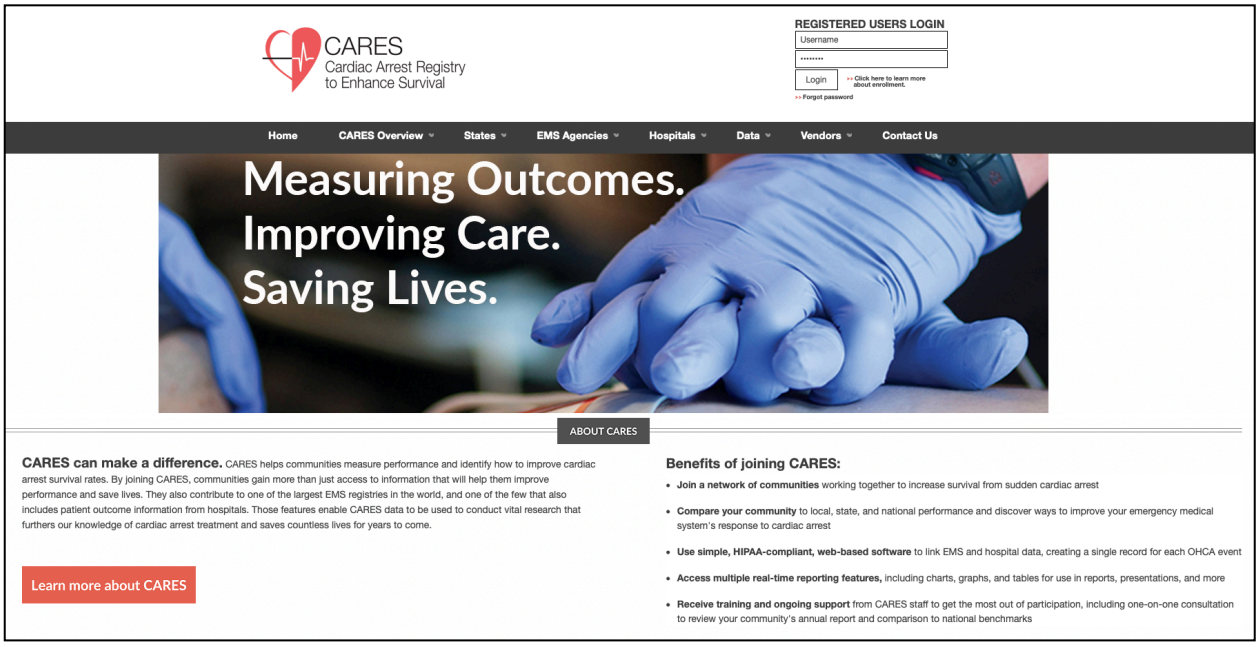
Reports User Guide

Cardiac Arrest Registry to Enhance Survival (CARES)

CARES
Cardiac Arrest Registry
to Enhance Survival

Contents

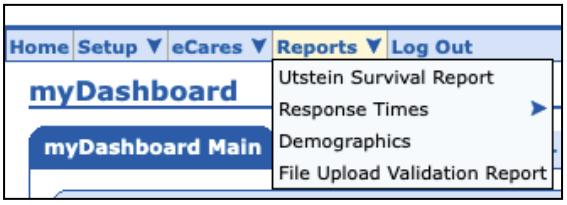
CARES WEBSITE:



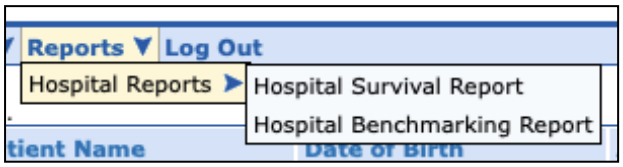
The publicly accessible CARES website hosts legacy reports from previous years under the Data menu.

USER ACCESS:

EMS and hospital users have 24/7 access to a number of site-specific reports, which can be found under the **Reports** drop down menu upon log-in with their unique username and password.



EMS



HOSPITAL

CARES CASE DEFINITION:

A CARES case is a non-traumatic out-of-hospital cardiac arrest event where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This includes patients that received an AED shock by a bystander prior to the arrival of 911 responders. Please note: CARES collected only arrests of presumed cardiac etiology from 2005-2012. In 2013, CARES expanded to include all non-traumatic arrests.

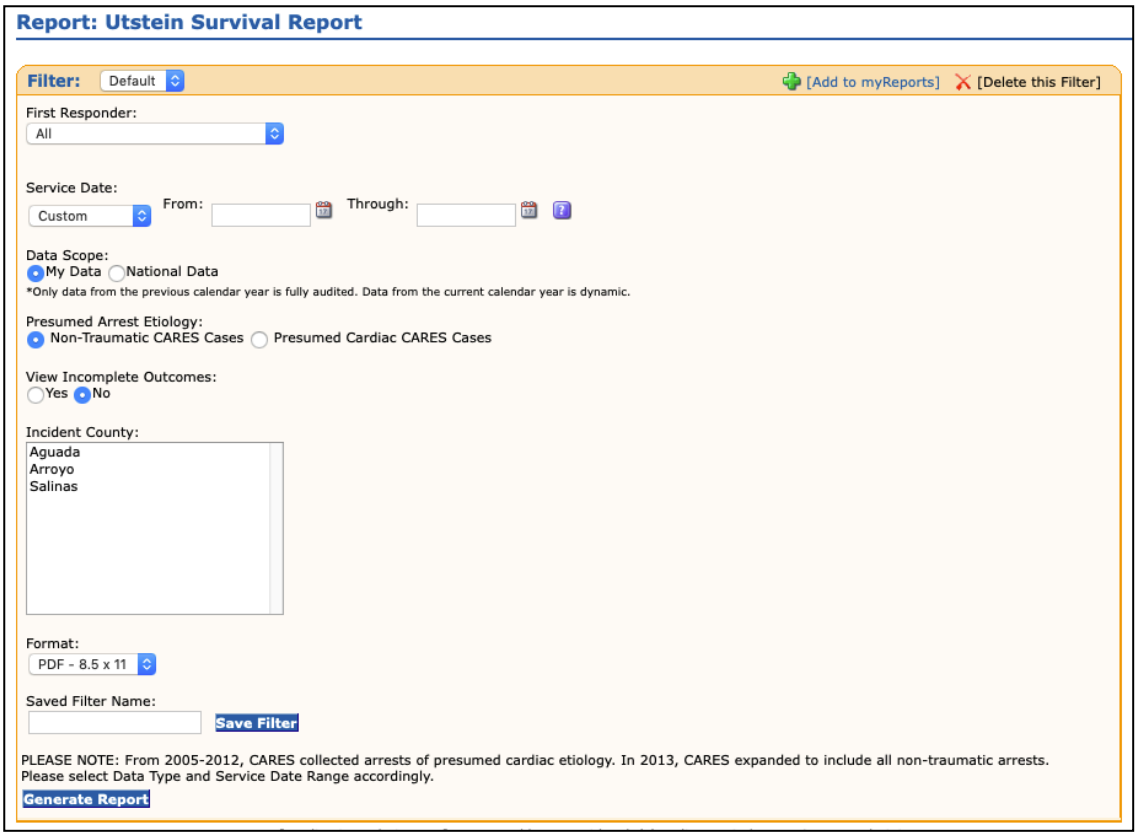
This User Guide includes a number of data definitions. For additional examples, please refer to the CARES Data Dictionary, available at https://mycares.net/sitepages/emsagencies.jsp.

UTSTEIN REPORT:

The **Utstein Survival Report** is the most commonly used report. Utstein is an internationally agreed upon cardiac arrest metric that considers all bystander-witnessed arrests that present in a shockable rhythm. To generate this report:

1. Enter the **Service Date** range of interest. Reports using recent data are not completely audited and therefore may be incomplete. Data by calendar year is not finalized mid-April of the following year. For example, reports including data from 2019 would not be considered final until April 15, 2020.
2. Select the **Data Scope** of interest. "My Data" will generate a report using your EMS Agency's data, while "National Data" will generate a benchmarking report using the national dataset.
3. Select the **Etiology** of arrest, Presumed Cardiac or Non-Traumatic.
4. Indicate whether you want to include pages that list any **Incomplete Outcomes** (Yes or No).
5. Click "**Generate Report.**"

The Utstein Report can also be filtered by local First Responders or Incident Counties using the corresponding pull-down menu or selection box.

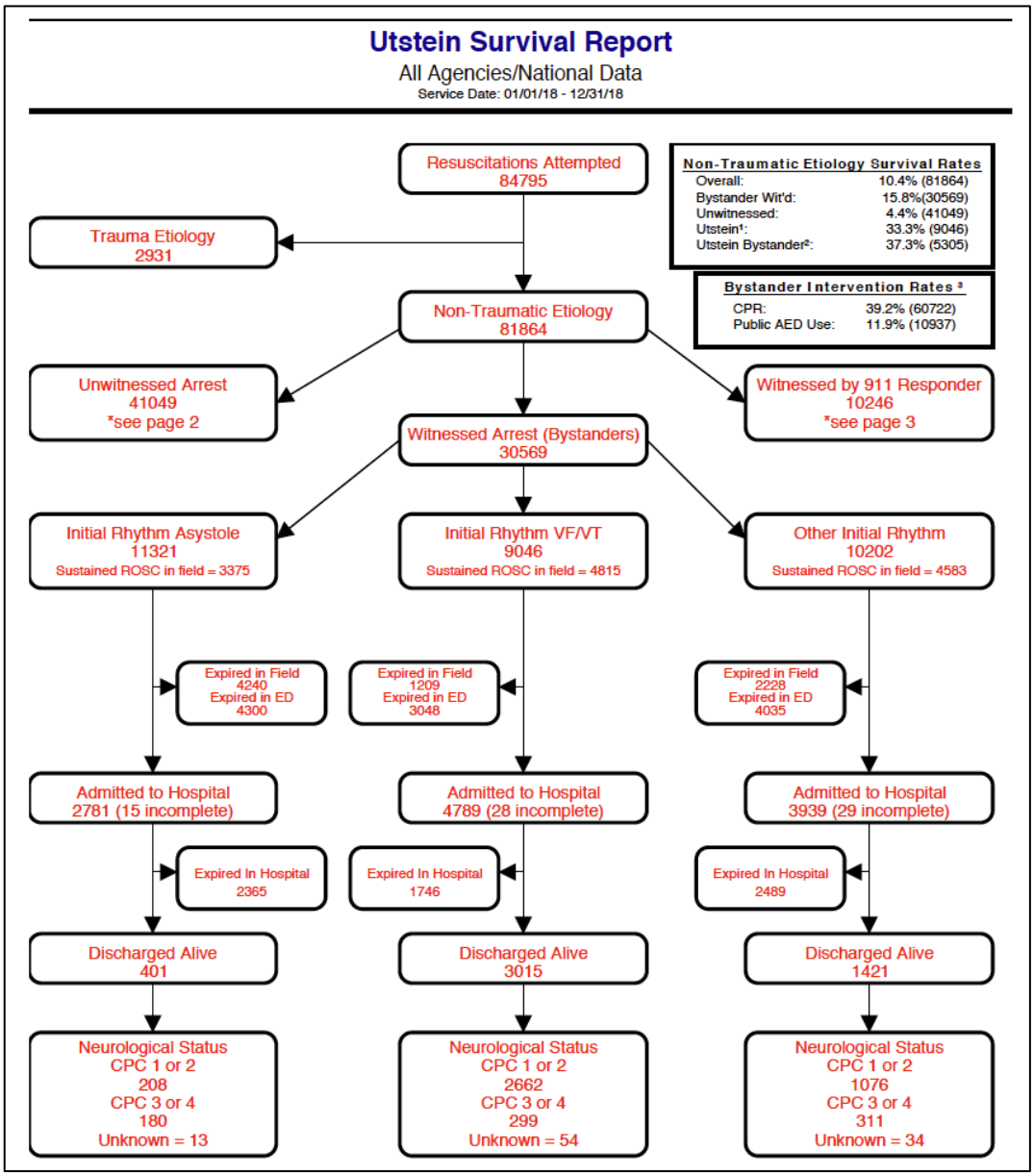


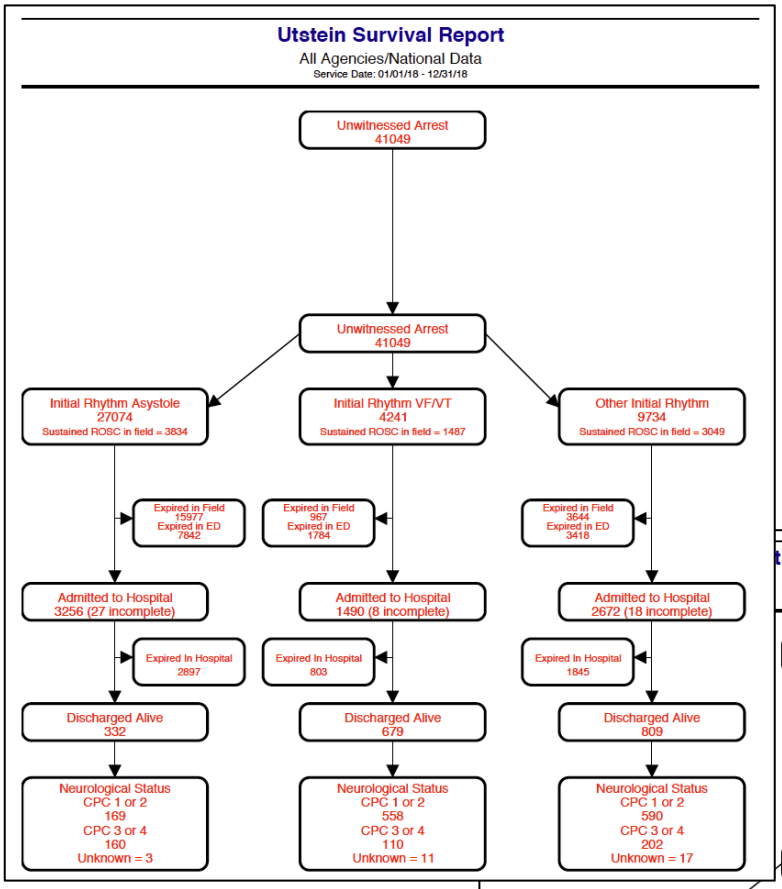
In the upper right-hand corner of the Utstein Report, you will see a box listing a number of survival rates.

- **Overall**: Includes all CARES cases.
- **Bystander Witnessed**: Includes all bystander witnessed arrests (those found on page 1 of the report).
- **Unwitnessed**: Includes all unwitnessed arrests (those found on page 2 of the report).
- **Utstein**: Witnessed by bystander and found in shockable rhythm.
- **Utstein Bystander**: Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR and/or AED application).

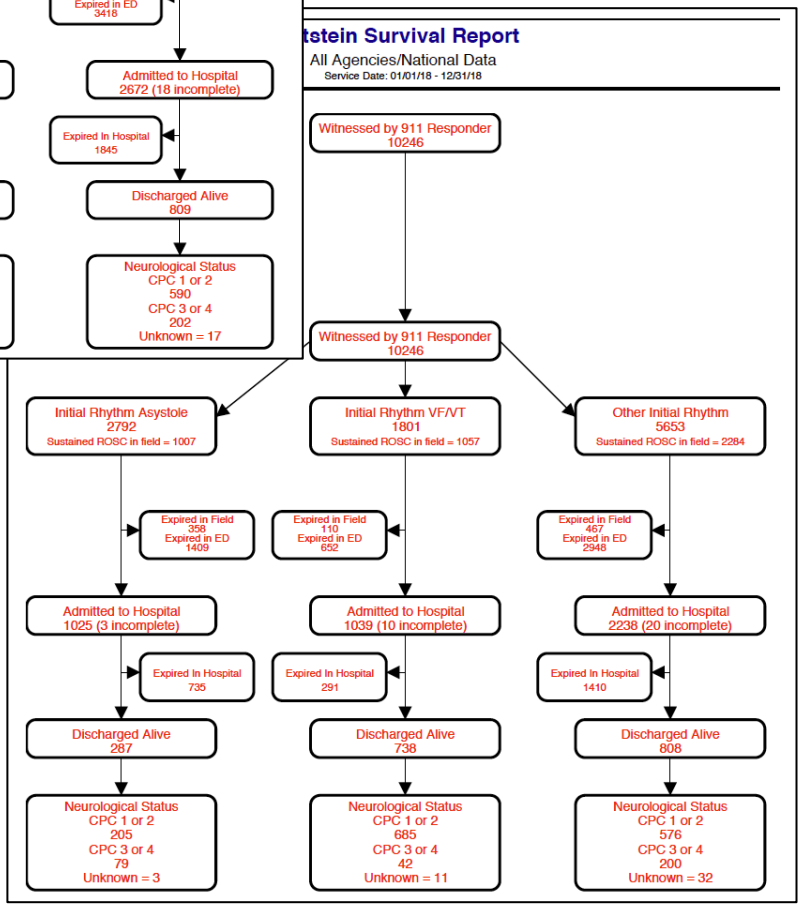
Below, you'll find a box that provides rates of critical **Bystander Interventions**, including CPR and AED use. Bystander CPR rate *excludes* 911 Responder Witnessed, Nursing Home, and Healthcare Facility arrests. Public AED Use rate *excludes* 911 Responder Witnessed, Home/Residence, Nursing Home, and Healthcare Facility arrests.

The Utstein Report follows a flow diagram format, categorizing arrests by witness status, initial rhythm, and patient outcome. **Bystander Witnessed** arrests are found on page 1.





Unwitnessed arrests are found on page 2.



911 Responder Witnessed arrests are found on page 3.

Page 4 lists any records that have an outstanding hospital outcome.

Incomplete Data

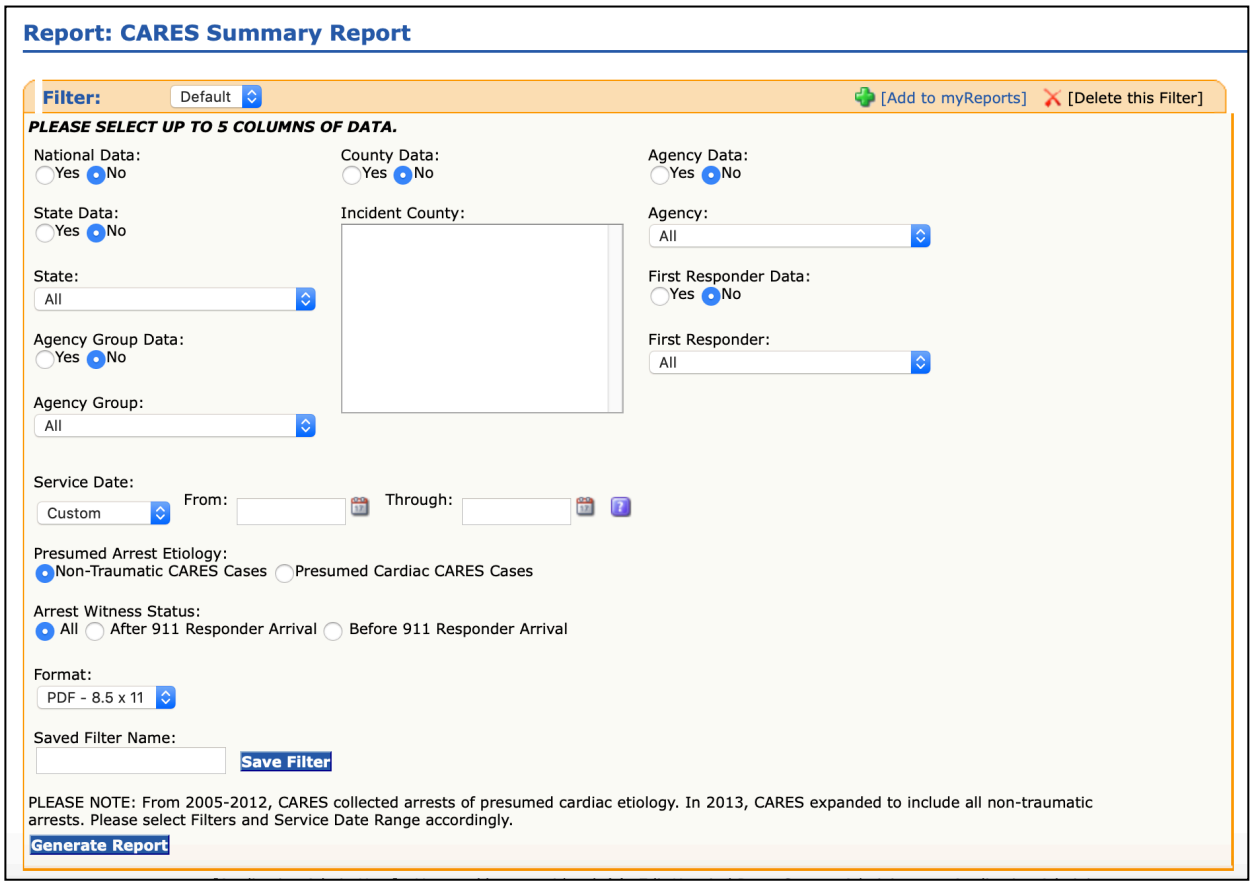
Incident #	Service Date	Dest. Hospital	Transfer Hospital	ER Outcome	Hosp Outcome	Neuro Outcome
20144587	2014-12-17	0100 - Test 1	Left Blank	Left Blank	Left Blank	Left Blank
12358er	2014-02-03	0100 - Test 1	Left Blank	Admitted to hospital	Not yet determined	Left Blank

SUMMARY REPORT:

The **CARES Summary Report** provides descriptive statistics on a number of pre-hospital characteristics. Please see page 9 of this User Guide for a sample CARES Summary Report.

*Please note: given the dynamic nature of CARES data, only CARES staff and state coordinators have access to this report, and can run them upon request.

This report can include up to 5 columns of data for benchmarking purposes, including National, State, Agency Group, County, EMS Agency, and First Responder. The report can also be filtered by Presumed Cardiac CARES Cases and Non-Traumatic CARES Cases. Finally, users can view the data based on arrest witness status, looking at All arrests, non-911 Responder witnessed arrests, or 911 Responder witnessed arrests.



Data Definitions:

- **Location of Arrest** – type of location where the patient arrested.
  - **Home/Residence –** includes Home/Residence and Residence/Institution
  - **Nursing Home –** includes Nursing Home
  - **Public Setting –** includes Industrial Place; Mine/Quarry; Physician Office/Clinic, Hospital, or Healthcare Facility; Recreation/Sport or Place of Recreation; Public Building; Farm; Educational Institution; Jail; Street/Highway; Airport or Transport Center; and Other
- **Arrest witnessed** - A witnessed arrest is one that is seen or heard by another person.
- **Bystander** - A lay person, lay person family member, or lay person medical provider.
- **First Responder** – 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.
- **Emergency Medical Services (EMS) -** 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.
- **Was an AED applied prior to EMS arrival? -** This denotes AED application by a bystander or First Responder prior to EMS arrival, regardless of whether defibrillation occurred.
- **Who first applied AED?** – Identifies the individual who initially applied/used the AED during resuscitation. Please note, the number of patients who had an AED applied (N) is the denominator for this metric.
- **Who first defibrillated the patient?** – Used to determine the frequency of defibrillatory shocks among bystanders and responders.
- **First Arrest Rhythm -** First cardiac rhythm present when a monitor/defibrillator or AED is attached to a patient.
- **Sustained ROSC -** Return of Spontaneous Circulation (ROSC) is defined as the restoration of a palpable pulse or a measurable blood pressure. Sustained ROSC is deemed to have occurred when chest compressions are not required for 20 consecutive minutes and signs of circulation persist.
- **Hypothermia care -** Measures were taken in the field to reduce the patient's body temperature by means of external cold pack application to armpits/groin or administration of cold intravenous saline bolus, with or without sedation or other medications.
- **Survived to hospital admission -** Includes patients for whom ER Outcome = Admitted to ICU/CCU, Admitted to floor, or Admitted to hospital.
- **Survived to hospital discharge -** Includes patients for whom Hospital Outcome = Discharged Alive or Patient Made DNR = Discharged Alive.
- **Good Cerebral Performance –** CPC 1; Patient is conscious, alert, able to work and lead a normal life.
- **Moderate Cerebral Performance** – CPC 2; Patients is conscious and able to function independently (dress, travel, prepare food), but may have hemiplegia, seizures, or permanent memory or mental changes.
- **Utstein Survival** – Survival among patients whose cardiac arrest was witnessed by a bystander and were found in a shockable rhythm.
- **Utstein Bystander Survival -** Survival among patients whose cardiac arrest was witnessed by a bystander, were in a shockable rhythm, and received some bystander intervention (CPR and/or AED application).

CARES Summary Report

Demographic and Survival Characteristics of OHCA

Sample Report

Data	EMS Agency N=42	State N=510	National N=4993
Age	**N=42**	**N=510**	**N=4991**
Mean	57.8	67.3	63.8
Median	61.5	69.0	65.0
Gender (%)	**N=42**	**N=510**	**N=4993**
Female	10 (23.8)	180 (35.3)	2008 (40.2)
Male	32 (76.2)	330 (64.7)	2985 (59.8)
Race (%)	**N=42**	**N=510**	**N=4993**
American-Indian/Alaskan	0 (0.0)	2 (0.4)	23 (0.5)
Asian	2 (4.8)	27 (5.3)	121 (2.4)
Black/African-American	30 (71.4)	24 (4.7)	1065 (21.3)
Hispanic/Latino	0 (0.0)	50 (9.8)	299 (6.0)
Native Hawaiian/Pacific Islander	0 (0.0)	3 (0.6)	40 (0.8)
White	8 (19.0)	180 (35.3)	2294 (45.9)
Unknown	2 (4.8)	224 (43.9)	1151 (23.1)
Location of Arrest (%)	**N=42**	**N=510**	**N=4993**
Home/Residence	27 (64.3)	377 (73.9)	3533 (70.8)
Nursing Home	0 (0.0)	37 (7.3)	563(11.3)
Public Setting	15 (35.7)	96 (18.8)	897 (18.0)
Arrest witnessed (%)	**N=42**	**N=510**	**N=4993**
Bystander Witnessed	9 (21.4)	185 (36.3)	1829 (36.6)
Witnessed by 911 Responder	5 (11.9)	65 (12.7)	579 (11.6)
Unwitnessed	28 (66.7)	260 (51.0)	2585 (51.8)
Who Initiated CPR? (%)	**N=42**	**N=510**	**N=4993**
Not Applicable	0 (0.0)	0 (0.0)	6 (0.1)
Bystander	15 (35.7)	193 (37.8)	2027 (40.6)
First Responder	10 (23.8)	146 (28.6)	1416 (28.4)
Emergency Medical Services (EMS)	17 (40.5)	171 (33.5)	1544 (30.9)
Was an AED applied prior to EMS arrival? (%)	**N=42**	**N=510**	**N=4993**
Yes	10 (23.8)	75 (14.7)	1469 (29.4)
No	32 (76.2)	435 (85.3)	3524 (70.6)
Who first applied automated external defibrillator? (%)	**N=10**	**N=87**	**N=1481**
Bystander	2 (20.0)	14 (16.1)	268 (18.1)
First Responder	8 (80.0)	62 (71.3)	1202 (81.2)
Who first defibrillated the patient?* (%)	**N=38**	**N=510**	**N=4772**
Not Applicable	24 (63.2)	352 (69.0)	3261 (68.3)
Bystander	0 (0.0)	6 (1.2)	82 (1.7)
First Responder	6 (15.8)	26 (5.1)	281 (5.9)
Responding EMS Personnel	8 (21.1)	126 (24.7)	1148 (24.1)
First Arrest Rhythm (%)	**N=42**	**N=510**	**N=4992**
Vfib/Vtach/Unknown Shockable Rhythm	11 (26.2)	95 (18.6)	912 (18.3)
Asystole	26 (61.9)	259 (50.8)	2457 (49.2)
Idioventricular/PEA	4 (9.5)	135 (26.5)	1049 (21.0)
Unknown Unshockable Rhythm	1 (2.4)	21 (4.1)	574 (11.5)
Sustained ROSC (%)	**N=42**	**N=510**	**N=4993**
Yes	13 (31.0)	150 (29.4)	1592 (31.9)
No	29 (69.0)	360 (70.6)	3401 (68.1)
Was hypothermia care provided in the field? (%)	**N=42**	**N=507**	**N=4987**
Yes	2 (4.8)	19 (3.7)	504 (10.1)
No	40 (95.2)	488 (96.3)	4483 (89.9)
Pre-hospital Outcome (%)	**N=42**	**N=510**	**N=4993**
Pronounced in the Field	5 (11.9)	207 (40.6)	1492 (29.9)
Pronounced in ED	10 (23.8)	51 (10.0)	876 (17.5)
Ongoing Resuscitation in ED	27 (64.3)	252 (49.4)	2625 (52.6)
Overall Survival (%)	**N=42**	**N=510**	**N=4993**
Overall Survival to Hospital Admission	14 (33.3)	128 (25.1)	1359 (27.2)
Overall Survival to Hospital Discharge	7 (16.7)	54 (10.6)	508 (10.2)
With Good or Moderate Cerebral Performance	5 (11.9)	45 (8.8)	399 (8.0)
Missing hospital outcome	1	2	16
Utstein[1] Survival (%)	**N=4**	**N=53**	**N=544**
	50.0	43.4	36.8
Utstein Bystander[2] Survival (%)	**N=1**	**N=34**	**N=342**
	0.0	44.1	40.1

Inclusion criteria: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.

**This is a new question that was introduced on the 2011 form.*

[1]Witnessed by bystander and found in a shockable rhythm

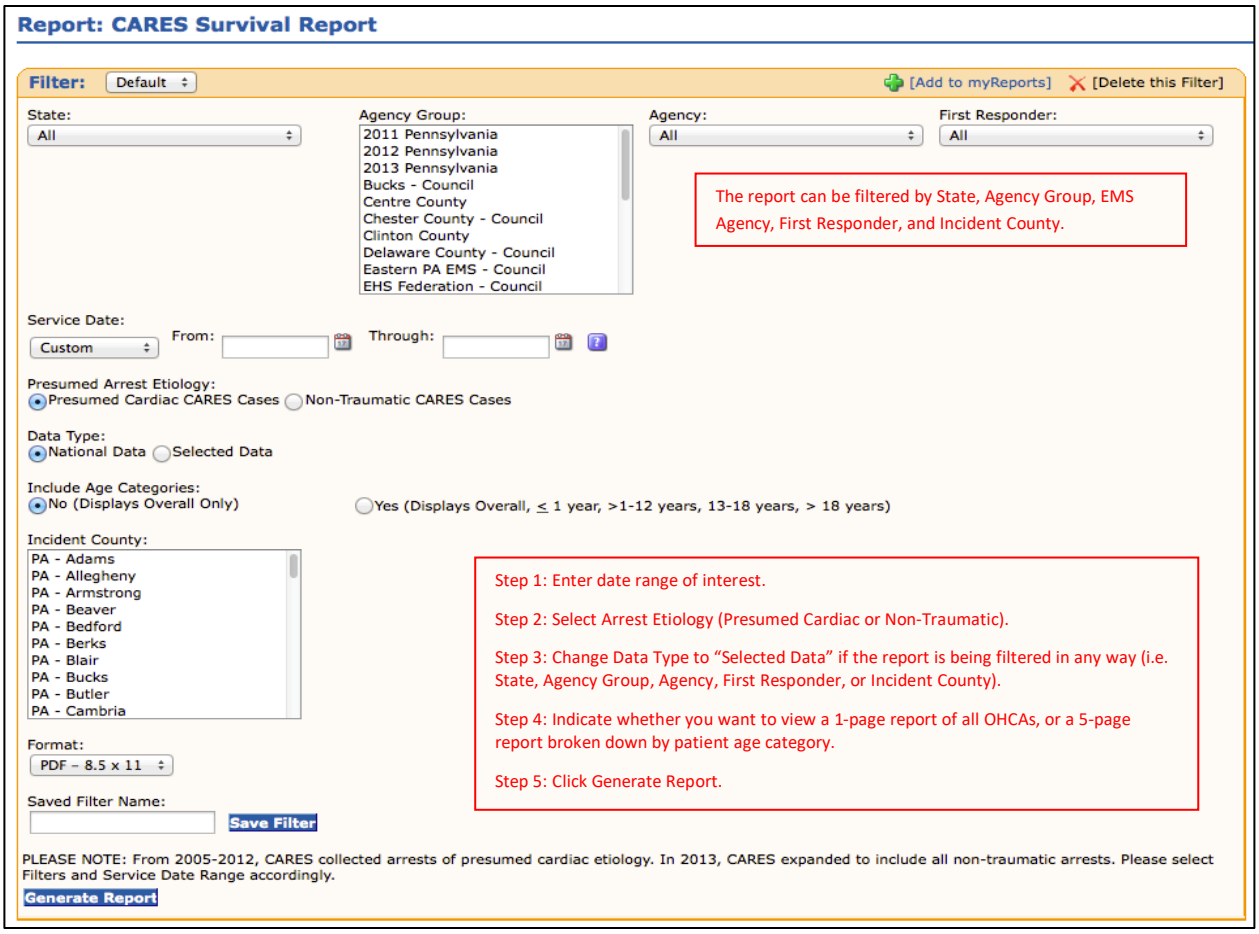
[2]Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR by bystander and/or AED applied by bystander)

SURVIVAL REPORT:

The **CARES Survival Report** is designed to allow EMS agencies to track patient outcomes by a variety of pre-hospital characteristics, including arrest location and witness status, bystander CPR and AED usage, and initial rhythm. Please see page 12 of this User Guide for a sample CARES Survival Report.

*Please note: given the dynamic nature of CARES data, only CARES staff and state coordinators have access to this report, and can run them upon request.

The Report Setup page allows for a number of filtering options, which are outlined in the screenshot below.



Inclusion criteria are listed at the bottom of the report. The report *excludes* patients with a missing hospital outcome; this number is noted at the bottom of the report in the footnotes.

If age categories are selected, a 5-page report will be generated. Page 1 will include all patients, whereas pages 2-5 will be filtered by age category (<1, 1-12, 13-18, and >18 years). The age category will be listed in the header of each report page.

The Survival Report summarizes the number and percentage of patients who achieved sustained ROSC, survived to hospital admission, and survived to hospital discharge (with a good/moderate CPC score), for each pre-hospital characteristic.

- "**Sustained ROSC**" includes patients for whom Sustained ROSC = Yes; Yes, pulse at end of EMS care (or ED arrival); and Yes, but pulseless at end of EMS care (or ED arrival).
- "**Survival to hospital admission**" includes patients for whom ER Outcome = Admitted to ICU/CCU, Admitted to floor, or Admitted to hospital.
- "**Survival to hospital discharge**" includes patients for whom Hospital Outcome = Discharged Alive or Patient Made DNR = Discharged Alive.
- "**Survival to discharge with CPC 1 or 2**" includes patients for whom Neurological Outcome = Good Cerebral Performance (CPC 1) or Moderate Cerebral Disability (CPC 2). The number of patients with a missing CPC score is listed in the footnotes.

The denominator for these four rates is the N in the left-most column (Total) of the row.

Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2[†] (%)

Patient Outcome Definitions:

- **Sustained ROSC** – Return of Spontaneous Circulation (ROSC) is defined as the restoration of a palpable pulse or a measurable blood pressure. Sustained ROSC is deemed to have occurred when chest compressions are not required for 20 consecutive minutes and signs of circulation persist.
- **CPC 1** – Good cerebral performance. Patient is conscious, alert, able to work and lead a normal life.
- **CPC 2** – Moderate cerebral disability. Patients is conscious and able to function independently (dress, travel, prepare food), but may have hemiplegia, seizures, or permanent memory or mental changes.

Arrest Characteristic Definitions:

- **Arrest Witnessed Status** – A witnessed arrest is one that is seen or heard by another person.
- **Bystander CPR** – Cardiopulmonary resuscitation initiated by a lay person, lay person family member, or lay person medical provider.

  **Please note*: Both "Bystander CPR" rates exclude 911 Responder witnessed events. The second bystander CPR rate also excludes arrests that occurred in a nursing home or healthcare facility.
- **Initial Arrest Rhythm** – First cardiac rhythm present when a monitor/defibrillator or AED is attached to a patient.
  - Shockable: includes Ventricular Fibrillation, Ventricular Tachycardia, and Unknown Shockable rhythms
  - Unshockable: includes Asystole, Idioventricular/PEA, and Unknown Unshockable rhythms
- **AED Use** – This denotes AED application by a bystander or First Responder prior to EMS arrival, regardless of whether defibrillation occurred.

  **Please note*: Both "Bystander AED use" rates exclude 911 Responder witnessed events. The second bystander AED use rate also excludes arrests that occurred in a nursing home or healthcare facility.
- **Field hypothermia** – Measures were taken in the field to reduce the patient's body temperature by means of external cold pack application to armpits/groin or administration of cold intravenous saline bolus, with or without sedation or other medications.
- **In-hospital hypothermia**: Measures were taken in the hospital to reduce the patient's body temperature by either non-invasive means (administration of cold intravenous saline, external cold pack application to armpits and groin, use of a cooling blanket, torso vest or leg wrap devices) or by invasive means (use of a cooling catheter inserted in the femoral vein).

  **Please note*: In-hospital hypothermia rate is limited to patients who were admitted to the hospital.

CARES Survival Report

All Agencies/National Data

Sample Report

	OVERALL N = 4977				
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2[†] (%)
Total	4977	1583 (31.8)	1358 (27.3)	508 (10.2)	399 (8.0)
Location of Arrest					
Home/Residence	3523 (70.8)	1055 (29.9)	899 (25.5)	292 (8.3)	229 (6.5)
Nursing Home	563 (11.3)	145 (25.8)	101 (17.9)	28 (5.0)	5 (0.9)
Public Setting	891 (17.9)	383 (43.0)	358 (40.2)	188 (21.1)	165 (18.5)
Arrest Witnessed Status					
Unwitnessed	2578 (51.8)	543 (21.1)	428 (16.6)	107 (4.2)	78 (3.0)
Bystander witnessed	1823 (36.6)	786 (43.1)	686 (37.6)	290 (15.9)	242 (13.3)
911 Responder witnessed	576 (11.6)	254 (44.1)	244 (42.4)	111 (19.3)	79 (13.7)
Bystander CPR*					
Bystander CPR	2021 (45.9)	689 (34.1)	561 (27.8)	238 (11.8)	190 (9.4)
No Bystander CPR	2380 (54.1)	640 (26.9)	553 (23.2)	159 (6.7)	130 (5.5)
Bystander CPR (excludes nursing home/healthcare facility events)	1428 (38.9)	515 (36.1)	431 (30.2)	200 (14.0)	169 (11.8)
No Bystander CPR (excludes nursing home/healthcare facility events)	2245 (61.1)	614 (27.3)	534 (23.8)	153 (6.8)	127 (5.7)
Initial Arrest Rhythm					
Shockable	905 (18.2)	461 (50.9)	442 (48.8)	270 (29.8)	240 (26.5)
Non-shockable	4071 (81.8)	1121 (27.5)	916 (22.5)	238 (5.8)	159 (3.9)
AED Use					
Bystander AED use*	267 (6.1)	105 (39.3)	90 (33.7)	55 (20.6)	44 (16.5)
Bystander AED use* (excludes nursing home/healthcare facility events)	99 (2.7)	53 (53.5)	51 (51.5)	38 (38.4)	33 (33.3)
Trained provider (First Responder) AED use	1202 (24.2)	351 (29.2)	300 (25.0)	112 (9.3)	89 (7.4)
Utstein					
Witnessed and shockable	637 (12.8)	366 (57.5)	359 (56.4)	236 (37.0)	214 (33.6)
Bystander witnessed and shockable	540 (10.9)	311 (57.6)	309 (57.2)	200 (37.0)	179 (33.1)
Hypothermia					
Field hypothermia	500 (10.1)	325 (65.0)	261 (52.2)	78 (15.6)	63 (12.6)
In-hospital hypothermia (among admitted patients)	570 (42.0)	--	--	200 (35.1)	156 (27.4)

Inclusion Criteria: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.

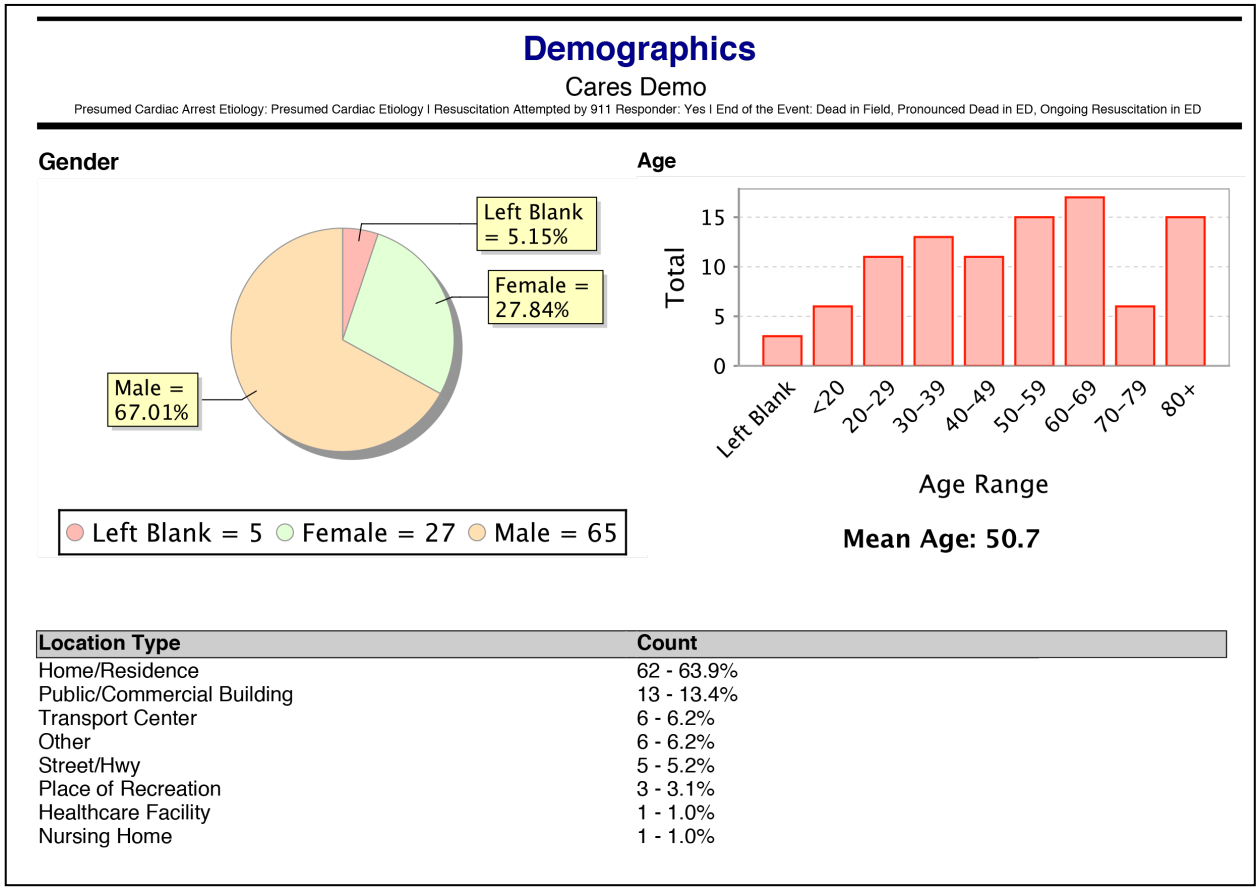
NOTE: Analysis excludes patients with missing hospital outcome (N=16).

*Bystander CPR and bystander AED use calculations exclude 911 Responder witnessed events.

[†]CPC missing for 4 patients.

DEMOGRAPHICS REPORT:

The **Demographics Report** generates the same information as the Demographics Dashboard tab, but allows you to select a Service Date range of interest. A number of filters can be applied to this report, using the Filter pull-down menu in the upper left-hand corner (Presumed Cardiac CARES Cases, Non-Traumatic CARES Cases, Utstein Arrests).

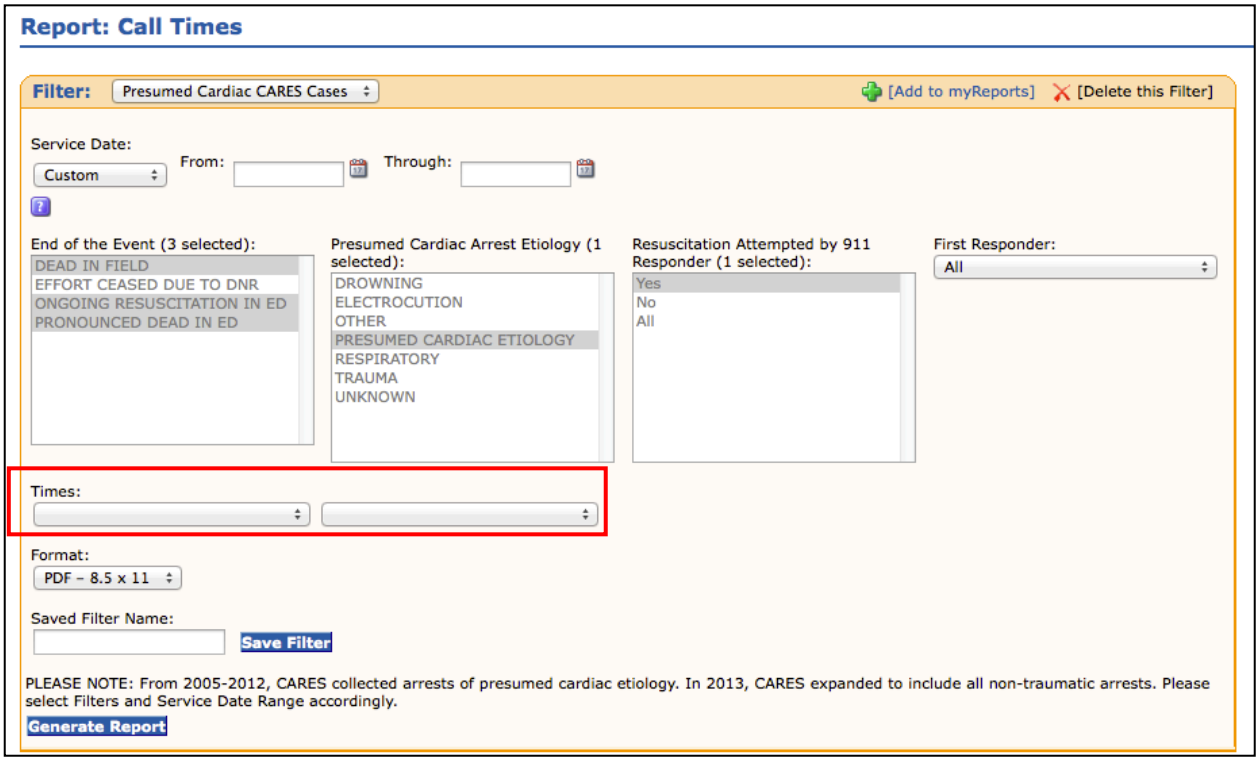


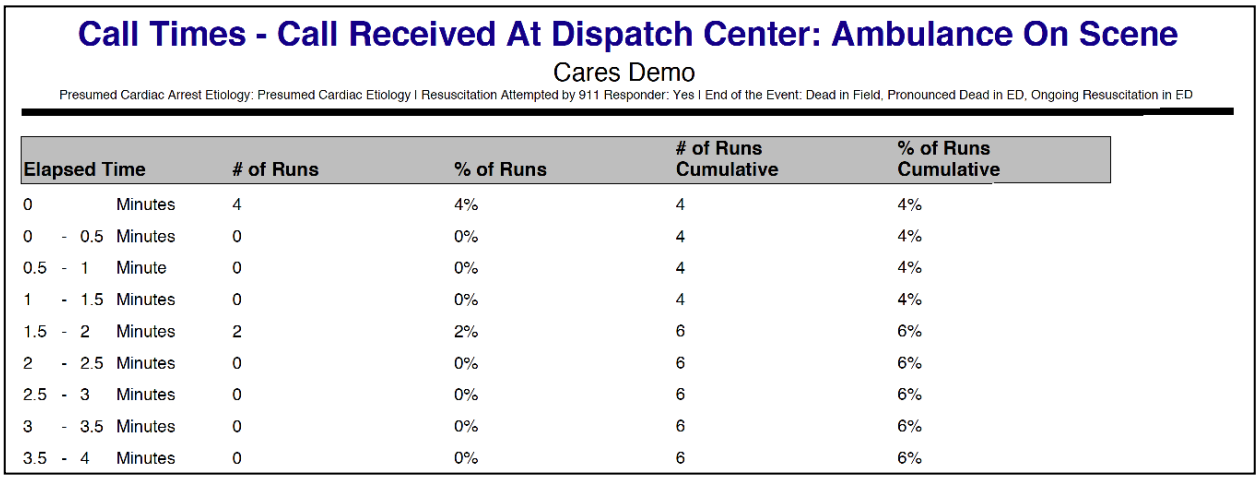
Location Type	Count
Home/Residence	62 - 63.9%
Public/Commercial Building	13 - 13.4%
Transport Center	6 - 6.2%
Other	6 - 6.2%
Street/Hwy	5 - 5.2%
Place of Recreation	3 - 3.1%
Healthcare Facility	1 - 1.0%
Nursing Home	1 - 1.0%

CALL TIMES REPORT:

The CARES **Call Times Report** shows the number of runs in a given 30 second response time interval, if your agency enters this supplemental information into CARES. Enter the Service Date range of interest and select the two times you wish to analyze from the Times pull-down menus. Click "Generate Report".

A number of filters can be applied to this report, using the Filter pull-down menu in the upper left-hand corner (Presumed Cardiac CARES Cases, Non-Traumatic CARES Cases, Utstein Arrests) or First Responder pull-down menu.





Call Times - Call Received At Dispatch Center: Ambulance On Scene

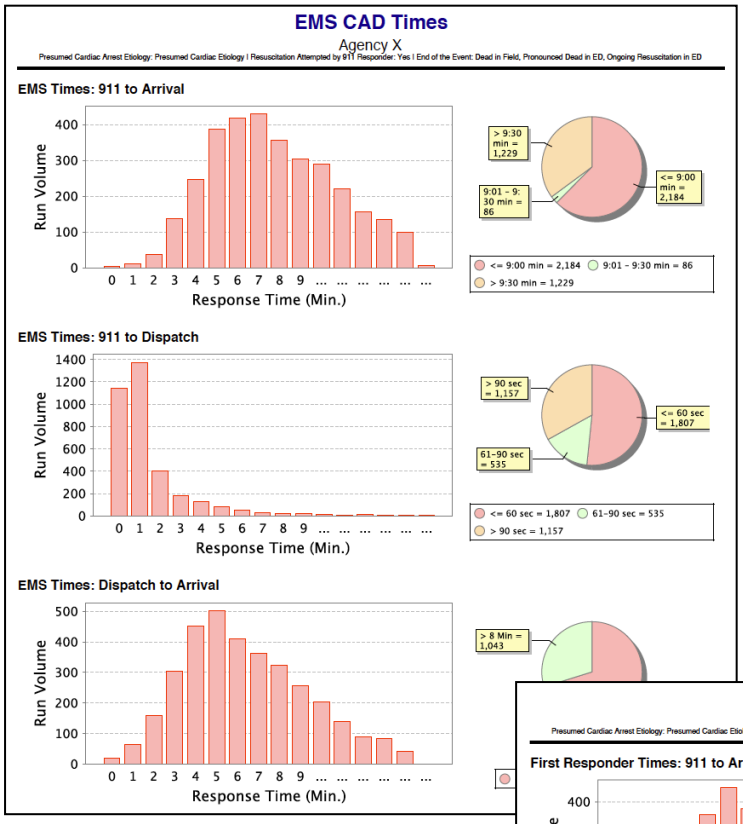
Cares Demo

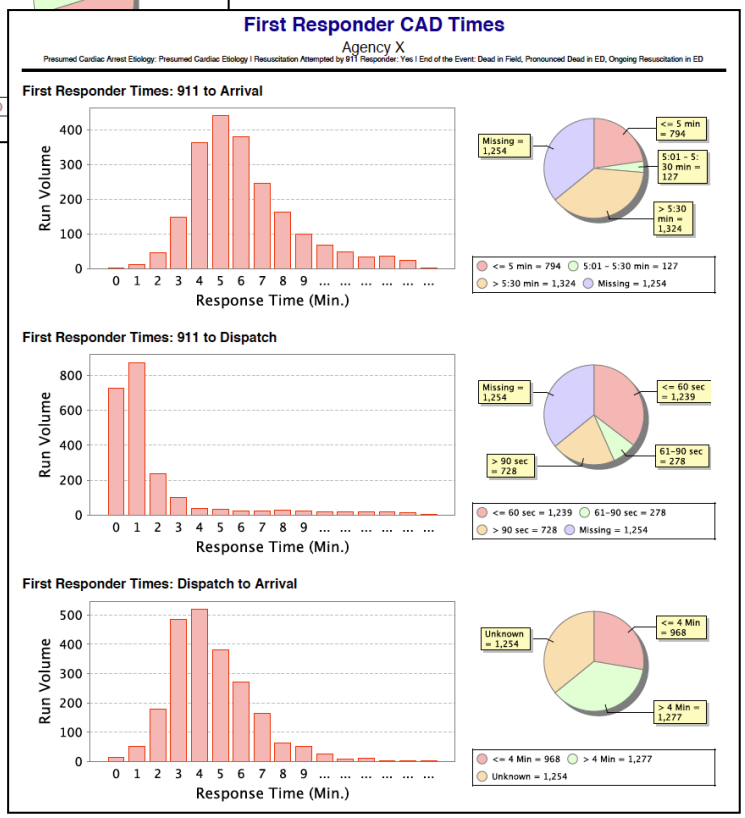
Presumed Cardiac Arrest Etiology: Presumed Cardiac Etiology | Resuscitation Attempted by 911 Responder: Yes | End of the Event: Dead in Field, Pronounced Dead in ED, Ongoing Resuscitation in ED

Elapsed Time	# of Runs	% of Runs	# of Runs Cumulative	% of Runs Cumulative
0 Minutes	4	4%	4	4%
0 - 0.5 Minutes	0	0%	4	4%
0.5 - 1 Minute	0	0%	4	4%
1 - 1.5 Minutes	0	0%	4	4%
1.5 - 2 Minutes	2	2%	6	6%
2 - 2.5 Minutes	0	0%	6	6%
2.5 - 3 Minutes	0	0%	6	6%
3 - 3.5 Minutes	0	0%	6	6%
3.5 - 4 Minutes	0	0%	6	6%

EMS AND FIRST RESPONDER CAD TIMES REPORTS:

The **EMS and First Responder CAD Times Reports** show CAD time intervals in bar graph and pie chart format, if your agency enters this supplemental information into CARES. Enter the Service Date range of interest and click "Generate Report". Both report setup pages include the Filter pull-down menu in the upper left-hand corner, allowing you to filter the report by Presumed Cardiac CARES Cases, Non-Traumatic CARES Case, or Utstein Arrests. The First Responder CAD Times Report can also be filtered by your local First Responders.





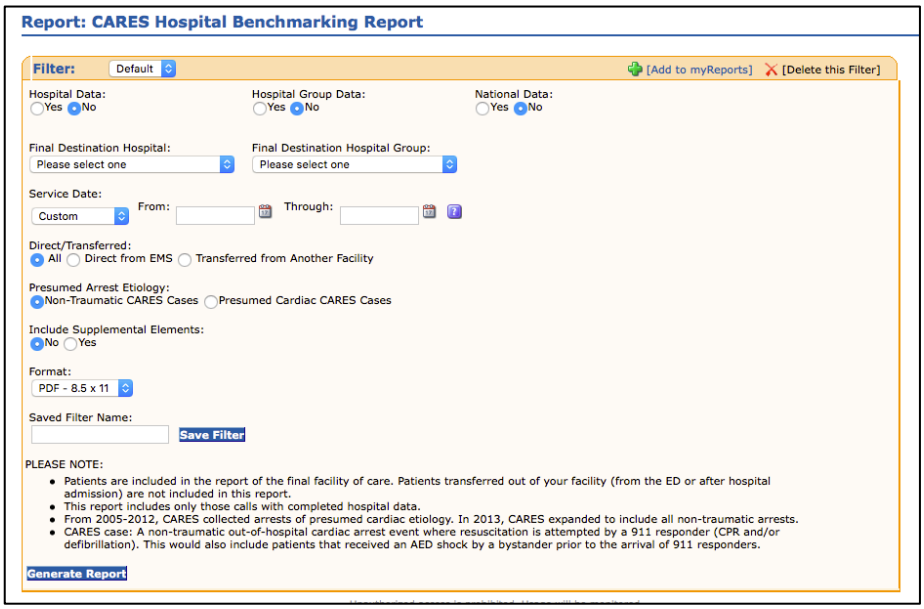
HOSPITAL BENCHMARKING REPORT:

The **CARES Hospital Benchmarking Report** includes both pre-hospital and in-hospital characteristics of a hospital's respective OHCA patient population. The report allows hospital users to track their internal performance and compare against state, hospital group, and national data, where applicable. State data will be provided upon request through your CARES State Coordinator.

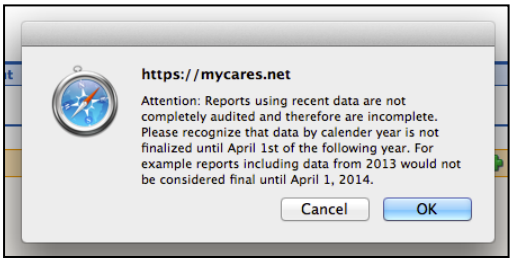
To generate this report, access the "**Reports**" tab in your CARES account and click on "**Hospital Benchmarking Report**" in the drop-down menu. To customize your report:

1. Select "Hospital Data" = Yes to view your hospital-specific data. Multi-Hospital Users have the option to select "Hospital Group Data" to run system-level reports for multiple facilities. Select "National Data" = Yes to add a national benchmarking column to the report.
2. Enter the Service Date range of interest. Reports using recent data are not completely audited and therefore may be incomplete. Data by calendar year is not finalized until mid-April of the following year. For example, reports including data from 2019 would not be considered final until mid-April 2020.
3. Select origin of patient (Direct from EMS, Transferred from Another Facility, or All).
4. Select Data Type (Non-Traumatic CARES Cases OR Presumed Cardiac CARES Cases).
5. Indicate whether you want an optional 2nd page included in the report, with a section for Supplemental Hospital Elements (# 47b-55).

Inclusion criteria are listed at the top of the report. Patients are included in the report of the *final* facility of care. Patients transferred out of your facility (from the ED or after hospital admission) and incomplete records are *not included* in this report.



After clicking "Generate Report", the pop-up box below will appear. This box reminds you that recent data may not be completely audited; data by calendar year is not finalized until mid-April of the following year. Click OK to acknowledge your understanding of this message.



The top of the Hospital Benchmarking Report lists the total number of CARES patients received by your hospital during the date range of interest. The total is broken down by the number who were transported directly by EMS and those who were transferred from another facility. Please note: the Hospital Benchmarking Report can be filtered by these criteria on the report setup page.

Total # of CARES Patients - Hospital	40
Direct from EMS	29
Transferred from another facility	11

The Hospital Benchmarking Report summarizes the number and percentage of patients who survived to hospital admission and discharge, for each pre-hospital characteristic. "Survived to Admission" includes patients for whom ER Outcome = admitted to ICU/CCU, admitted to floor, or admitted to hospital. "Survived to Discharge" includes patients for whom Hospital Outcome = discharged alive or patient made DNR → discharged alive. The denominator for both survival rates is the N in the left-most column (Total).

CARES Medical Center

Total (%)	Survived to Admission (%)	Survived to Discharge (%)
40	**27 (67.5)**	**25 (62.5)**

Pre-Hospital Characteristic Definitions:

Initial Rhythm – First cardiac rhythm present when a manual monitor/defibrillator or AED is attached to a patient.
Shockable: includes Ventricular Fibrillation, Ventricular Tachycardia, and Unknown Shockable rhythms
Unshockable: includes Asystole, Idioventricular/PEA, and Unknown Unshockable rhythms

Witnessed Status – A witnessed arrest is one that is seen or heard by another person.

Sustained ROSC in field – Return of Spontaneous Circulation (ROSC) is defined as the restoration of a palpable pulse or a measureable blood pressure. Sustained ROSC is deemed to have occurred when chest compressions are not required for 20 consecutive minutes and signs of circulation persist.

Utstein arrest – Cardiac arrest was witnessed by a bystander and patient was found in a shockable rhythm.

In-Hospital Characteristic Definitions:

Hypothermia care initiated/continued in hospital - Hypothermia care is provided in the hospital if measures were taken to reduce the patient's body temperature by either non-invasive means (administration of cold intravenous saline, external cold pack application to armpits and groin, use of a cooling blanket, torso vest or leg wrap devices) or by invasive means (use of a cooling catheter inserted in the femoral vein).

Good Cerebral Performance – Conscious, alert, able to work and lead a normal life.

Moderate Cerebral Disability – Conscious and able to function independently (dress, travel, prepare food), but may have hemiplegia, seizures, or permanent memory or mental changes.

Supplemental Hospital Elements – These data elements are *optional* and found on a 2nd page if this is selected upon report setup. The denominator for these metrics is the number of cases for whom these questions were answered. Blank fields and "unknown" responses are not included in the analysis.

CARES Hospital Benchmarking Report (Non-Traumatic Etiology)

Sample Report

	Hospital	State	National
Total # of CARES Patients	311	2981	49779
Direct from EMS	310	2911	47421
Transferred from another facility	1	70	2358

In-Hospital Characteristics	Hospital		State		National	
	Total (%)	Survived to Discharge (%)	Total (%)	Survived to Discharge (%)	Total (%)	Survived to Discharge (%)
Died in ED	227 (73.0)	--	2238 (75.1)	--	28016 (56.3)	--
Admitted to hospital	84 (27.0)	36 (42.9)	743 (24.9)	250 (33.6)	21764 (43.7)	8091 (37.2)
In-hospital hypothermia*	16 (19.0)	9 (56.2)	285 (38.4)	86 (30.2)	9835 (45.2)	3234 (32.9)
Patient made DNR*	23 (27.4)	4 (17.4)	166 (22.3)	22 (13.3)	5166 (23.7)	297 (5.7)
In-hospital mortality*	48 (57.1)	--	493 (66.4)	--	13673 (62.8)	--
Discharged alive	36 (11.6)	--	250 (8.4)	--	8091 (16.3)	--
Discharged with good/moderate CPC	18 (5.8)	--	167 (5.6)	--	6510 (13.1)	--

Pre-Hospital Characteristics	Hospital			State			National		
	Total (%)	Survived to Admission (%)	Survived to Discharge (%)	Total (%)	Survived to Admission (%)	Survived to Discharge (%)	Total (%)	Survived to Admission (%)	Survived to Discharge (%)
	311	**84 (27.0)**	**36 (11.6)**	**2981**	**743 (24.9)**	**250 (8.4)**	**49779**	**21764 (43.7)**	**8091 (16.3)**
Gender									
Male	189 (60.8)	46 (24.3)	19 (10.1)	1706 (57.2)	391 (22.9)	139 (8.1)	30899 (62.1)	13357 (43.2)	5335 (17.3)
Female	122 (39.2)	38 (31.1)	17 (13.9)	1275 (42.8)	352 (27.6)	111 (8.7)	18874 (37.9)	8403 (44.5)	2756 (14.6)
Mean Age	60.8	--	--	61.3	--	--	60.9	--	--
Initial Rhythm									
Shockable	60 (19.3)	23 (38.3)	13 (21.7)	552 (18.5)	198 (35.9)	108 (19.6)	12155 (24.4)	6918 (56.9)	4157 (34.2)
Unshockable	251 (80.7)	61 (24.3)	23 (9.2)	2429 (81.5)	545 (22.4)	142 (5.8)	37611 (75.6)	14835 (39.4)	3924 (10.4)
Witnessed Status									
Unwitnessed	108 (34.7)	18 (16.7)	7 (6.5)	1496 (50.2)	273 (18.2)	63 (4.2)	19882 (39.9)	7198 (36.2)	1801 (9.1)
Bystander Witnessed	152 (48.9)	48 (31.6)	20 (13.2)	1111 (37.3)	333 (30.0)	134 (12.1)	21351 (42.9)	10648 (49.9)	4561 (21.4)
Witnessed by 911 Responder	51 (16.4)	18 (35.3)	9 (17.6)	374 (12.5)	137 (36.6)	53 (14.2)	8546 (17.2)	3918 (45.8)	1729 (20.2)
Sustained ROSC in field	116 (37.3)	71 (61.2)	32 (27.6)	832 (27.9)	554 (66.6)	214 (25.7)	24368 (49.0)	18147 (74.5)	7453 (30.6)
Hypothermia care initiated in the field	6 (1.9)	3 (50.0)	2 (33.3)	50 (1.7)	22 (44.0)	11 (22.0)	3050 (6.1)	1971 (64.6)	690 (22.6)
Utstein† Arrest	40 (12.9)	18 (45.0)	10 (25.0)	305 (10.2)	115 (37.7)	68 (22.3)	7385 (14.8)	4456 (60.3)	2780 (37.6)

Patients are included in the report of the final facility of care. Patients transferred out of your facility (from the ED or after hospital admission) are not included in this report. This report includes only those calls with completed hospital data.
CARES case: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.
*Among admitted patients.
†Utstein patient: witnessed by bystander and found in a shockable rhythm.

CARES Hospital Benchmarking Report (Non-Traumatic Etiology)

Sample Report

Supplemental Hospital elements (analysis limited to questions with Yes or No response only)

	Hospital		State		National	
Supplemental Characteristics	Total (%)	Survived to Discharge (%)	Total (%)	Survived to Discharge (%)	Total (%)	Survived to Discharge (%)
Why was hypothermia care not initiated or continued in the hospital?						
Awake/Following commands	1 (16.7)	1 (100.0)	10 (7.1)	10 (100.0)	920 (24.9)	855 (92.9)
DNR/Family request	1 (16.7)	0 (0.0)	22 (15.6)	0 (0.0)	434 (11.7)	38 (8.8)
Unwitnessed Cardiac Arrest	1 (16.7)	0 (0.0)	14 (9.9)	0 (0.0)	296 (8.0)	46 (15.5)
Unshockable Rhythm	2 (33.3)	0 (0.0)	8 (5.7)	3 (37.5)	374 (10.1)	94 (25.1)
No TH program in place	0 (0.0)	0 (NaN)	1 (0.7)	0 (0.0)	65 (1.8)	22 (33.8)
Other	1 (16.7)	1 (100.0)	86 (61.0)	32 (37.2)	1611 (43.5)	503 (31.2)
Unknown	0 (0.0)	0 (NaN)	0 (0.0)	0 (NaN)	0 (0.0)	0 (NaN)
Myocardial infarction diagnosis	20 (11.0)	5 (25.0)	114 (8.5)	51 (44.7)	4344 (18.2)	1934 (44.5)
Coronary angiography performed	15 (8.2)	10 (66.7)	127 (8.7)	83 (65.4)	4620 (16.7)	3093 (66.9)
Cardiac stent placed	6 (3.3)	4 (66.7)	64 (4.4)	41 (64.1)	2225 (8.0)	1510 (67.9)
CABG performed	1 (0.5)	1 (100.0)	5 (0.3)	5 (100.0)	275 (1.0)	254 (92.4)
ICD placed/scheduled	1 (0.6)	1 (100.0)	35 (2.4)	35 (100.0)	1495 (5.4)	1453 (97.2)

Patients are included in the report of the final facility of care. Patients transferred out of your facility (from the ED or after hospital admission) are not included in this report. This report includes only those calls with completed hospital data.
CARES case: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.
*Among admitted patients.
†Utstein patient: witnessed by bystander and found in a shockable rhythm.

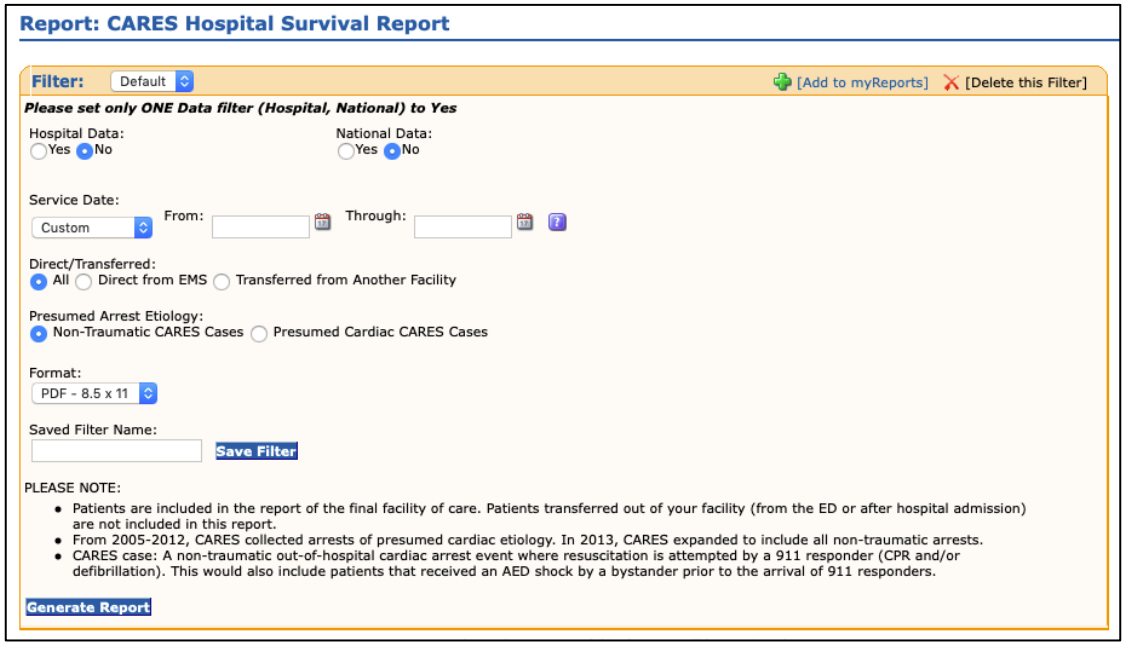
HOSPITAL SURVIVAL REPORT:

The **CARES Hospital Survival Report** follows a flow diagram format, categorizing arrests by sustained ROSC in the field, initial rhythm, and patient outcome.

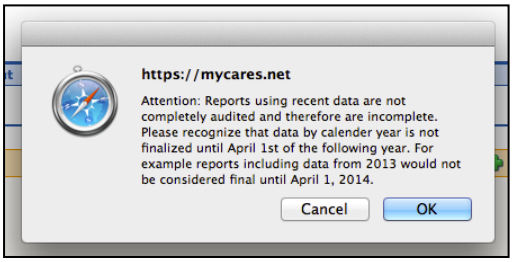
To generate this report, access the "**Reports**" tab in your CARES account and click on "**Hospital Survival Report**" in the drop-down menu. To customize your report:

1. Select "Hospital Data" = Yes to view your hospital-specific data. Multi-Hospital Users have the option to select "Hospital Group Data" to run system-level reports for multiple facilities. Select "National Data" = Yes to view aggregate, National data for benchmarking purposes. Please note, only one Data filter may be selected at a time.
2. Enter the Service Date range of interest. Reports using recent data are not completely audited and therefore may be incomplete. Data by calendar year is not finalized until mid-April of the following year. For example, reports including data from 2019 would not be considered final until mid-April 2020.
3. Select origin of patient (Direct from EMS, Transferred from Another Facility, or All).
4. Select Data Type (Non-Traumatic CARES Cases OR Presumed Cardiac CARES Cases).
5. Click "**Generate Report**".

Inclusion criteria are listed at the top of the report. Patients are included in the report of the *final* facility of care. Patients transferred out of your facility (from the ED or after hospital admission) and are *not included* in this report.



After clicking "Generate Report", the pop-up box below will appear. This box reminds you that recent data may not be completely audited; data by calendar year is not finalized until mid-April of the following year. Click OK to acknowledge your understanding of this message.



In the upper right-hand corner of the Hospital Survival Report, you will see a box listing a number of survival rates.

- **Survival to Admission**: Patients who survived to hospital admission (ER Outcome is Admitted to ICU/CCU, floor, or hospital).
- **Survival to Discharge**: Patients who survived to hospital discharge (Hospital Outcome or Patient made DNR Outcome is Discharged Alive).
- **Sustained ROSC Survival**: Survival to hospital discharge among the subset of patients who achieved sustained ROSC in the field.
- **Shockable/Cooled Survival**: Survival to hospital discharge among the subset of patients who presented in a shockable rhythm and received hypothermia care at the hospital.
- **Nonshockable/Cooled Survival**: Survival to hospital discharge among the subset of patients who presented in a nonshockable rhythm and received hypothermia care at the hospital.

Arrest Characteristic & Treatment Definitions:

Sustained ROSC in field – Return of Spontaneous Circulation (ROSC) is defined as the restoration of a palpable pulse or a measureable blood pressure. Sustained ROSC is deemed to have occurred when chest compressions are not required for 20 consecutive minutes and signs of circulation persist.

Initial Rhythm – First cardiac rhythm present when a manual monitor/defibrillator or AED is attached to a patient.
Shockable: includes Ventricular Fibrillation, Ventricular Tachycardia, and Unknown Shockable rhythms
Unshockable: includes Asystole, Idioventricular/PEA, and Unknown Unshockable rhythms

In-hospital hypothermia: Measures were taken in the hospital to reduce the patient's body temperature by either non-invasive means (administration of cold intravenous saline, external cold pack application to armpits and groin, use of a cooling blanket, torso vest or leg wrap devices) or by invasive means (use of a cooling catheter inserted in the femoral vein).
**Please note*: In-hospital hypothermia rate is limited to patients who were admitted to the hospital.

Patients with **Sustained ROSC in the field** are found on page 1. Patients **without sustained ROSC in the field** are found on page 2.