



Atherosclerosis Risk in Communities Study

Cohort Surveillance

CHD Events Data Dictionary

Cohort Surveillance CHD Events Data Dictionary

An event consists of a single eligible occurrence or group of eligible occurrences that are linked based on the 28 day criteria and belonging to the same individual. All Occurrence(s) that makes an event will have the same EVENT_ID.

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1. Classification Variables

1.1. CALDX2

Purpose

To determine the computerized MI diagnosis for hospitalized events in cohort surveillance.

Description

CALDX2 is a character variable determined by the worst pain (CPAIDX2), worst enzyme (CENZDX2) and the worst ECG diagnosis (CECGDXX) within an event. CALDX2 is the final computer MI classification for an event in cohort surveillance.

Type

Event

Related Variables

CPAIDX2, CENZDX2, CECGDXX

1.2. CMIDX

Purpose

To determine a MI Diagnosis for hospitalized events among cohort participants.

Description

CMIDX is the final MI classification variable determined by MMCC reviews or computer algorithm if MMCC reviews are not required.

Type

Event

Remarks

Unlinked out-of-hospital deaths have CMIDX='NO-HOSP' (no hospitalizations)

Related Variables

CARCDX, CARCDXX2, CMIDX, CFATALDX

1.3. CFATALDX

Purpose

To determine a CHD diagnosis for fatal events among cohort participants.

Description

CFATALDX is the final CHD classification variable for fatal events determined by MMCC reviews or computer algorithm if MMCC reviews are not required.

Type

Event

Remarks

Non-fatal hospitalizations (EVTYPE01='N' for all occurrences within an event) have CFATALDX='NONFAT'.

Related Variables

CMIDX, EVTYPE01

1.4. CNSTEMI

Purpose

To indicate an MI event without Segment Elevation among cohort participants

Description

CNSTEMI is the binary variable for Probable or Definite MIs without ST – segment elevation.

Type

Event

Remarks

If the MI was Probable or Definite and the Enzyme Diagnosis was Equivocal or Abnormal and the S-T segment was not elevated, then CNSTEMI is Yes (1)

Related Variables

CMIDX, CENZDX, STEL

1.5. CSTEMI

Purpose

To indicate an MI event with Segment Elevation among cohort participants

Description

CNSTEMI is the binary variable for Probable or Definite MIs with ST – segment elevation

Type

Event

Remarks

If the MI was Probable or Definite and the Enzyme Diagnosis was Equivocal or Abnormal and the S-T segment was elevated, then CSTEMI is Yes (1)

Related Variables

CMIDX, CENZDX, STEL

1.6. **WCARICDX**

Purpose

To determine the worst computer MI Diagnosis for hospitalized events among cohort participants.

Description

WCARICDX is a character variable determined by the largest value of CARCDXX2 within a cohort event. For out-of-hospital deaths (linked or unlinked), WCARICDX is missing. For example, if an event consists of 3 hospitalizations, and the computerized MI diagnosis (CARCDXX2) for each hospitalization has value 1, 3 and 5, then WCARICDX = 5.

Type

Event

Remarks

WCARICDX (for cohort surveillance) is an analogy to WARICDX (for community surveillance).

Related Variables

CARCDXX2

2. Identification Variables

2.1. CENTER

Purpose

To identify the field center from which a participant for a given occurrence originates.

Type

Event

Description

CENTER is a character variable.

2.2. CHRT_ID

Purpose

To map a surveillance ID to the Cohort participant ID.

Description

CHRT_ID is the cohort participant ID from CELB02. CHRT_ID is the same for all occurrences within a person, and is missing for occurrences not from cohort participants.

Type

Occurrence

Algorithm

CELB02 = chrt_id

Related variables

EVT_ID2, C_EVTID, ID, CELB02

2.3. C_EVTID

Purpose

To determine an event ID for Cohort Surveillance.

Description

C_EVTID is a character variable. C_EVTID is the latest occurrence ID in Cohort Event (which may consist of more than one occurrence). C_EVTID is used to create the event level ID.

Type

Occurrence

2.4. EVT_ID2

Purpose

To determine an event ID for Cohort Surveillance

Description

EVT_ID2 is the ID of the latest Occurrence of a person.

Type

Occurrence

2.5. ID

Purpose

To determine an event ID for Cohort Surveillance.

Type

Occurrence

Description

ID is the ARIC Occurrence ID.

2.6. TEACHING

Purpose

To determine if the hospital is a teaching hospital.

Type

Occurrence

Description

Teaching is the teaching status of the hospital.

Algorithm

See the algorithm under HRAA01A (hospital codes) for details.

Related Variables

HRAA01A

3. Event Date Variables

3.1 CESFDATE_FollowUpDays

Purpose

To obtain the the follow-up time in days between visit 1 and earliest date of an occurrence in an event in Cohort Surveillance.

Description

CESFDATE is the earliest Date of Cohort Event. It is derived by taking the date of the first occurrence for an event.

Type

Occurrence

Algorithm

Take the date of the first occurrence in an event.

SAS Code

```
if first.c_evtid then do;  
    nopair=1; nopair2=1; pairmiss=0; cesfdate=esdate;
```

Related variables

ESDATE, V1DATE01

3.2. CESFDATE_Year

Purpose

To obtain the year of an occurrence in an event in Cohort Surveillance.

3.3 CEVTDAT3_FollowUpDays

Purpose

To determine the follow-up time in days between visit 1 and an event date for cohort participants.

Type

Event

Description

For definite or probable MI, CEVTDAT3 is CMIDATE. For definite fatal CHD, CEVTDAT3 is the death date from DTH09. For others, CEVTDAT3 is the last date with known status in Surveillance (DDATE, date of discharge/death).

Algorithm

If CMIDX is Definite or Probable MI then CEVTDAT3 is CMIDATE. If CFATALDX is Definite or Probable Fatal CHD event, then CEVTDAT3 is DTHA09. Otherwise, CEVTDAT3 is DDATE.

SAS Code

```
if cmidx in ("DEFMI","PROBMI") then cevtdat3=cmidate;  
    else if cfataldx in ("DEFFATCHD","DEFFATMI") then cevtdat3=dtha09;  
    else cevtdat3=ddate;
```

Remarks

CEVTDAT3 (for cohort surveillance) is an analogy to EVTDAT3 (for community surveillance).

Related Variables

CMIDATE, CMIDX, CFATALDX, DDATE, V1DATE01

3.4 CEVTDAT3_Year

Purpose

To determine the year of an event date for cohort participants.

3.5 CMIDATE_FollowUpDays

Purpose

To determine the follow-up time in days since visit 1 and a MI date for Events in Cohort Surveillance.

Type

Event

Description

CMIDATE is the hospitalization date (HSPDATE) from the occurrence that has the “worst” CARCDXX2 classification within an Event. If CARCDXX2 are even, choose the HSPDATE from the occurrence with more severe enzymes (greater CENZDX2). If CENZDX2 are again even, choose the earlier HSPDATE.

Algorithm

Event Description	ALGORITHM
One occurrence	CMIDATE=HSPDATE
Multiple linked occurrences: All are hospitalizations	CMIDATE=HSPDATE of the occurrence with the worst ARICDX2. If even CARCDXX2, use the one with greater ENZDX2. If even ENZDX2, use the earlier HSPDATE
Multiple linked occurrences: Out-of-hospital death linked to a non-fatal hospitalizations	CMIDATE=HSPDATE of the hospitalized occurrence with the worst CARCDXX2. If even CARCDXX2, follow above algorithm.

Remarks

CMIDATE (for cohort surveillance) is an analogy to MIDATE (for community surveillance).

Related Variables

HSPDATE, CARCDXX2, CENZDX2, ESDATE, V1DATE01

3.6 CMIDATE_Year

Purpose

To determine the year of a MI date for Events in Cohort Surveillance.

3.7 DTHDATE_FollowUpDays

Purpose

To determine the follow-up time in days since visit 1 and a death date for fatal occurrences.

Type

Occurrence

Description

DTHDATE will assume one of the following dates: DTH09, HRAA14, CELB04, or DDATE in the order indicated in the table below if the person is deceased. DTH09 records the date of death from the death Certificate, HRAA14 records the date of discharge or death from the hospital medical record, CELB04 records the date of death or discharge looking at a series of forms, and CELB06 asks if it is a death. Non-fatal occurrences have DTHDATE = .N. If EVTYPE01 cannot be determined, DTHDATE=.U.

Algorithm

DTHDATE	Description
DTH09	If (EVTYPE01='I' or 'O') and DTH09 is non-missing
HRAA14	If (EVTYPE01='I' or 'O') and DTH09 is missing <u>and</u> (HRAA17=D and HRAA14 is not missing)
CELB04	IF (EVTYPE01='I' OR 'O') AND DTH09 AND HRAA14 ARE BOTH MISSING AND CELB04 IS NOT MISSING AND CELB06 = 'Y'
DDATE	If (EVTYPE01='I' or 'O') and (DTH09, HRAA14, and CELB04 are all missing)
.N	If EVTYPE01 = 'N' (Non-Fatal occurrence)
.U	Otherwise

Remarks

DTHDATE may contain non-validated death dates obtained from information other than the death certificates. To use only validated death date, DTH09 is the variable to use.

Related Variables

EVTYPE01, DDATE, V1DATE01

3.8 DTHDATE_Year

Purpose

To determine the year of a death date for fatal occurrences.

4 Sudden Cardiac Death Variables

4.1 SUDTH1

Purpose

Identify fatal events as “Sudden Cardiac Death”, defined by death within 1 hour from onset of acute symptoms.

Description

SUDTH1 is determined by HRA25g or (DTH09, DTH11, HRA11a & HRA11b) for in-hospital deaths (IHD). It is determined by MMCC reviews (CDX15b) for out-of-hospital deaths (OHD).

Type

Event

Remarks

SUDTH1 is defined for a subset of fatal events with the following fatal classifications: definite fatal MI, definite fatal CHD and possible fatal CHD. A classification of SUDTH1 exists for both community and cohort events. Information from the most current batch is used to define SUDTH1 when there are multiple batches of reviews (due to data changes).

Algorithm

*definition of Death time:

IHD: death time is defined by HRA25g (time from onset of this event to death), or by the difference between death time (DTH09/11) and admission time (HRA11a/b) if HRA25g is unknown. If death time is missing and the length between death date and admission date is greater than one day, then death time is greater than 24 hours.

OHD: If there is only one reviewer, take the value of CDX15b.

If there are more than one reviewer, then

- a. Take adjudication value if present and not unknown, else
- b. Take the non-missing value if only one time diagnosis is available and not unknown, else
- c. Take a random selection of 2 non-missing values if two time diagnosis are both available and both not unknown, else
- d. Death time is unclassifiable if no death time diagnosis is available.

Related Variables

HRA25g (time from onset of this event to death), DTH09 (death date), DTH11 (death time), HRA11a (date of arrival), HRA11b (arrival time), CDX15b (time to death from onset of acute symptoms in cohort surveillance).

4.2 SUDTH24

Purpose

Identify fatal events as “Sudden Cardiac Death”, defined by death within 24 hours from onset of acute symptoms.

Description

SUDTH24 is determined by HRA25g or DTH09, DTH11, HRA11a and HRA11b for in-hospital deaths (IHD). It is determined by MMCC reviews (CDX15b) for out-of-hospital deaths (OHD).

Type

Event

Remarks

SUDTH24 is similar to SUDTH1, except it's defined based on death within 24 hours.

Algorithm

*definition of death time:

IHD: death time is defined by HRA25g (time from onset of this event to death), or by the difference between death time (DTH09/11) and admission time (HRA11a/b) if HRA25g is unknown. If death time is missing and the length between death date and admission date is greater than one day, then death time is greater than 24 hours.

OHD: If there is only one reviewer, take the value of CDX15b.

If there are more than one reviewer, then

- a. Take adjudication value if present and not unknown, else
- b. Take the non-missing value if only one time diagnosis is available and not unknown, else
- c. Take a random selection of 2 non-missing values if two time diagnosis are both available and both not unknown, else
- d. Death time is unclassifiable if no death time diagnosis is available.

Related Variables

HRA25g (time from onset of this event to death), DTH09 (death date), DTH11 (death time), HRA11a (date of arrival), HRA11b (arrival time), CDX15b (time to death from onset of acute symptoms in cohort surveillance).