

# CARES Survival Report

Incident State: MI | Date of Arrest: 01/01/13 - 12/31/20 | Non-Traumatic Etiology

	OVERALL N = 46248				
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2 <sup>†</sup> (%)
<b>Total</b>	46248	12941 (28.0)	11720 (25.3)	3849 (8.3)	3133 (6.8)
<b>Location of Arrest</b>					
Home/Residence	32853 (71.0)	8830 (26.9)	8051 (24.5)	2346 (7.1)	1880 (5.7)
Nursing Home	6741 (14.6)	1582 (23.5)	1088 (16.1)	239 (3.5)	129 (1.9)
Public Setting	6654 (14.4)	2529 (38.0)	2581 (38.8)	1264 (19.0)	1124 (16.9)
<b>Arrest Witnessed Status</b>					
Unwitnessed	24417 (52.8)	4636 (19.0)	4027 (16.5)	931 (3.8)	698 (2.9)
Bystander witnessed	16769 (36.3)	6435 (38.4)	5743 (34.2)	2170 (12.9)	1809 (10.8)
911 Responder witnessed	5060 (10.9)	1869 (36.9)	1949 (38.5)	747 (14.8)	626 (12.4)
<b>Bystander CPR*</b>					
Bystander CPR	18532 (45.0)	5424 (29.3)	4676 (25.2)	1743 (9.4)	1441 (7.8)
No Bystander CPR	22653 (55.0)	5647 (24.9)	5094 (22.5)	1358 (6.0)	1066 (4.7)
Bystander CPR (excludes nursing home/healthcare facility events)	12051 (35.9)	3767 (31.3)	3466 (28.8)	1420 (11.8)	1229 (10.2)
No Bystander CPR (excludes nursing home/healthcare facility events)	21502 (64.1)	5343 (24.8)	4870 (22.6)	1299 (6.0)	1027 (4.8)
<b>Initial Arrest Rhythm</b>					
Shockable	7974 (17.2)	3504 (43.9)	3444 (43.2)	1977 (24.8)	1770 (22.2)
Non-shockable	38273 (82.8)	9437 (24.7)	8276 (21.6)	1872 (4.9)	1363 (3.6)
<b>AED Use</b>					
Bystander AED use*	3867 (9.4)	1174 (30.4)	960 (24.8)	413 (10.7)	339 (8.8)
Bystander AED use* (excludes nursing home/healthcare facility events)	665 (2.0)	324 (48.7)	318 (47.8)	210 (31.6)	202 (30.4)
Trained provider (First Responder) AED use	11654 (25.2)	3469 (29.8)	3006 (25.8)	1071 (9.2)	921 (7.9)
<b>Utstein</b>					
Witnessed and shockable	5479 (11.9)	2690 (49.1)	2645 (48.3)	1616 (29.5)	1465 (26.7)
Bystander witnessed and shockable	4578 (9.9)	2217 (48.4)	2185 (47.7)	1301 (28.4)	1172 (25.6)
<b>Hypothermia</b>					
Field hypothermia	329 (0.7)	212 (64.4)	167 (50.8)	53 (16.1)	43 (13.1)
In-hospital hypothermia/TTM (among admitted patients)	5307 (45.3)	--	--	1558 (29.4)	1149 (21.7)

**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=15).

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

<sup>†</sup>CPC missing for 0 patients.

# CARES Survival Report

Incident State: MI | Date of Arrest: 01/01/13 - 12/31/20 | Non-Traumatic Etiology

	Age = <1 years N = 656				
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2 <sup>†</sup> (%)
<b>Total</b>	656	64 (9.8)	98 (14.9)	23 (3.5)	16 (2.4)
<b>Location of Arrest</b>					
Home/Residence	628 (95.7)	61 (9.7)	95 (15.1)	23 (3.7)	16 (2.5)
Nursing Home	4 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Public Setting	24 (3.7)	3 (12.5)	3 (12.5)	0 (0.0)	0 (0.0)
<b>Arrest Witnessed Status</b>					
Unwitnessed	543 (82.8)	35 (6.4)	65 (12.0)	10 (1.8)	6 (1.1)
Bystander witnessed	96 (14.6)	26 (27.1)	28 (29.2)	10 (10.4)	8 (8.3)
911 Responder witnessed	17 (2.6)	3 (17.6)	5 (29.4)	3 (17.6)	2 (11.8)
<b>Bystander CPR*</b>					
Bystander CPR	283 (44.3)	30 (10.6)	40 (14.1)	11 (3.9)	7 (2.5)
No Bystander CPR	356 (55.7)	31 (8.7)	53 (14.9)	9 (2.5)	7 (2.0)
Bystander CPR (excludes nursing home/healthcare facility events)	278 (44.0)	30 (10.8)	40 (14.4)	11 (4.0)	7 (2.5)
No Bystander CPR (excludes nursing home/healthcare facility events)	354 (56.0)	31 (8.8)	52 (14.7)	9 (2.5)	7 (2.0)
<b>Initial Arrest Rhythm</b>					
Shockable	20 (3.0)	1 (5.0)	1 (5.0)	0 (0.0)	0 (0.0)
Non-shockable	636 (97.0)	63 (9.9)	97 (15.3)	23 (3.6)	16 (2.5)
<b>AED Use</b>					
Bystander AED use*	2 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Bystander AED use* (excludes nursing home/healthcare facility events)	0 (0.0)	0 (NaN)	0 (NaN)	0 (NaN)	0 (NaN)
Trained provider (First Responder) AED use	118 (18.0)	9 (7.6)	16 (13.6)	1 (0.8)	0 (0.0)
<b>Utstein</b>					
Witnessed and shockable	10 (1.5)	1 (10.0)	1 (10.0)	0 (0.0)	0 (0.0)
Bystander witnessed and shockable	8 (1.2)	1 (12.5)	1 (12.5)	0 (0.0)	0 (0.0)
<b>Hypothermia</b>					
Field hypothermia	2 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
In-hospital hypothermia/TTM (among admitted patients)	10 (10.2)	--	--	5 (50.0)	4 (40.0)

**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=1).

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

<sup>†</sup>CPC missing for 0 patients.

# CARES Survival Report

Incident State: MI | Date of Arrest: 01/01/13 - 12/31/20 | Non-Traumatic Etiology

	Age = 1 - 12 years N = 351				
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2 <sup>†</sup> (%)
<b>Total</b>	351	77 (21.9)	98 (27.9)	38 (10.8)	34 (9.7)
<b>Location of Arrest</b>					
Home/Residence	307 (87.5)	57 (18.6)	75 (24.4)	24 (7.8)	20 (6.5)
Nursing Home	0 (0.0)	0 (NaN)	0 (NaN)	0 (NaN)	0 (NaN)
Public Setting	44 (12.5)	20 (45.5)	23 (52.3)	14 (31.8)	14 (31.8)
<b>Arrest Witnessed Status</b>					
Unwitnessed	233 (66.4)	34 (14.6)	51 (21.9)	14 (6.0)	11 (4.7)
Bystander witnessed	99 (28.2)	39 (39.4)	40 (40.4)	20 (20.2)	20 (20.2)
911 Responder witnessed	19 (5.4)	4 (21.1)	7 (36.8)	4 (21.1)	3 (15.8)
<b>Bystander CPR*</b>					
Bystander CPR	154 (46.4)	45 (29.2)	53 (34.4)	25 (16.2)	24 (15.6)
No Bystander CPR	178 (53.6)	28 (15.7)	38 (21.3)	9 (5.1)	7 (3.9)
Bystander CPR (excludes nursing home/healthcare facility events)	151 (45.9)	45 (29.8)	53 (35.1)	25 (16.6)	24 (15.9)
No Bystander CPR (excludes nursing home/healthcare facility events)	178 (54.1)	28 (15.7)	38 (21.3)	9 (5.1)	7 (3.9)
<b>Initial Arrest Rhythm</b>					
Shockable	25 (7.1)	13 (52.0)	10 (40.0)	8 (32.0)	8 (32.0)
Non-shockable	326 (92.9)	64 (19.6)	88 (27.0)	30 (9.2)	26 (8.0)
<b>AED Use</b>					
Bystander AED use*	7 (2.1)	4 (57.1)	5 (71.4)	3 (42.9)	3 (42.9)
Bystander AED use* (excludes nursing home/healthcare facility events)	6 (1.8)	4 (66.7)	5 (83.3)	3 (50.0)	3 (50.0)
Trained provider (First Responder) AED use	89 (25.4)	22 (24.7)	24 (27.0)	8 (9.0)	7 (7.9)
<b>Utstein</b>					
Witnessed and shockable	17 (4.8)	13 (76.5)	10 (58.8)	8 (47.1)	8 (47.1)
Bystander witnessed and shockable	16 (4.6)	13 (81.2)	9 (56.2)	7 (43.8)	7 (43.8)
<b>Hypothermia</b>					
Field hypothermia	3 (0.9)	2 (66.7)	2 (66.7)	1 (33.3)	1 (33.3)
In-hospital hypothermia/TTM (among admitted patients)	16 (16.3)	--	--	5 (31.2)	5 (31.2)

**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=0).

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

<sup>†</sup>CPC missing for 0 patients.

# CARES Survival Report

Incident State: MI | Date of Arrest: 01/01/13 - 12/31/20 | Non-Traumatic Etiology

Age = 13 - 18 years					
N = 240					
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2 <sup>†</sup> (%)
<b>Total</b>	240	77 (32.1)	93 (38.8)	33 (13.8)	26 (10.8)
<b>Location of Arrest</b>					
Home/Residence	192 (80.0)	56 (29.2)	61 (31.8)	15 (7.8)	10 (5.2)
Nursing Home	0 (0.0)	0 (NaN)	0 (NaN)	0 (NaN)	0 (NaN)
Public Setting	48 (20.0)	21 (43.8)	32 (66.7)	18 (37.5)	16 (33.3)
<b>Arrest Witnessed Status</b>					
Unwitnessed	145 (60.4)	32 (22.1)	37 (25.5)	9 (6.2)	6 (4.1)
Bystander witnessed	82 (34.2)	42 (51.2)	49 (59.8)	22 (26.8)	20 (24.4)
911 Responder witnessed	13 (5.4)	3 (23.1)	7 (53.8)	2 (15.4)	0 (0.0)
<b>Bystander CPR*</b>					
Bystander CPR	98 (43.2)	41 (41.8)	46 (46.9)	20 (20.4)	19 (19.4)
No Bystander CPR	129 (56.8)	33 (25.6)	40 (31.0)	11 (8.5)	7 (5.4)
Bystander CPR (excludes nursing home/healthcare facility events)	96 (42.7)	41 (42.7)	45 (46.9)	20 (20.8)	19 (19.8)
No Bystander CPR (excludes nursing home/healthcare facility events)	129 (57.3)	33 (25.6)	40 (31.0)	11 (8.5)	7 (5.4)
<b>Initial Arrest Rhythm</b>					
Shockable	41 (17.1)	19 (46.3)	28 (68.3)	20 (48.8)	17 (41.5)
Non-shockable	199 (82.9)	58 (29.1)	65 (32.7)	13 (6.5)	9 (4.5)
<b>AED Use</b>					
Bystander AED use*	12 (5.3)	7 (58.3)	11 (91.7)	6 (50.0)	6 (50.0)
Bystander AED use* (excludes nursing home/healthcare facility events)	11 (4.9)	7 (63.6)	10 (90.9)	6 (54.5)	6 (54.5)
Trained provider (First Responder) AED use	70 (29.2)	25 (35.7)	26 (37.1)	7 (10.0)	6 (8.6)
<b>Utstein</b>					
Witnessed and shockable	31 (12.9)	15 (48.4)	22 (71.0)	16 (51.6)	14 (45.2)
Bystander witnessed and shockable	27 (11.2)	15 (55.6)	20 (74.1)	15 (55.6)	14 (51.9)
<b>Hypothermia</b>					
Field hypothermia	3 (1.3)	1 (33.3)	1 (33.3)	0 (0.0)	0 (0.0)
In-hospital hypothermia/TTM (among admitted patients)	24 (25.8)	--	--	12 (50.0)	8 (33.3)

**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=0).

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

<sup>†</sup>CPC missing for 0 patients.

# CARES Survival Report

Incident State: MI | Date of Arrest: 01/01/13 - 12/31/20 | Non-Traumatic Etiology

	Age = >18 years N = 44945				
	Total N (%)	Sustained ROSC (%)	Survival to hospital admission (%)	Survival to hospital discharge (%)	Survival to discharge with CPC 1 or 2 <sup>†</sup> (%)
<b>Total</b>	44945	12711 (28.3)	11418 (25.4)	3752 (8.3)	3055 (6.8)
<b>Location of Arrest</b>					
Home/Residence	31682 (70.5)	8646 (27.3)	7809 (24.6)	2283 (7.2)	1834 (5.8)
Nursing Home	6735 (15.0)	1582 (23.5)	1088 (16.2)	239 (3.5)	129 (1.9)
Public Setting	6528 (14.5)	2483 (38.0)	2521 (38.6)	1230 (18.8)	1092 (16.7)
<b>Arrest Witnessed Status</b>					
Unwitnessed	23475 (52.2)	4532 (19.3)	3870 (16.5)	898 (3.8)	675 (2.9)
Bystander witnessed	16468 (36.6)	6322 (38.4)	5620 (34.1)	2116 (12.8)	1760 (10.7)
911 Responder witnessed	5000 (11.1)	1856 (37.1)	1927 (38.5)	737 (14.7)	620 (12.4)
<b>Bystander CPR*</b>					
Bystander CPR	17984 (45.0)	5306 (29.5)	4534 (25.2)	1686 (9.4)	1390 (7.7)
No Bystander CPR	21958 (55.0)	5548 (25.3)	4956 (22.6)	1328 (6.0)	1045 (4.8)
Bystander CPR (excludes nursing home/healthcare facility events)	11516 (35.6)	3650 (31.7)	3326 (28.9)	1364 (11.8)	1179 (10.2)
No Bystander CPR (excludes nursing home/healthcare facility events)	20809 (64.4)	5244 (25.2)	4733 (22.7)	1269 (6.1)	1006 (4.8)
<b>Initial Arrest Rhythm</b>					
Shockable	7885 (17.5)	3470 (44.0)	3404 (43.2)	1948 (24.7)	1745 (22.1)
Non-shockable	37059 (82.5)	9241 (24.9)	8014 (21.6)	1804 (4.9)	1310 (3.5)
<b>AED Use</b>					
Bystander AED use*	3839 (9.6)	1163 (30.3)	944 (24.6)	404 (10.5)	330 (8.6)
Bystander AED use* (excludes nursing home/healthcare facility events)	648 (2.0)	313 (48.3)	303 (46.8)	201 (31.0)	193 (29.8)
Trained provider (First Responder) AED use	11375 (25.3)	3413 (30.0)	2940 (25.8)	1055 (9.3)	908 (8.0)
<b>Utstein</b>					
Witnessed and shockable	5418 (12.1)	2660 (49.1)	2611 (48.2)	1591 (29.4)	1443 (26.6)
Bystander witnessed and shockable	4524 (10.1)	2187 (48.3)	2154 (47.6)	1278 (28.2)	1151 (25.4)
<b>Hypothermia</b>					
Field hypothermia	321 (0.7)	209 (65.1)	164 (51.1)	52 (16.2)	42 (13.1)
In-hospital hypothermia/TTM (among admitted patients)	5253 (46.0)	--	--	1535 (29.2)	1132 (21.5)

**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=13).

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

<sup>†</sup>CPC missing for 0 patients.