EMS User Guide

Cardiac Arrest Registry to Enhance Survival (CARES)

CARES
Cardiac Arrest Registry
to Enhance Survival

Contents

CARES WEBSITE:

The CARES website hosts a number of useful documents for program stakeholders. A summary of the resources available under each tab is found below:

- **CARES Overview** – history of program, map of current participants, governance, letters of support.

- **States** – state model FAQs, state funding examples, state participation in action.

- **EMS Agencies –** EMS FAQs, sample reports, agency participation in action, data element PDFs, data dictionary, EMS User Guide.

- **Hospitals –** hospital FAQs, sample reports, data element PDFs, data dictionary, Hospital User Guide.

- **Data** – annual reports, Reports User Guide, legacy national reports, data sharing policy, publications.

- **Contact Us** – contact information for CARES staff and state coordinators.

If you've forgotten your CARES password, please click on the "**Forgot password**" link below the log-in box. You'll be prompted to answer your unique password question, and a new password will be e-mailed to you.

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.

THE DASHBOARD:

Below is the screen you see immediately after logging in. This initial screen is your Dashboard and has several different tabs. Please keep in mind that all data on the Dashboard is dynamic and updated in real-time as data is entered, updated, or deleted.

The **Agency Productivity** box shows call volume over the past 12 months. **Incomplete Forms by Hospital** shows all forms that have not been completed by local hospital contacts. The **Audit-Data Entry Errors** box displays records that are flagged for auditing issues. If you click on the number next to the Month or Hospital, the site will direct you to the respective records. Click the pen and paper icon to edit the record and 'Save' your updates.
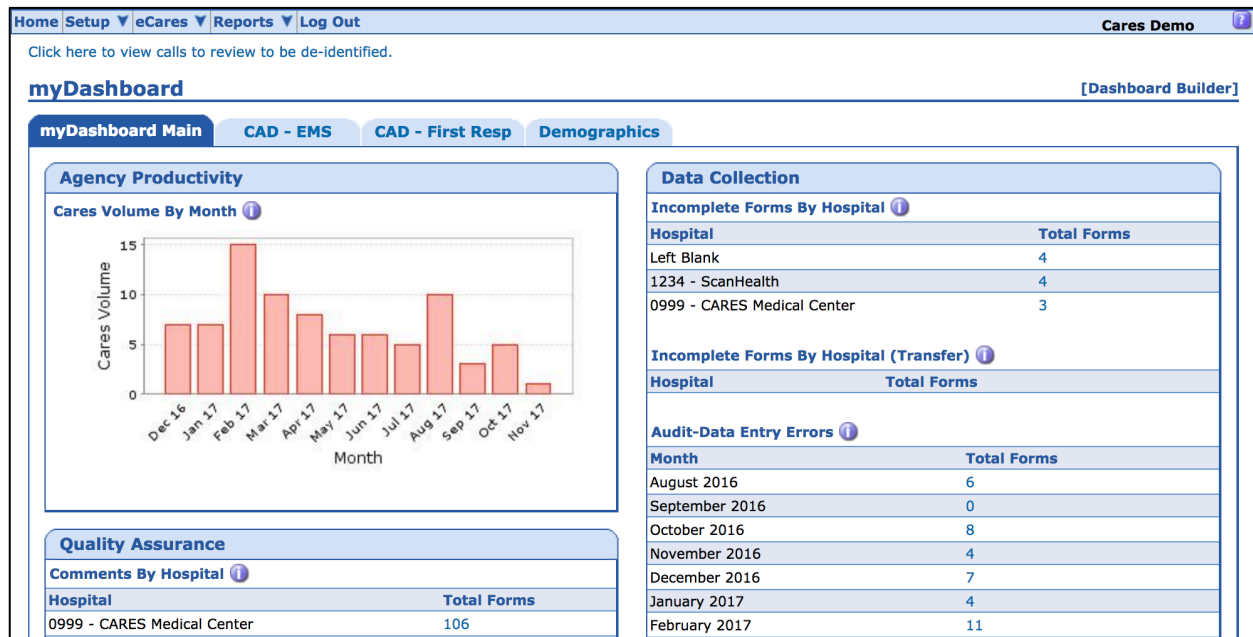
The 2nd and 3rd Dashboard tabs, **CAD-EMS** and **CAD-First Responder**, display intervals for local response times in bar graph and pie chart format, if your EMS agency enters this supplemental data into CARES.
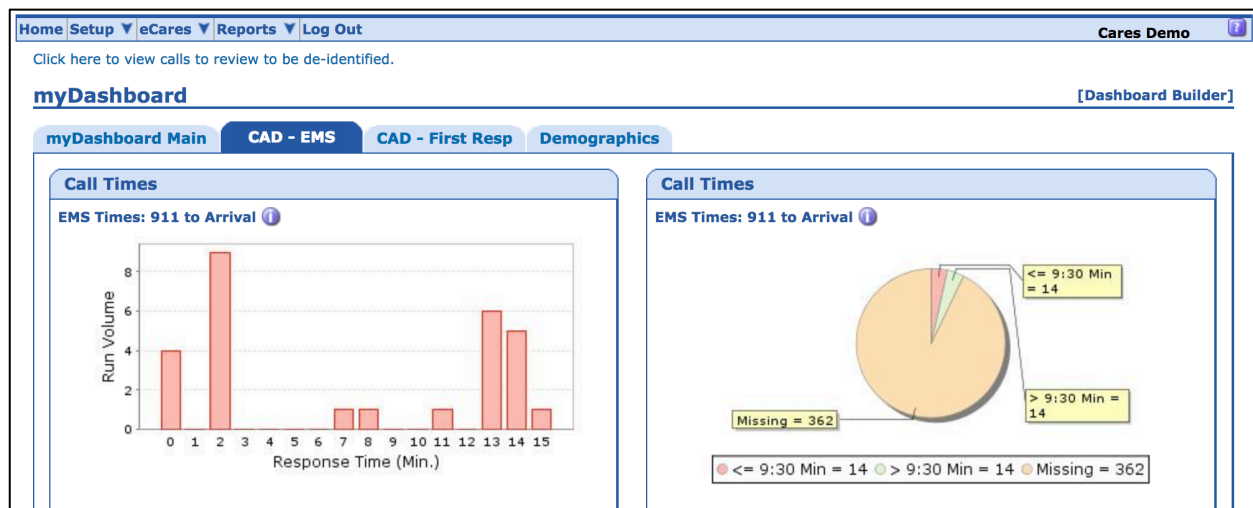
The **Demographics** tab displays your agency's arrests by Age, Gender, and Location Type.
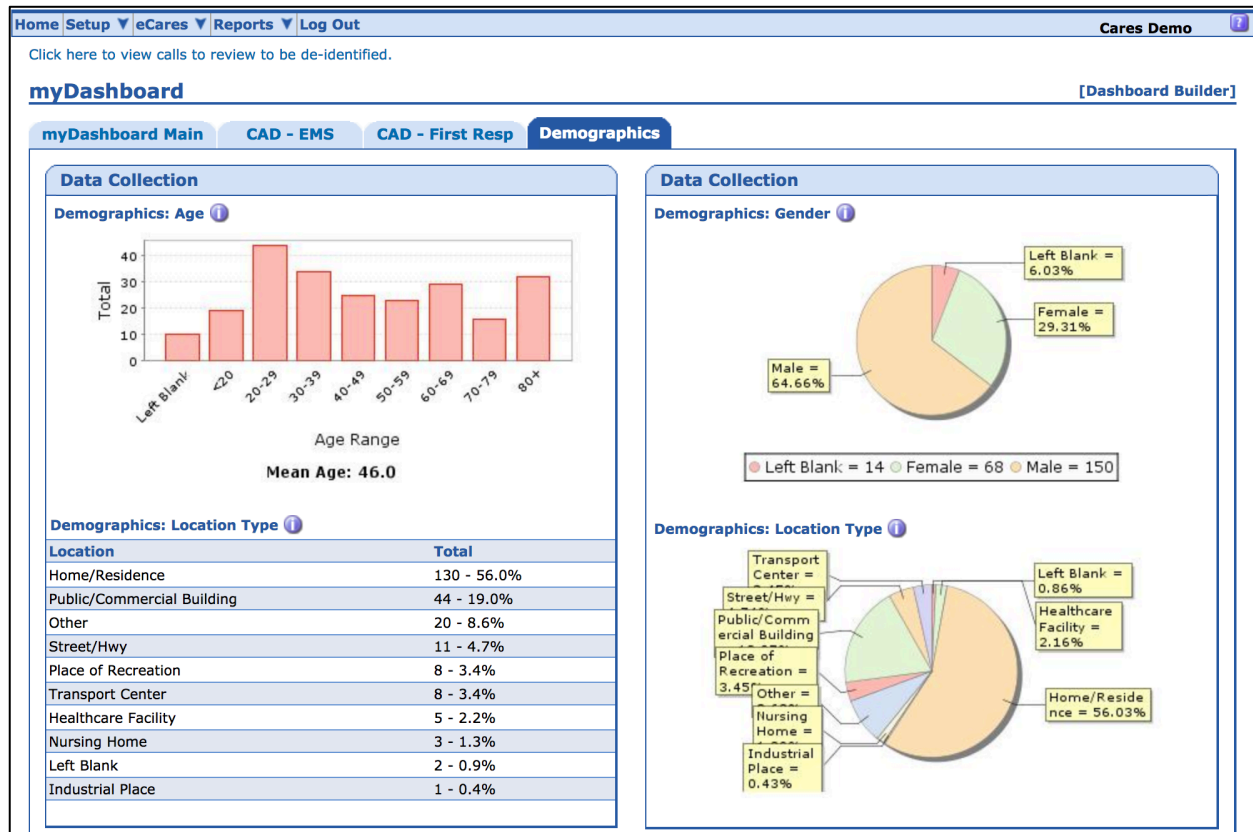
CHANGING YOUR PASSWORD:

CARES passwords are case-sensitive. You can change your password at any time under the **Setup** tab once you are logged in.
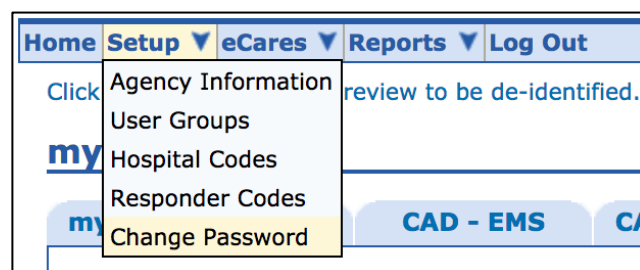
ADDING A NEW CASE:

If you are doing direct data entry, click **Add New** from the **eCares** tab to open a blank CARES form. Required elements are in a grey background (i.e. questions 1-11) and supplemental elements are in a blue background (i.e. question 12).

All patients meeting the CARES case definition (see page 3) must be entered into the registry. Patients that do not meet the case definition (i.e. DOAs, DNRs, traumatic arrests) may be entered; however, they will **not** be included on the Dashboard, in any CARES standard reports, or pushed to the hospitals for outcomes.

Part A : Demographic Information

1 - Street Address (Where Arrest Occurred)

2 - City 3 - State 4a - Zip Code 4b - County

5 - First Name 6 - Last Name

7 - Age ☐ Days ☐ Months ☐ Years 9 - Date of Birth DOB Unknown ☐ 10 - Gender 11 - Race/Ethnicity

☐ American-Indian/Alaska ☐ Hispanic/Latino ☐ Unknown
☐ Asian ☐ Native Hawaiian/Pacific Islander
☐ Black/African-American ☐ White

12 - Medical history
☐ No ☐ Unknown ☐ Cancer ☐ Diabetes ☐ Heart Disease ☐ Hyperlipidemia
☐ Hypertension ☐ Renal Disease ☐ Respiratory Disease ☐ Stroke ☐ Other

Part B : Run Information

13 - EMS Agency ID
000000000911911

14 - Date of Arrest 15 - Incident #

First Responding Agency

16 - Fire/First Responder] sort 17 - Destination Hospital] sort

Part C : Arrest Information

18 - Location Type
Definitions
○ Home/Residence ○ Healthcare Facility ○ Other: Specify
○ Public/Commercial Building ○ Place of Recreation
○ Street/Hwy ○ Industrial Place
○ Nursing Home ○ Transport Center

19 - Arrest Witnessed
○ Witnessed Arrest
○ Unwitnessed Arrest

20 - Arrest After Arrival of 911 Responder
○ Yes
○ No

21 - Presumed Cardiac Arrest Etiology
Definitions
○ Presumed Cardiac Etiology
○ Trauma
○ Respiratory/Asphyxia
○ Drowning/Submersion
○ Electrocution
○ Exsanguination/Hemorrhage
○ Drug Overdose
○ Other

Resuscitation Information

22 - Resuscitation attempted by 911 Responder (or AED shock given prior to EMS arrival)
○ Yes
○ No

23 - Who Initiated CPR
○ Not Applicable
○ Lay Person
○ Lay Person Family Member
○ Lay Person Medical Provider
○ First Responder (non-transport provider)
○ Responding EMS Personnel

24 - Type of Bystander CPR Provided
○ Compressions and ventilations
○ Compressions only
○ Ventilations only

25 - Were Dispatcher CPR instructions provided:
○ Yes
○ No
○ Unknown

26 - Was an AED applied prior to EMS arrival
○ Yes, with defibrillation
○ Yes, without defibrillation
○ No

27 - Who First Applied the AED
○ Lay Person
○ Lay Person Family Member
○ Lay Person Medical Provider
○ First Responder (non-transport provider)
If yes, was it applied by Police:
○ Yes
○ No

28 - Who First Defibrillated the Patient
○ Not Applicable
○ Lay Person
○ Lay Person Family Member
○ Lay Person Medical Provider
○ First Responder (non-transport provider)
If yes, did the Police defibrillate the patient:
○ Yes
○ No
○ Responding EMS Personnel

29 - Did 911 Responder perform CPR:
○ Yes ○ No

Question 33 is the last required question. When you select "Ongoing Resuscitation in ED" the hospital will automatically be notified that a patient outcome is required. If End of Event is "Pronounced in the ED", the record is not routed to the hospital, decreasing the data entry burden for hospital personnel.

First Cardiac Arrest Rhythm of Patient and ROSC Information		
30 - First Arrest Rhythm of Patient	○ Ventricular Fibrillation ○ Ventricular Tachycardia ○ Asystole	○ Idioventricular/PEA ○ Unknown Shockable Rhythm ○ Unknown Unshockable Rhythm
31 - Sustained ROSC (20 consecutive minutes) or present at end of EMS care:	○ Yes, but pulseless at end of EMS care (or ED arrival) ○ Yes, pulse at end of EMS care (or ED arrival) ○ No	
32 - Was hypothermia care provided in the field	○ Yes ○ No	
33 - End of Event	○ Pronounced in the Field ○ Pronounced in the ED ○ Effort ceased due to DNR ○ Ongoing Resuscitation in ED	
34 - When did sustained ROSC first occur:	○ Never ○ After Bystander CPR only ○ After Bystander defib shock	○ After 911 Responder CPR only ○ Unknown ○ After 911 Responder Defib. shock ○ After ALS
35 - Estimated time of arrest hh : mm : ss	**36 - Time of 1st defibrillatory shock** hh : mm : ss	**37 - Time of 1st CPR** hh : mm : ss

GENERAL COMMENTS BOX:

At the bottom of the form is a General Comments box for EMS agency users. Please enter any comments or additional information you think CARES staff or hospital contacts should know about the patient or event. Entering comments is also important if you input data that seems contradictory, but is correct (i.e. patient in VFib, but not defibrillated), so that CARES staff will manually override the audit flag.

General Comments

Save

SAVING THE FORM:

When you click "Save", an automated audit algorithm is run on the record, checking for blank fields and potentially conflicting information. The associated audit flags will be listed on the Save page in red. Please click on the "Return to the CARES Form" link and address these audit flags. Do NOT use your browser's Back button to return to the form.

| Home | Setup ▼ | eCares ▼ | Reports ▼ | Log Out |

Please wait while saving Cares data...

The form was saved successfully.

Warning messages:

- #4 - Incident Zip Code is a required field when Booklet ID is not entered
- #16 - Fire/First Responder is a required field - If a first responder was not noted on this event, please indicate the first responder assigned to the territory
- #18 - Please confirm lay person AED application in a Home/Residence.

Date/Time of processing: 11/03/2017 10:28:56AM

**Please Return to the CARES Form immediately and correct the data entry errors listed above.
DO NOT use your browser's BACK button.**

The fields that require attention are listed at the top of the page and highlighted in red. Click "**Save**" after all edits have been completed.

| Home | Setup ▼ | eCares ▼ | Reports ▼ | Log Out |

Error Description

#1 - Incident Address is a required field when Booklet ID is not entered
#1 - Incident City is a required field when Booklet ID is not entered
#4 - Incident Zip Code is a required field when Booklet ID is not entered
#10 - Gender is a required field when Booklet ID is not entered
#11 - Race/Ethnicity is a required field when Booklet ID is not entered
#16 - Fire/First Responder is a required field - If a first responder was not noted on this event, please indicate the first responder assigned to the territory
#18 - Location Type is a required field
#19 - Arrest Witnessed is a required field
#20 - Arrest After Arrival of 911 Responder is a required field
#21 - Presumed Cardiac Arrest Etiology is a required field

Delete

Part A : Demographic Information

1 - Street Address (Where Arrest Occurred)

| 2 - City | 3 - State | 4a - Zip Code | 4b - County |
| | PR ⬍ | | ⬍ |

| 5 - First Name | 6 - Last Name |
| Test | Case |

7 - Age	9 - Date of Birth	10 - Gender	11 - Race/Ethnicity
28 ○ Days ○ Months ● Years	11/07/1988	⬍	○ American-Indian/Alaska ○ Hispanic/Latino ○ Unknown
	DOB Unknown ☐		○ Asian ○ Native Hawaiian/Pacific Islander
			○ Black/African-American ○ White
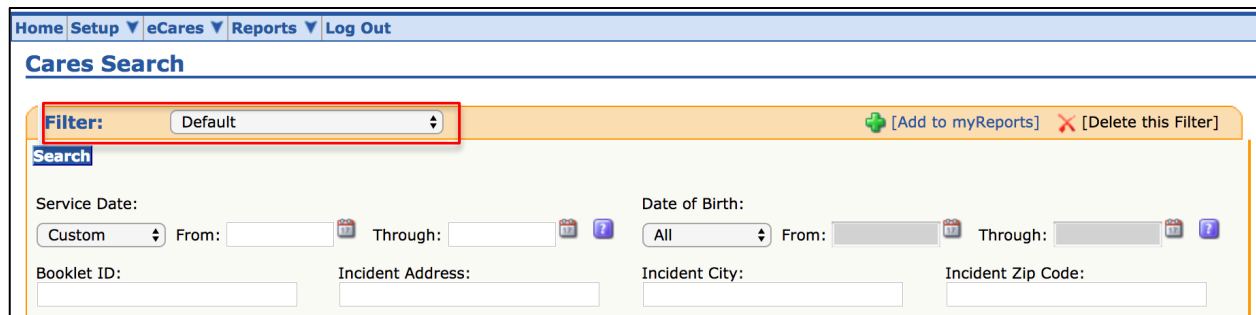
CONDUCTING A SEARCH:
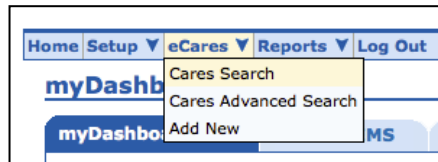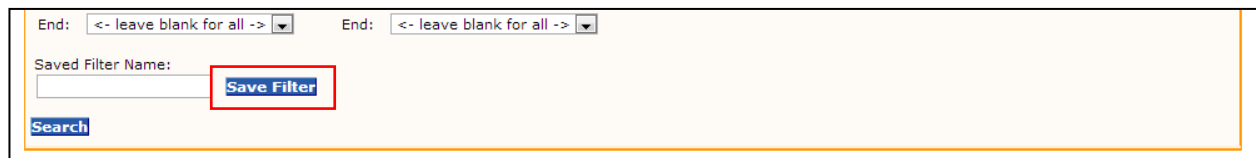
The **CARES Search** page is limited to the required data elements, while the **CARES Advanced Search** page includes the supplemental data elements. You can search by any data element(s) on the CARES form.

The **Filter** pull-down menu in the upper left-hand corner includes the following search filters: Presumed Cardiac CARES Cases, Non-Traumatic CARES Cases, Utstein Arrests, List of Survivors.
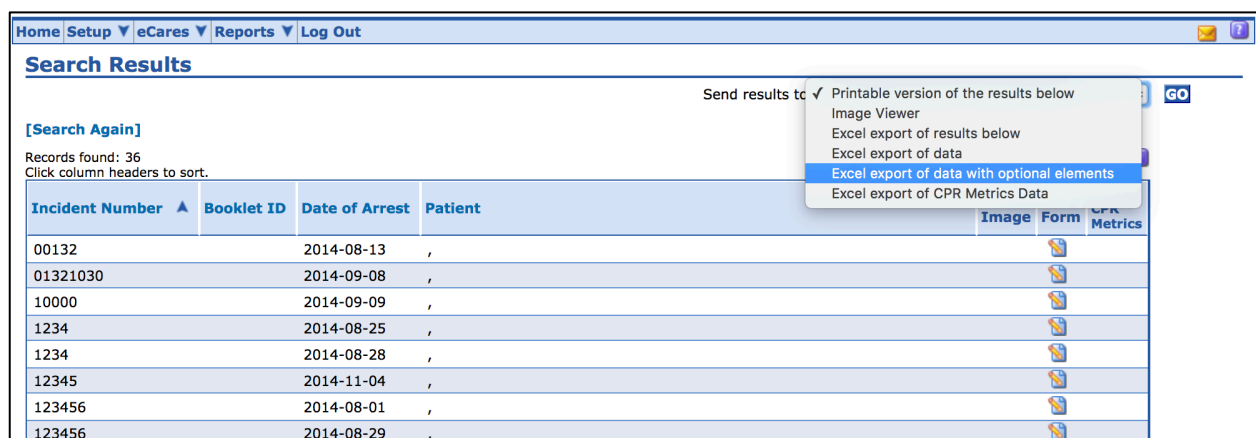
By clicking "**Save Filter**" at the bottom of the page, you can save search criteria to use at another time.

EXPORTING DATA:

Search results can be exported into Microsoft Excel for further review and analysis. On the search results page, in the upper right-hand corner is a "Send results to" drop down menu. Click the drop-down arrow and select "**Excel export of data**" or "**Excel export of data with optional elements.**" Click the "Go" button. Please be sure your browser's pop-up blocker is turned off or hold down the "Ctrl" key while going through the above steps until the Excel window opens.

REPORTS:

CARES users have 24/7 access to a number of reports, which can be found on the **Reports** drop down menu. For additional details, users may access the Reports User Guide at: https://mycares.net/sitepages/data.jsp.
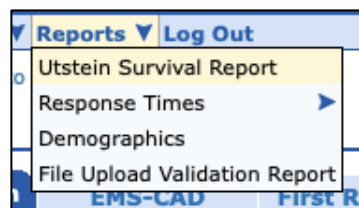
The **Utstein Survival Report** is the most commonly used report. Utstein is an internationally agreed upon cardiac arrest metric that considers all bystander-witnessed arrests that present in a shockable rhythm. To generate this report:

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.

Utstein Survival Report
All Agencies/National Data
Service Date: 01/01/18 - 12/31/18

Resuscitations Attempted
84795

Non-Traumatic Etiology Survival Rates	
Overall:	10.4% (81864)
Bystander Wit'd:	15.8%(30569)
Unwitnessed:	4.4% (41049)
Utstein[1]:	33.3% (9046)
Utstein Bystander[2]:	37.3% (5305)

Bystander Intervention Rates [3]	
CPR:	39.2% (60722)
Public AED Use:	11.9% (10937)

Trauma Etiology
2931

Non-Traumatic Etiology
81864

Unwitnessed Arrest
41049
*see page 2

Witnessed by 911 Responder
10246
*see page 3

Witnessed Arrest (Bystanders)
30569

Initial Rhythm Asystole
11321
Sustained ROSC in field = 3375

Initial Rhythm VF/VT
9046
Sustained ROSC in field = 4815

Other Initial Rhythm
10202
Sustained ROSC in field = 4583

Expired in Field
4240
Expired in ED
4300

Expired in Field
1209
Expired in ED
3048

Expired in Field
2228
Expired in ED
4035

Admitted to Hospital
2781 (15 incomplete)

Admitted to Hospital
4789 (28 incomplete)

Admitted to Hospital
3939 (29 incomplete)

Expired In Hospital
2365

Expired In Hospital
1746

Expired In Hospital
2489

Discharged Alive
401

Discharged Alive
3015

Discharged Alive
1421

Neurological Status
CPC 1 or 2
208
CPC 3 or 4
180
Unknown = 13

Neurological Status
CPC 1 or 2
2662
CPC 3 or 4
299
Unknown = 54

Neurological Status
CPC 1 or 2
1076
CPC 3 or 4
311
Unknown = 34

Utstein Survival Report
All Agencies/National Data
Service Date: 01/01/18 - 12/31/18

Unwitnessed Arrest
41049

Unwitnessed arrests are found on page 2.

Unwitnessed Arrest
41049

Initial Rhythm Asystole
27074
Sustained ROSC in field = 3834

Initial Rhythm VF/VT
4241
Sustained ROSC in field = 1487

Other Initial Rhythm
9734
Sustained ROSC in field = 3049

Expired in Field
15977
Expired in ED
7842

Expired in Field
967
Expired in ED
1784

Expired in Field
3644
Expired in ED
3418

Admitted to Hospital
3256 (27 incomplete)

Admitted to Hospital
1490 (8 incomplete)

Admitted to Hospital
2672 (18 incomplete)

Expired In Hospital
2897

Expired In Hospital
803

Expired In Hospital
1845

Discharged Alive
332

Discharged Alive
679

Discharged Alive
809

Neurological Status
CPC 1 or 2
169
CPC 3 or 4
160
Unknown = 3

Neurological Status
CPC 1 or 2
558
CPC 3 or 4
110
Unknown = 11

Neurological Status
CPC 1 or 2
590
CPC 3 or 4
202
Unknown = 17

Utstein Survival Report
All Agencies/National Data
Service Date: 01/01/18 - 12/31/18

Witnessed by 911 Responder
10246

911 Responder Witnessed arrests are found on page 3.

Witnessed by 911 Responder
10246

Initial Rhythm Asystole
2792
Sustained ROSC in field = 1007

Initial Rhythm VF/VT
1801
Sustained ROSC in field = 1057

Other Initial Rhythm
5653
Sustained ROSC in field = 2284

Expired in Field
358
Expired in ED
1409

Expired in Field
110
Expired in ED
652

Expired in Field
467
Expired in ED
2948

Admitted to Hospital
1025 (3 incomplete)

Admitted to Hospital
1039 (10 incomplete)

Admitted to Hospital
2238 (20 incomplete)

Expired In Hospital
735

Expired In Hospital
291

Expired In Hospital
1410

Discharged Alive
287

Discharged Alive
738

Discharged Alive
808

Neurological Status
CPC 1 or 2
205
CPC 3 or 4
79
Unknown = 3

Neurological Status
CPC 1 or 2
685
CPC 3 or 4
42
Unknown = 11

Neurological Status
CPC 1 or 2
576
CPC 3 or 4
200
Unknown = 32

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

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%

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. The Setup page includes 2 Data Scope options: My Data will generate a report with your agency's data, while National Data will generate a benchmarking report using the national CARES dataset. Both report setup pages also 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. After selecting the report criteria, enter the Service Date range of interest, and click "Generate Report."
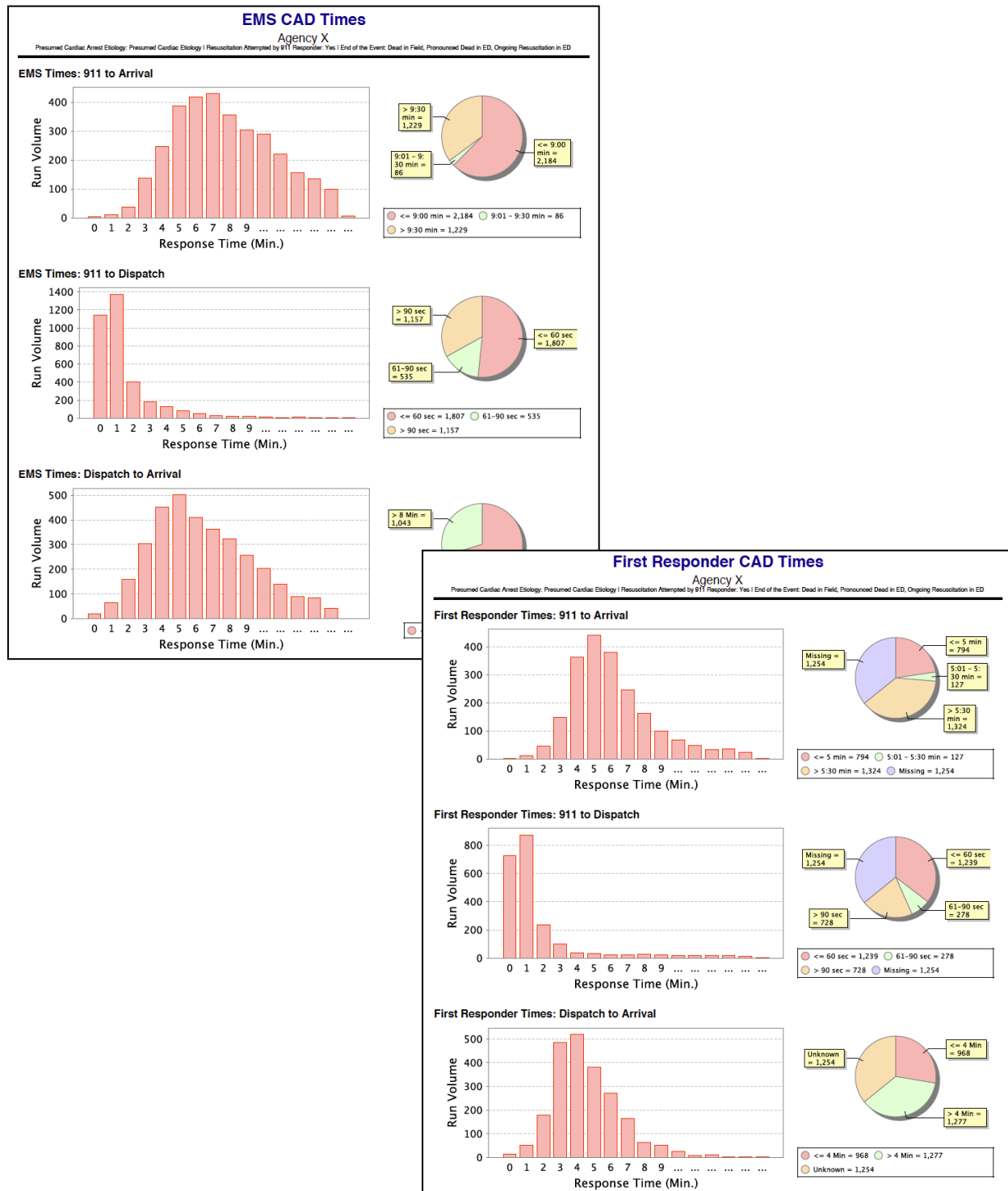
The **Demographics Report** generates the same information as the Demographics Dashboard tab, but allows you to select a Service Date range of interest. A number of filters can be applied to this report, using the Filter pull-down menu in the upper left-hand corner (Presumed Cardiac CARES Cases, Non-Traumatic CARES Cases, Utstein Arrests).

Demographics
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

Gender

Left Blank = 5.15%
Female = 27.84%
Male = 67.01%

○ Left Blank = 5 ○ Female = 27 ○ Male = 65

Age

Mean Age: 50.7

| 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%
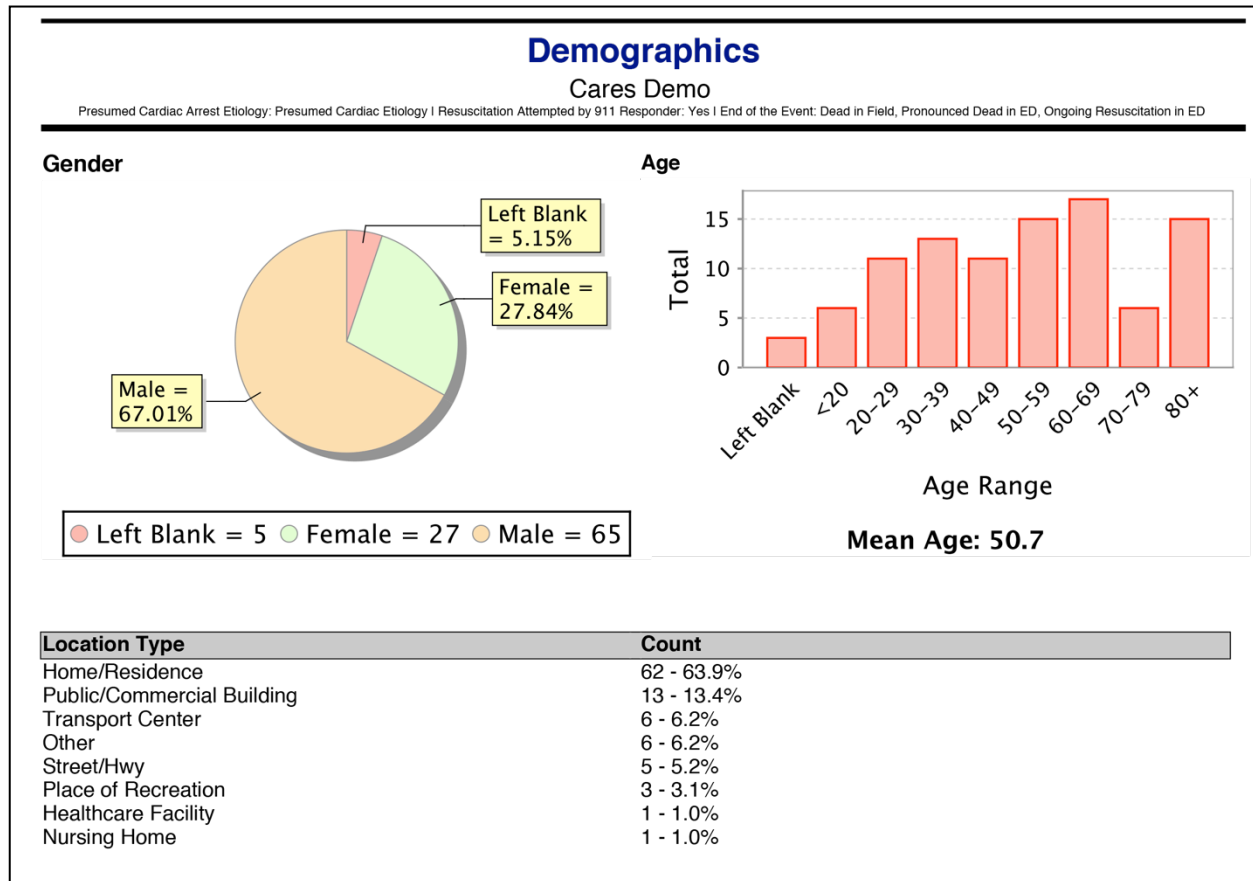
MASS COMMUNICATION:

Occasionally, CARES will send updates to our end users and stakeholders. These messages may include information about software upgrades and changes, training and education opportunities, or data entry deadlines. You will receive these messages via e-mail, and they will also be accessible in your CARES Message Center upon log-in.

Once you enter the site, a blinking, yellow envelope will indicate a new message in your inbox. You may access your Message Center at the top right-hand corner of the page.
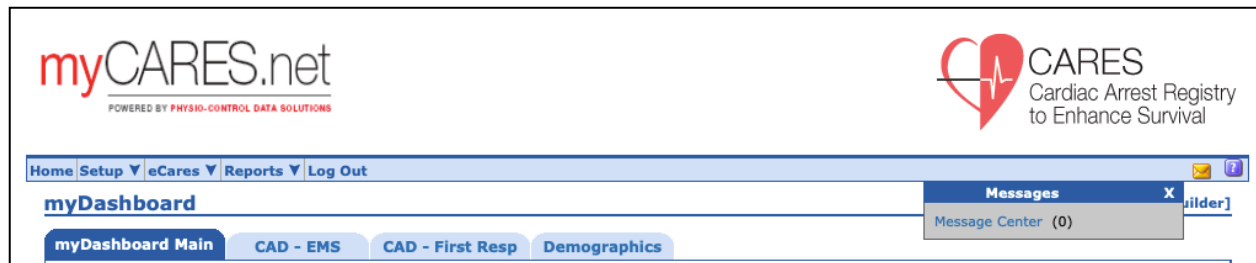
High Priority messages will require your acknowledgment before navigating away from the page by checking the box and choosing "Save and Close."
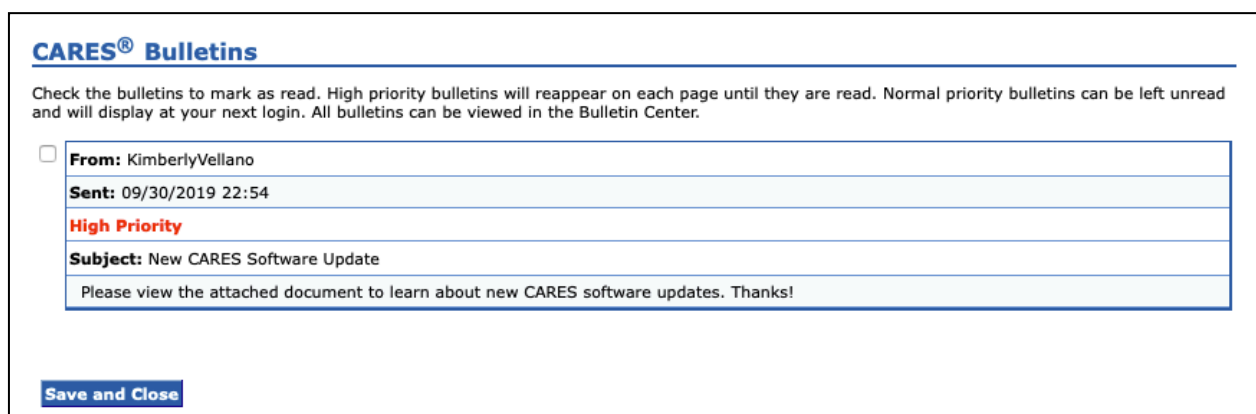
You will be able to save any attachments that are included in the message for future reference by accessing your Message Center inbox and clicking on the paper clip icon under the "Attachments" column.