATH <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accident <input type="checkbox"/> Pending Investigation <input type="checkbox"/> Suicide <input type="checkbox"/> Could not be determined	
38. IF FEMALE <input type="checkbox"/> Not pregnant within past year <input type="checkbox"/> Pregnant at time of death <input type="checkbox"/> Not pregnant, but pregnant within 42 days of death <input type="checkbox"/> Not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> Unknown if pregnant within past year		39. DATE OF INJURY (M/D/Year) (Specify Month)		40. TIME OF INJURY (M/D/Year) (Specify Month)		41. INQUIRY AT WORK? <input type="checkbox"/> Yes <input type="checkbox"/> No	
42. LOCATION OF INJURY (State, City or Town, Street & Number, Apartment No., Zip Code)		43. DESCRIBE HOW INJURY OCCURRED					
44. IF TRANSPORTATION INQUIRY SPECIFY: <input type="checkbox"/> Driver/Operator <input type="checkbox"/> Passenger <input type="checkbox"/> Pedestrian <input type="checkbox"/> Other (Specify)							
45. CERTIFIER (Check only one) <input type="checkbox"/> Certifying physician-To the best of my knowledge, death occurred due to the causes listed and manner listed. <input type="checkbox"/> Jurist/Coroner-Certifying physician-To the best of my knowledge, death occurred in the time, place, and manner listed (to be completed only if the cause and manner listed). <input type="checkbox"/> Medical Examiner/Coroner-On the basis of examination, and/or investigation, in my opinion, death occurred at the time, place, and date listed in the hospital, and manner listed.							
Signature of certifier: _____							
46. NAME, ADDRESS, AND ZIP CODE OF PERSON COMPLETING CAUSE OF DEATH (Item 33)							
47. TITLE OF CERTIFIER		48. LICENSE NUMBER		49. DATE CERTIFIED (M/D/Y/Yr)		50. FOR REGISTRAR ONLY: DATE FILED (M/D/Y/Yr)	
61. DECEDENT'S EDUCATION (Check the box that best describes the highest degree or level of education attained at the time of death) <input type="checkbox"/> 8th grade or less <input type="checkbox"/> 9th-12th grade (no diploma) <input type="checkbox"/> High school graduate or GED completed <input type="checkbox"/> Some college credit, but no degree <input type="checkbox"/> Associate degree (e.g., AA, AS) <input type="checkbox"/> Bachelor's degree (e.g., BA, BS, MA, MEd, MFA, MDiv, MBA) <input type="checkbox"/> Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LL.M., J.D.)		62. DECEDENT OF HISPANIC ORIGIN? Check the box that best describes whether the decedent is, or is of, Spanish/Hispanic/Latino. Check the "Not Latin American" box if the decedent is not Spanish/Hispanic/Latino. <input type="checkbox"/> No, not Spanish/Hispanic/Latino <input type="checkbox"/> Yes, Mexican, Mexican American, Chicano <input type="checkbox"/> Yes, Puerto Rican <input type="checkbox"/> Yes, Cuban <input type="checkbox"/> Yes, other Spanish/Hispanic/Latino (Specify)		63. DECEDENT'S RACE (Check one or more boxes 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 Laotian Native Hawaiian Native American Name of the tribe Other Pacific Islander (Specify) Other (Specify)			
64. DECEDENT'S USUAL OCCUPATION (Include type of work done during hours of working; the "DO NOT USE" RETIRED)							
65. KIND OF BUSINESS/INDUSTRY							

EXHIBIT 12A: Cause-of-death – Background, Examples, and Common Problems

Accurate cause of death information is important to the public health community in evaluating and preventing the health of all citizens, and when the family may wish to file for the person's death benefits or 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 1 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 final cause 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 "unclear" even if it has not been definitively diagnosed.

Examples of properly completed medical certifications

CAUSE OF DEATH (See instructions and examples)			Approximate interval From to death
PART I. Enter the SINGLE DISEASE, INJURY, OR COMPLICATION 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) Disease or condition resulting in death	1. Rupture of myocardium Due to (or as a consequence of):		Minutes
Securely list conditions, if any, leading to the cause listed on line 1. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST	2. Acute myocardial infarction Due to (or as a consequence of):		6 days
	3. Coronary artery thrombosis Due to (or as a consequence of):		5 years
	4. Atherosclerotic coronary artery disease		7 years
PART II. Enter one or more ADDITIONAL DISEASES, INJURIES, OR COMPLICATIONS that did not result in the underlying cause given in PART I.			
Diabetes, Chronic obstructive pulmonary disease, smoking			
23. WAS AN AUTOPSY PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No			
24. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No			
25. DID TOBACCO USE CONTRIBUTE TO DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Unknown			
26. IF FEMALE: <input type="checkbox"/> Not pregnant within past year <input type="checkbox"/> Pregnant at time of death <input type="checkbox"/> Not pregnant, but pregnant within 42 days of death <input type="checkbox"/> Not pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> Unknown if pregnant within the past year			
27. MANNER OF DEATH: <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accidental <input type="checkbox"/> Pending investigation <input type="checkbox"/> Suicide <input type="checkbox"/> Could not be determined			
CAUSE OF DEATH (See instructions and examples)			Approximate interval From to death
PART I. Enter the SINGLE DISEASE, INJURY, OR COMPLICATION 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) Disease or condition resulting in death	1. Aspiration pneumonia Due to (or as a consequence of):		2 Days
Securely list conditions, if any, leading to the cause listed on line 1. Enter the UNDERLYING CAUSE (disease or injury that initiated the events resulting in death) LAST	2. Complications of coma Due to (or as a consequence of):		7 weeks
	3. Burnt force injuries Due to (or as a consequence of):		7 weeks
	4. Motor vehicle accident		7 weeks
PART II. Enter one or more ADDITIONAL DISEASES, INJURIES, OR COMPLICATIONS that did not result in the underlying cause given in PART I.			
Diabetes, Chronic obstructive pulmonary disease, smoking			
23. WAS AN AUTOPSY PERFORMED? <input type="checkbox"/> Yes <input type="checkbox"/> No			
24. WERE AUTOPSY FINDINGS AVAILABLE TO COMPLETE THE CAUSE OF DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> No			
25. DID TOBACCO USE CONTRIBUTE TO DEATH? <input type="checkbox"/> Yes <input type="checkbox"/> Probably <input type="checkbox"/> No <input type="checkbox"/> Unknown			
26. IF FEMALE: <input type="checkbox"/> No pregnant within past year <input type="checkbox"/> Pregnant at time of death <input type="checkbox"/> No pregnant, but pregnant within 42 days of death <input type="checkbox"/> No pregnant, but pregnant 43 days to 1 year before death <input type="checkbox"/> Unknown if pregnant within the past year			
27. MANNER OF DEATH: <input type="checkbox"/> Natural <input type="checkbox"/> Homicide <input type="checkbox"/> Accidental <input type="checkbox"/> Pending investigation <input type="checkbox"/> Suicide <input type="checkbox"/> Could not be determined			
28. DATE OF BIRTH (Month/Day/Year) (Specify Month)	29. SEX M/F	30. PLACE OF BIRTH (e.g., Decatur's home, construction site, restaurant, music area) road side near state highway	31. RESIDENT AT HOME? <input type="checkbox"/> Yes <input type="checkbox"/> No
August 10, 2003	Male	Algonk, IL	
32. LOCATION OF INJURY (State, street, street & number, mile marker, 17 or more route file)	State: Missouri City or town: near Alexander	Zip Code:	
33. DESCRIBE HOW INJURY OCCURRED: Decedent driver of van, ran off road into tree			34. IF TRANSPORTATION INJURY, SPECIFY: <input type="checkbox"/> Driver/Operator <input type="checkbox"/> Passenger <input type="checkbox"/> Pedestrian <input type="checkbox"/> Other (Specify)

Common problems in death certification

The **decedent** should have a clear and correct etiologic sequence for cause of death, if possible. To do so such as senescence, infirmity, old age, and advanced age have little value to the 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 illustrates the probable leading to death, and place any other pertinent conditions in Part II. If after careful consideration the physician cannot determine a sequence that led to death, then the medical examiner or coroner should be consulted about conducting an investigation or providing assistance in clarifying the cause of death.

The **decedent** should have a clear and distinct etiologic sequence for cause of death, if possible. "Temporary" should not be entered without explaining the etiology of prematurity. Maternal conditions may have existed or affected the sequence that resulted in infant death, but such maternal factors should be reported in addition to the infant's cause of death on the infant's death certificate only. Maternal conditions should be reported primarily 20 weeks due to possible abortion due to toxic 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 (or closer to death is determined after some investigation), a 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:

Abcess	Cardiomyopathy	Disseminated intravascular coagulation	Hypertension	Pulmonary embolism
Abdominal hemorrhage	Cardiac arrest	Dysrhythmia	Hypotension	Pulmonary edema
Atherosclerosis	Cardiogenic shock	End-stage liver disease	Infectious mononucleosis	Pulmonary infarction
Acute respiratory distress syndrome	Cerebrovascular accident	End-stage renal disease	Influenza	Pulmonary insufficiency
Alcohol-related states	Cerebral edema	Esophageal rupture	Injury	Respiratory arrest
Anemia	Cerebrovascular accident	Esophageal varices	Ischemic encephalopathy	Resuscitation
Anoxic encephalopathy	Cerebral venous thrombosis	Fat embolism	Multi-organ failure	Seizure
Arrhythmia	Chronic liver failure	Fat embolism	Multi-system organ failure	Sepsis
Arteriosclerosis	Chronic renal failure	Fat embolism	Murder	Shingles
Ascites	Chronic renal failure	Fat embolism	Murder	Sickle cell anemia
Asthma	Chronic renal failure	Fat embolism	Murder	Subarachnoid hemorrhage
Basilar meningitis	Chronic renal failure	Fat embolism	Murder	Sudden death
Bleeding	Chronic renal failure	Fat embolism	Murder	Thrombocytopenia
Biliary obstruction	Chronic renal failure	Fat embolism	Murder	Urinary tract infection
Bone metastasis	Chronic renal failure	Fat embolism	Murder	Vertebral fracture
Brain injury	Chronic renal failure	Fat embolism	Murder	Violence
Brain stem herniation	Chronic renal failure	Fat embolism	Murder	Violence
Cardiomyopathy	Chronic renal failure	Fat embolism	Murder	Violence

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 in a clear text if a direct etiology was not mentioned or reasonably certain.

The following conditions and types of death 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 after). Such cases should be reported to the medical examiner/coroner:

Apoplexy	Hypertension	Pulmonary embolism	Syphilis
Ascites	Ischemic heart disease	Sudden death	Thermal (burn/chemical) injury
Choking	Myocardial infarction	Subarachnoid hemorrhage	
Drug or alcohol overdosage or interaction	Open reduction of fracture		

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[Ynnnnnn.MATCH]: **MATCHING** user records
[Ynnnnnn.NOMATCH]: **NON-MATCHING** user records
[Ynnnnnn.REJECTS]: **REJECTED** user records

1. These three files only contain user record information and 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 possible matches with any NDI records.
 - b. *Non-matching user records (NOMATCH file)*: contains user records not involved in any match with NDI records.
 - c. *Rejected user records (REJECTS)*: contains user records which 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 simply 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. 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**.

CHAPTER 4 - Assessing the NDI Output

Review Your NDI Edit Results First

Before you begin assessing your NDI matches, it is important to carefully review the file named *EDITS* that is included on your NDI results CD. (Refer to *User File Edit Results* in Chapter 3 for more information on the *EDITS* file.)

Your study subject's records are edited before they are searched against the NDI file. The NDI edit program determines whether your data file conforms to NCHS data file specifications, file format requirements, and coding instructions. If your data file cannot be read or does not satisfy the basic edit program requirements, your file will be returned to you for revision and resubmission at no extra charge.

The edit program rejects any user records not containing at least one of the following combinations of data items:

1. FIRST and LAST NAME and SOCIAL SECURITY NUMBER
2. FIRST and LAST NAME and MONTH and YEAR OF BIRTH
3. SOCIAL SECURITY NUMBER and DATE OF BIRTH and SEX

User records rejected by the edit program are not eligible for inclusion in the search of the NDI file. The edit results provide an error listing of each rejected user record with an indication of the reason for the rejection. If you have sufficient data to update the rejected records, feel free to correct and resubmit such records at no charge.

Furthermore, the edit results also include summary statistics on the accuracy and completeness of each NDI data set item you provided. If you notice that one or more of the data items you submitted are missing, out of range, or have an unexpectedly low completeness percentage, you may want to consider correcting those items and resubmitting a corrected file for another NDI search at no charge.

Matching criteria

The NDI Retrieval Program is used to search the NDI file to determine whether a particular NDI death record qualifies as a possible record match with a particular user record. To qualify as a possible record match, both records must satisfy at least one of the seven conditions or matching criteria listed below. The specified data items must agree on both records.

1. Social Security number
2. Exact month and +/- 1 year of birth, first and last name
3. Exact month and +/- 1 year of birth, first and middle initials, last name
4. Exact month and day of birth, first and last name
5. Exact month and day of birth, first and middle initials, last name
6. Exact month and year of birth, first name, father's surname
7. *If the subject is female*: exact month and year of birth, first name, last name (on user's record) and father's surname (on NDI record)

FIRST NAME or FIRST and MIDDLE INITIALS must match exactly to satisfy the above matching criteria. In the case of LAST NAME and FATHER'S SURNAME, however, the above matching criteria will be satisfied if there is agreement on names based on either their exact spelling or their "NYSIS" codes (New York State Identification and Intelligence System). The NYSIS name coding procedure is intended to accommodate common misspellings of names by assigning a specified alpha character(s) to each character (or combination of selected characters) in a name. (See examples in **Exhibit 13** at the end of this chapter.)

With the above, liberal matching criteria, a given user record may generate possible record matches with more than one NDI record, especially when the subject's name is common; e.g., John Smith, Mary Jones. The matching criteria are intended to maximize the number of **true** matches that are identified, especially for those NDI users unable to provide Social Security numbers. However, as a by-product of these liberal criteria, you are advised to expect a significant number of **false** matches (false positives). The success of the NDI matching process will be determined by the following four factors: (1) the effectiveness of the seven matching criteria, (2) the quality and completeness of the data on your study subjects, (3) the quality and completeness of the death certificate data in the NDI file, and (4) your ability to assess the quality of the resulting matches.

Responsibilities of the NDI user

It is your responsibility to review the NDI output files, to assess the quality of each possible NDI record match listed, and to determine which possible matches are true matches. NDI records involved in matches, based on any of the above seven matching criteria, should only be considered as **possible** matches. The format and content of the NDI output described in Chapter 3 are designed to assist you in determining which matches are **true** matches, which ones are **false** matches, and which ones are **questionable** (and thus require further investigation).

If you requested an NDI **Plus** search, you will actually receive eleven files of NDI output. (Only nine files of output are provided for a "**routine**" NDI search.) You should familiarize yourself with each of these files as described in Chapter 3 (especially the NDI Retrieval Report) before beginning to view or process them. You should call the NDI staff if you require assistance in processing the files or interpreting the output. (Call 301-458-4444 for assistance.)

Suggestions for assessing the NDI output

The suggestions listed below should give you a few ideas on how to handle the wealth of information provided and how to assess the quality of matches that occur. As feedback is received from NDI users, this list of suggestions will be expanded in future revisions of this publication.

NOTE: To determine your **true** matches, you should only refer to the **REPORT**, **COMPRESS**, and/or **COMBINED** files. **As mentioned in Chapter 3, you should not refer to the CAUSE or PRTCAUSE files until you have determined the true matches.** The **CAUSE** and **PRTCAUSE** files only contain the cause of death codes for the better matches; however, many of these matches may also be **false** matches.

If you only requested a **routine** NDI search, you will not receive the **CAUSE** or **PRTCAUSE** files with your NDI results.

Develop specific criteria or matching conditions that must be satisfied for a match to be deemed a **true** match. Do the same to identify and eliminate **false** matches. Strive to *minimize* the number of matches that appear to be **questionable**. Some users may prefer to purchase death certificates for the **questionable** matches before making a final determination.

Be prepared to receive a relatively large number of possible NDI record matches, many of which will be **false** matches.

If you submit a large volume of records for an NDI search, be prepared to develop a computer program to isolate **true** matches, to eliminate most **false** matches, and to minimize the number of **questionable** matches. To assist you in developing such a computer program, the NDI output contains the **COMBINED** file entitled **Combined File of Matching User and NDI Records**. (Refer to Chapter 3 for file format and coding information.)

Records matching on Social Security number will not always be true matches. A few of these matches may involve the record of a spouse. Checking whether there are agreements on sex, first name, and/or date of birth is helpful. Furthermore, on *rare occasions* a false match can occur when the Social Security number is reported or recorded wrong (on the user's or NDI record), causing a match with another person containing the same 9 digits.

Matches generated solely by those criteria involving the **date of birth** may be evaluated initially based on the extent to which the various digits of the **Social Security number** agree or disagree. The **NDI Retrieval Report** uses an "X" to show which digits of the Social Security number agree and a dash (—) to show which digits disagree.

Matches generated solely by those matching criteria involving **month and day of birth** may be initially evaluated based on the extent to which the years of birth disagree. The NDI Retrieval Report indicates the difference in years between the years of birth on an NDI record and a user record; for example, +1 year, -1 year, -15 years, etc. In most instances, matches with greater than 10 years of difference probably will be false matches. You will have to determine, however, your own specific criteria for eliminating such false matches based on agreements or disagreements on other data items.

The NDI Retrieval Program will generate and list **multiple** NDI record matches; i.e., two or more NDI records may be matched with a given user record. This often occurs in the case of common names. The NDI records are ranked based on the number of NDI data items that are in agreement with those on the user record. Keep in mind that none of the multiple matches is necessarily a **true** match; however, if the criteria you develop selects one to be a **true** match, the remaining NDI record matches can be disregarded or eliminated. Furthermore, several users have commented that matches ranked fourth or greater seldom tend to be **true** matches. Although this experience has not been analyzed and confirmed to date, you may want to *consider* either (a) eliminating all matches ranked fourth or greater or (b) applying looser elimination criteria for such matches.

A CD entitled **NAMES COUNT!** should be included in your NDI results package. It is intended as an aid to NDI users wanting to develop stricter acceptance criteria for those matches involving common names. This CD contains the frequencies and percentages of last names on the NDI master file from 1979 to 2005. The CD also contains the frequencies and percentages of last names by state and first names by birth decade.

The NDI Retrieval Program incorporates the use of phonetic codes for last names to enhance the marginal effectiveness of the NDI matching criteria. These phonetic codes are based on the modified New York State Identification and Intelligence System (NYSIIS). Accepting NYSIIS code agreements on names (rather than just exact agreements) tends to generate a few additional **true** matches; however, accepting NYSIIS code agreements on names can also result in the listing of numerous **false** matches. For example, the last name "Johnson" also translates to a NYSIIS code of "Jansen." Likewise, the last names of "Janzen" and "Jeanson" also translate to the same NYSIIS code of "Jansen." (For more examples of last names associated with the same NYSIIS code see **Exhibit 13**.) Consequently, we suggest you apply stricter criteria when assessing matches resulting from NYSIIS agreements. Before determining that a **true** match has occurred, confirm whether there are sufficient agreements on other data items to warrant the designation of a **true** match.

If you request an NDI file search of only the most recent year of death available (or a few of the more current years of death), please do not be surprised if you obtain several possible matches against NDI records having earlier years of death. These NDI records are **BELATED** records that were received from some States *after* the cut-off date for adding NDI records for a particular year of death. For example, a belated 2003 record will be *flagged* as being loaded with either the 2004 or 2005 deaths (depending on when it was received) and then will be stored in a special belated file which is *always* searched – regardless of the specific years you request to be searched. Consequently, if you submit records for repeat NDI searches as additional years of death are added to the NDI file, you will always have your records searched against any belated records that were missed in earlier searches. (Please note that not all states submit belated records.)

Probabilistic scores are assigned to each NDI record match. The scoring information appears in positions 172 to 178 of the **COMBINED** file. Refer to **Appendix A** for how the probabilistic scores are assigned. The assigned probabilistic scores and associated Status Codes (1=true match and 0=false match) are only intended as a guide for the user. It is still the user's responsibility to determine which matches are true or false.

Once you have identified the true matches, the associated coded causes of death can be obtained from the **CAUSE** file or the **PRTCAUSE** file. The **CAUSE** and **PRTCAUSE** files contain ICD-9 and ICD-10 codes for the underlying cause of death - - as well as the multiple causes of death (entity axis codes and record axis codes). A complete list of these codes and explanation of the codes appears on the CD containing the NDI results.

You should be aware that the coded causes of death might not be available for some of the true matches that were selected. The NDI is authorized to release only the coded causes of death for those matching NDI records that are *ranked first* in the list of possible matches. The only exception permitted is that coded causes can also be released in those few instances when a matching NDI record is assigned a high enough probabilistic score to be considered a *true* match (regardless of how the record is ranked). You may find it necessary to purchase copies of some death certificates whenever the causes of death are not available for some NDI matches (or if you feel you need to verify the **questionable** matches). To simplify this effort, NDI users are provided with a document entitled Obtaining State Death Certificates which describes each state's requirements and who should be contacted.

(NOTE: 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.)