

# Cardiac Arrest *Registry to Enhance Survival* - CARES

Complete Data Set for EMS, Hospital, and CAD Participants and  
Instructions for Abstracting and Coding Data Elements

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## Introduction

The CARES data dictionary is a document that reviews and explains every CARES data element in the EMS, Hospital, and CAD (Computer Aided Dispatch) datasets. This document is designed to be a helpful reference tool for participating agencies. In the data dictionary, each data element is defined, the source is cited, and coding examples are provided. CARES staff has included additional examples for those elements that are the most frequently mis-coded, as well as examples for unusual circumstances that may arise in the treatment of an out-of-hospital cardiac arrest.

Originally, the CARES dataset and dictionary were developed by a committee made up of experienced leaders and stakeholders in the field of emergency medicine (See Appendix A). Since that time, CARES staff has continued to update and refine the CARES dataset and dictionary based on feedback from CARES participants and relevant findings in the cardiac arrest literature. It is important to recognize that CARES was developed as a surveillance registry and not a research database, therefore CARES is collecting only the minimum number of data elements that are known to be essential in the response and treatment of out-of-hospital cardiac arrest.

The data dictionary cites the source(s) for each CARES data element. The sources that were used for the development of the dataset and dictionary include the National EMS Information System (NEMSIS) and the Utstein template. A brief explanation of each source is provided below:

- NEMSIS is an effort to create a national EMS database. The NEMSIS dataset and dictionary include over 400 elements and have been through several updates. CARES has made every attempt to be NEMSIS compliant wherever possible (<http://www.nemsis.org/>).
- Utstein is the recognized international standard for reporting out-of-hospital cardiac arrest survival. The Utstein recommendations are an attempt to develop and present consensus definitions for previously poorly defined areas of clinical epidemiology as they pertain to out-of-hospital cardiac arrest patients.<sup>1</sup>

CARES staff updates the data dictionary on an annual basis. Please feel free to contact CARES staff at [cares@emory.edu](mailto:cares@emory.edu) with any questions or comments regarding this document.

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<sup>1</sup> Jacobs I, Nadkarni V, Bahr J, et al; International Liaison Committee on Resuscitation; American Heart Association; European Resuscitation Council; Australian Resuscitation Council; New Zealand Resuscitation Council; Heart and Stroke Foundation of Canada; InterAmerican Heart Foundation; Resuscitation Councils of Southern Africa; ILCOR Task Force on Cardiac Arrest and Cardiopulmonary Resuscitation Outcomes. Cardiac arrest and cardiopulmonary resuscitation outcome reports: update and simplification of the Utstein templates for resuscitation registries: a statement for healthcare professionals from a task force of the International Liaison Committee on Resuscitation (American Heart Association, European Resuscitation Council, Australian Resuscitation Council, New Zealand Resuscitation Council, Heart and Stroke Foundation of Canada, InterAmerican Heart Foundation, Resuscitation Councils of Southern Africa). *Circulation*. 2004;110:3385-3397.

**CARES PROGRAM DATA SET  
ESSENTIAL DATA ELEMENTS**

No.	Data Item	Best Data Source/Alternate Data Source	Comments (page)
	<b>EMS Dataset</b>		
1	Street Address (Where Arrest Occurred)	EMS Trip Sheet	4-5
2-6, 28	Patient Information	EMS Trip Sheet	6-11
7	EMS Agency ID	EMS Trip Sheet	12
8	Date of Cardiac Arrest	EMS Trip Sheet	13
9	Incident #	EMS Trip Sheet	14
11	Fire/First Responder Agency	EMS Trip Sheet / EMS Crew Member	15
12	Destination Hospital	EMS Trip Sheet	16
13	Time Variables (dispatch, ROSC, CPR, etc..)	EMS Trip Sheet	17-18
14	Location Type	EMS Trip Sheet	19-20
15	Arrest Witnessed	EMS Trip Sheet / EMS Crew Member	21
16	Arrest After Arrival of 911 Responder	EMS Trip Sheet / EMS Crew Member	22
17	Presumed Cardiac Arrest Etiology	EMS Trip Sheet / EMS Crew Member	23-24
18	Resuscitation Attempted by 911 Responder	EMS Trip Sheet	25
20	Who Initiated CPR	EMS Trip Sheet / EMS Crew Member	26
21	Was an AED Used During Resuscitation	EMS Trip Sheet / EMS Crew Member	27
22	Who First Applied Monitor/Defibrillator, AED	EMS Trip Sheet / EMS Crew Member	28
23	First Arrest Rhythm of Patient	EMS Trip Sheet / EMS Crew Member	29
24	Return of Spontaneous Circulation (ROSC)	EMS Trip Sheet	30-31
26	Out of Hospital Disposition	EMS Trip Sheet / EMS Crew Member	32
27	End of the Event	EMS Trip Sheet / EMS Crew Member	33
30	Was hypothermia care provided in the field	EMS Trip Sheet / EMS Crew Member	34
31	When was hypothermia care initiated	EMS Trip Sheet / EMS Crew Member	35
	<b>Hospital Dataset</b>		
32	Emergency Room Outcome	ED Patient Record	36
33	Hospital Outcome	Medical Record/Discharge Summary	37
34	Discharge from Hospital	Medical Record/Discharge Summary	38
35	Neurological Status at Hospital Discharge	Medical Record/Discharge Summary	39
36	Hypothermia care initiated/continued in hospital	Medical Record/Discharge Summary	40
	<b>Computer Aided Dispatch (CAD) Dataset</b>		
37	Incident #	Computer Aided Dispatch	41
38	Agency CAD ID	Computer Aided Dispatch	42
39	Call Received Time	Computer Aided Dispatch	43
40	Dispatched Time	Computer Aided Dispatch	44
41	On Scene Time	Computer Aided Dispatch	45
42	First Responder Call Received Time	Computer Aided Dispatch	46
43	First Responder On Scene Time	Computer Aided Dispatch	47

## 1. INCIDENT ADDRESS

Utstein/NEMESIS/CARES

### Definition:

- The street address (or best approximation) where the patient arrested. In the event that the patient arrested after the 911 call was placed, the street address of the patient when the 911 call was placed should be recorded as the “incident address.”

### Description:

- Street address can be used to map the location of the cardiac arrest using GIS technology and to identify patterns and clusters of cardiac arrest events.
- The ability to use GIS technology and to map cardiac arrest events is dependent upon the accuracy of the cardiac arrest address. For this reason, USPS standards are recommended for the coding of the address. The full document of these standards can be found at the USPS website (<http://pe.usps.gov/cpim/ftp/pubs/Pub28/pub28.pdf>).

### Instructions for Coding:

- Fully spell out street addresses using standard USPS abbreviations. These abbreviations include, but are not limited to: ALY (alley), ANX (annex), APT (apartment), AVE (avenue), BLDG (building), BLVD (boulevard), BYP (bypass), CIR (circle), CT (court), CV (cove), DEPT (department), DR (drive), EXPY (expressway), FL (floor), HTS (heights), HWY (highway), JCT (junction), LBBY (lobby), LN (lane), LOOP (loop), MNR (manor), MTWY (motorway), OFC (office), PARK (park), PH (penthouse), PIKE (pike), PKWY (parkway), PL (place), PLZ (plaza), RAMP (ramp), RD (road), RDG (ridge), RM (room), RTE (route), SPUR (spur), SQ (square), ST (street), STE (suite), TER (terrace), TRCE (trace), TRL (trail), WAY (way), UNIT (unit), N (north), NE (northeast), NW (northwest), S (south), SE (southeast), SW (southwest), E (east), W (west).
- Uppercase letters are preferred.
- Use the “&” or “+” sign for indicating an intersection address.
- Do not use the “#” sign if there is an address unit designator such as APT, SUITE, or RM.
- Do not use periods, commas, or semicolons in the address.

### Examples:

Code	Location
102 MAIN ST SW APT 12	Apartment #12 at “102 Main Street Southwest”
CLIFTON RD NE & N DECATUR RD NE	Intersection of “Clifton Road Northeast” and “North Decatur Road Northeast”

## 1. INCIDENT CITY, STATE, & ZIP CODE

Utstein/NEMESIS/CARES

### **Definition:**

- The city or township (or best approximation), state, and zip code where the patient arrested. In the event that the patient arrested after the 911 call was placed, the city or township, state, and zip code of the patient when the 911 call was placed should be recorded as the “incident city, state, & zip code.”

### **Description:**

- Incident location information can be used to map the location of the cardiac arrest using GIS technology and to identify patterns and clusters of cardiac arrest events.
- The ability to use GIS technology and to map cardiac arrest events is dependent upon the accuracy of the cardiac arrest address. For this reason, USPS standards are recommended for the coding of the address. The full document of these standards can be found at the USPS website (<http://pe.usps.gov/cpim/ftp/pubs/Pub28/pub28.pdf>).

### **Instructions for Coding:**

- Uppercase letters are preferred.
- City names should be spelled out in their entirety.
- States should be indicated using the standard USPS two-letter abbreviations.
- Zip Codes should be indicated using the standard 5-number USPS zip codes.
- “99999” should be used if the zip code is unknown and cannot be determined.

### **Examples:**

<b>Code</b>	<b>Location</b>
NEW YORK NY 10065	New York, NY 10065
ATLANTA GA 30327	Atlanta, GA 30327

## 2. & 3. FIRST NAME & LAST NAME (If Available)

NEMESIS/CARES

### Definition:

- The patient's first (given) name.
- The patient's last (family) name.

### Description:

- Patient names are essential for ensuring accuracy in locating outcome information from hospitals.
- This information is protected in confidence and should not be withheld based on HIPAA concerns. Please contact the CARES Project Coordinator (CPC) or your agency's CARES liaison for questions.
- When the individual CARES record is complete and verified with matching hospital data, the patient name (as well as the date of birth) will be "scrubbed" from the registry to de-identify the record.

### Instructions for Coding:

- If the patient's name is known, indicate the first and last name.
- If the patient's name is unknown, list as "John/Jane Doe."

### Examples:

Code	Name
Bill Smith	First name: Bill    Last name: Smith
John Doe	Unidentified male patient
Jane Doe	Unidentified female patient

#### 4. PATIENT AGE

Utstein/NEMESIS/CARES

**Definition:**

- The patient’s age (calculated from the date of birth or best approximation).

**Description:**

- Allows for categorization of patients according to their age at the time of cardiac arrest when used in conjunction with patient age units.

**Instructions for Coding:**

- Both “Patient Age” and “Patient Age Units” must be coded.
- If the patient’s actual age is not known, it should be estimated and recorded.
- If a child is less than one year, enter the number of months. If older than one year, do not enter months.
- If a child is less than one month, enter the number of days. If older than one month, do not enter days.

**Examples:**

Code	Age
001	1 day, 1 month, or 1 year when combined with “Patient Age Units.”
011	11 days, 11 months, or 11 years when combined with “Patient Age Units.”
064	64 years when combined with “Patient Age Units.” (If the age is 64 days, the age should be recorded as 002 with the “months” code for “Patient Age Units.”)

#### 4. PATIENT AGE UNITS

NEMESIS/CARES

**Definition:**

- The units by which the age is documented.

**Description:**

- Allows for categorization of patients according to their age at the time of cardiac arrest.
- Detailed pediatric age groups may identify those cardiac arrests that are associated with congenital heart defects that may be inherited (such as prolonged QT Syndrome and Wolf-Parkinson-White Syndrome).

**Instructions for Coding:**

- Select the appropriate units for the recorded age in the previous field.

**Field Values:**

Code	Age Unit Options
1	Years
2	Months
3	Days



## 5. DATE OF BIRTH

NEMESIS/CARES

### **Definition:**

- The patient's date of birth.

### **Description:**

- Patient date of birth is essential for ensuring accuracy in locating outcome information from hospitals.
- This information is protected in confidence and should not be withheld based on HIPAA concerns. Please contact the CARES Program Coordinator or your agency's CARES liaison with questions.
- When the individual CARES record is complete and verified with matching hospital data, the patient's date of birth (as well as the patient's name) will be "scrubbed" from the registry to de-identify the record.

### **Instructions for Coding:**

- All dates should be entered with 8 digits in the following form: MMDDYYYY
- Do not leave any component of the date (month, day, or year) blank unless the date of birth is unknown. In such cases, mark the "unknown DOB" box and leave the date field blank.

### **Example:**

<b>Format</b>	<b>Example</b>	<b>Date</b>
MMDDYYYY	07252004	July 25, 2004

## 6. GENDER

Utstein/NEMESIS/CARES

### **Definition:**

- The patient's gender.

### **Description:**

- The sex of the patient may be an important risk factor for cardiac arrest and resuscitation interventions.

### **Instructions for Coding:**

- The patient's sex as recorded in the patient record or by self-report.

### **Field Values:**

<b>Code</b>	<b>Gender Options</b>
1	Male
2	Female

**Definition:**

- The patient’s race or ethnicity as defined by the OMB (US Office of Management and Budget; <http://www.whitehouse.gov/omb/> OR [http://www.whitehouse.gov/omb/fedreg\\_1997standards/](http://www.whitehouse.gov/omb/fedreg_1997standards/) ).
  - American Indian or Alaska Native: A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.
  - Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
  - Black or African American: A person having origins in any of the black racial groups of Africa.
  - Hispanic/Latino: A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
  - Native Hawaiian or Other Pacific Islander: A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
  - White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
  - Unknown

**Description:**

- The race/ethnicity of the patient may be an important risk factor for cardiac arrest and resuscitation interventions.

**Instructions for Coding:**

- Assign race/ethnicity of patient as considered by patient, family, or healthcare provider.
- If the patient is of mixed race, select the category that is most appropriate.
- Currently, OMB allows for coding of more than one race. However, due to the structure of one answer for each data field, CARES will only accept one answer. In these cases, select the most appropriate/applicable race.

**Field Values:**

Code	Race/Ethnicity Options
1	American-Indian/Alaska-Native
2	Asian
3	Black/African-American
4	Hispanic/Latino
5	Native-Hawaiian/Other-Pacific-Islander
6	White
9	Unknown

**Definition:**

- For desktop data entry and for automatic extraction, this field is auto-populated.
- The state-assigned provider number for the Emergency Medical Service (EMS) responding agency.
- For CARES, EMS is defined as personnel who respond to the medical emergency in an official capacity (i.e. respond to the 911 call) as part of an organized medical response team AND are the designated transporter of the patient to the hospital.
  - NOTE: By this definition, organized responding personnel who are not the designated transporter of the patient to the hospital are characterized as a “First Responder” and are not part of the EMS system.
  - NOTE: By this definition, physicians, nurses, or paramedics who witness a cardiac arrest and initiate CPR but are not part of the organized rescue team are characterized as Lay person Medical Provider and are not part of the EMS (or First Responder) system.

**Description:**

- EMS that provided out-of-hospital care to the patient in cardiac arrest.
- Not nullable. A unique value must be provided to create a unique record ID within the database.
- All EMS agency demographic information is associated with the EMS agency number.

**Instructions for Coding:**

- Use the official code for your EMS agency assigned by the state.
- If you do not know your agency’s ID, please contact your CARES liaison or CARES staff.

**Example:**

<b>EMS Agency ID</b>	<b>EMS Agency</b>
000003	Shady Grove EMS

## 8. DATE OF CARDIAC ARREST

Utstein/NEMESIS/CARES

### Definition:

- Date cardiac arrest occurred.

### Description:

- Allows the calculation of survival time based on consecutively timed events from this index date.

### Instructions for Coding:

- Use the date of event as recorded in the EMS trip sheet.

### Example:

Format	Example	Date
MMDDYYYY	07252004	July 25, 2009

**Definition:**

- The unique number automatically assigned by the EMS agency for each patient care report (PCR).

**Description:**

- The number will be used to identify each unique event within the CARES database.
- Not nullable. A unique value must be provided to create a unique record ID within the database.
- Where applicable, it will trace and link dispatch information (CAD data) for EMS and first responders.

**Instructions for Coding:**

- This is essential information for follow-up and linking data, and should not be missing.
- Use the record number as recorded in the EMS trip sheet.
- There are 15 characters designated for this field. When the incident number is less than 6 characters, do not use preceding "0"s unless the information is transmitted by XML file.
- If letters are used in the incident number, they should be recorded as capital letters.
- NOTE: Agencies may refer to this number in different terms (eg, Call #). Please note the CARES definition relates to the unique number assigned by the EMS Agency.

**Examples:**

Call #	Examples
1234	Four (4) number incident #
123456	Six (6) number incident #
AB6468	Incident # with letters and numbers
000000123456789	Incident # with more than 6 characters with preceding "0"s.

**Definition:**

- The name and state-assigned code number for the First Responder agency.
- For CARES, a First Responder agency is defined as personnel who respond to the medical emergency in an official capacity as part of an organized medical response team but are not the designated transporter of the patient to the hospital.
  - NOTE: By this definition, organized responding personnel who are the designated transporter of the patient to the hospital are characterized as “EMS” and are not considered a “First Responder.”
  - NOTE: By this definition, physicians, nurses, or paramedics who witness a cardiac arrest and initiate CPR but are not part of the organized rescue team are characterized as Lay person Medical Provider and are not part of the First Responder (or EMS) system.

**Description:**

- First Responder agency that provided out-of-hospital care to the patient in cardiac arrest.
- All First Responder agency demographic information is associated with this field.
- Where applicable, it will trace and link dispatch information (CAD date) for First Responders.

**Instructions for Coding:**

- Use the official code for your EMS agency assigned by the state.
- The names and/or codes of the First Responder agency may be documented on the EMS trip sheets.
- For desktop data entry and for automatic extraction, this field is in a “drop-down menu” format.
- If a First Responder agency was not dispatched, this field can be left blank. (However, an explanatory comment should be provided in the “General Comments” box).
- If a First Responder agency was dispatched, this field MUST be completed. This is independent of whether or not the First Responder actually provided direct care to the patient.
- If more than one First Responder agency was dispatched, the unit that arrived first at the scene should be indicated as the “First Responder” for this field.

**Example:**

Code	First Responder Agency
003	Shady Grove Fire Department

## 12. DESTINATION HOSPITAL

CARES/NEMESIS

### **Definition:**

- The hospital that the patient was transported to.

### **Description:**

- Destination Hospital name and/or code is essential for matching outcome data to the record.
- When possible, state issued hospital codes should be used along with the name of the hospital.
- Important for grouping data by destination location, which also allows data to be sorted by geographic areas in many agencies.
- Provides information on overall service area as well as patterns and times for agency configuration.

### **Instructions for Coding:**

- This field must be completed for all patients that are transported to the hospital. This is independent of whether or not the patient was later admitted to the hospital.
- For desktop data entry and for automatic extraction, this field is in a “drop-down menu” format.
- The destination hospital should be documented on the EMS trip sheet.
- This field can only be left blank when the patient was not transported to the hospital.

### **Example:**

<b>Code</b>	<b>Destination Hospital</b>
321	Shady Grove Hospital



### 13. TIME VARIABLES (Optional Section – not required by CARES)

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**General Description:**

- All times in this field are understood to be *approximations* (at best) and are optional for CARES purposes. As such, these are not used by CARES for establishing statistical intervals.
- These fields are contained within the EMS dataset and are labeled as: “Time of 1st CPR,” “ROSC Time,” “CPR Stopped/Termination Time,” and “Time of 1st Defibrillation.”

**General Instruction for Coding:**

- All times in this field should be recorded in military time in the following format: HH:MM

**General Examples:**

Format	Example	Time
HH:MM	01:12	1:12 AM
HH:MM	18:06	6:06 PM

**(a) TIME OF 1st CPR**

Utstein/CARES

**Definition:**

- Estimated time that CPR was initiated.

**Description:**

- This time is not specific to a particular classification of people. (It is independent of whether CPR was initiated by a lay person, a First Responder, or EMS personnel. Whatever time the first person initiated CPR is the time in question.)

**Instructions for Coding:**

- This field is optional. If desired, estimate the time that CPR was initiated as closely as possible.

**(b) ROSC Time**

Utstein/CARES

**Definition:**

- Estimated time that Return of Spontaneous Circulation (ROSC) occurred.
- See data field #22 “Return of Spontaneous Circulation (ROSC) for its definition.

**Description:**

- This time is independent of how long ROSC was sustained.

**Instructions for Coding:**

- This field is optional. If desired, estimate the time that ROSC occurred as closely as possible.

(c) CPR STOPPED/TERMINATION TIME

Utstein/CARES

**Definition:**

- Estimated time that CPR was stopped or terminated.

**Description:**

- Numerous psychological and situational factors influence the time at which CPR is stopped, and this time point is often imprecise. Nevertheless, this information may be useful. (e.g.: For developing guidelines on when to stop CPR).

**Instructions for Coding:**

- This field is optional. If desired, estimate the time that CPR was stopped or terminated.

(d) TIME OF 1st DEFIBRILLATION

Utstein/CARES

**Definition:**

- Estimated time that first defibrillation occurred.

**Description:**

- This time is based on the first defibrillation, regardless of which device was used (i.e., an AED or manual shock).

**Instructions for Coding:**

- This field is optional. If desired, estimate the time that the first defibrillation occurred.
- It may be possible to determine the first defibrillation time from a storage data card, hard drive, or other device in the AED or monitor/defibrillator.

## 14. LOCATION TYPE

Utstein/NEMESIS/CARES

### Definition:

- The type of location for the address given in field 1.
  - This should be the type of location where the patient arrested. In the event that the patient arrested after the 911 call was placed, the type of location should be for the address of the patient when the 911 call was placed.

### Description:

- Allows categorization of cardiac arrest according to type of location. This may allow for a greater understanding of high frequency arrest locations that can be targeted for prevention or response programs.

### Instructions for Coding:

- Select the location type that is most appropriate based on the definitions below.

### Field Values:

Code	Values & Definitions
01	<u>Home/Residence</u> – Includes apartment, boarding house, farmhouse, non-institutional place of residence, private home, residential house, home premises, private driveway, private garage, private garden, private walkway, swimming pool within private residence or garden, and yard of home. <u>Excludes</u> home under construction but not occupied (see <u>Industrial Place</u> ) and institutional place of residence (see <u>Residence/Institution</u> ).
02	<u>Public Building</u> –Includes any building used by the general public, including bank, café, casino, church, cinema, clubhouse, commercial shop, courthouse, dance hall, hotel, market, movie theater, music hall, nightclub, office building, opera house, parking garage, post office, public hall, restaurant, broadcasting station, bus or railway station, and store. <u>Excludes</u> home garage (see <u>Home/Residence</u> ), industrial building/workplace (see <u>Industrial Place</u> ), state, public, or private school (see <u>Educational Institution</u> ), and physician’s office (see <u>Physician Office/Medical</u> ).
03	<u>Street/Hwy</u> – Includes all public roadways.
04	<u>Nursing Home</u> –Includes all medical residential institutions that are licensed by the state as nursing homes or assisted-living centers.
05	<u>Residence/Institution</u> – Children’s home, dormitory, orphanage, residential psychiatric facility, drug/rehab facility.
06	<u>Physician Office / Clinic</u> – Doctor’s office, dialysis clinic, free standing clinic (unless meeting the definition of <u>Hospital</u> ).
07	<u>Educational Institution</u> – Includes state, public, and private schools. <u>Excludes</u> playground, gymnasium, and other recreational locations within educational institution (see <u>Recreation/Sports Facility</u> ). <u>Excludes</u> dormitory building (See <u>Residence/Institution</u> ).
08	<u>Hospital</u> – Hospital, Medical Center, or other recognized medical facility of similar type.
09	<u>Recreation/Sport</u> – Includes amusement park, baseball field, basketball court, beach resort, cricket grounds, football field, golf course, gymnasium, hockey field, holiday camp, ice palace, lake resort, mountain resort, playground, public park, racetrack, resorts of all types, riding school, rifle range, skating rink, sports grounds, stadium, public swimming pool, tennis court. <u>Excludes</u> occurrence in private house, private garden, private swimming pool, and private yard (See <u>Home/Residence</u> ).
10	<u>Industrial Place</u> – Includes building under construction, dockyard, dry dock, factory building or premises, garage (place of work), industrial yard, loading platform in factory or store,

	industrial plant, railway yard, shop (place of work), warehouse, and workhouse.
11	<u>Farm</u> – Includes farm building and land under cultivation. <u>Excludes</u> farmhouse and home premises of farm (See <u>Home/Residence</u> ).
12	<u>Mine/Quarry</u> – Includes gravel pit, sand pit, and tunnel under construction.
13	<u>Jail</u> – Facility where persons are in custody of the judicial system.
14	<u>Airport</u> – Any location designated for routine travel by flight.
15	<u>Other</u> – Is to be used when location is not included in the above categories. Includes parking lot and casino. If possible, when this option is selected please indicate/describe the location type in the ‘General Comments’ section.

**Examples:**

<b>Example</b>	<b>Appropriate Code/Value</b>
Patient arrested while on a private tennis court <u>located in the backyard of a residential home</u> .	01- Home/Residence
Patient arrested while on a tennis court at the <u>Shady Grove Country Club</u> .	09- Recreation/Sport
Patient was walking down the street. Not feeling well, the patient approached a nearby home to ask for help. Upon stepping on the <u>private porch</u> , the patient had a cardiac arrest.	01- Home/Residence
Patient had a cardiac arrest while in the Shady Grove <u>Supermarket</u> .	02- Public Building
Patient had a cardiac arrest in the <u>parking lot</u> of the Shady Grove Supermarket.	15- Other
Patient arrested at the Shady Grove Neighborhood <u>Church</u> .	02- Public Building
Patient arrested while in his/her college <u>dorm room</u> .	05- Residence/Institution
Patient arrested while on dialysis at the Shady Grove <u>Dialysis Clinic</u> .	06- Physician Office/Clinic
Patient arrested while <u>in flight</u> between Boston and Atlanta	14- Airport

## 15. ARREST WITNESSED

Utstein/NEMESIS/CARES

### Definition:

- A witnessed arrest is one that is seen or heard by another person.

### Description:

- To be able to determine a true Utstein survival rate in a given community it is necessary to identify those patients who have a chance at survival. An unknown downtime prevents classifying a patient as potentially viable and should be categorized as an unwitnessed arrest to prevent creating a false Utstein survival rate.

### Instructions for Coding:

- See above definitions to determine if the arrest was witnessed or unwitnessed.
- If the patient was found after an uncertain period of time (the arrest was neither seen nor heard), then the arrest is considered an unwitnessed arrest.

### Field Values:

Code	Options
1	Witnessed arrest
2	Unwitnessed arrest

### Examples:

Example	Appropriate Code/Value
The patient was found on the floor of the kitchen by her husband. He did not see or hear her fall but immediately called 911.	2 – Unwitnessed Arrest
The patient's wife heard a loud 'thud' in the next room. She immediately walked into the room to find the patient on the floor unconscious/unresponsive and called 911	1 – Witnessed Arrest
EMS was called to the home of the patient, who complained of shortness of breath. The patient was awake and alert when EMS arrived and the first monitored cardiac rhythm was sinus tachycardia of 150 bpm. After 2 minutes of monitored sinus tachycardia, the patient went into ventricular fibrillation. Resuscitation was begun, etc.	1 – Witnessed Arrest
EMS was called to the corner of Main Street and 14 <sup>th</sup> Street for a possible cardiac arrest. Upon arrival, the patient was found lying on the sidewalk with no pulse. The couple, who had called 911, was interviewed and stated they found the patient while walking to their car.	2 – Unwitnessed Arrest
EMS was called to the YMCA for a possible cardiac arrest. Upon arrival the patient was found lying on the gym floor with no pulse. Several other people were playing basketball when the event occurred, but no one heard or saw the patient collapse.	2 – Unwitnessed Arrest

## 16. ARREST AFTER ARRIVAL OF 911 RESPONDER

Utstein/CARES

### Definition:

- Indicates if the patient arrested before or after the arrival of a 911 responder.

### Description:

- Allows data to be sorted based on when the arrest occurred: before/after the arrival of a 911 responder.
- Patients who experience a cardiac arrest after the arrival of EMS or First Responder personnel are in the best of circumstances to be resuscitated by trained personnel with the equipment to provide immediate defibrillation.

### Instructions for Coding:

- If the arrest occurred after the arrival of a 911 responder, mark yes.
- If the arrest did not occur after the arrival of a 911 responder, mark no.
- NOTE: If this field is marked “yes,” then field 15 (Arrest Witnessed) should be coded as a “witnessed arrest.”

### Field Values:

Code	Options
1	Yes
2	No

### Examples:

Example	Appropriate Code/Value
The patient was found on the floor of the kitchen by her husband. He did not see or hear her fall but immediately called 911.	2 – No
The patient’s wife heard a loud “thud” in the next room. She immediately walked into the room to find the patient on the floor unconscious/unresponsive and called 911.	2 – No
EMS was called to the home of the patient, who complained of shortness of breath. The patient was awake and alert when EMS arrived and the first monitored cardiac rhythm was sinus tachycardia of 150 bpm. After 2 minutes of monitored sinus tachycardia, the patient went into ventricular fibrillation. Resuscitation was begun, etc.	1 – Yes
EMS and a First Responder were dispatched to the Shady Grove Sporting Club for a patient complaining of mild chest pain. The First Responder arrived on scene to find the patient awake and alert. After 1 minute, the patient went into full cardiac arrest. Resuscitation efforts were begun. EMS personnel arrived 2 minutes later, etc.	1 – Yes

## 17. PRESUMED CARDIAC ARREST ETIOLOGY

Utstein/CARES

### Definition:

- Indication of the etiology or cause of the cardiac arrest.
- An arrest is presumed to be of cardiac etiology unless it is known or likely to have been caused by trauma, submersion, drug overdose, presumed poisoning/intoxication, asphyxia, exsanguinations, or any other non-cardiac cause as best determined by rescuers.

### Description:

- This field allows for categorization based on evidence to suggest that the arrest was caused by a non-cardiac etiology. This will allow for the best chance of identifying patients that are otherwise presumed to have a primary cardiac etiology and help establish an Utstein survival rate for a community.

### Instructions for Coding:

- See above definition for “presumed cardiac etiology.” Note that this is the default answer. (i.e.: The arrest is said to be of “presumed cardiac etiology” unless it is known or likely to have been caused by a non-cardiac cause.)
- “Other” should only be used if the etiology is **known** and documented but is not one of the available options (presumed cardiac etiology, trauma, respiratory, drowning, or electrocution). “Other” is not the default answer and therefore should not be used for “unknown” etiologies.
- If the arrest is selected as a “respiratory” or “other” etiology, explain the circumstances of the arrest in the “General Comments” free text field.

### Field Values:

Code	Etiology Options
1	Presumed Cardiac Etiology
2	Trauma
3	Respiratory
4	Drowning
5	Electrocution
9	Other

### Examples:

Example	Appropriate Code/Value
EMS was called to the home a patient who complained of shortness of breath. The patient was awake and alert when EMS arrived and the first monitored cardiac rhythm was sinus tachycardia. The patient then went into ventricular fibrillation. Resuscitation was begun, etc.	1 – Presumed Cardiac Etiology
EMS was called to the home of a patient who complained of shortness of breath. EMS arrived to find the patient awake and alert. The patient had a medical history of asthma. After two minutes the patient stopped breathing and went into respiratory arrest.	3 – Respiratory
EMS was dispatched to a possible cardiac arrest. Upon their arrival the patient was unconscious in the swimming pool. The patient did not have a pulse when he was removed from the pool.	4 – Drowning

EMS arrived at a college dormitory to find patient unconscious and unresponsive. Drug paraphernalia was located near the patient. Friends of the patient said she had been using cocaine and heroin throughout the day.	9 – Other
EMS was called to a dialysis clinic to find patient in full cardiac arrest. No other information was provided.	1 – Presumed Cardiac Etiology
EMS arrived on scene to find patient unresponsive on the floor of a public building. Bystander stated that the patient exhibited seizure-like activity before becoming unresponsive. The patient had no history of seizures.	1 – Presumed Cardiac Etiology
EMS arrived on scene to find patient lying in bed unresponsive. The patient had end stage cancer and was in hospice care.	9 – Other
EMS was called to the home of a one month old cardiac arrest patient. The patient had no prior medical history, and the cause of arrest is unknown.	1 – Presumed Cardiac Etiology



**18. RESUSCITATION ATTEMPTED BY 911 RESPONDER**

Utstein/CARES

**Definition:**

- Indication of an attempt to resuscitate the patient who is in cardiac arrest.
- A resuscitation attempt is defined as the act of attempting to maintain or restore life by establishing or maintaining airway (or both), breathing, and circulation through CPR, defibrillation, and other related emergency care techniques.
- 911 Responder resuscitation can further be defined as post-resuscitative care following a successful resuscitation by lay person.
- If the patient was transported to the hospital (even if all resuscitative efforts were performed prior to the arrival of 911 responders) this field should be coded “Yes.”
- 

**Description:**

- Allows data to describe the number of cardiac arrests within the EMS patient population which resulted in resuscitative efforts.

**Instructions for Coding:**

- Determine if a 911 Responder attempted resuscitation, as defined above.
- If a 911 Responder performed CPR or attached a monitor/defibrillator to the patient (or transported the patient to the hospital), then this field must be marked “Yes.”
- This field is independent of whether or not resuscitation efforts were later stopped at the scene (for any reason).

**Field Values:**

Code	Field Options
1	Yes
2	No

**Examples:**

Example	Appropriate Code/Value
EMS arrived on scene to a lay person performing CPR on a patient with dependent lividity. EMS terminated the resuscitation effort (without ever performing CPR themselves) due to the futile nature of the event.	2 – No
EMS arrived at nursing home to find the patient unconscious and unresponsive. Resuscitation efforts were initiated. Two minutes later, nursing home staff provided proper DNR paperwork for the patient. Resuscitation efforts were immediately terminated.	1 – Yes
After witnessing a man go into cardiac arrest, a lay person performed CPR and a lay person medical provider applied an AED, resulting in a full resuscitation of the patient prior to arrival of EMS. EMS transported the patient to the hospital, providing supportive care only.	1 – Yes

## 20. WHO INITIATED CPR

Utstein

### Definition:

- Identifies the initial person to perform CPR.
- Cardiopulmonary resuscitation (CPR) is an attempt to restore spontaneous circulation by performing chest compressions with or without ventilation.

### Description:

- Used to measure Bystander and First Responder involvement.

### Instructions for Coding:

- If CPR was not initiated, select “Not Applicable.”
- Select who initiated CPR using the definitions below.
- If the person who initiated CPR fits the definitions for both “Lay Person Family Member” and “Lay Person Medical Provider,” then “Lay Person Medical Provider” should be selected.

### Field Values:

Code	Definition
9	Not Applicable
1	Lay Person – Someone not responding to the medical emergency in an official capacity (i.e. not part of the response team to the 911 call). Known family members and medical providers are excluded from this group for this question. (See “Lay Person Family Member” and “Lay Person Medical Provider” below.)
2	Lay Person Family Member – Lay person who is known to be a family member of the patient.
3	Lay Person Medical Provider – Physicians, nurses, or paramedics who are not part of the organized rescue team.
4	First Responder
5	Responding EMS personnel

### Examples:

Example	Appropriate Code/Value
After attending the symphony, a couple saw a woman suddenly collapse to the sidewalk. Since there was no pulse the man began chest compressions while the woman called 911.	1 – Lay Person
Police responded to a 911 call at a single family dwelling at 123 Smith Road. When police arrived wife stated she saw her husband collapse while he was washing dishes but she did not perform CPR. Since there was no pulse police began chest compressions.	4 – First Responder
After attending a movie, a group of nurses heard someone call for help in the parking lot. A man was found on the ground with no pulse and no respirations. CPR was initiated by the nurses.	3 – Lay Person Medical Provider

## 21. WAS AN AED USED DURING RESUSCITATION

CARES

### Description

- To determine the incidence of automated external defibrillator (AED) use in the community.

### Instructions for Coding

- To be considered “used,” the machine would need to have the pads applied to the patient with a minimum of one analysis performed, regardless of whether or not a shock is indicated.
- # of AED shocks used to indicate defibrillation attempts with an AED or monitor that is in AED mode.
- # of Manual shocks used to indicate defibrillation attempt with trained personnel monitoring rhythm.

### Field Values:

Code	Definition
1	Yes
2	No
3	AED present but not used
4	AED malfunctioned

### Examples:

Example	Appropriate Code/Value
EMS responded to a possible cardiac arrest at Town Center Mall. Upon arrival a female patient was found on the floor with mall security at her side and an AED in use. Pads had been applied and one shock had been given.	1 – Yes
EMS responded to a possible cardiac arrest at the Airport. Upon arrival a man was found on the ground beside a small aircraft. Airport personnel were running to the man’s side carrying an AED. EMS personnel began evaluation and resuscitation.	3 – AED present but not used
After the fitness instructor applied the AED to the collapsed jogger in the health club, she reported to the responding EMS personnel that the AED did not work. She believed the batteries on the device were dead.	4 – AED malfunctioned
EMS was called to the YMCA for a possible cardiac arrest. Upon arrival a man was found lying on the gym floor with no pulse. Several other people were playing and watching a basketball game when the event occurred. Several bystanders saw the man collapse and were at his side. EMS applied monitor/defibrillator.	2 – No

**22. WHO FIRST APPLIED MONITOR/DEFIBRILLATOR, AED**

CARES

**Description**

- Identifies the individual who was responsible for using the AED or Monitor/Defibrillator during the resuscitation.
- To determine the frequency of lay person, first responder, and EMS use of AEDs during resuscitations.

**Field Values:**

<b>Code</b>	<b>Definition</b>
9	Not Applicable (device not used)
1	Lay Person (lay person not known to be a family member)
2	Lay Person Family Member (lay person known to be family member)
3	Lay Person Medical Provider
4	First Responder
5	Responding EMS personnel

**Examples:**

<b>Definition</b>	<b>Appropriate Code/Value</b>
EMS responded to a possible cardiac arrest at Town Center Mall. Upon arrival a female patient was found on the floor with mall security at her side and an AED in use. Pads had been applied and one shock had been given	1 – Lay Person
Police responded to a 911 call at a single family dwelling at 123 Smith Rd. When police arrived wife stated she saw her husband collapse while he was washing dishes but she did not perform CPR. Since there was no pulse police began chest compressions. An AED was applied by police and police noted that the patient was shocked once.	4 – First Responder
EMS was called to the YMCA for a possible cardiac arrest. Upon arrival a man was found lying on the gym floor with no pulse. Several other people were playing and watching a basketball game when the event occurred. Several bystanders saw the man collapse and were at his side. EMS applied Monitor/Defibrillator.	5 – Responding EMS Personnel

## 23. FIRST ARREST RHYTHM OF PATIENT

Utstein/NEMESIS

### Description

- The first monitored rhythm is the first cardiac rhythm present when a manual (monitor/defibrillator) or AED (automated external defibrillator) is attached to a patient after cardiac arrest. If the AED does not have a rhythm display, then it may be possible to determine the first monitored rhythm from a storage data card, hard drive, or other device used by the AED to record data. If the AED has no data-recording device, then the first monitored rhythm should be classified simply as “unknown shockable” or “unknown unshockable.” This data point can be updated later if the AED has downloadable capability.
- The initial rhythm that the patient was found to be in as indicated by EMS personnel. For the purposes of uniform reporting, the Utstein group classifies a deflection on the surface ECG < 1mm amplitude (calibrated 10 mm/mv) as asystole; 1 mm or more is ventricular fibrillation.

### Instructions for Coding

- In order to obtain the first monitored rhythm from the AED, it must have a working recording cartridge. The recording cartridge provides an electronic copy of the recorded rhythms and respective defibrillations that may be delivered. This cartridge must be retrieved after the arrest for review by the principle investigators or registry medical director.
- For manual defibrillators, the first monitored rhythm should be recorded in the patient care narrative by EMS paramedics.
- If an AED is used during the event and is without a recording cartridge, selection should only be made from “Unknown shockable rhythm” or “Unknown unshockable rhythm.”

### Field Values:

Code	Definition
00	Ventricular Fibrillation
01	Ventricular Tachycardia
02	Asystole
03	Idioventricular/Pulseless Electrical Activity (PEA)
06	Unknown Shockable Rhythm
07	Unknown Unshockable Rhythm

### Examples:

Example	Appropriate Code/Value
Monitor/Defibrillator was available to rhythm interpretation by First Responder or EMS. Ventricular Fibrillation was the presenting rhythm interpreted by trained personnel.	00 – Ventricular Fibrillation
An AED was used by bystander or First Responder that did not provide observation of rhythm for interpretation. The AED advised to deliver a shock. This is the first arrest rhythm regardless of actual rhythm observed after EMS interpretation.	06 – Unknown Shockable Rhythm

## 24. RETURN OF SPONTANEOUS CIRCULATION (ROSC)

Utstein

### Description

- Signs of return of spontaneous circulation (ROSC) include breathing (more than an occasional gasp), coughing, or movement. For healthcare personnel, signs of ROSC also may include evidence of palpable pulse or a measurable blood pressure. For the purposes of the Utstein registry template, “successful resuscitation” or ROSC is defined for all rhythms as the restoration of a spontaneous perfusing rhythm that results in more than an occasional gasp, fleeting palpable pulse, or arterial waveform. Previous reports that focus on outcomes from ventricular fibrillation have variably defined “successful defibrillation” as the termination of fibrillation to any rhythm (including asystole) and the termination of fibrillation to an organized electrical rhythm at 5 seconds after defibrillation (including pulseless electrical activity, PEA). Neither of these definitions of successful defibrillation would qualify as ROSC unless accompanied by evidence of restored circulation. By consensus, the phrase “any ROSC” is intended to represent a brief (approximately > 30 seconds) restoration of spontaneous circulation that provides evidence of more than an occasional gasp, occasional fleeting palpable pulse, or arterial waveform.

### Field Values:

Code	Definition
1	Yes, documentation in the trip sheet of a brief (approximately > 30 seconds) restoration of spontaneous circulation that provides evidence of more than an occasional gasp, occasional fleeting palpable pulse, or arterial waveform.
2	No, documentation in the trip sheet that there was NO brief (approximately > 30 seconds) restoration of spontaneous circulation and no evidence of more than an occasional gasp, occasional fleeting palpable pulse, or arterial waveform.

### Examples:

Example	Appropriate Code/Value
After defibrillation cardiac arrest patient had a palpable carotid pulse that was sustained and a return of monitored arterial waveform.	1 – Yes
After defibrillation cardiac arrest patient had very faint carotid pulse that faded after approximately 10 seconds. Monitored rhythm remained as asystole.	2 – No

## 25. SUSTAINED ROSC

Utstein

### Description

- Sustained ROSC is deemed to have occurred when chest compressions are not required for 20 consecutive minutes and signs of circulation persist.

### Instructions for Coding

- If a patient has a subsequent loss of spontaneous circulation after “Sustained ROSC” this subsequent arrest is NOT coded as a new event. After the cardiac arrest event that resulted in the initial 911 call all subsequent arrests after ROSC are considered part of the initiating event.

### Field Values:

Code	Definition
1	Yes, chest compressions were not required for 20 consecutive minutes and signs of circulation persist.
2	No, chest compressions were required before 20 consecutive minutes passed and signs of circulation did not persist.

### Examples:

Example	Appropriate Code/Value
After defibrillation patient monitored rhythm returned to sinus tachycardia with a palpable carotid pulse. There was no further fibrillation or asystole. Patient remained stable and was transported.	1 – Yes
After defibrillation patient monitored rhythm returned to sinus tachycardia with a palpable carotid pulse. After 10 minutes, the patient became flaccid and asystolic. Chest compressions were restarted.	2 – No

## 26. OUT OF HOSPITAL DISPOSITION

CARES

### Description

- This variable will be used to quantify the number of patients who had resuscitation terminated in the field and which patients were transported to the hospital.
- The final destination of the patient at the end of the EMS call.
- If a DNR is produced, even if resuscitative attempts have already been started, this field should be coded “Resuscitation not initiated...”

### Instructions for Coding

- This variable should not be left blank. All the information from the EMS trip sheet and patient medical record should be used to complete this data field.

### Field Values:

Code	Definition
1	Resuscitation not initiated at scene due to obvious signs of death, DNR, resuscitation considered futile, or resuscitation is not required (e.g. The patient shows signs of circulation).
2	Resuscitation terminated at scene due to medical control order, protocol/policy requirements completed.
3	Transported to Hospital with or without return of spontaneous circulation. <i>This option is vital to request outcomes information from the destination hospital.</i>

### Examples:

Example	Appropriate Code/Value
Paramedics contacted medical control physician after providing standard advanced cardiac life support for nearly 30 minutes. A medical control order was given to terminate resuscitation efforts when further treatment efforts were deemed to be medically futile.	2 – Resuscitation terminated at scene...
EMS responded to a possible cardiac arrest at the corner of Main St and 14 <sup>th</sup> Street. When EMS personnel arrived on the scene a man was found lying on the ground with dependent lividity.	1 – Resuscitation not initiated...
After defibrillation, patient monitored rhythm returned to sinus tachycardia with a palpable carotid pulse. There was no further fibrillation or asystole. Patient remained stable and was transported to Shady Grove Hospital...”	3 – Transported to hospital...
EMS arrived, initiating CPR and applying an AED. In the meantime, the patient’s family presented a valid DNR. All resuscitative attempts were terminated.	1 – Resuscitation not initiated...



## 27. END OF THE EVENT

Utstein/NEMSIS

### Description

- The reason that CPR or other resuscitation efforts were discontinued.
- A resuscitation event is deemed to have ended when death is declared or spontaneous circulation is restored and sustained for 20 minutes or longer.

### Field Values:

Code	Definition
1	Dead in Field
2	Pronounced Dead in ED
3	Ongoing Resuscitation in ED

### Examples:

Definition	Appropriate Code/Value
Patient expired without being transported.	1 – Dead in Field
Following transfer of patient to hospital, EMS had knowledge that resuscitation efforts were terminated by ED staff.	2 – Pronounced Dead in ED
Whether or not the patient had a pulse upon arrival, the patient was continuing to receive care by hospital staff at time of EMS departure from hospital. Note: this includes patients with sustained ROSC, who have no impairment whatsoever, but had experienced cardiac arrest during this event. <b><i>This option is vital to request outcomes information from the destination hospital.</i></b> If, for some reason, the End of the Event is unknown and the patient was transported to the hospital, this option should be coded.	3 – Ongoing Resuscitation in ED

**30. WAS HYPOTHERMIA CARE PROVIDED IN THE FIELD****CARES****Description**

- Hypothermia care is provided in the field if measures were taken to reduce the patient's body temperature by means of external cold pack application to armpits and groin and administration of cold intravenous saline bolus, with or without sedation or other medications.

**Field Values:**

<b>Code</b>	<b>Definition</b>
1	Yes
2	No

**Examples:**

<b>Example</b>	<b>Appropriate Code/Value</b>
20 y/o intubated male achieves prehospital ROSC, remains comatose, and EMS applies cold packs and cold IV fluid bolus.	1 – Yes
34 y/o pregnant female achieves ROSC prior to intubation. According to protocol, she does not receive hypothermia care.	2 – No

### 31. WHEN WAS HYPOTHERMIA CARE INITIATED

CARES

#### Description

- This variable measures whether hypothermia care was initiated during or after active resuscitation.

#### Field Values:

Code	Definition
1	During resuscitation
2	After resuscitation

#### Examples:

Example	Appropriate Code/Value
Patient received hypothermia care while chest compressions were being performed.	1 – During resuscitation
Patient received hypothermia care after ROSC was achieved and CPR was stopped.	2 – After resuscitation

## HOSPITAL DATASET

### 32. EMERGENCY ROOM OUTCOME

CARES

#### **Description**

- The final disposition of the patient from the emergency department.
- This variable will be used to quantify the outcome of the patient from emergency department specifically. It will be used to differentiate the outcome in the field (EMS resuscitation) and the outcome from the hospital (hospital survival) from the outcome in the emergency department.

#### **Instructions for Coding**

- This variable should not be left blank. All the information from the EMS trip sheet and patient medical record should be used to complete this data field.
- If “Transferred to another acute care facility from the emergency department” (Code 4) is selected, the destination hospital and date of transfer should be documented using the corresponding drop-down menu and/or “Hospital Comments” section.
- Codes for hospitals receiving transfers are established through the CARES registry for each particular EMS Agency. Contact the CARES Coordinator if the correct hospital is not located on the drop-down menu.

#### **Field Values:**

<b>Code</b>	<b>Definition</b>
1	Resuscitation terminated in ED
2	Admitted to ICU/CCU
3	Admitted to floor
4	Transferred to another acute care facility from the emergency department

#### **Examples:**

<b>Example</b>	<b>Appropriate Code/Value</b>
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was liable upon receiving in the ED and continued to deteriorate.....Patient was pronounced dead in the ED 20 minutes after arrival.	1 – Resuscitation terminated in ED
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was adequate upon receiving in the ED and continued to improve after the addition of Dopamine...Patient was transported to the CCU.	2 – Admitted to ICU/CCU
Patient was received in the ED with ongoing resuscitation by EMS personnel. Patient was stabilized in the ED after the addition of Dopamine.....Patient was transported to Pine Valley Tertiary Care Hospital for further intervention.	4 – Transferred to another acute care facility from the emergency department

**Description**

- The final disposition of the patient from the hospital.
- This variable will be used to quantify the outcome of the patient from the hospital.

**Instructions for Coding**

- This variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.
- If “Transferred to another acute care facility” (Code 3) is selected, the destination hospital and date of transfer should be documented using the corresponding drop-down menu and/or “Hospital Comments” section.
- If “Patient has not been disposed” (Code 8) is selected, the patient will remain in the hospital’s inbox until the patient has been discharged and a final outcome has been selected.
- Codes for hospitals receiving transfers are established through the CARES registry for each particular EMS Agency. Contact the CARES Coordinator if the correct hospital is not located on the drop-down menu.
- For the use of Code 9: In general, pending outcomes data for patients should warrant typical admission times for post-resuscitative care before a definitive entry in this field. Code 9 is not typical and should be used cautiously, as it prevents the assignment of an absolute value for outcomes. If this suspected, contact the CARES Coordinator.

**Field Values:**

Code	Definition
1	Died in the Hospital
2	Discharged Alive
3	Transferred to another acute care hospital
8	Patient has not been disposed
9	Unknown

**Examples:**

Example	Appropriate Code/Value
Patient was admitted to CCU after successful resuscitation from sudden cardiac arrest. Patient became unstable after 2 days in the CCU. Blood pressure could not be maintained after pharmacological support. Patient arrested at 04:30 after being admitted to the CCU Resuscitation attempts were unsuccessful and patient was pronounced dead at 6:00.	1 – Died in the Hospital
Patient was received in the ED after successful resuscitation in the field by EMS personnel. Patient blood pressure was adequate upon receiving in the ED and continued to improve after the addition of Dopamine.....Patient was transported to the CCU.....Patient remained stable and Dopamine was weaned off in 12 hours. Patient was transferred to the floor and discharged home after one week in the hospital.	2 – Discharged Alive
Patient was admitted to CCU after successful resuscitation from sudden cardiac arrest. Patient is still in the CCU and has not yet been discharged from the hospital.	8 – Patient has not been disposed

**Description**

- This variable will be used to determine the type of destination and the frequency of each destination type for discharged patients.

**Instructions for Coding**

- If the field “Hospital Outcome” has a value of “Discharged Alive,” this variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.
- For the use of Code 9: In general, pending outcomes data for patients should warrant typical admission times for post-resuscitative care before a definitive entry in this field. Code 9 is not typical and should be used cautiously, as it prevents the assignment of an absolute value for outcomes. If its use is suspected, contact the CARES Coordinator.
- Rehabilitation facility is defined as an establishment for “treatment or treatments designed to facilitate the process of recovery from injury, illness, or disease to as normal a condition as possible.”
- Skilled nursing facility is defined as “an establishment that houses chronically ill, usually elderly patients, and provides long-term nursing care, rehabilitation, and other services. Also called *long-term care facility, nursing home.*” If a patient is discharged to hospice care, please code this as “skilled nursing facility.”

**Field Values:**

Code	Definition
1	Home/residence
2	Rehabilitation facility
3	Skilled nursing facility
9	Unknown

**Examples:**

Example	Appropriate Code/Value
After two weeks in the CCU following sudden cardiac arrest, and a week on the floor, the patient was discharged home with follow up orders.	1 – Home/residence
After 3 weeks in the CCU and 5 weeks on the floor patient was transported to Sunshine Rehabilitation Hospital for further treatment.	2 – Rehabilitation facility
After an extensive stay at Memorial Hospital, the patient was discharged home with severe cerebral disability in hospice care.	3 – Skilled nursing facility
After being transported to Rosedale Community Hospital following successful resuscitation by EMS following cardiac arrest, Registry personnel have not been able to obtain access to the patient medical record or the hospital discharge summary.	9 - Unknown

### 35. NEUROLOGICAL OUTCOME AT DISCHARGE FROM HOSPITAL Utstein/CARES

#### Description

- Survival without higher neurological outcome is suboptimal; therefore it is important to attempt to assess neurological outcome at discharge.
- This variable will be used to determine the frequency of neurological outcome in resuscitation survivors at the time of discharge.

#### Instructions for Coding

- The level of cerebral performance of the patient at the time of discharge from the hospital. The following simple, validated neurological score is referred to as the Cerebral Performance Category, CPC.
- 1 = Good Cerebral Performance – Conscious, alert, able to work and lead a normal life.
- 2 = Moderate Cerebral Disability – Conscious and able to function independently (dress, travel, prepare food), but may have hemiplegia, seizures, or permanent memory or mental changes.
- 3 = Severe Cerebral Disability – Conscious, dependent on others for daily support, functions only in an institution or at home with exceptional family effort.
- 4 = Coma, vegetative state.
- If the field “Hospital Outcome” has a value of “Discharged Alive,” this variable should not be left blank. All the information from patient medical record and discharge summary should be used to complete this data field.

#### Field Values:

Code	Definition
1	Good Cerebral Performance; CPC 1
2	Moderate Cerebral Disability; CPC 2
3	Severe Cerebral Disability; CPC 3
4	Coma, vegetative state; CPC 4
9	Unknown

#### Examples:

Example	Appropriate Code/Value
At discharge, patient was conscious, alert, able to work and lead a normal life.	1 – Good Cerebral Performance
At discharge, patient was conscious and able to function independently but had some permanent memory changes.	2 – Moderate Cerebral Disability
After being transported to Rosedale Community Hospital following successful resuscitation by EMS following cardiac arrest, Registry personnel have not been able to obtain access to the patient medical record or the hospital discharge summary	9 – Unknown

**36. WAS HYPOTHERMIA CARE INITIATED/CONTINUED****CARES****Description**

- Hypothermia care is provided in the hospital if measures were taken to reduce the patient's body temperature by means of external cold pack application to armpits and groin and administration of cold intravenous saline bolus, with or without sedation or other medications.

**Field Values:**

<b>Code</b>	<b>Definition</b>
1	Yes
2	No



## **CAD DATASET**

### **General Instructions for Coding**

- Multiple CAD systems may be used to contribute to this dataset. Data may be collected and entered into the CARES registry by EMS, First Responder, and/or CAD Agencies that were involved with or associated with the CARES event/incident.
- CARES staff should be notified of time synchronization issues and sources of each time element to set up specified user accounts.

### **37. INCIDENT #**

CARES

#### **Description**

- Incident number assigned within computer aided dispatch (CAD) system when the 911 call was received.
- Allows the tracking of times associated with CARES events.

#### **Instructions for Coding**

- Use format as documented on the computer aided dispatch (CAD) records.
- All Call #s collected for the CARES Registry should be coded in a uniform manner.

<b>Code</b>	<b>Definition</b>
XXXXXXXXXX	The call number associated with the CARES event within the CAD system.

#### **Examples:**

<b>Code</b>	<b>Definition</b>
200500001	The first record within the CAD system in 2005.

**Description**

- The state ID code associated with the CAD system.

**Instructions for Coding**

- Use the official code of the state CAD Service List.
- The service name should be identified on the official list and then coded.

### 39. CALL RECEIVED TIME

Utstein/CARES

#### Description

- Initial time the CAD system received the 911 call.
- Allows the calculation of survival time based on consecutively timed events.

#### Instructions for Coding

- Use the time 911 call received as documented on the CAD records.
- Avoid missing time data since the intervals calculated between consecutive events are fundamental to the CARES Registry.
- All times collected for the CARES Registry should be coded in a uniform manner. Uniformity of this data collection will allow accurate calculation of resuscitation time intervals and survival time which is the fundamental purpose of the CARES Registry.

Code	Definition
HH:MM:SS	Time should be recorded based on military time. The first two digits represent the hour 00- 24. The second two digits represent the minutes 00-59. The last two digits are seconds 00-59. A colon should separate the hour, minutes and seconds.

#### Examples:

Code	Definition
01:23:45	Twenty three minutes and 45 seconds after 1 o'clock in the morning
16:30:15	Four thirty and 15 seconds in the afternoon

#### 40. DISPATCHED TIME

Utstein/CARES

##### **Description**

- Time the Responding EMS Unit was notified.
- Allows the calculation of survival time based on consecutively timed events.

##### **Instructions for Coding**

- Use the time as documented on the computer aided dispatch (CAD) records
- Avoid missing time data since the intervals calculated between consecutive events are fundamental to the CARES Registry.
- All times collected for the CARES Registry should be coded in a uniform manner. Uniformity of this data collection will allow accurate calculation of resuscitation time intervals and survival time which is the fundamental purpose of the CARES Registry.

<b>Code</b>	<b>Definition</b>
HH:MM:SS	Time should be recorded based on military time. The first two digits represent the hour 00- 24. The second two digits represent the minutes 00-59. The last two digits are seconds 00-59. A colon should separate the hour, minutes and seconds.

##### **Examples:**

<b>Code</b>	<b>Definition</b>
01:23:45	Twenty three minutes and 45 seconds after 1 o'clock in the morning
16:30:15	Four thirty and 15 seconds in the afternoon

## 41. ON SCENE TIME

Utstein/CARES

### Description

- Time that Responding EMS Unit arrived at scene. This is not the time the EMS personnel arrived at the patient's side, but rather the time that the EMS Unit arrived at the physical street address where the reported incident occurred.
- Allows the calculation of survival time based on consecutively timed events.

### Instructions for Coding

- Use the time as documented on the computer aided dispatch (CAD) records
- Avoid missing time data since the intervals calculated between consecutive events are fundamental to the CARES Registry.
- All times collected for the CARES Registry should be coded in a uniform manner. Uniformity of this data collection will allow accurate calculation of resuscitation time intervals and survival time which is the fundamental purpose of the CARES Registry.

Code	Definition
HH:MM:SS	Time should be recorded based on military time. The first two digits represent the hour 00- 24. The second two digits represent the minutes 00-59. The last two digits are seconds 00-59. A colon should separate the hour, minutes and seconds.

### Examples:

Code	Definition
01:23:45	Twenty three minutes and 45 seconds after 1 o'clock in the morning
16:30:15	Four thirty and 15 seconds in the afternoon

## 42. FIRST RESPONDER CALL RECEIVED TIME

Utstein/CARES

### Description

- Initial time the CAD system received the 911 call.
- Allows the calculation of survival time based on consecutively timed events.

### Instructions for Coding

- Use the time 911 call received as documented on the CAD records.
- Avoid missing time data since the intervals calculated between consecutive events are fundamental to the CARES Registry.
- All times collected for the CARES Registry should be coded in a uniform manner. Uniformity of this data collection will allow accurate calculation of resuscitation time intervals and survival time which is the fundamental purpose of the CARES Registry.

Code	Definition
HH:MM:SS	Time should be recorded based on military time. The first two digits represent the hour 00- 24. The second two digits represent the minutes 00-59. The last two digits are seconds 00-59. A colon should separate the hour, minutes and seconds.

### Examples:

Code	Definition
01:23:45	Twenty three minutes and 45 seconds after 1 o'clock in the morning
16:30:15	Four thirty and 15 seconds in the afternoon

### 43. FIRST RESPONDER ON SCENE TIME

Utstein/CARES

#### Description

- Time that the First Responder Unit arrived at scene. This is not the time the First Responder personnel arrived at the patient's side, but rather the time that the First Responder Unit arrived at the physical street address where the reported incident occurred.
- Allows the calculation of survival time based on consecutively timed events.

#### Instructions for Coding

- Use the time as documented on the computer aided dispatch (CAD) records
- Avoid missing time data since the intervals calculated between consecutive events are fundamental to the CARES Registry.
- All times collected for the CARES Registry should be coded in a uniform manner. Uniformity of this data collection will allow accurate calculation of resuscitation time intervals and survival time which is the fundamental purpose of the CARES Registry.

Code	Definition
HH:MM:SS	Time should be recorded based on military time. The first two digits represent the hour 00- 24. The second two digits represent the minutes 00-59. The last two digits are seconds 00-59. A colon should separate the hour, minutes and seconds.

#### Examples:

Code	Definition
01:23:45	Twenty three minutes and 45 seconds after 1 o'clock in the morning
16:30:15	Four thirty and 15 seconds in the afternoon

## **APPENDIX A**

CARES data element ad hoc panel:

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