

# 2011-2015 Singapore Out-of-Hospital Cardiac Arrest Registry Report

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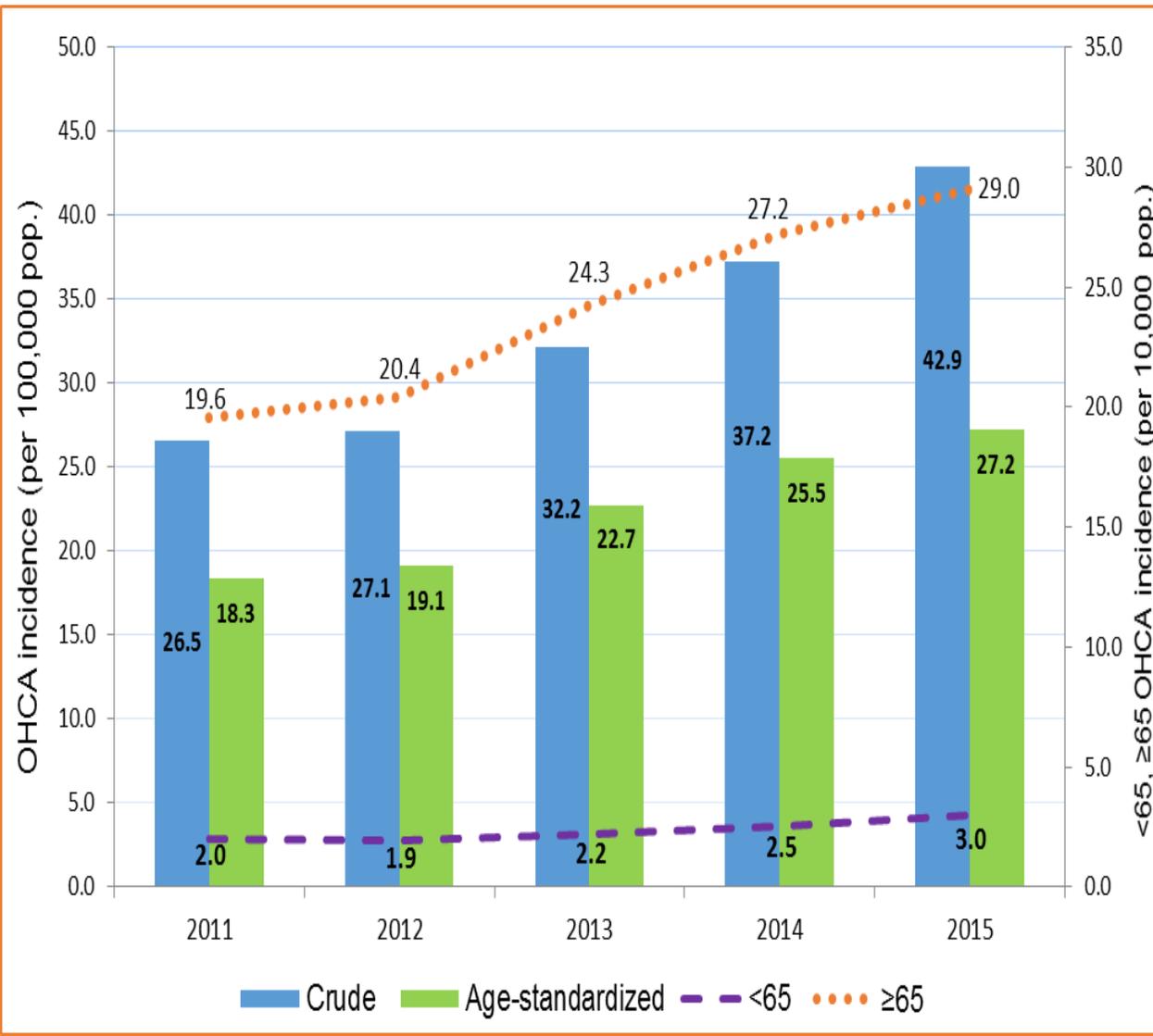
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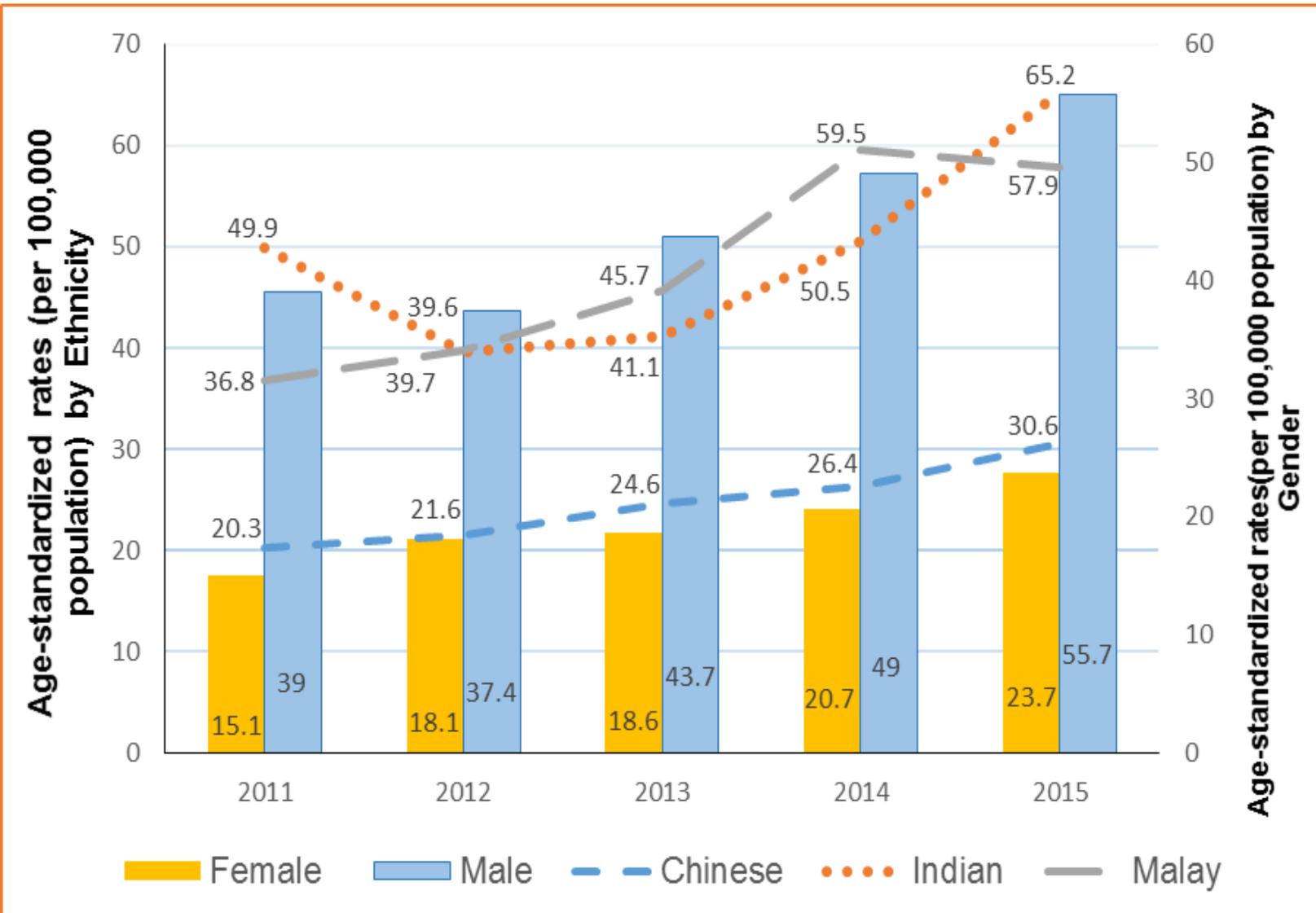


# Overall Incidence



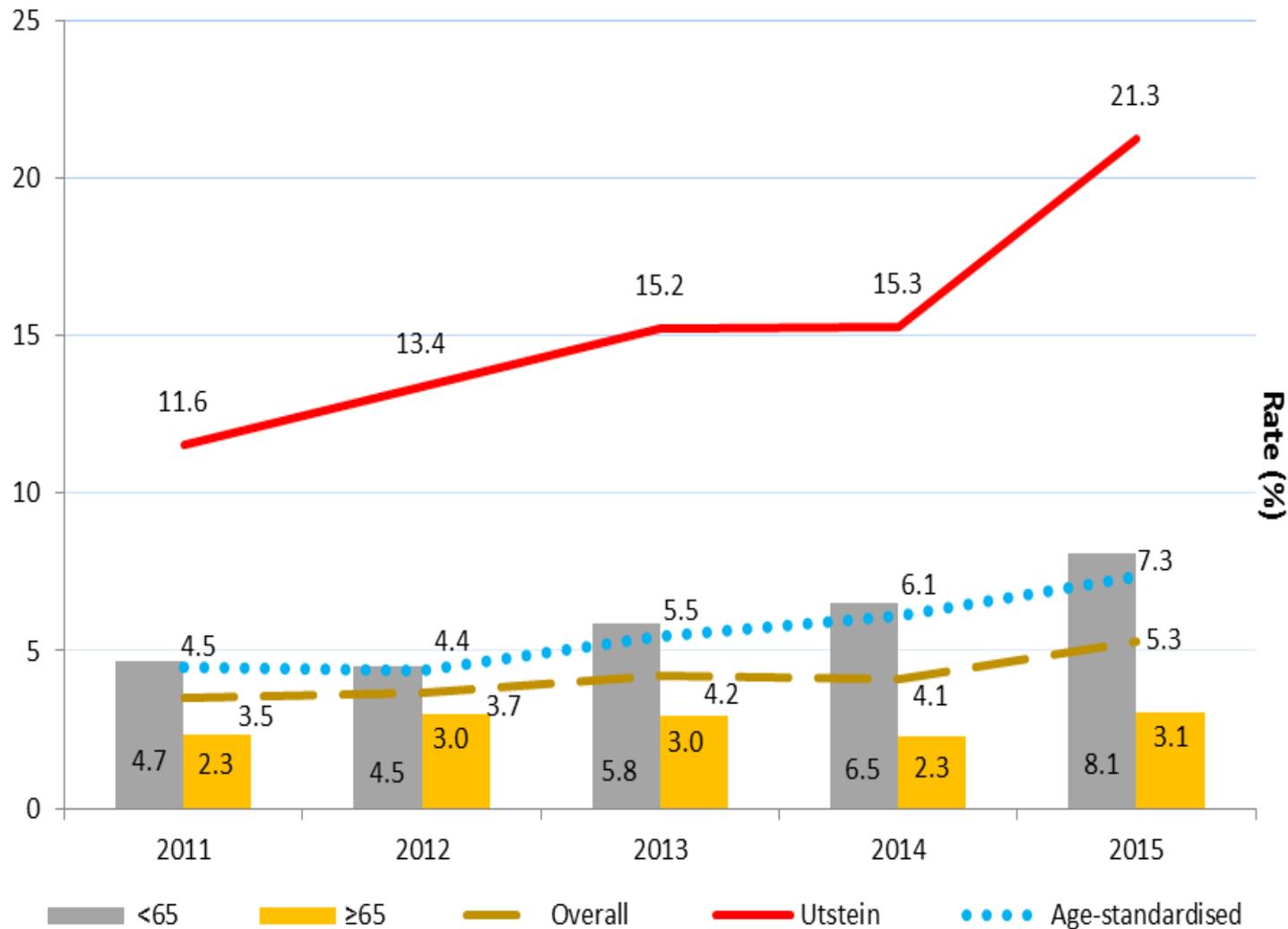
- Elderly(>65) with OHCA increasing, relative those less than <65
- Crude incidence rates are high due to aging population.
- Age-standardised population incidences are relatively lower

# Incidence rates by ethnicity and gender



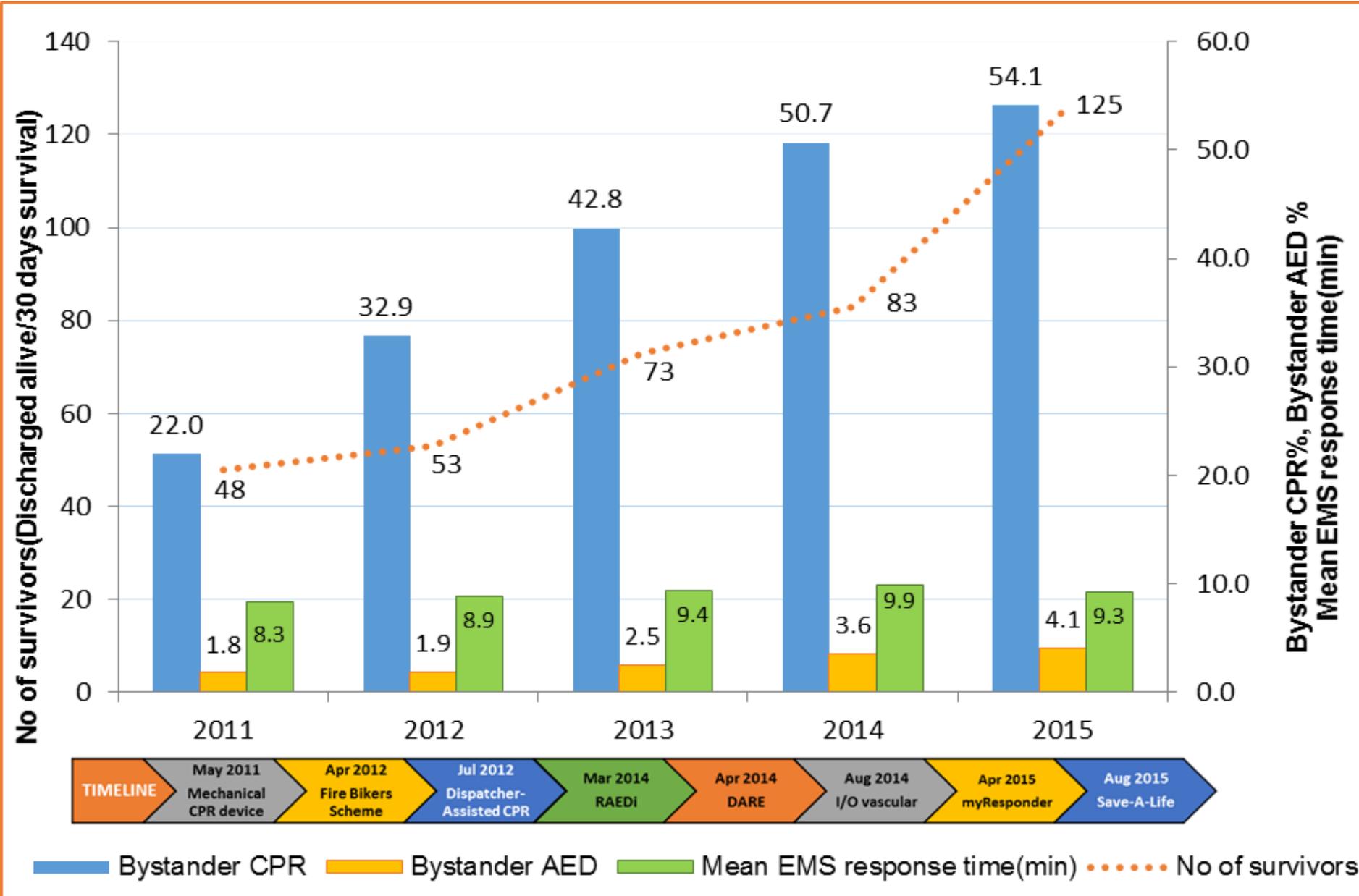
- 2/3 male, 1/3 female
- Highest amongst Indian, followed by Malay and then Chinese

# Survival Rates: Overall, Utstein, <65 and >65



- **Witnessed cardiac arrest survival rates** have **doubled** from 11.6 to 21.3%
- **Overall survival rates** have gone up from 3.5 to 5.3%
- Younger patients (<65) are 2.6 times more likely to survive than older patients (>65)

# Timeline of Interventions



- Total survivors increased from 48 to 125.
- Bystander CPR rates increase from 22% to 54%
- AED use 1.8% to 4.1%
- EMS response time gradually increasing 8.3mins → 9.3mins

# OHCA Characteristics and Outcomes

	2011 n=1376	2012 n=1440	2013 n=1736	2014 n=2037	2015 n=2374
Age, Mean (Median)	63.5 (65)	64.1 (66)	65.9 (65.9)	65.9 (68)	65.6 (67)
Gender (%)					
Female	442 (32.1)	528 (36.7)	605 (34.9)	721 (35.4)	826 (34.8)
Male	934 (67.9)	912 (63.3)	1131 (65.2)	1316 (64.6)	1548 (65.2)
Location Type (%)					
Home Residence	985 (71.6)	988 (68.6)	1245 (71.7)	1481 (72.7)	1656 (69.8)
Nursing Home	54 (3.9)	54 (3.8)	58 (3.3)	72 (3.5)	83 (3.5)
Public setting	337 (24.4)	398 (27.8)	433 (25)	484 (23.8)	635 (26.8)
Bystander Intervention (%)					
Bystander CPR	302 (22)	473 (32.9)	743 (42.8)	1032 (50.7)	1284 (54.1)
Bystander AED	25 (1.8)	27 (1.9)	43 (2.5)	73 (3.6)	97 (4.1)
Arrest witnessed by (%)					
Bystander - Family	480 (34.9)	414 (28.8)	526 (30.3)	729 (35.8)	809 (34.1)
Bystander - Healthcare professional	65 (4.7)	69 (4.8)	70 (4)	79 (3.9)	113 (4.8)
Bystander - Lay Person	229 (16.6)	232 (16.1)	284 (16.4)	275 (13.5)	350 (14.7)
EMS/Private ambulance	112 (8.1)	122 (8.5)	139 (8)	154 (7.6)	217 (9.1)
Not witnessed	490 (35.6)	603 (41.9)	717 (41.3)	800 (39.3)	885 (37.3)
Initial rhythm (%)					
Shockable rhythm	251 (18.4)	280 (19.7)	304 (17.8)	347 (17.4)	378 (16.3)
Non-shockable rhythm	1113 (81.6)	1144 (80.3)	1405 (82.2)	1651 (82.6)	1943 (83.7)
Outcomes (%)					
ROSC at scene	63 (4.6)	86 (6)	113 (6.5)	148 (7.3)	208 (8.8)
ROSC at ED	52 (3.8)	63 (4.4)	90 (5.2)	103 (5.1)	156 (6.6)
Survival to admission	251 (18.2)	249 (17.3)	303 (17.5)	358 (17.6)	453 (19.1)
Survival to discharge	48 (3.5)	53 (3.7)	73 (4.2)	83 (4.1)	125 (5.3)
Good-to-moderate neurological function(Overall)	25 (1.82)	33 (2.29)	36 (2.07)	63 (3.09)	77 (3.24)
Good-to-moderate neurological function(Survived-to-discharge)	25 (52.1)	33 (63.5)	36 (49.3)	63 (75.9)	77 (62.1)
Utstein survival	20 (11.6)	23 (13.4)	32 (15.2)	35 (15.3)	51 (21.3)

# Key Findings

- 70% occur in residential areas
- 1/3 are unwitnessed
- 1/3 are resuscitated by family members
- Only 16% are shockable initially
- 2/3 of survival have good recovery