

San Diego EMS Cardiac Arrest Review July 2022

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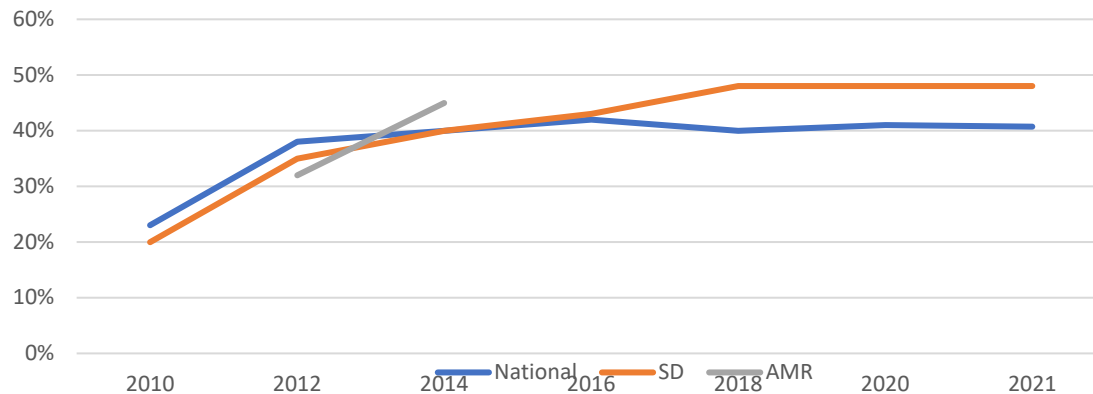
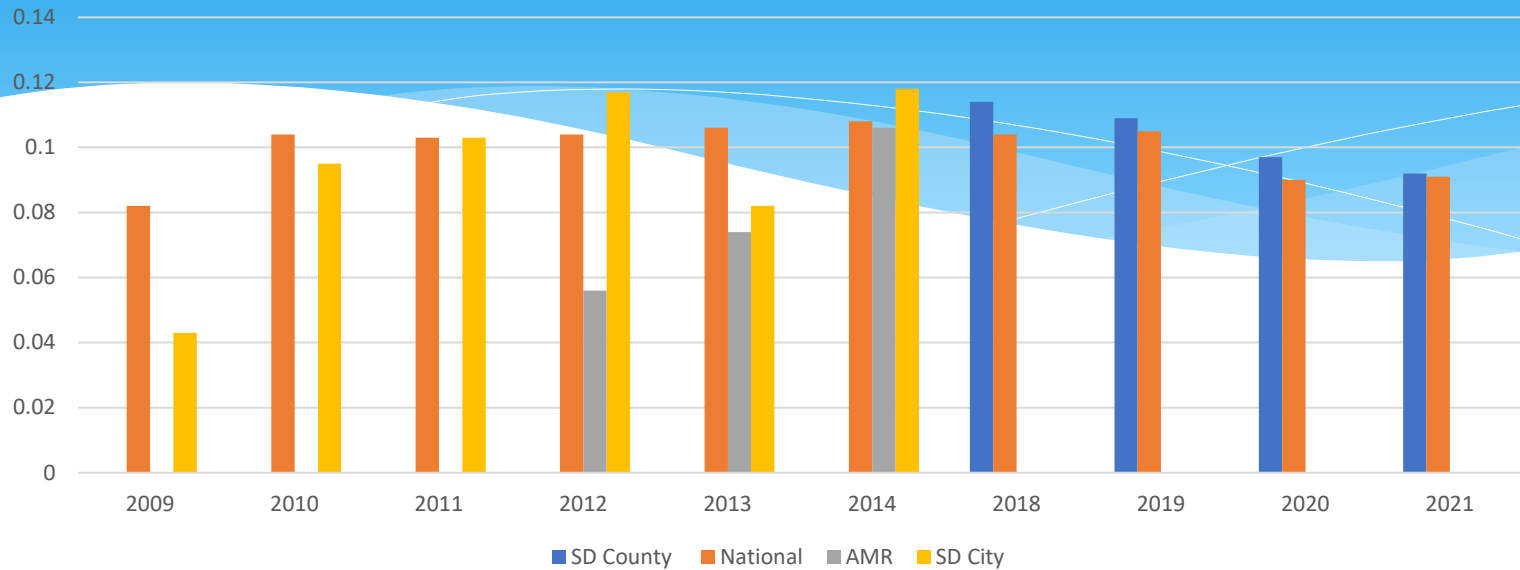
How many lives do we save? How many lives can we save?

- * SD Cardiac Origin Arrest 2021: 2219
- * SD Overall Survival Rate 2021: 9.2%
- * SD Lives Saved 2021: 204
- * Potential SD lives to be saved: 204 more

Seattle/King County Survival rate :

- * 2015 =20%

Overall Survival to Hospital D/C



Which is Better ?

Dispatch Directed vs By Stander CPR

Arizona Study

- * 43 % of CPR was dispatch directed
- * Survival of Dispatch directed vs true by stander CPR were essentially equal

King County Study

- * Similar 45% Of CPR was dispatched directed
- * Survival rate a little higher in dispatch directed but CI overlapped

Conclusion: coaching element of dispatch directed perhaps evens out the survival rate that is best when true bystander cpr is done (quickly etc.)

CARES Summary Report

Demographic and Survival Characteristics of OHCA

Non-Traumatic Etiology | Arrest Witness Status: All | Date of Arrest: 01/01/21-12/31/21

Data	San Diego County EMS Agency N=2219	California N=28177	National N=146924
Age	N=2218	N=28176	N=146891
Mean	63.2	63.1	61.9
Median	65.0	65.0	64.0
Gender (%)	N=2219	N=28177	N=146918
Female	706 (31.8)	10002 (35.5)	55012 (37.4)
Male	1513 (68.2)	18166 (64.5)	91864 (62.5)
Race (%)	N=2219	N=28177	N=146922
American-Indian/Alaskan	5 (0.2)	100 (0.4)	525 (0.4)
Asian	139 (6.3)	1658 (5.9)	3645 (2.5)
Black/African-American	171 (7.7)	2813 (10.0)	31938 (21.7)
Hispanic/Latino	437 (19.7)	4890 (17.4)	12593 (8.6)
Native Hawaiian/Pacific Islander	10 (0.5)	213 (0.8)	802 (0.5)
White	1072 (48.3)	9248 (32.8)	73319 (49.9)
Multi-racial	7 (0.3)	96 (0.3)	500 (0.3)
Unknown	378 (17.0)	9159 (32.5)	23600 (16.1)

	San Diego County EMS Agency N=2219	California N=28177	National N=146924
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Location of Arrest (%)	N=2219	N=28177	N=146922
Home/Residence	1529 (68.9)	20773 (73.7)	108245 (73.7)
Nursing Home	259 (11.7)	2572 (9.1)	14754 (10.0)
Public Setting	431 (19.4)	4832 (17.1)	23923 (16.3)

Arrest witnessed (%)	N=2219	N=28177	N=146916
Bystander Witnessed	640 (28.8)	10676 (37.9)	55064 (37.5)
Witnessed by 911 Responder	222 (10.0)	3157 (11.2)	17845 (12.1)
Unwitnessed	1357 (61.2)	14344 (50.9)	74007 (50.4)

Who Initiated CPR? (%)	N=2219	N=28177	N=146920
Not Applicable	0 (0.0)	5 (0.0)	62 (0.0)
Bystander	1067 (48.1)	11454 (40.7)	59738 (40.7)
First Responder	749 (33.8)	9040 (32.1)	45464 (30.9)
Emergency Medical Services (EMS)	403 (18.2)	7678 (27.2)	41656 (28.4)

Was an AED applied prior to EMS arrival? (%)	N=2219	N=28177	N=146922
Yes	90 (4.1)	4103 (14.6)	40753 (27.7)
No	2129 (95.9)	24074 (85.4)	106169 (72.3)

Who first applied automated external defibrillator? (%)	N=90	N=4103	N=40728
Bystander	55 (61.1)	759 (18.5)	8422 (20.7)
First Responder	35 (38.9)	3344 (81.5)	32306 (79.3)

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Not Applicable	0 (0.0)	5 (0.0)	62 (0.0)
Bystander	1067 (48.1)	Seattle/KK 70% 11454 (40.7)	59738 (40.7)
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Data	San Diego County EMS Agency N=2219	California N=28177	National N=146924
First Arrest Rhythm (%)	N=2219	N=28177	N=146895
Vfib/Vtach/Unknown Shockable Rhythm	346 (15.6)	4212 (14.9)	24083 (16.4)
Asystole	1330 (59.9)	16618 (59.0)	77581 (52.8)
Idioventricular/PEA	502 (22.6)	6237 (22.1)	32544 (22.2)
Unknown Unshockable Rhythm	41 (1.8)	1110 (3.9)	12687 (8.6)
Sustained ROSC (%)	N=2219	N=28177	N=146864
Yes	622 (28.0)	6233 (22.1)	39820 (27.1)
No	1597 (72.0)	21944 (77.9)	107044 (72.9)
Was hypothermia care provided in the field? (%)	N=2219	N=28170	N=146914
Yes	1 (0.0)	164 (0.6)	4127 (2.8)
No	2218 (100.0)	28006 (99.4)	142787 (97.2)
Pre-hospital Outcome (%)	N=2219	N=28177	N=146924
Pronounced in the Field	998 (45.0)	14696 (52.2)	62260 (42.4)
Pronounced in ED	87 (3.9)	1678 (6.0)	14711 (10.0)
Ongoing Resuscitation in ED	1134 (51.1)	11803 (41.9)	69953 (47.6)
Overall Survival (%)	N=2219	N=28177	N=146924
Overall Survival to Hospital Admission	553 (24.9)	6078 (21.6)	36294 (24.7)
Overall Survival to Hospital Discharge	205 (9.2)	2180 (7.7)	13403 (9.1)
With Good or Moderate Cerebral Performance	173 (7.8)	1665 (5.9)	10532 (7.2)
Missing hospital outcome	2	78	305
Utstein¹ Survival (%)	N=179	N=2460	N=14251
	31.8%	28.1%	29.0%
Utstein Bystander² Survival (%)	N=122	N=1430	N=8370
	32.8%	31.8%	32.5%

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

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

¹Witnessed by bystander and found in a shockable rhythm

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

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	31.8%	56%	28.1%	29.0%
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2021 San Diego County

	Aggregate	Highest	Lowest
Overall Survival Rate	9.2%	15.3%	4.5%
Age	63.2	69.5	66.9
By Stander CPR (vs Dispatch init.)	48%	51.2%	41.7%
Home/Nursing Home/ Public	69/12/19	64/12/23	82/5/13
Shockable Rhythm	15.6%	29.2%	21.2%
AED By Stander	4.9%	7.1%	0.8%

Next Steps

- * Bystander CPR: Dispatch Directed or Real
- * Increase community CPR (1,000,000):
 - * *Seattle/KK 80% of population trained in CPR (requirement to graduate:20 plus years) .*
 - * HUGE events
 - * Social Media
 - * Public Service Announcements
 - * Advertise/spread Pulse Point
 - * Legislative: Schools enforce/driver's license/other?
- * Increase AED availability
- * Re-Focus on Quality CPR
 - * Rate/Time on Chest/Recoil/Depth/Ventilation
 - * ? Autopulse/Lucas delays