

## Appendix 32 - Older Men Cohort

### Procedure for Coding Cause of Death from Death Certificates For Variables R7185.10 thru R7185.40

For each member of the original NLS Older Male sample who had died prior to the 1990 interview the Census Bureau attempted to obtain a death certificate from the state in which the death occurred. Of the 2,693 men known to have died, certificates were obtained for 2083. Of those obtained only 46 could not be coded because they were unreadable. Two cases (ID = 1332 and 4273) had only a condition of death and that number was copied into the 1st cause of death, in all other cases condition data was not left-justified. For the 14 cases that either had a second cause of death listed and no first cause or had no information for a cause in between information for other causes, Census left-justified the data.

From the death certificates Census extracted cause-of-death information and prepared a diskette containing an ASCII file consisting of an ID number (different from the one on the total data tape) and as many as six pieces of information for each decedent: (1) first, (2) second, (3) third, and (4) fourth cause of death, (5) condition(s) that might have contributed to death, and (6) manner of death (natural, accident, homicide, and suicide). Very few certificates contained all this information; many reported only a single cause of death and only very few reported as many as four. Manner of death was generally reported only in those instances in which it was the result of accident, homicide, or suicide.

Census sent the diskette to the Center for Human Resource Research (CHRR) for coding. The coded information was then returned to Census for merging with the total data file. Further to preserve its standards of confidentiality, Census insisted that each of the causes of death and any contributory conditions be coded into the same ten broad pre-coded categories that had been used in the widow's questionnaire to ascertain the cause of husband's death:

- 01 Heart disease
- 02 Cancer
- 03 Stroke
- 04 Accident, industrial
- 05 Accident, other
- 06 Diabetes
- 07 Emphysema, chronic bronchitis, asthma
- 08 Homicide
- 09 Suicide
- 10 Other
- 00 NA

If manner of death was other than natural, there was to be only one code (05, 08, or 09 - coded in the first cause) indicating cause of death [no certificates recorded an industrial accident]; in all other cases there might be as many as five codes. Four illustrations will clarify the coding conventions. In the first case, assume that the death certificate indicated that the man died of a gunshot wound to the head and that the manner of death was homicide. In case two, assume that the first cause of death was "heart attack" and the second cause was "arteriosclerotic heart disease" and that the decedent suffered the condition of diabetes. In the third case, assume that the record shows "cancer" as the first cause of death; "bronchogenic carcinoma" as the second cause, and "metastatic bone disease" as the third cause, with no further information. In case four there are three causes of death: (a) cerebral hemorrhage, (b) malnutrition with anemia, and (c) alcoholism.

These four cases would be coded as follows:

Case	1st cause	2nd cause	3rd cause	4th cause	Condition
1	08	00	00	00	00
2	01	01	00	00	06
3	02	02	02	00	00
4	03	10	10	00	00

It is clear that this method of coding prevents as clear a description of cause of death as most death certificates would allow. To take an admittedly extreme illustration, one record reports three causes of death as follows: (1) "gastrointestinal hemorrhage," (2) "esophageal vomica," and (3) "alcohol cirrhosis". This yields the codes 10, 10, 10, 00, 00, providing not even a clue that the man drank himself to death.

The user must also be aware that the entries on the death certificates almost certainly reflect idiosyncratic practices of those who filled them out. To illustrate, one record simply indicated "cardiac arrest" as the primary (and only) cause of death; another contained "cardiac arrest" as Cause 1; "heart attack" as Cause 2, and Myocardio-Vascular Disease" as Cause 3. The first of these records was coded 01, 00, 00, 00, 00, whereas the second was coded 01, 01, 01, 00, 00, despite the fact that the medical histories of the two decedents might well have been identical.

A number of conventions have been used in the coding in order to allow the pattern of codes for an individual to convey as much meaning as possible. These are described below:

1. Pneumonia is coded with the lung diseases listed in code 07.
2. The condition of hypertension is coded as 01 when cause of death is coded 01 (heart), 03 when cause of death is 03 (stroke), and 10 (other) in all other cases. Arteriosclerosis and atherosclerosis are treated in exactly the same manner.
3. When there are two or more "conditions," irrespective of the order in which they are listed, we code the one that bears a specific code (i.e., other than 10) unless that code has been used for one of the causes of death.
4. When there are fewer than four causes of death and more than one specific conditions, one or more of the conditions have been coded as a cause of death. To illustrate by means of an artificially extreme example, if the causes of death are (1) congestive heart failure and (2) prostate cancer, and if diabetes, chronic bronchitis, and cerebral vascular accident are listed as conditions, the case would be coded as 01, 02, 06, 07, 03.
5. "Respiratory arrest," which frequently appears as the first cause of death, is coded 07 *only* in those cases (a large majority) when the remainder of the record indicates a lung problem as cause of death or a contributing condition. In all other cases it is coded according to the entry for second cause of death. (In the very few cases in which it appears alone, it is coded 00. The following three cases are illustrative:
  - a. Cause 1: Respiratory arrest  
Cause 2: Pulmonary metastasis  
Cause 3: Primary bronchogenic carcinoma  
  
CODES: 07 02 02 00 00
  - b. Cause 1: Respiratory arrest  
Cause 2: Stroke  
Condition: Cardiovascular disease  
  
CODES: 03 03 00 00 01
  - c. Cause 1: Respiratory arrest  
Cause 2: Renal failure  
Condition: Carcinoma prostate  
  
CODES: 10 10 00 00 02