

# CARES Survival Report

Incident State: MI | Service Date: From 01/01/2013 Through 12/31/2017 | Non-Traumatic Etiology

	OVERALL N = 22043				
	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>	22043	6225 (28.2)	5761 (26.1)	1935 (8.8)	1572 (7.1)
<b>Location of Arrest</b>					
Home/Residence	15624 (70.9)	4206 (26.9)	3908 (25.0)	1163 (7.4)	923 (5.9)
Nursing Home	3211 (14.6)	801 (24.9)	591 (18.4)	126 (3.9)	64 (2.0)
Public Setting	3208 (14.6)	1218 (38.0)	1262 (39.3)	646 (20.1)	585 (18.2)
<b>Arrest Witnessed Status</b>					
Unwitnessed	11847 (53.7)	2311 (19.5)	2094 (17.7)	508 (4.3)	382 (3.2)
Bystander witnessed	7765 (35.2)	2966 (38.2)	2697 (34.7)	1051 (13.5)	876 (11.3)
911 Responder witnessed	2430 (11.0)	947 (39.0)	969 (39.9)	375 (15.4)	314 (12.9)
<b>Bystander CPR*</b>					
Bystander CPR	8495 (43.3)	2526 (29.7)	2246 (26.4)	842 (9.9)	685 (8.1)
No Bystander CPR	11116 (56.7)	2752 (24.8)	2546 (22.9)	718 (6.5)	573 (5.2)
Bystander CPR (excludes nursing home/healthcare facility events)	5455 (34.0)	1712 (31.4)	1620 (29.7)	676 (12.4)	581 (10.7)
No Bystander CPR (excludes nursing home/healthcare facility events)	10585 (66.0)	2614 (24.7)	2431 (23.0)	689 (6.5)	555 (5.2)
<b>Initial Arrest Rhythm</b>					
Shockable	3951 (17.9)	1699 (43.0)	1700 (43.0)	985 (24.9)	875 (22.1)
Non-shockable	18092 (82.1)	4526 (25.0)	4061 (22.4)	950 (5.3)	697 (3.9)
<b>AED Use</b>					
Bystander AED use*	1561 (8.0)	527 (33.8)	460 (29.5)	217 (13.9)	179 (11.5)
Bystander AED use* (excludes nursing home/healthcare facility events)	341 (2.1)	168 (49.3)	171 (50.1)	120 (35.2)	115 (33.7)
Trained provider (First Responder) AED use	5498 (24.9)	1674 (30.4)	1482 (27.0)	509 (9.3)	430 (7.8)
<b>Utstein</b>					
Witnessed and shockable	2646 (12.0)	1259 (47.6)	1264 (47.8)	774 (29.3)	700 (26.5)
Bystander witnessed and shockable	2182 (9.9)	1015 (46.5)	1016 (46.6)	603 (27.6)	542 (24.8)
<b>Hypothermia</b>					
Field hypothermia	122 (0.6)	88 (72.1)	70 (57.4)	27 (22.1)	22 (18.0)
In-hospital hypothermia (among admitted patients)	2539 (44.1)	--	--	791 (31.2)	580 (22.8)

**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 | Service Date: From 01/01/2013 Through 12/31/2017 | Non-Traumatic Etiology

	Age = ≤1 years N = 372				
	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>	372	42 (11.3)	60 (16.1)	15 (4.0)	12 (3.2)
<b>Location of Arrest</b>					
Home/Residence	355 (95.4)	40 (11.3)	58 (16.3)	14 (3.9)	11 (3.1)
Nursing Home	4 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Public Setting	13 (3.5)	2 (15.4)	2 (15.4)	1 (7.7)	1 (7.7)
<b>Arrest Witnessed Status</b>					
Unwitnessed	300 (80.6)	22 (7.3)	37 (12.3)	5 (1.7)	4 (1.3)
Bystander witnessed	58 (15.6)	18 (31.0)	19 (32.8)	7 (12.1)	6 (10.3)
911 Responder witnessed	14 (3.8)	2 (14.3)	4 (28.6)	3 (21.4)	2 (14.3)
<b>Bystander CPR*</b>					
Bystander CPR	153 (42.7)	20 (13.1)	27 (17.6)	9 (5.9)	7 (4.6)
No Bystander CPR	205 (57.3)	20 (9.8)	29 (14.1)	3 (1.5)	3 (1.5)
Bystander CPR (excludes nursing home/healthcare facility events)	149 (42.2)	20 (13.4)	27 (18.1)	9 (6.0)	7 (4.7)
No Bystander CPR (excludes nursing home/healthcare facility events)	204 (57.8)	20 (9.8)	28 (13.7)	3 (1.5)	3 (1.5)
<b>Initial Arrest Rhythm</b>					
Shockable	14 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Non-shockable	358 (96.2)	42 (11.7)	60 (16.8)	15 (4.2)	12 (3.4)
<b>AED Use</b>					
Bystander AED use*	1 (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	67 (18.0)	5 (7.5)	8 (11.9)	0 (0.0)	0 (0.0)
<b>Utstein</b>					
Witnessed and shockable	7 (1.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Bystander witnessed and shockable	5 (1.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
<b>Hypothermia</b>					
Field hypothermia	1 (0.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
In-hospital hypothermia (among admitted patients)	5 (8.3)	--	--	3 (60.0)	2 (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 | Service Date: From 01/01/2013 Through 12/31/2017 | Non-Traumatic Etiology

	Age = >1 - 12 years N = 114				
	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>	114	20 (17.5)	30 (26.3)	15 (13.2)	15 (13.2)
<b>Location of Arrest</b>					
Home/Residence	93 (81.6)	11 (11.8)	21 (22.6)	7 (7.5)	7 (7.5)
Nursing Home	0 (0.0)	0 (NaN)	0 (NaN)	0 (NaN)	0 (NaN)
Public Setting	21 (18.4)	9 (42.9)	9 (42.9)	8 (38.1)	8 (38.1)
<b>Arrest Witnessed Status</b>					
Unwitnessed	78 (68.4)	8 (10.3)	16 (20.5)	4 (5.1)	4 (5.1)
Bystander witnessed	31 (27.2)	11 (35.5)	13 (41.9)	11 (35.5)	11 (35.5)
911 Responder witnessed	5 (4.4)	1 (20.0)	1 (20.0)	0 (0.0)	0 (0.0)
<b>Bystander CPR*</b>					
Bystander CPR	46 (42.2)	9 (19.6)	18 (39.1)	10 (21.7)	10 (21.7)
No Bystander CPR	63 (57.8)	7 (11.1)	11 (17.5)	5 (7.9)	5 (7.9)
Bystander CPR (excludes nursing home/healthcare facility events)	45 (41.7)	12 (26.7)	18 (40.0)	10 (22.2)	10 (22.2)
No Bystander CPR (excludes nursing home/healthcare facility events)	63 (58.3)	7 (11.1)	11 (17.5)	5 (7.9)	5 (7.9)
<b>Initial Arrest Rhythm</b>					
Shockable	8 (7.0)	3 (37.5)	3 (37.5)	3 (37.5)	3 (37.5)
Non-shockable	106 (93.0)	17 (16.0)	27 (25.5)	12 (11.3)	12 (11.3)
<b>AED Use</b>					
Bystander AED use*	5 (4.6)	1 (20.0)	4 (80.0)	3 (60.0)	3 (60.0)
Bystander AED use* (excludes nursing home/healthcare facility events)	4 (3.7)	3 (75.0)	4 (100.0)	3 (75.0)	3 (75.0)
Trained provider (First Responder) AED use	28 (24.6)	5 (17.9)	5 (17.9)	1 (3.6)	1 (3.6)
<b>Utstein</b>					
Witnessed and shockable	5 (4.4)	3 (60.0)	3 (60.0)	3 (60.0)	3 (60.0)
Bystander witnessed and shockable	5 (4.4)	3 (60.0)	3 (60.0)	3 (60.0)	3 (60.0)
<b>Hypothermia</b>					
Field hypothermia	1 (0.9)	1 (100.0)	1 (100.0)	1 (100.0)	1 (100.0)
In-hospital hypothermia (among admitted patients)	6 (20.0)	--	--	3 (50.0)	3 (50.0)

**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=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 | Service Date: From 01/01/2013 Through 12/31/2017 | Non-Traumatic Etiology

	Age = 13 - 18 years N = 117				
	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>	117	39 (33.3)	50 (42.7)	21 (17.9)	17 (14.5)
<b>Location of Arrest</b>					
Home/Residence	93 (79.5)	28 (30.1)	31 (33.3)	10 (10.8)	7 (7.5)
Nursing Home	0 (0.0)	0 (NaN)	0 (NaN)	0 (NaN)	0 (NaN)
Public Setting	24 (20.5)	11 (45.8)	19 (79.2)	11 (45.8)	10 (41.7)
<b>Arrest Witnessed Status</b>					
Unwitnessed	74 (63.2)	15 (20.3)	21 (28.4)	6 (8.1)	4 (5.4)
Bystander witnessed	38 (32.5)	21 (55.3)	25 (65.8)	14 (36.8)	13 (34.2)
911 Responder witnessed	5 (4.3)	3 (60.0)	4 (80.0)	1 (20.0)	0 (0.0)
<b>Bystander CPR*</b>					
Bystander CPR	46 (41.1)	23 (50.0)	25 (54.3)	14 (30.4)	13 (28.3)
No Bystander CPR	66 (58.9)	13 (19.7)	21 (31.8)	6 (9.1)	4 (6.1)
Bystander CPR (excludes nursing home/healthcare facility events)	45 (40.5)	23 (51.1)	24 (53.3)	14 (31.1)	13 (28.9)
No Bystander CPR (excludes nursing home/healthcare facility events)	66 (59.5)	13 (19.7)	21 (31.8)	6 (9.1)	4 (6.1)
<b>Initial Arrest Rhythm</b>					
Shockable	22 (18.8)	11 (50.0)	17 (77.3)	13 (59.1)	12 (54.5)
Non-shockable	95 (81.2)	28 (29.5)	33 (34.7)	8 (8.4)	5 (5.3)
<b>AED Use</b>					
Bystander AED use*	6 (5.4)	3 (50.0)	6 (100.0)	3 (50.0)	3 (50.0)
Bystander AED use* (excludes nursing home/healthcare facility events)	5 (4.5)	3 (60.0)	5 (100.0)	3 (60.0)	3 (60.0)
Trained provider (First Responder) AED use	35 (29.9)	11 (31.4)	13 (37.1)	4 (11.4)	3 (8.6)
<b>Utstein</b>					
Witnessed and shockable	16 (13.7)	9 (56.2)	13 (81.2)	10 (62.5)	10 (62.5)
Bystander witnessed and shockable	14 (12.0)	9 (64.3)	12 (85.7)	10 (71.4)	10 (71.4)
<b>Hypothermia</b>					
Field hypothermia	1 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
In-hospital hypothermia (among admitted patients)	12 (24.0)	--	--	9 (75.0)	6 (50.0)

**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=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 | Service Date: From 01/01/2013 Through 12/31/2017 | Non-Traumatic Etiology

	Age = >18 years N = 21403				
	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>	21403	6117 (28.6)	5613 (26.2)	1883 (8.8)	1527 (7.1)
<b>Location of Arrest</b>					
Home/Residence	15056 (70.3)	4121 (27.4)	3791 (25.2)	1132 (7.5)	898 (6.0)
Nursing Home	3205 (15.0)	801 (25.0)	591 (18.4)	126 (3.9)	64 (2.0)
Public Setting	3142 (14.7)	1195 (38.0)	1231 (39.2)	625 (19.9)	565 (18.0)
<b>Arrest Witnessed Status</b>					
Unwitnessed	11375 (53.2)	2263 (19.9)	2016 (17.7)	493 (4.3)	370 (3.3)
Bystander witnessed	7626 (35.6)	2914 (38.2)	2637 (34.6)	1019 (13.4)	846 (11.1)
911 Responder witnessed	2401 (11.2)	939 (39.1)	959 (39.9)	370 (15.4)	311 (13.0)
<b>Bystander CPR*</b>					
Bystander CPR	8245 (43.4)	2471 (30.0)	2175 (26.4)	809 (9.8)	655 (7.9)
No Bystander CPR	10755 (56.6)	2707 (25.2)	2479 (23.0)	704 (6.5)	561 (5.2)
Bystander CPR (excludes nursing home/healthcare facility events)	5213 (33.8)	1657 (31.8)	1550 (29.7)	643 (12.3)	551 (10.6)
No Bystander CPR (excludes nursing home/healthcare facility events)	10225 (66.2)	2569 (25.1)	2365 (23.1)	675 (6.6)	543 (5.3)
<b>Initial Arrest Rhythm</b>					
Shockable	3905 (18.2)	1685 (43.1)	1680 (43.0)	969 (24.8)	860 (22.0)
Non-shockable	17498 (81.8)	4432 (25.3)	3933 (22.5)	914 (5.2)	667 (3.8)
<b>AED Use</b>					
Bystander AED use*	1548 (8.1)	521 (33.7)	450 (29.1)	211 (13.6)	173 (11.2)
Bystander AED use* (excludes nursing home/healthcare facility events)	332 (2.2)	162 (48.8)	162 (48.8)	114 (34.3)	109 (32.8)
Trained provider (First Responder) AED use	5367 (25.1)	1653 (30.8)	1456 (27.1)	504 (9.4)	426 (7.9)
<b>Utstein</b>					
Witnessed and shockable	2616 (12.2)	1247 (47.7)	1248 (47.7)	761 (29.1)	687 (26.3)
Bystander witnessed and shockable	2156 (10.1)	1003 (46.5)	1001 (46.4)	590 (27.4)	529 (24.5)
<b>Hypothermia</b>					
Field hypothermia	119 (0.6)	87 (73.1)	69 (58.0)	26 (21.8)	21 (17.6)
In-hospital hypothermia (among admitted patients)	2514 (44.8)	--	--	776 (30.9)	569 (22.6)

**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.