

Table S1 Comparison of Irish and Swedish OHCA resuscitation registries

	Ireland	Sweden
Managing Organisation	OHCAR is based in the HSE North West Department of Public Health and is carried out in collaboration with the National Ambulance Service, National University Institute Galway and the Pre-Hospital Emergency Care Council (PHECC). The OHCAR Steering Group is responsible for directing the project and includes representatives from each organisation.	The OHCA register is based in Gothenburg, the West Coast in Sweden and collaborates with the Emergency Ambulance Services (EMS) in all 21 counties. The OHCA Steering Group members are from several counties in Sweden but there is a working group situated in Gothenburg.
Funding	OHCAR is funded by the National Ambulance Service and the Pre-Hospital Emergency Care Council	The register is funded by The Swedish Association of Local Authorities and Regions
Patient and Event Variables	In Ireland, statutory Emergency Medical Services use a standardised Patient Care Report (PCR) which contains a section dedicated to data collection for OHCAR. Specially designed OHCA envelopes have also been provided to each ambulance station. In the event of OHCA, practitioners place completed PCRs in OHCA envelopes. On a monthly or fortnightly basis, envelopes are collected together with all PCRs from each station. All PCRs are scanned and stored digitally and cases in OHCA envelopes are given priority in the scanning process to facilitate OHCAR. OHCAR variables are manually entered onto an electronic database. This database is then forwarded to OHCAR together with a scanned copy of each PCR for case-by-case validation.	There is a standard web template which will be documented in connection to a treated OHCA. The EMS crew is responsible for filling in the web template. All data is collected in a database.
Time variables	Dispatch data (i.e. time variables) is collected directly from the ambulance dispatch centre by registry staff	The time variables are available from the dispatch center and from the EMS medical journal.
Outcome data	Outcome data is requested by registry staff from receiving hospitals	Outcome data is available from medical journals from EMS and in-hospital and also from Statistics Sweden.
How are missing cases identified?	Cases that are not placed in OHCA envelopes are not processed through the OHCAR data collection system and must be identified separately. Missing case identification is performed on a monthly basis and repeated on an annual basis to capture delayed reports. First, a search of the digital scanning archive is performed based on the 'Chief Complaint' field in the PCR using the word 'arrest'. Reported cases are excluded from the results and then the digital scan of the PCR associated with each call found is viewed. Missed OHCAR cases are identified and captured during the viewing process. Next, emergency control data is filtered to identify all calls with an AMPDS© designation of 'ECHO' at the time of resource deployment. A further seventeen 'DELTA' codes that may signify arrest occurred are included in the filter. Reported calls are then excluded from the filtered list. PCRs on the filtered list are then viewed and remaining unreported OHCAR cases are identified.	The EMS crew makes regular retrospective observations with the aim of searching undocumented OHCA. The searching procedure is performed by a digital searching programme, and manually searching if medical journals have been documented in papers. Missed OHCA cases are identified and imported to the database. Missed OHCA cases are labelled in order to identify them as retrospective data.

Table S1 Comparison of Irish and Swedish OHCA resuscitation registries (continued)

	Sweden	Ireland
How is data quality assured in the registry?	Data is received by OHCAR in an electronic database together with a scanned copy of each PCR. Each electronic entry is checked by OHCAR staff against the data in the PCR to ensure accuracy of manual data entry. Checked data is then forwarded to the OHCAR manager who performs a random check of cases before finally adding data to the master OHCAR database. For cases that are identified through the missing case identification process, data is extracted from the scanned PCR by OHCAR staff and manually entered onto an electronic database by OHCAR staff. The 'missing' database is then forwarded to the OHCAR manager, who validates each entry using the corresponding scanned PCR. Once validation of the missing cases is complete, they are added to the master OHCAR database.	Registry data is compared to documented data in medical journals using variables such as incidence, place OHCA occurred, treatment and survival.

Table S2 Missing data items

Variable Information	Variable Type*	Ireland Missing Data n(%)	Sweden Missing Data n(%)
Was OHCA identified by ambulance control at time of dispatch	Original**	270 (4.6)	15303 (100.0)
Was dispatch assisted CPR offered	Original**	5886 (100.0)	8386 (54.8)
Age	Original	171 (2.9)	484 (3.2)
Gender	Original	6 (0.1)	3 (0.0)
Who witnessed collapse	Original	209 (3.6)	757 (4.9)
OHCA location	Original	40 (0.7)	322 (2.1)
Home or not home location of collapse	Recode	40 (0.7)	322 (2.1)
CPR before ambulance arrival	Original	197 (3.3)	803 (5.2)
Who started CPR	Derived	197 (3.3)	842 (5.5)
Defibrillation before ambulance arrival	Recode	172 (2.9)	2973 (19.4)
First monitored rhythm	Original	234 (4.0)	1555 (10.2)
First monitored rhythm shockable or nonshockable	Recode	234 (4.0)	1555 (2.5)
Presumed aetiology	Original	0 (0.0)	0 (0.0)
Medical or non medical aetiology	Recode	0 (0.0)	0 (0.0)
Call-Response interval***	Original	810 (15.2)	1030 (8.4)
Call to defibrillation interval****	Original**	811 (39.1)	801 (15.0)
Epinephrine administered	Original	54 (0.9)	314 (2.1)
Airway control type	Original**	505 (8.6)	9868 (64.5)
Mechanical CPR	Original	343 (5.8)	1938 (12.7)
Transported to hospital	Original	1 (0.0)	118 (0.6)
Any ROSC	Original	192 (3.3)	892 (5.8)
ROSC or alive on arrival at hospital	Derived	275 (4.7)	240 (1.6)
Discharged alive or alive at 30 days	Derived	64 (1.1)	289 (1.9)
CPC at discharge from hospital*****	Original**	80 (22.9)	795 (47.2)

*Original (taken directly from national register), Derived (variables or variable lists from national register combined to create single study variable or similar options for both registries), Recode (number of variables options reduced to facilitate analysis)

**Variable excluded from study due to excess missing data in either or both countries

***Not EMS-witnessed cases (Ireland n=5,342; Sweden n=12,335)

****For cases where defib attempted (Ireland n=2,072 ; Sweden n=5,327)

*****For cases where survival to discharge or 30 days confirmed (Ireland = 350; Sweden = 1,686)

Table S3 Logistic regression analysis for the outcome survival in the Utstein subgroup using original data (adult, bystander-witnessed, initial rhythm, shockable, presumed medical aetiology)

Survival	
	Adjusted Odds Ratio (95% CI)
Sweden	3.60 (1.95 -6.68)
Age (in years)	0.96 (0.96-0.97)
Male	1.79 (1.00-3.23)
Not at home	2.41 (1.96-2.97)
CPR before ambulance arrival	1.40 (1.06-1.84)
Defibrillation attempted before ambulance arrival	1.40 (1.78-2.86)
Call Response Interval 5 minutes or less	2.25 (1.78-2.86)
<i>Model Fit</i>	
Nagelkerke R ² adjusted	0.17
Hosmer and Lemeshow Test not significant for any imputations	