

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use File Layout

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VARIABLE	DATA TYPE	FIELD DESCRIPTION								
<i>PUBLICID</i>	char	NHIS Public-use ID – <a href="#">See Detailed Notes</a>								
<i>PUBLICID_2</i>	char	Alternate NHIS Public-use ID for select NHIS years <a href="#">See Detailed Notes</a>								
<i>ELIGSTAT</i>	numeric	Eligibility Status for Mortality Follow-up – <a href="#">See Detailed Notes</a>  <table border="0"> <tr> <td>1</td> <td>Eligible</td> </tr> <tr> <td>3</td> <td>Ineligible</td> </tr> </table>	1	Eligible	3	Ineligible				
1	Eligible									
3	Ineligible									
<b>Death Information</b>										
<i>MORTSTAT</i>	numeric	Final Mortality Status – <a href="#">See Detailed Notes</a>  <table border="0"> <tr> <td>0</td> <td>Assumed alive</td> </tr> <tr> <td>1</td> <td>Assumed deceased</td> </tr> <tr> <td>Blank</td> <td>Ineligible</td> </tr> </table>	0	Assumed alive	1	Assumed deceased	Blank	Ineligible		
0	Assumed alive									
1	Assumed deceased									
Blank	Ineligible									
<i>MORTSRCE_NDI</i>	numeric	Mortality Source: NDI Match – <a href="#">See Detailed Notes</a>  <table border="0"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>Blank</td> <td>Ineligible or assumed alive</td> </tr> </table>	0	No	1	Yes	Blank	Ineligible or assumed alive		
0	No									
1	Yes									
Blank	Ineligible or assumed alive									
<i>MORTSRCE_SSA</i>	numeric	Mortality Source: SSA Information – <a href="#">See Detailed Notes</a>  <table border="0"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>Blank</td> <td>Ineligible or assumed alive</td> </tr> </table>	0	No	1	Yes	Blank	Ineligible or assumed alive		
0	No									
1	Yes									
Blank	Ineligible or assumed alive									
<i>MORTSRCE_CMS</i>	numeric	Mortality Source: CMS Information – <a href="#">See Detailed Notes</a>  <table border="0"> <tr> <td>0</td> <td>No</td> </tr> <tr> <td>1</td> <td>Yes</td> </tr> <tr> <td>9</td> <td>Not applicable</td> </tr> <tr> <td>Blank</td> <td>Ineligible or assumed alive</td> </tr> </table>	0	No	1	Yes	9	Not applicable	Blank	Ineligible or assumed alive
0	No									
1	Yes									
9	Not applicable									
Blank	Ineligible or assumed alive									

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<u>VARIABLE</u>	<u>DATA TYPE</u>	<u>FIELD DESCRIPTION</u>																										
<i>DODMONTH</i>	numeric	Month of Death <table border="0" style="margin-left: 20px;"> <tr><td>01</td><td>January</td></tr> <tr><td>02</td><td>February</td></tr> <tr><td>03</td><td>March</td></tr> <tr><td>04</td><td>April</td></tr> <tr><td>05</td><td>May</td></tr> <tr><td>06</td><td>June</td></tr> <tr><td>07</td><td>July</td></tr> <tr><td>08</td><td>August</td></tr> <tr><td>09</td><td>September</td></tr> <tr><td>10</td><td>October</td></tr> <tr><td>11</td><td>November</td></tr> <tr><td>12</td><td>December</td></tr> <tr><td>Blank</td><td>Ineligible or assumed alive</td></tr> </table>	01	January	02	February	03	March	04	April	05	May	06	June	07	July	08	August	09	September	10	October	11	November	12	December	Blank	Ineligible or assumed alive
01	January																											
02	February																											
03	March																											
04	April																											
05	May																											
06	June																											
07	July																											
08	August																											
09	September																											
10	October																											
11	November																											
12	December																											
Blank	Ineligible or assumed alive																											
<i>DODDAY</i>	numeric	Day of Death <table border="0" style="margin-left: 20px;"> <tr><td>01 - 31</td><td>Day</td></tr> <tr><td>Blank</td><td>Ineligible or assumed alive</td></tr> </table>	01 - 31	Day	Blank	Ineligible or assumed alive																						
01 - 31	Day																											
Blank	Ineligible or assumed alive																											
<i>DODYEAR</i>	numeric	Year of Death <table border="0" style="margin-left: 20px;"> <tr><td>1986 - 2006</td><td>Year</td></tr> <tr><td>Blank</td><td>Ineligible or assumed alive</td></tr> </table>	1986 - 2006	Year	Blank	Ineligible or assumed alive																						
1986 - 2006	Year																											
Blank	Ineligible or assumed alive																											
<i>AGEDEATH</i>	numeric	Age at Death – <a href="#">See Detailed Notes</a> <table border="0" style="margin-left: 20px;"> <tr><td>0 - 113</td><td>Age in years</td></tr> <tr><td>Blank</td><td>Ineligible or assumed alive</td></tr> </table>	0 - 113	Age in years	Blank	Ineligible or assumed alive																						
0 - 113	Age in years																											
Blank	Ineligible or assumed alive																											
<i>AGEPRALV</i>	numeric	Age When Last Presumed Alive (as of December 31, 2006) <a href="#">See Detailed Notes</a> <table border="0" style="margin-left: 20px;"> <tr><td>2 - 125</td><td>Age in years</td></tr> <tr><td>Blank</td><td>Ineligible or assumed deceased</td></tr> </table>	2 - 125	Age in years	Blank	Ineligible or assumed deceased																						
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# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

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<u>VARIABLE</u>	<u>DATA TYPE</u>	<u>FIELD DESCRIPTION</u>
<b>Death Certificate Data</b>		
<i>CAUSEAVL</i>	numeric	Cause of Death Data Available – <a href="#">See Detailed Notes</a>
		0            No
		1            Yes
		Blank       Ineligible or assumed alive
<i>ICD_9REV</i>	char	ICD-9 Underlying Cause of Death (1986-1998) <a href="#">See Underlying and Multiple Causes</a>
		001 – 999    Code range
		Blank        Cause of death data not available or death after 1998
<i>UCOD_282</i>	char	ICD-9 (1986-1998) Underlying Cause of Death 282 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		00300 – 35800 Code range
		Blank        Cause of death data not available or death after 1998
<i>UCOD_72</i>	char	ICD-9 (1986-1998) Underlying Cause of Death 72 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		010 – 840    Code range
		Blank        Cause of death data not available or death after 1998
<i>UCOD_34</i>	char	ICD-9 (1986-1998) Underlying Cause of Death 34 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		010 – 370    Code range
		Blank        Cause of death data not available or death after 1998
<i>ICD_10REV</i>	char	ICD-10 Underlying Cause of Death (1999-2006) <a href="#">See Underlying and Multiple Causes</a>
		A00 – Y89.9 Code range
		Blank        Cause of death data not available or death before 1999
<i>UCOD_358</i>	char	ICD-10 (1999-2006) Underlying Cause of Death 358 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		001 – 456    Code range
		Blank        Cause of death data not available or death before 1999

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use File Layout

<b><u>VARIABLE</u></b>	<b><u>DATA TYPE</u></b>	<b><u>FIELD DESCRIPTION</u></b>
<i>UCOD_39</i>	char	ICD-10 (1999-2006) Underlying Cause of Death 39 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		001 – 042      Code range
		Blank          Cause of death data not available or death before 1999
<i>UCOD_113</i>	char	ICD-10 (all years) Underlying Cause of Death 113 Groups Recode <a href="#">See Underlying and Multiple Causes</a>
		001 – 135      Code range
		Blank          Cause of death data not available

### Multiple Cause of Death Conditions

<i>NUMENTAX</i>	numeric	Number of Entity Axis Conditions <a href="#">See Underlying and Multiple Causes</a>
		00 – 20      Code range
		Blank          Cause of death code not available
<i>COND_1</i>	char	Entity Axis 1 <sup>st</sup> Condition
<i>COND_2</i>	char	Entity Axis 2 <sup>nd</sup> Condition
<i>COND_3</i>	char	Entity Axis 3 <sup>rd</sup> Condition
<i>COND_4</i>	char	Entity Axis 4 <sup>th</sup> Condition
<i>COND_5</i>	char	Entity Axis 5 <sup>th</sup> Condition
<i>COND_6</i>	char	Entity Axis 6 <sup>th</sup> Condition
<i>COND_7</i>	char	Entity Axis 7 <sup>th</sup> Condition
<i>COND_8</i>	char	Entity Axis 8 <sup>th</sup> Condition
<i>COND_9</i>	char	Entity Axis 9 <sup>th</sup> Condition
<i>COND_10</i>	char	Entity Axis 10 <sup>th</sup> Condition
<i>COND_11</i>	char	Entity Axis 11 <sup>th</sup> Condition
<i>COND_12</i>	char	Entity Axis 12 <sup>th</sup> Condition
<i>COND_13</i>	char	Entity Axis 13 <sup>th</sup> Condition
<i>COND_14</i>	char	Entity Axis 14 <sup>th</sup> Condition
<i>COND_15</i>	char	Entity Axis 15 <sup>th</sup> Condition
<i>COND_16</i>	char	Entity Axis 16 <sup>th</sup> Condition
<i>COND_17</i>	char	Entity Axis 17 <sup>th</sup> Condition
<i>COND_18</i>	char	Entity Axis 18 <sup>th</sup> Condition
<i>COND_19</i>	char	Entity Axis 19 <sup>th</sup> Condition
<i>COND_20</i>	char	Entity Axis 20 <sup>th</sup> Condition

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use File Layout

<b><u>VARIABLE</u></b>	<b><u>DATA TYPE</u></b>	<b><u>FIELD DESCRIPTION</u></b>
<i>NUMRAXCN</i>	numeric	Number of Record Axis Conditions <a href="#">See Underlying and Multiple Causes</a>
		00 – 20      Code range
		Blank      Cause of death code not available
<i>RCOND_1</i>	char	Record Axis 1 <sup>st</sup> Condition
<i>RCOND_2</i>	char	Record Axis 2 <sup>nd</sup> Condition
<i>RCOND_3</i>	char	Record Axis 3 <sup>rd</sup> Condition
<i>RCOND_4</i>	char	Record Axis 4 <sup>th</sup> Condition
<i>RCOND_5</i>	char	Record Axis 5 <sup>th</sup> Condition
<i>RCOND_6</i>	char	Record Axis 6 <sup>th</sup> Condition
<i>RCOND_7</i>	char	Record Axis 7 <sup>th</sup> Condition
<i>RCOND_8</i>	char	Record Axis 8 <sup>th</sup> Condition
<i>RCOND_9</i>	char	Record Axis 9 <sup>th</sup> Condition
<i>RCOND_10</i>	char	Record Axis 10 <sup>th</sup> Condition
<i>RCOND_11</i>	char	Record Axis 11 <sup>th</sup> Condition
<i>RCOND_12</i>	char	Record Axis 12 <sup>th</sup> Condition
<i>RCOND_13</i>	char	Record Axis 13 <sup>th</sup> Condition
<i>RCOND_14</i>	char	Record Axis 14 <sup>th</sup> Condition
<i>RCOND_15</i>	char	Record Axis 15 <sup>th</sup> Condition
<i>RCOND_16</i>	char	Record Axis 16 <sup>th</sup> Condition
<i>RCOND_17</i>	char	Record Axis 17 <sup>th</sup> Condition
<i>RCOND_18</i>	char	Record Axis 18 <sup>th</sup> Condition
<i>RCOND_19</i>	char	Record Axis 19 <sup>th</sup> Condition
<i>RCOND_20</i>	char	Record Axis 20 <sup>th</sup> Condition

### Survey Data

<i>DOBMONTH</i>	numeric	Month of Birth - <a href="#">See Detailed Notes</a>
		01      January
		02      February
		03      March
		04      April
		05      May
		06      June
		07      July
		08      August
		09      September
		10      October
		11      November
		12      December

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use File Layout

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<u>VARIABLE</u>	<u>DATA TYPE</u>	<u>FIELD DESCRIPTION</u>
<i>DOBDAY</i>	numeric	Day of Birth - <a href="#">See Detailed Notes</a> 01 - 31      Day
<i>DOBYEAR</i>	numeric	Year of Birth - <a href="#">See Detailed Notes</a> 1880 - 2005      Year
<i>INTVMONTH</i>	numeric	Month of Interview 01      January 02      February 03      March 04      April 05      May 06      June 07      July 08      August 09      September 10      October 11      November 12      December
<i>INTVDAY</i>	numeric	Day of Interview 01 - 31      Day
<i>INTVYEAR</i>	numeric	Year of Interview 1986 - 2005      Year
<i>AGEINTV</i>	numeric	Age at Interview - <a href="#">See Detailed Notes</a> 0 - 113      Age in years

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use Detailed Notes

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### **PUBLICID** – NHIS Public ID Construction

The NHIS Linked Mortality Data Files are person-level files and can be linked to the NHIS public-use files by matching on the unique person-level NHIS Id number. Across the NHIS years included in the linked mortality files, NHIS has changed its construction of a unique person-level Id.

The id number available on the NHIS Linked Mortality Files is consistent with the documentation provided for each NHIS year. Below are instructions on constructing a person-level id from the NHIS public-use files that can be merged with the NHIS Linked Mortality Files. The public id variable on the restricted-use NHIS Linked Mortality Files is in character format with an assigned length of 14.

### **NHIS 1986-1994**

The data items QUARTER x PSU x WEEK x SEGMENT x HOUSEHOLD NUMBER x PERSON NUMBER identify a person within each NHIS year. When combining across NHIS years it is necessary to include the NHIS year as part of the unique person-level id.

Each file is in sequence by the following identifying items that can be concatenated to create the unique person identifier. Note: The NHIS SAS input statements available from the NHIS public-use data website do NOT input all of these variables as character and they must be in character format.

<u>Item</u>	<u>NHIS Public-use File Location</u>	<u>Variable length</u>	<u>Description</u>
Year (2-digit)	3-4	2	Year of interview
Quarter	5	1	Calendar quarter of interview
PSU	6-8	3	Random recode of PSU
Week	9-10	2	Week of interview within quarter
Segment	11-12	2	Segment number
Household number	13-14	2	Household number
Person number	15-16	2	Person number within household

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use Detailed Notes

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### NHIS 1995-1996

The data items HOUSEHOLD ID x PERSON NUMBER identify a person within each NHIS year. When combining across NHIS years it is necessary to include the NHIS year as part of the unique person-level id.

Each file is in sequence by the following identifying items that can be concatenated to create the unique person identifier. Note: the NHIS SAS input statements available from the NHIS public-use data website do NOT input all of these variables as character and they must be in character format.

<u>Item</u>	NHIS Public-use File Location	Variable length	Description
Year (2-digit)	3-4	2	Year of interview
Household ID	5-14	10	Household ID number
Person number	15-16	2	Person number within household

### NHIS 1997-2003

The person-level files (Person, Sample Adult, Sample Child, and Immunization) have been sorted by the Person Number (PX) within the Household Serial Number (HHX) and uniquely identify a person within each NHIS year. When combining across NHIS years it is necessary to include the NHIS year as part of the unique person-level id.

Each file is in sequence by the following identifying items that can be concatenated to create the unique person identifier. Note: the NHIS SAS input statements available from the NHIS public-use data website do NOT input all of these variables as character and they must be in character format.

<u>Item</u>	NHIS Public-use File Location	Variable length	Description
Year (4-digit)	3-6	4	Year of interview
Household serial number	7-12	6	Household number
Person number	15-16	2	Person number within household

**Note:** The family serial number (location 13-14) is not necessary to uniquely identify a person-level record for the years 1997-2003. However, for users who prefer to include the NHIS family serial number in the NHIS public-use Id number, an additional public-use Id, **PUBLICID\_2** has been included on the NHIS Linked Mortality Files (only for the NHIS years 1997-2003). Please indicate in your RDC application which public id variable you are providing.

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use Detailed Notes

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To create **PUBLICID\_2** concatenate the following identifying items to get the unique person identifier.

<u>Item</u>	NHIS Public-use File Location	Variable length	Description
Year (4-digit)	3-6	4	Year of interview
Household serial number	7-12	6	Household number
Family serial number	13-14	2	Family number
Person number	15-16	2	Person number within household

### **NHIS 2004**

The person-level files (Person, Sample Adult, and Sample Child) have been sorted by combining the Household Serial Number (HHX), Family Sequence Number (FMX) and Person Sequence Number (FPX) and uniquely identify a person within each NHIS year. When combining across NHIS years it is necessary to include the NHIS year as part of the unique person-level id.

Each file is in sequence by the following identifying items that can be concatenated to create the unique person identifier. Note: the NHIS SAS input statements available from the NHIS public-use data website do NOT input all of these variables as character and they must be in character format.

<u>Item</u>	NHIS Public-use File Location	Variable length	Description
Year (4-digit)	3-6	4	Year of interview
Household serial number	7-12	6	Household number
Family sequence number	13-14	2	Family number
Person sequence number	15-16	2	Person number

### ***ELIGSTAT*** – Eligibility Status for Mortality Follow-Up

NHIS participants are defined as ineligible for mortality linkage if they had insufficient identifying data to create a National Death Index submission record ([See Mortality Linkage Eligibility, Tables 1 and 2](#)). Please note that all NHIS participants are included on the linked mortality files.

### ***MORTSTAT*** – Final Mortality Status

The MORTSTAT variable is NCHS's final determination of vital status and should be used as an outcome variable and to calculate survival. Each NHIS participant who is eligible for mortality follow-up is assigned a vital status code (0 = assumed alive; 1 = assumed deceased).

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use Detailed Notes

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**MORTALITY SOURCE.** NCHS has multiple sources of information to determine the final mortality status of a NHIS survey participant. Variables indicating which source or sources were used to determine vital status are available on the linked mortality files and are described below. Any combination of these mortality sources was used to identify NHIS participants as decedents.

### *MORTSRCE\_NDI* - Mortality Source: NDI Match

Mortality status was ascertained through a probabilistic match to a National Death Index (NDI) record.

### *MORTSRCE\_SSA* - Mortality Source: SSA Information

Mortality status was obtained from the Social Security Administration (SSA).

### *MORTSRCE\_CMS* - Mortality Source: CMS Information

For the NHIS years 1994-2004, mortality status was obtained from the Centers for Medicare and Medicaid Services (CMS). For the NHIS years 1986-1993, there is no CMS data available and NHIS decedents from these years are given a value of "9" (not applicable).

### *AGEDEATH* – Age at Death

Misreporting or discrepancies in reported age at interview or date of birth can result in values for age at death that may be inconsistent with interview age. [See Analytic Guidelines.](#)

### *AGEPRALV* – Age When Last Presumed Alive (age as of December 31, 2006)

Misreporting or discrepancies in reported age at interview or date of birth can result in values for age when last presumed alive that may be inconsistent with interview age. [See Analytic Guidelines.](#)

### *CAUSEAVL* – Cause of Death Data Available

Death certificate data is available only for cases where the variable MORTSTAT=1 and MORTSRCE\_NDI = 1. Users should note that it is possible to have an NDI match but no cause of death data available.

## **SURVEY DATA AGE AND DATE OF BIRTH VARIABLES.**

Age at interview (AGEINTV) has been provided on the linked mortality files for your convenience. Age has not been top-coded.

Complete date of birth information has been provided on the linked mortality files for your convenience. Year of birth has not been bottom-coded. Where date of birth information is missing on the NHIS public-use files, it has been imputed with month = 06, day = 15, and YEAR = survey year minus the age at interview. In some cases, the date of birth information provided on the NHIS public-use files is inconsistent with date of interview information and there has been no attempt to reconcile this information. Also, imputing date of birth

# The National Health Interview Survey (1986 - 2004) Linked Mortality Files

## Restricted-use Detailed Notes

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information for those less than one year of age can create inconsistencies in date of birth information and interview date.