22 **Author(s)**: Andrew Travers, Ian Drennan
Question: Implementation of a public access defibrillation program compared to traditional EMS response for improving outcome from adults and children who are in cardiac arrest outside of a hospital

Quality assessment							№ of patients		Effect		Quality	Importance
№ of studies	**Study design**	**Risk of bias**	**Inconsistency**	**Indirectness**	**Imprecision**	**Other considerations**	**implementation of a public access defibrillation program**	**traditional EMS response**	**Relative (95% CI)**	**Absolute (95% CI)**		
Survival 1 Year Favourable Neurological Outcome												
1	observational studies	very serious [1]	not serious	not serious	not serious	all plausible residual confounding would reduce the demonstrated effect	Cappato 2006 553 **21/702 (3.0%)**	6/692 (0.9%)	OR 3.52 (1.41 to 8.79)	2.1% (0.68 to 3.73%)	⨁◯◯◯ VERY LOW	CRITICAL
Survival 30d Favourable Neurological Outcome												
3	observational studies	not serious	serious [2]	serious [3]	not serious	all plausible residual confounding would reduce the demonstrated effect	Kitamura 2010 994 **146/462 (31.6%)** Kitamura 2012 2834 **533/1699 (31.4%)** Mitani 2013 1259 **16/29 (55.0%)**	1669/12,169 (13.7%) 5112/167,661 (3.0%) 37/99 (37.0%)	OR 2.91 (2.37 to 3.56) OR 14.53 (13.07 to 16.16) OR 2.06 (0.89 to 4.76)	17.89% (13.77 to 22.30%) 28.32% (26.16 to 30.57%) 17.80% (-2.38 to 36.47%)	⨁◯◯◯ VERY LOW	CRITICAL
Survival 30d												
3	observational studies	not serious	not serious	serious [3]	not serious	all plausible residual confounding would reduce the demonstrated effect	Iwami 2012 2844 **235/506 (46.4%)** Kitamura 2010 994 **172/462 (37.2%)** Mitani 2013 1259 **19/29 (65.5%)**	347/870 (39.9%) 2839/12,169 (23.3%) 48/99 (48.5%)	OR 1.31 (1.04 to 1.63) OR 1.94 (1.60 to 2.36) OR 2.01 (0.85 to 4.77)	6.56% (1.14 to 11.96%) 13.90% (9.55 to 18.46%) 17% (-3.57 to 34.46%)	⨁⨁◯◯ LOW	CRITICAL
Survival DC Favourable Neurological Outcome												
1	randomised trials	serious [4]	not serious	not serious	not serious	none	Hallstrom 2004 637 **22/128 (17.2%)**	10/107 (9.3%)	OR 2.01 (0.91 to 4.47)	7.84% (-1.10 to 16.40%)	⨁⨁⨁◯ MODERATE	CRITICAL

Quality assessment							№ of patients		Effect		Quality	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	implementation of a public access defibrillation program	traditional EMS response	Relative (95% CI)	Absolute (95% CI)		
Survival DC Favourable Neurological Outcome												
4	observational studies	serious [5]	serious [2]	not serious	serious [2]	all plausible residual confounding would reduce the demonstrated effect	Berdowski 2011 2225 **63/128 (50.0%)** Cappato 2006 553 **29/702 (4.1%)** Capucci 2002 1065 **12/143 (8.4%)** Kuisma 2003 149 0/7 (0%)	401/2705 (14.8%) 10/692 (1.4%) 5/211 (2.4%) **4/13 (30.7%)**	OR 5.57 (3.87 to 8.00) OR 2.93 (1.42 to 6.08) OR 3.77 (1.30 to 10.96) not estimable	34.39% (25.77 to 43.05%) 2.69% (1.0 to 4.55%) 6.02% (1.36 to 11.88%) not estimable	⨁◯◯◯ VERY LOW	CRITICAL
Survival DC												
1	randomised trials	serious [4]	not serious	not serious	not serious	none	Hallstrom 2004 637 **30/128 (23.5%)**	15/107 (14.0%)	OR 1.67 (0.94 to 3.71)	9.42% (-0.76 to 19.07%)	⨁⨁⨁◯ MODERATE	CRITICAL

Quality assessment							№ of patients		Effect		Quality	Importance
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	implementation of a public access defibrillation program	traditional EMS response	Relative (95% CI)	Absolute (95% CI)		
Survival DC												
10	observational studies	serious [3]	not serious	serious [3]	serious [2]	all plausible residual confounding would reduce the demonstrated effect	Berdowski 2011 2225 **65/128 (51.0%)**	443/2705 (16.4%)	OR 5.26 (3.67 to 7.56)	34.40% (25.73 to 43.02%)	⨁◯◯◯ VERY LOW	CRITICAL
							Cappato 2006 553 **31/702 (4.4%)**	10/692 (1.4%)	OR 3.15 (1.53 to 6.48)	2.97% (1.21 to 4.87%)		
							Capucci 2002 1065 **15/143 (10.5%)**	7/211 (3.3%)	OR 3.41 (1.36 to 8.60)	7.17% (1.92 to 13.50%)		
							Culley 2004 1859 **25/50 (50%)**	523/3704 (14.1%)	OR 6.08 (3.46 to 10.67)	35.88% (22.47 to 49.28)		
							Fleischhackl 2008 195 **17/62 (27.0%)**	27/623 (4.3%)	OR 8.34 (4.23 to 16.43)	23.09% (13.36 to 35.22%)		
							Kuisma 2003 149 0/7 (0%)	**4/13 (30.7%)**	Not estimable	Not estimable		
							Rea 2010 163 **70/157 (44.6%)**	1307/10,175 (12.8%)	OR 5.46 (3.96 to 7.52)	31.74% (24.16 to 39.58%)		
							Swor 2013 426 **4/11 (36.3%)**	2/8 (25.0%)	OR 1.71 (0.22 to 12.89)	11.36% (-28.76 to 44.79%)		
							Weisfeldt 2010 1713 **69/289 (24.0%)**	838/13,480 (6.2%)	OR 4.73 (3.57 to 6.26)	17.66% (13.09 to 22.91%)		
							Weisfeldt 2011 313 **62/228 (27.2%)**	884/12702 (7.0%)	OR 4.99 (3.70 to 6.73)	20.23% (14.85 to 26.37%)		

MD – mean difference, RR – relative risk

1. Before and after trial design; no control for confounders
2. Large variation in event rates in control arms
3. Large variation in study population (type of arrests; pediatric vs. adult) and variation in type of bystander CPR
4. RCT limitations: concealment of allocation unclear, non-blinded
5. See Individual bias assessments for included studies; Lack of control for potential confounders