

EuReCa





Rimini
IRC 2021
CONGRESSO
NAZIONALE
16-17-18 DICEMBRE
NUOVE LINEE GUIDA 2021:
RISPOSTE CARDIOLOGICHE
POST-LOCKDOWN

Conflict of Interest



**EUROPEAN
RESUSCITATION
COUNCIL**



EUReCA
TWO European Registry
of Cardiac arrest



ILCOR Chair Social Media Working Group & BLS Task Force Member
Chair-Elect European Resuscitation Council
Kids Save Lives Leader European Resuscitation Council
EuReCa National Coordinator Italy
Star Wars & Star Trek addicted



Italian
Resuscitation
Council



If you can not measure it, you
can not improve it.

~ Lord Kelvin



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EPIDEMIOLOGIA 2021

5 MESSAGGI PRINCIPALI



1. REGISTRI

- I sistemi sanitari dovrebbero avere dei registri di popolazione per monitorare l'incidenza, il case-mix, il trattamento e gli esiti dell'arresto cardiaco
- I registri dovrebbero aderire alle raccomandazioni Utstein

2. ARRESTO CARDIACO EXTRA OSPEDALIERO (OHCA)

- I dati dei registri dovrebbero fornire informazioni al sistema sanitario al fine di pianificare ed organizzare la risposta all'arresto cardiaco
- Tutti i paesi Europei sono incoraggiati a partecipare al Registro Europeo dell'Arresto Cardiaco (EuReCa)

3. ARRESTO CARDIACO INTRAOSPEDALIERO (IHCA)

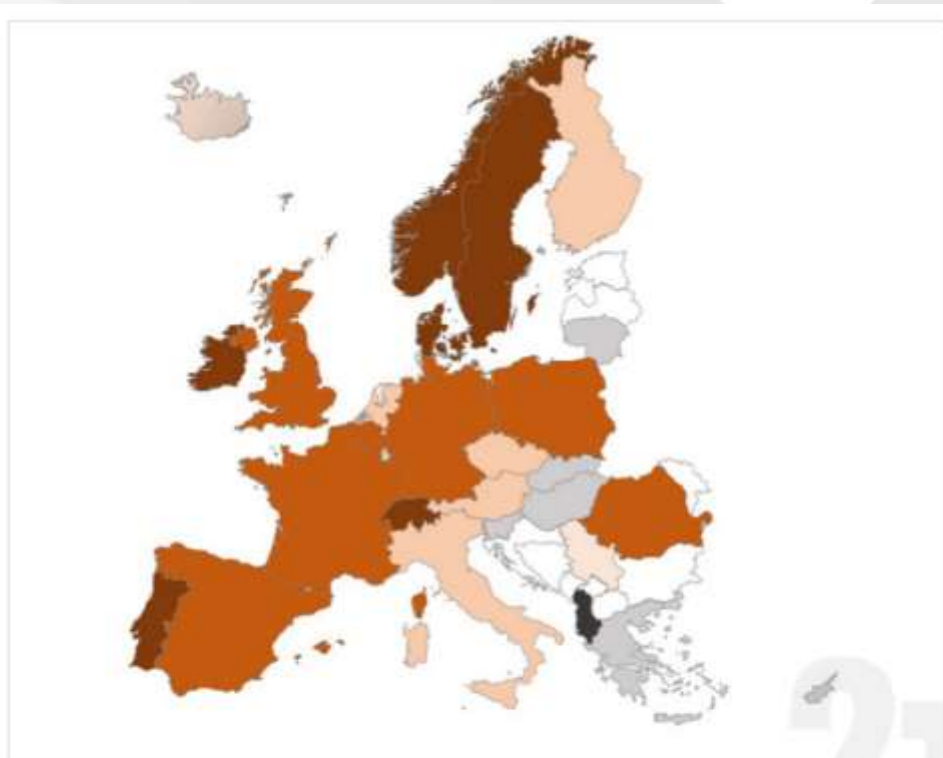
- I dati dei registri dovrebbero fornire informazioni al sistema sanitario al fine di pianificare ed organizzare la risposta all'arresto cardiaco

4. ESITI A LUNGO TERMINE

- I medici dovrebbero vigilare sulle conseguenze a lungo termine dell'arresto cardiaco e richiedere un supporto specialistico se necessario

5. RIABILITAZIONE POST ARRESTO CARDIACO

- C'è bisogno di più ricerca e di maggiore disponibilità di servizi di riabilitazione post rianimazione



◆ **Figura 2:** Registri nazionali in Europa. Il colore più scuro indica un registro nazionale con piena copertura del paese, il colore leggermente più chiaro indica un registro nazionale che copre parte del paese, l'arancione medio indica svariati registri locali, il grigio chiaro indica un singolo registro locale, il grigio indica l'assenza di registri locali ed il nero indica l'assenza di dati al riguardo. I paesi in bianco non hanno preso parte allo studio.



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EuReCaTWO is an international european project for collecting and analyzing resuscitation events from 1st October 2017 to 31st December 2017.

(Clinical Trials ID: NCT03130088)

All Registries throughout Europe, able to provide at least the **core data** demanded are invited to participate in this study.

EuReCa is an international project of the European Resuscitation Council (ERC).

EUROPEAN RESUSCITATION COUNCIL

Austrian Resuscitation Council	Bosnia-Herzegovina	Finland
Česká resuscitační rada Czech Resuscitation Council	Emergency Medical Services Copenhagen	Hungarian Resuscitation Council
German Resuscitation Registry	Greece	LUXEMBOURG RESUSCITATION COUNCIL
Endurlifgunarráð Icelandic Resuscitation Council <i>IceRC</i>	OHCAR OHCA of the United Kingdom	Italian Resuscitation Council
Malta	ARREST UT-PIA	Norsk hjerterestansregister
Portugal	CNR	RESUSCITACIONI SAVET SRBIJE
SloRS	OHSCAR	EuReZ-SK
OHCAO	SVENSKA HJÄRT LUNGRÄDDNINGSGRISTRET Swedish Register of Cardiopulmonary Resuscitation	SWISSRECA

Participating countries not having a registry or logo yet are represented by their country name.





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NATIONAL COORDINATOR OVERVIEW

National coordinators (in alphabetical order by country)

Austria	Michael Baubin
Belgium	Pierre Mols
Bosnia-Herzegovina	Hajriz Alhodžić
Croatia	Izabel Hadžibegović
Cyprus	Marios Ioannides
Czech Republic	Anatolij Truhlář
Denmark	Mads Wissenberg
Finland	Ani Salo
France	Josephine Escutnaire
Germany	Jan Whent
Greece	Nikolaos Nikolaou
Hungary	Géza Lóczy
Iceland	Hildigunnur Sveinisdóttir
Italy	Federico Semeraro
Ireland	Peter Wright
Luxembourg	Carlo Clarens
Malta	Christopher Gjordmaina
Netherlands	Steffie Beesems
Norway	Ingvild B. M. Tjelmeland
Poland	Grzegorz Cebula
Portugal	Vitor Hugo Gouveia Correia
Romania	Diana Cimpoiesu
Serbia	Violetta Raffay
Slovakia	Stefan Trenkler
Slovenia	Andrej Markota
Spain	Fernando Rossell Ortiz
Sweden	Anneli Strömberg
Switzerland	Roman Burkart
United Kingdom	Scott Booth



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Contents lists available at ScienceDirect

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Clinical paper

EuReCa ONE—27 Nations, ONE Europe, ONE Registry A prospective one month analysis of out-of-hospital cardiac arrest outcomes in 27 countries in Europe[☆]



Jan-Thorsten Gräsner^{a,b,c,*}, Rolf Lefering^c, Rudolph W. Koster^d, Siobhán Masterson^e, Bernd W. Böttiger^f, Johan Herlitz^g, Jan Wnent^{a,b}, Ingvild B.M. Tjelmeland^h, Fernando Rosell Ortizⁱ, Holger Maurer^j, Michael Baubin^k, Pierre Mols^l, Irzal Hadžibegović^m, Marios Ioannidesⁿ, Roman Škulec^o, Mads Wissenberg^p, Ari Salo^q, Hervé Hubert^r, Nikolaos I. Nikolaou^s, Gerda Lóczy^t, Hildigunnur Svavarsdóttir^u, Federico Semeraro^v, Peter J. Wright^w, Carlo Clarens^x, Ruud Pijls^y, Grzegorz Cebula^z, Vitor Gouveia Correia^{aa}, Diana Cimpoesu^{ab}, Violetta Raffay^{ac}, Stefan Trenkler^{ad}, Andrej Markota^{ae}, Anneli Strömsöe^{af}, Roman Burkart^{ag}, Gavin D. Perkins^{ah}, Leo L. Bossaert^{ai}, on behalf of EuReCa ONE Collaborators¹



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Survival after out-of-hospital cardiac arrest in Europe - Results of the EuReCa TWO study



Jan-Thorsten Gräsner^{a,b,f,t,*}, Jan Wnent^{a,b,c,t}, Johan Herlitz^d, Gavin D. Perkins^{e,f}, Rolf Lefering^g, Ingvild Tjelmeland^{h,a}, Rudolph W. Kosterⁱ, Siobhán Masterson^j, Fernando Rosell-Ortiz^k, Holger Maurer^l, Bernd W. Böttiger^{m,q}, Maximilian Moertlⁿ, Pierre Mols^o, Hajriz Alihodžić^p, Irzal Hadžibegović^q, Marios Ioannides^r, Anatolij Truhlář^{s,t}, Mads Wissenberg^u, Ari Salo^v, Josephine Escutnaire^w, Nikolaos Nikolaou^x, Eniko Nagy^y, Bergthor Steinn Jonsson^z, Peter Wright^{aa}, Federico Semeraro^{ab}, Carlo Clarens^c, Steffie Beesems^d, Grzegorz Cebula^e, Vitor H Correia^f, Diana Cimpoesu^g, Violetta Raffay^h, Stefan Trenklerⁱ, Andrej Markota^{j,k}, Anneli Strömsöe^{l,m,n}, Roman Burkart^o, Scott Booth^e, Leo Bossaert^{p,q}



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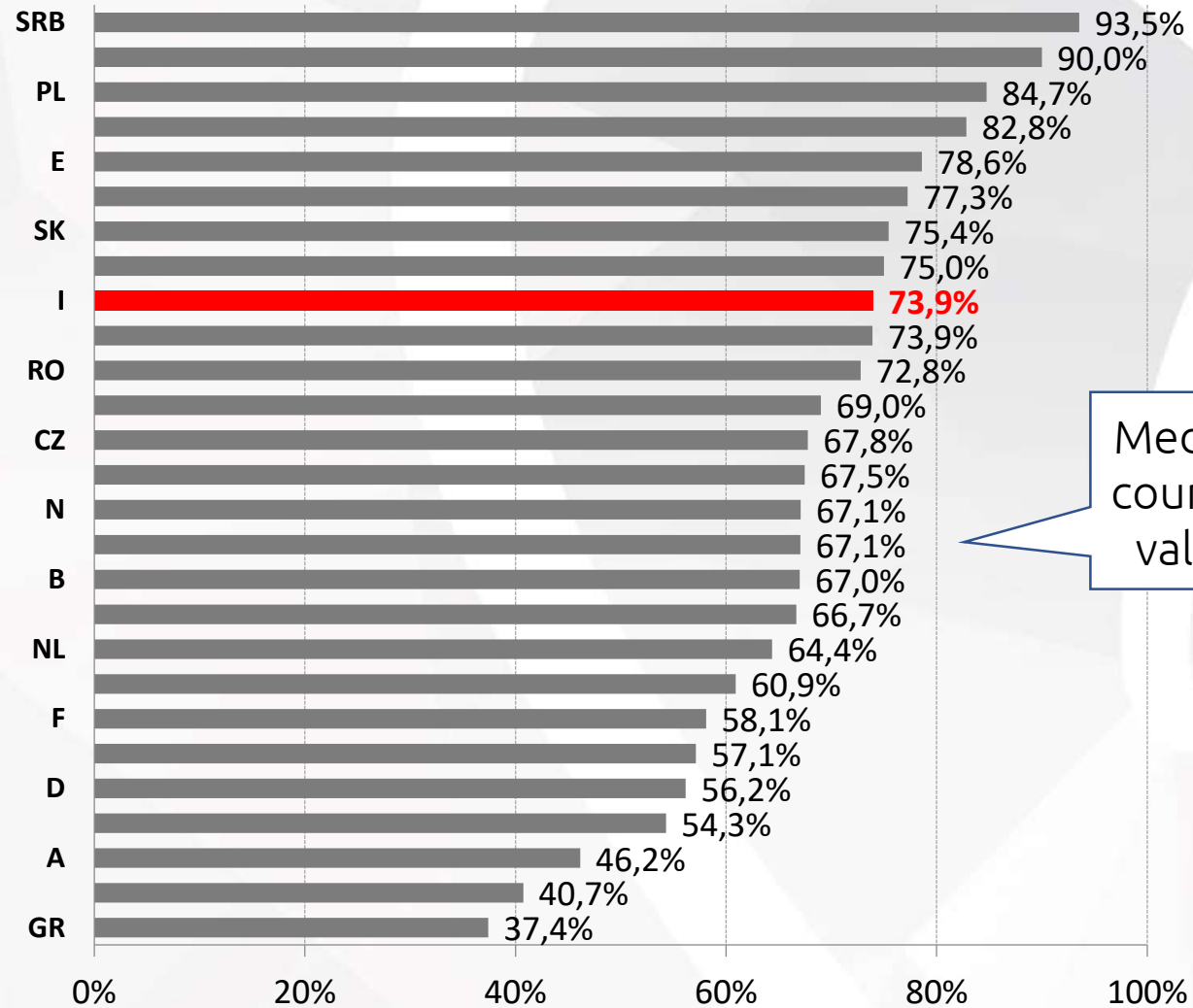


CPR Attempted

per 100.000
per year

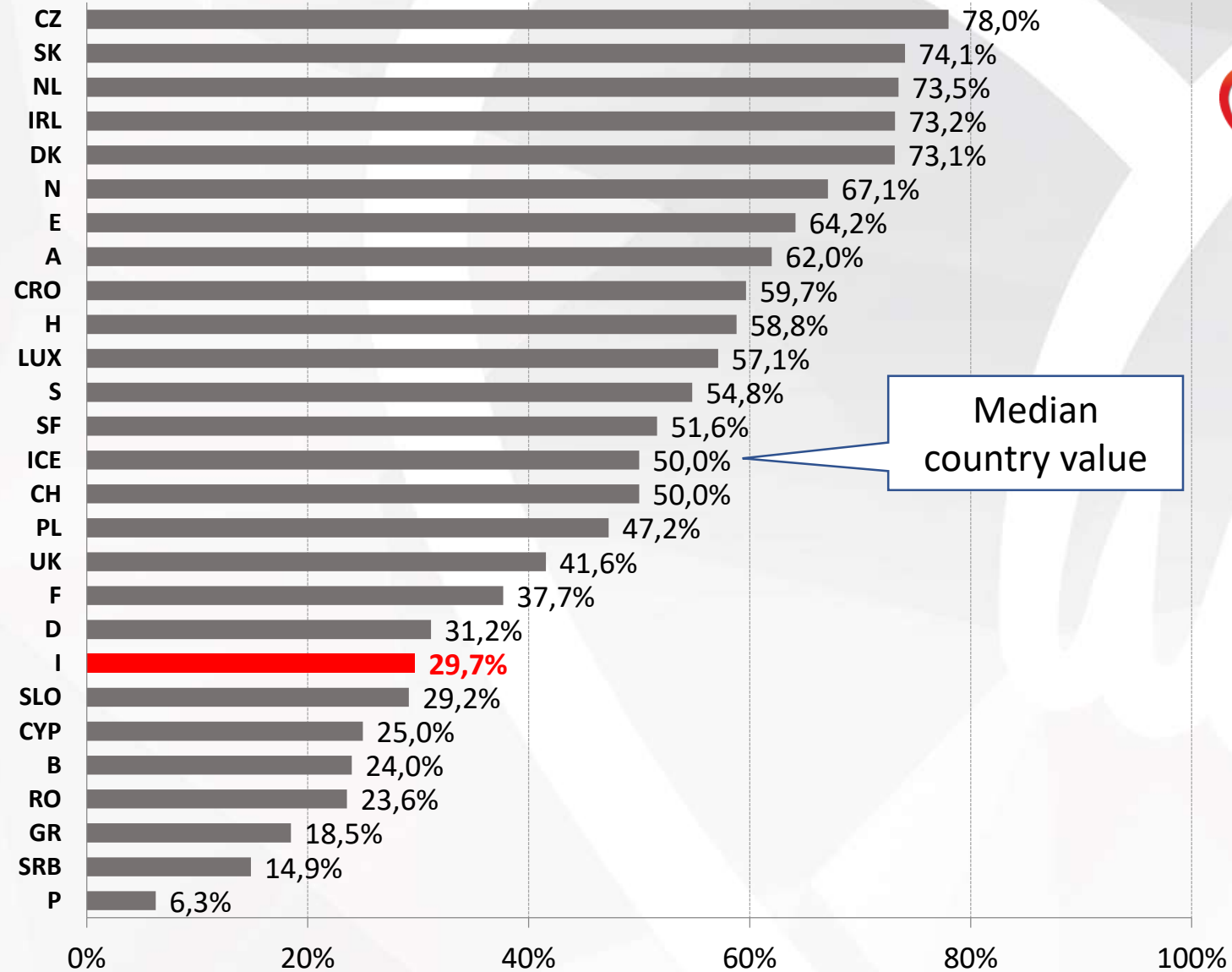
Country	N		CPR /100000
Czech Republic	379	CZ	104
Belgium	105	B	82
Hungary	85	H	79
Slovakia	343	SK	76
Portugal	16	P	73
Denmark	101	DK	70
UK	1536	UK	70
Poland	133	PL	70
Germany	738	D	66
Italy	428	I	64
Serbia	159	SRB	60
Finland	216	SF	58
Luxembourg	28	LUX	53
France	743	F	52
Norway	167	N	51
Romania	229	RO	51
Switzerland	14	CH	48
Sweden	301	S	48
The Netherlands	190	NL	47
Slovenia	25	SLO	45
Iceland	10	ICE	44
Austria	54	A	42
Croatia	66	CRO	42
Ireland	155	IRL	41
Greece	165	GR	32
Cyprus	4	CYP	24
Spain	756	E	19
Total	7146		

Collaps
witnessed
Overall: 66.1%

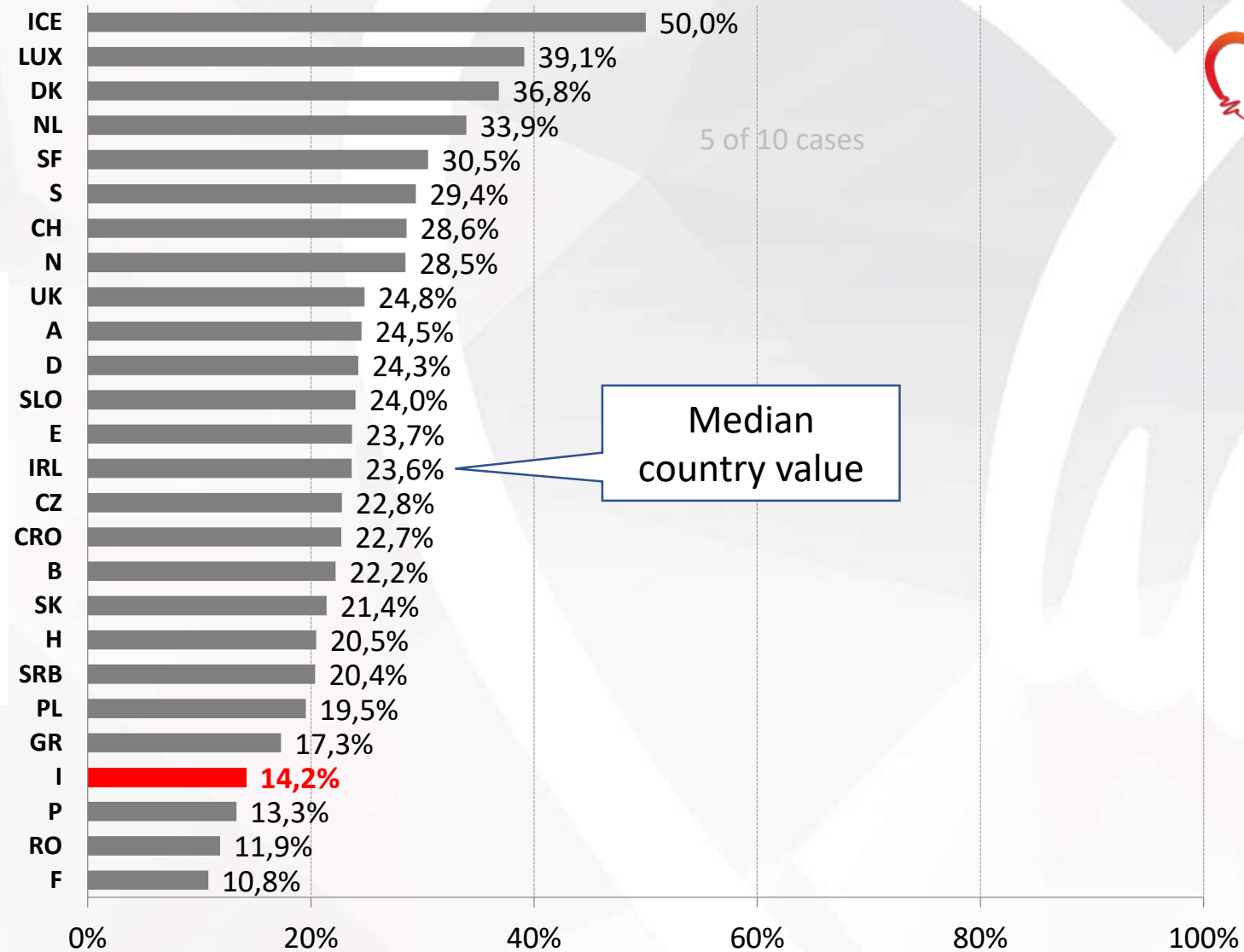


Median
country
value

Overall
rate:
47.4%

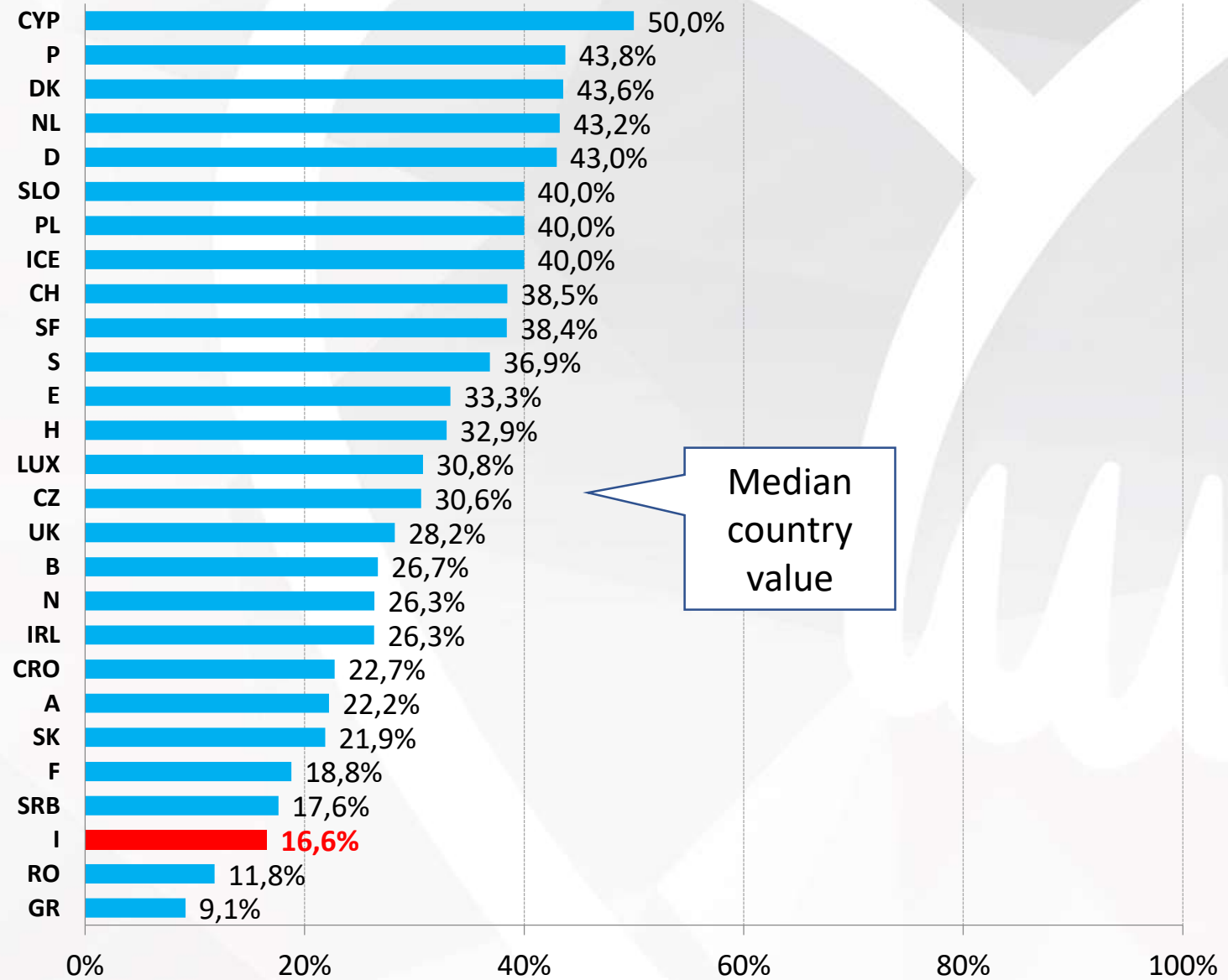


Initial
shockable
rhythm
Overall rate:
22.2%

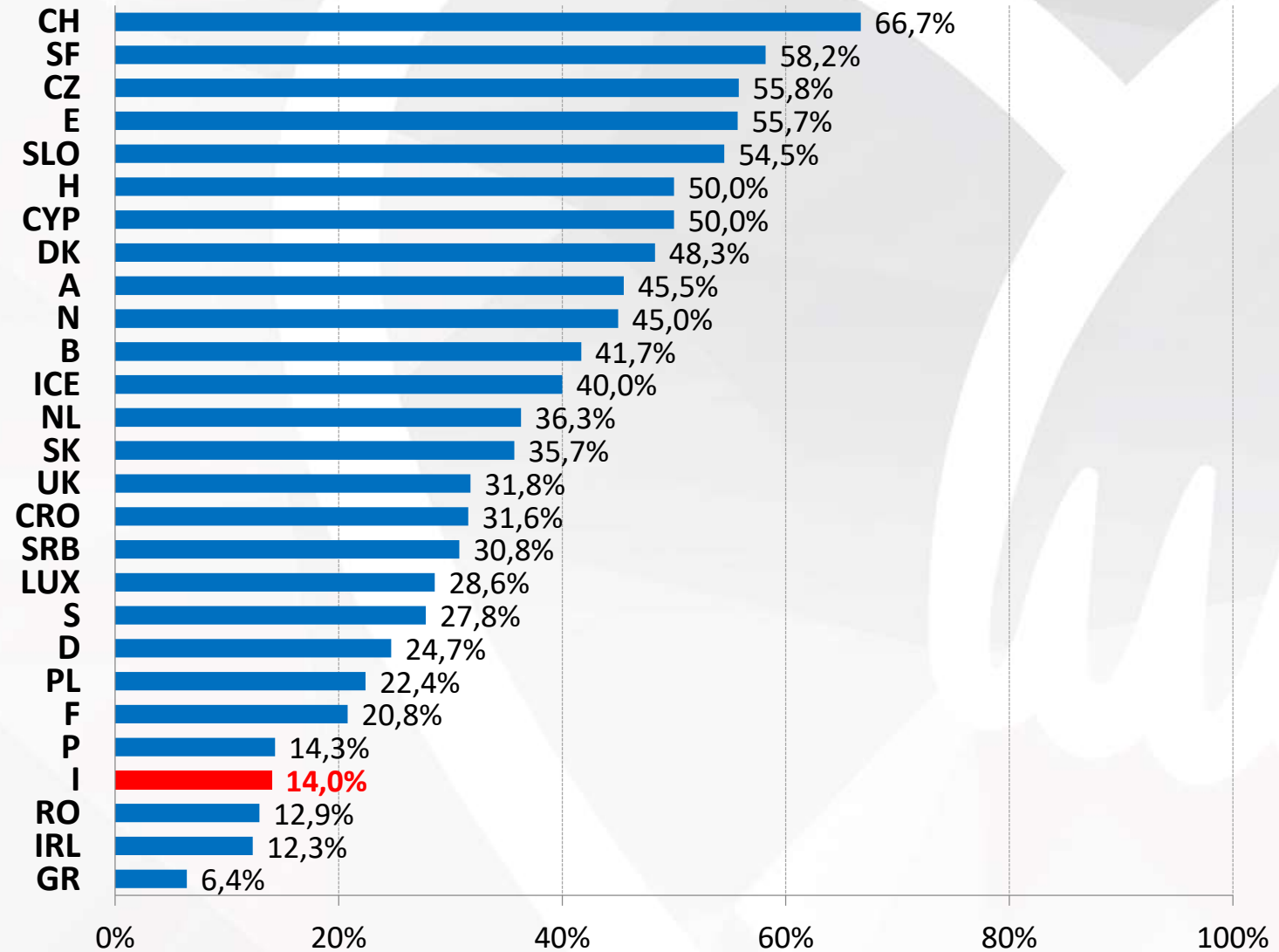


If ROSC data available:

Overall
ROSC Rate
28.6%

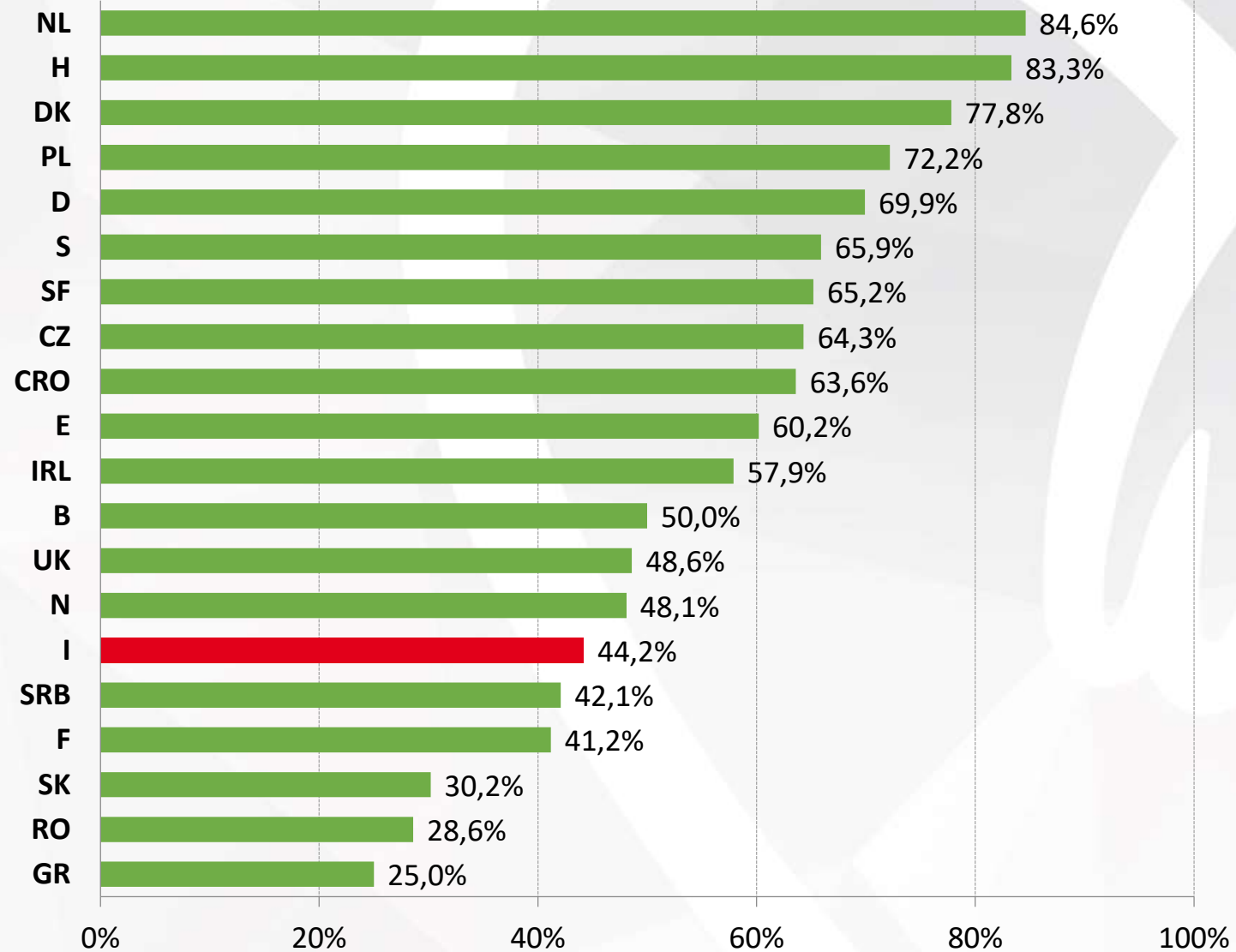


Overall
Survival
Rate
33.0%

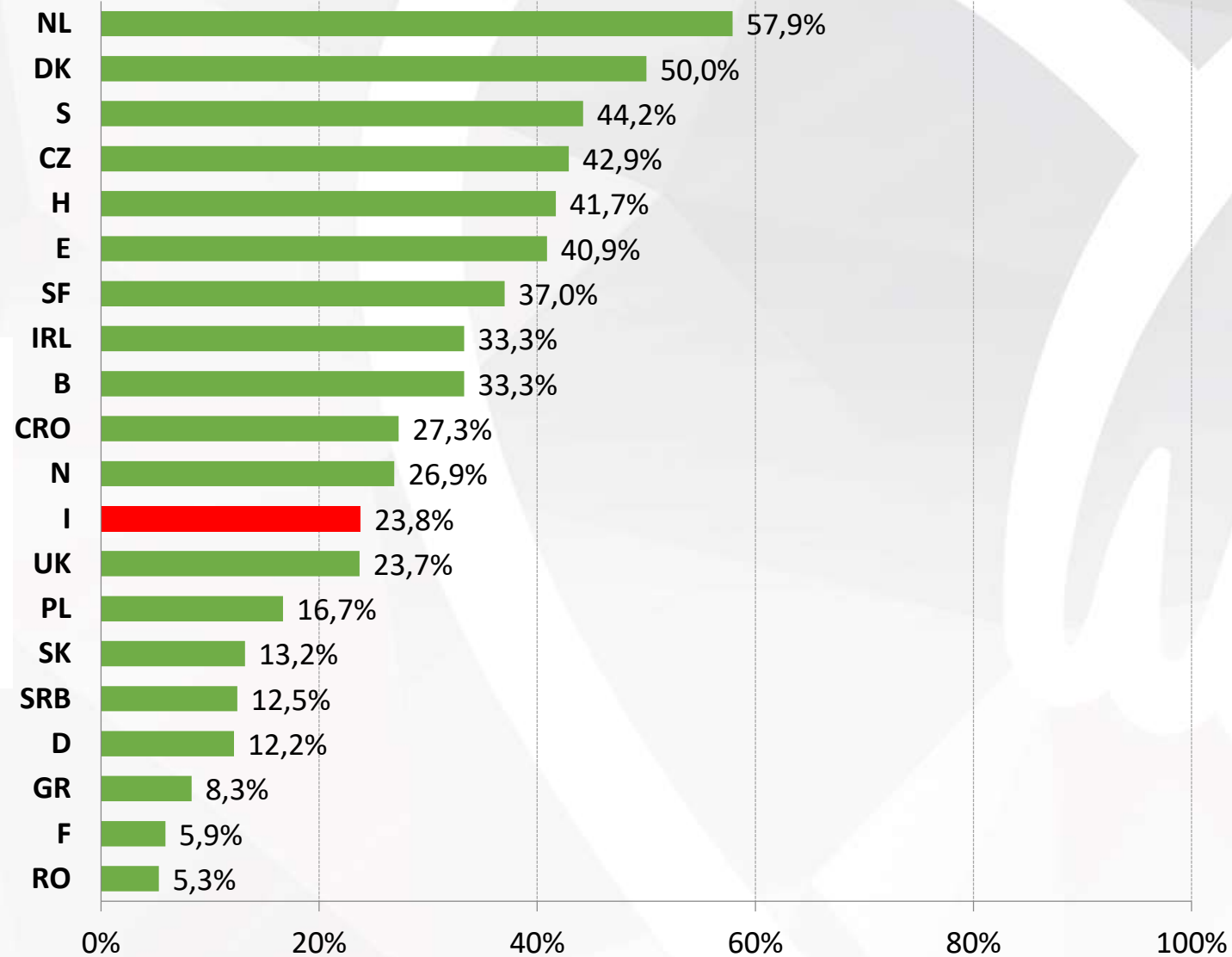


Hospital Survival

Overall
ROSC
Rate
56.8%



Overall
Survival
Rate
29.7%





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Survival after out-of-hospital cardiac arrest in Europe - Results of the EuReCa TWO study



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code	country	population covered (%)*	incidence of CPR started**
AT	Austria	3,444,711 (39%)	40
BE	Belgium	2,834,000 (23%)	53
BH	Bosnia & Herzeg.	110,979 (3%)	79
CH	Switzerland	2,415,000 (28%)	44
CY	Cyprus	650,000 (75%)	28
CZ	Czech Rep.	8,710,567 (82%)	91
DE	Germany	26,180,877 (32%)	59
DK	Denmark	1,821,577 (32%)	73
ES	Spain	31,751,584 (68%)	27
FI	Finland	4,138,648 (75%)	55
FR	France	9,993,658 (15%)	91
GR	Greece	8,146,660 (76%)	36
HR	Croatia	1,895,000 (46%)	60
HU	Hungary	9,797,561 (100%)	81
IE	Ireland	4,757,976 (100%)	50
IS	Iceland	237,538 (68%)	51
IT	Italy	8,218,530 (14%)	76
LU	Luxembourg	549,680 (94%)	47
NL	The Netherlands	3,869,347 (23%)	45
NO	Norway	5,267,128 (100%)	54
PL	Poland	3,385,000 (9%)	45
PT	Portugal	514,531 (3%)	40
RO	Romania	4,086,753 (18%)	45
SE	Sweden	10,120,242 (100%)	56
SI	Slovenia	1,209,479 (59%)	58
SK	Slovakia	3,300,000 (61%)	84
SR	Serbia	1,227,069 (17%)	64
UK	United Kingdom	20,245,023 (31%)	63
total		178,879,118 (34%)	56.3

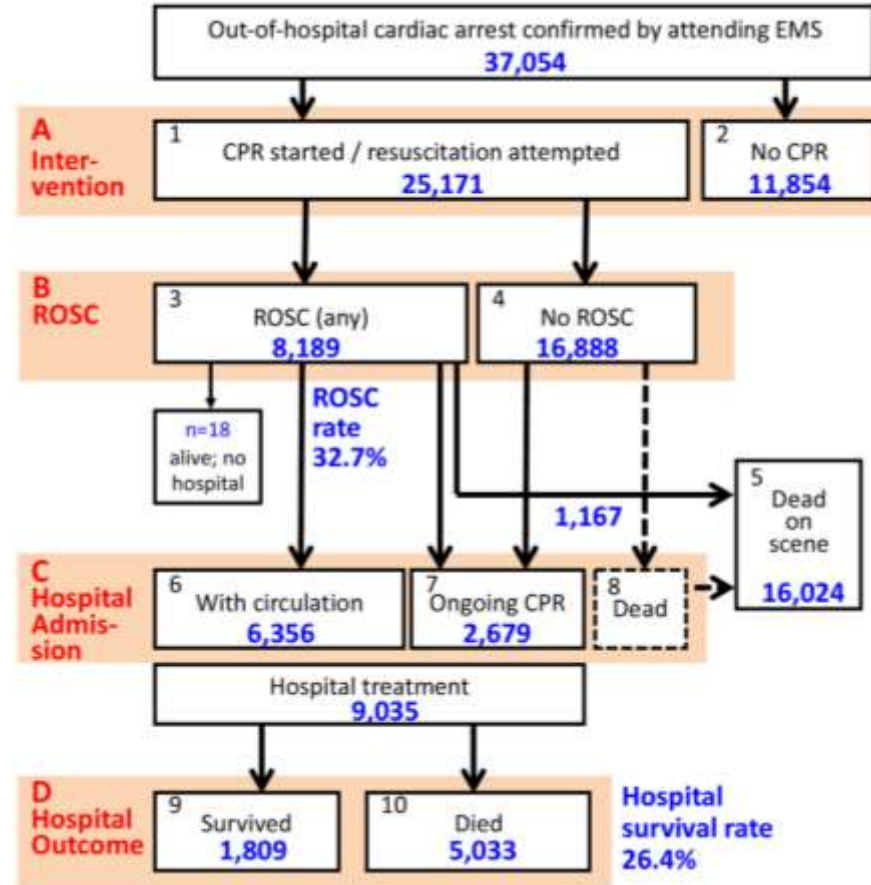


Table 1 – Patient and system factors: variation across countries.

	No. of countries	No. of cases	Overall average	Median of country values	Range of country values
Cases with CPR attempted (if CA was confirmed)	28	25,171	899	440	22–3842
Mean age (years)	28	24,687	67.6	67.3	55.8–75.4
Male gender (%)	28	25,078	65.4	65.9	53.4–73.3
Medical/cardiac cause (%)	28	22,927	91.1	91.1	70.0–100
Traumatic cause (%)	28	957	3.9	3.4	0–8.0
Location: residence (%)	28	15,638	70.2	68.9	51.0–81.3
Telephone CPR (%)	24	11,238	53.2	37.3	3.2–87.8
Collapse witnessed (%)	28	15,824	66.6	66.5	50.8–91.8
Bystander CPR (%)*	28	12,445	58.0	57.6	13.0–82.6
Shockable rhythm (%)	28	4,792	20.2	19.2	11.4–36.8
ROSC (%)	28	25,077	32.7	29.7	6.9–43.3



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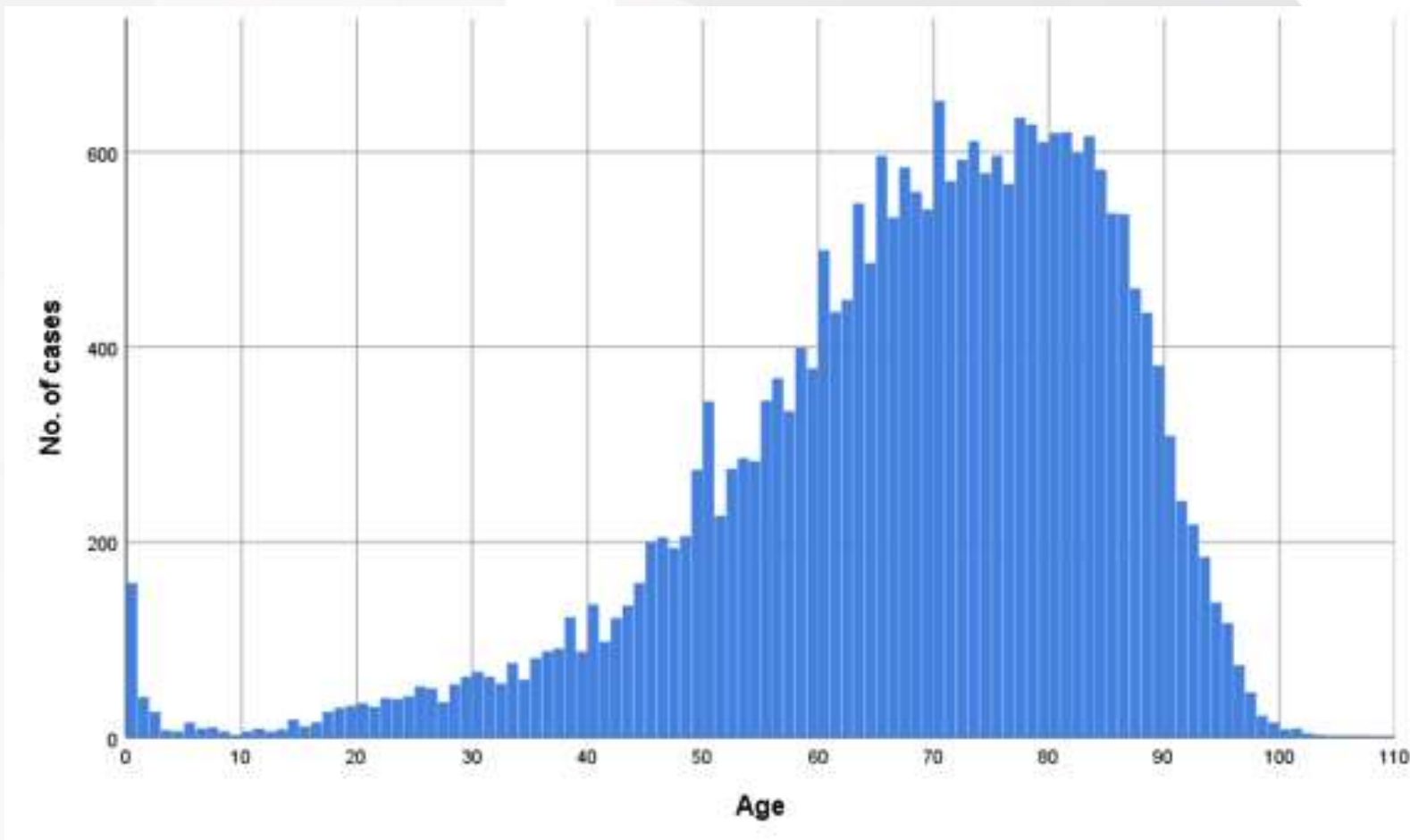


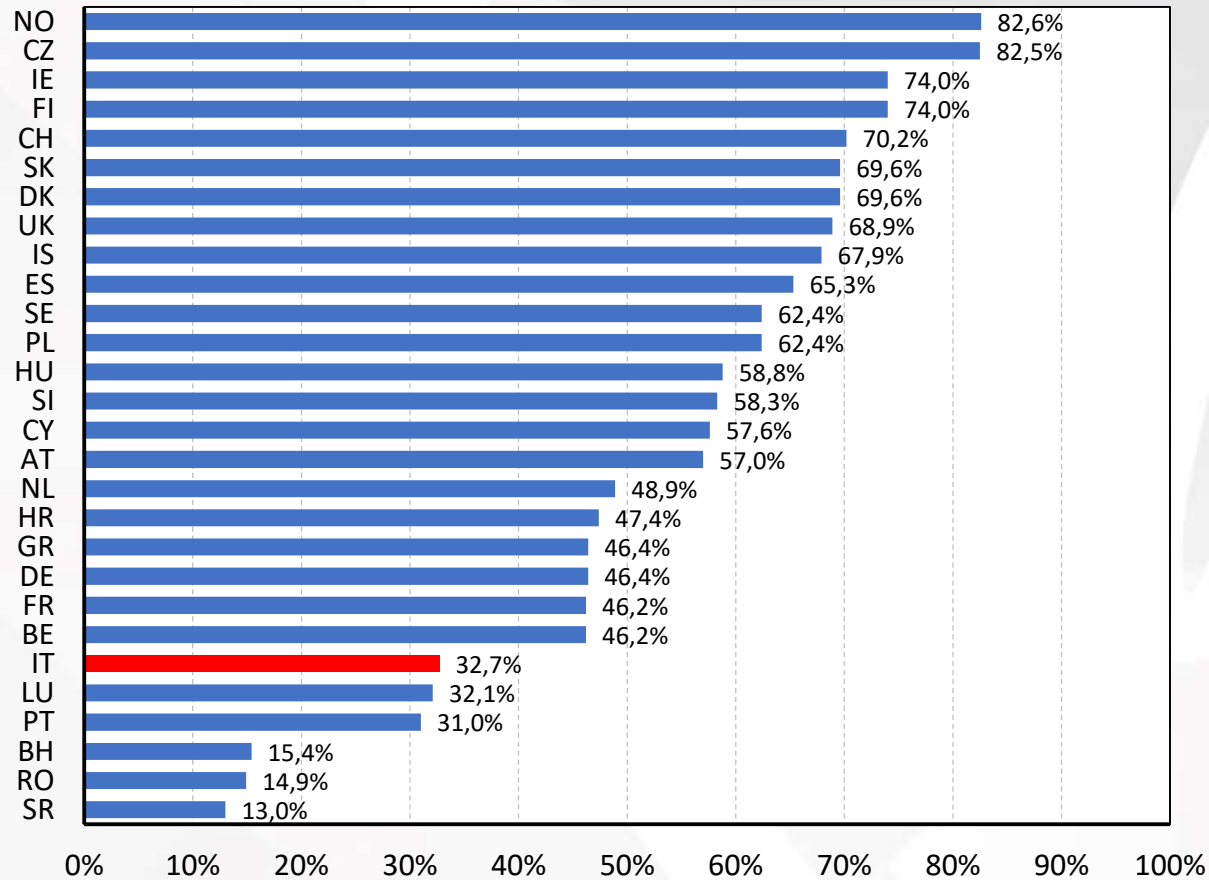
Table 2 – Who started CPR?

Group	N	ROSC	Survival
Bystander CPR	12,445	32.3%	9.1%
CC only	4,437	25.9%	7.7%
full CPR	1,728	37.1%	13.6%
unknown*	1,777	31.7%	8.1%
countries without these data**	4,503	37.0%	9.0%
No bystander CPR	9,003	28.2%	4.3%
Person sent to help	2,420	22.7%	3.9%
EMS started CPR	6,583	30.2%	4.5%

* Of the countries that supplied data on type of CPR.

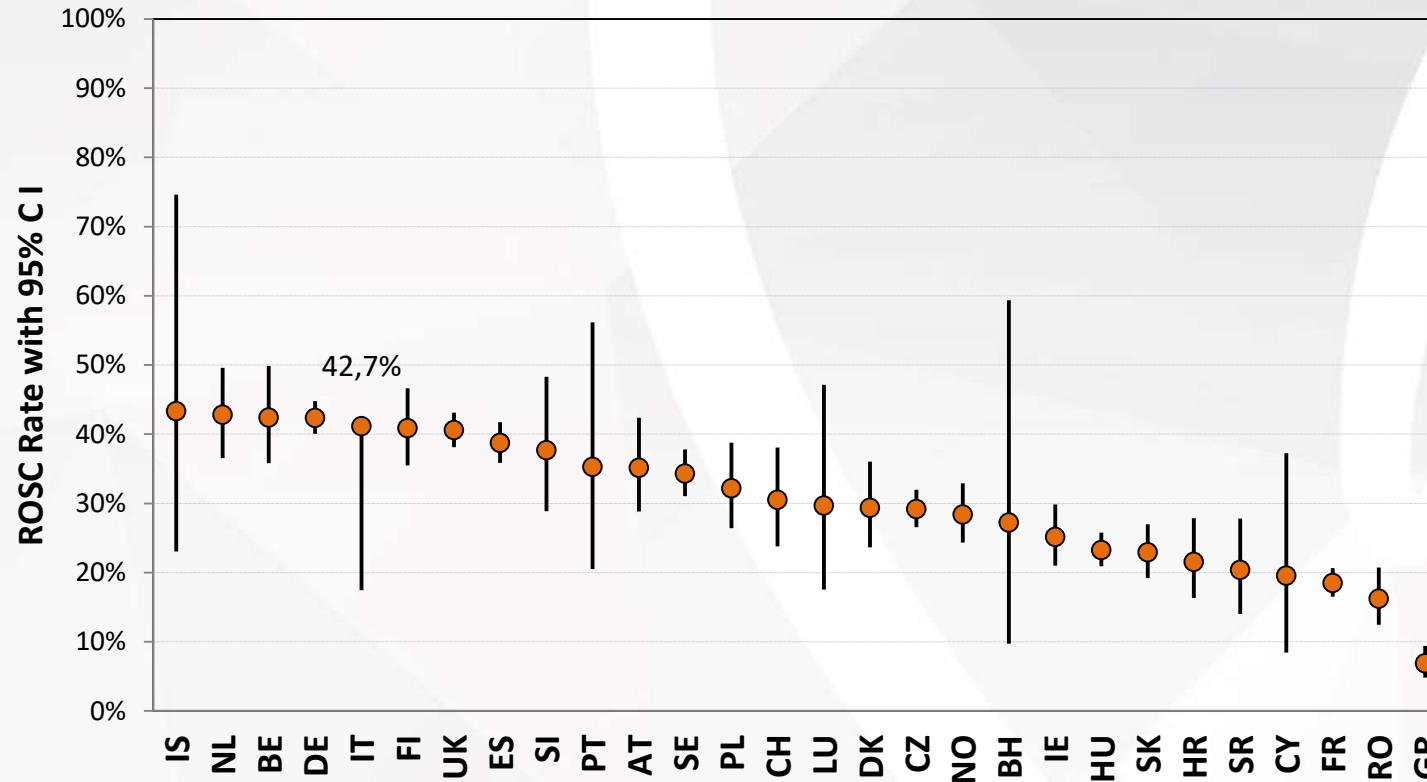
** These countries were not able to supply this information: BH, DE, DK, IE, NO, UK.

Overall
rate:
58%



Italy: 29,7%

Overall
rate:
32,7%



Overall
rate: 8%

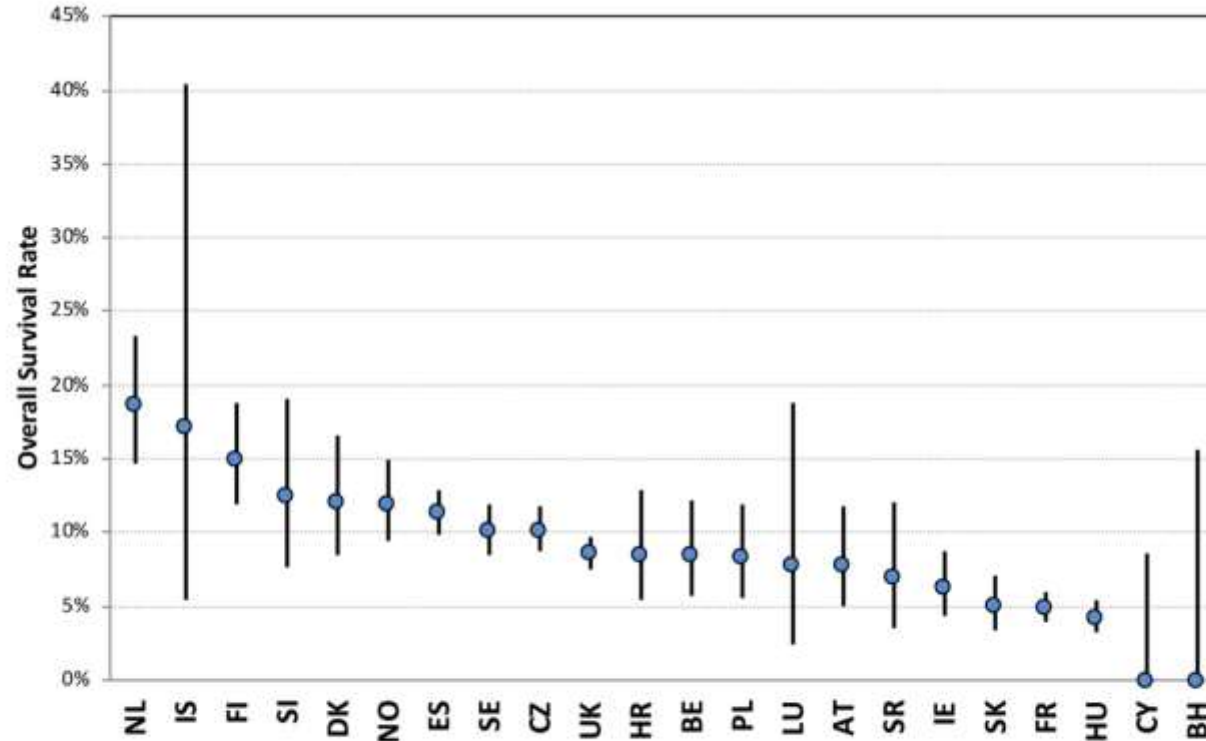
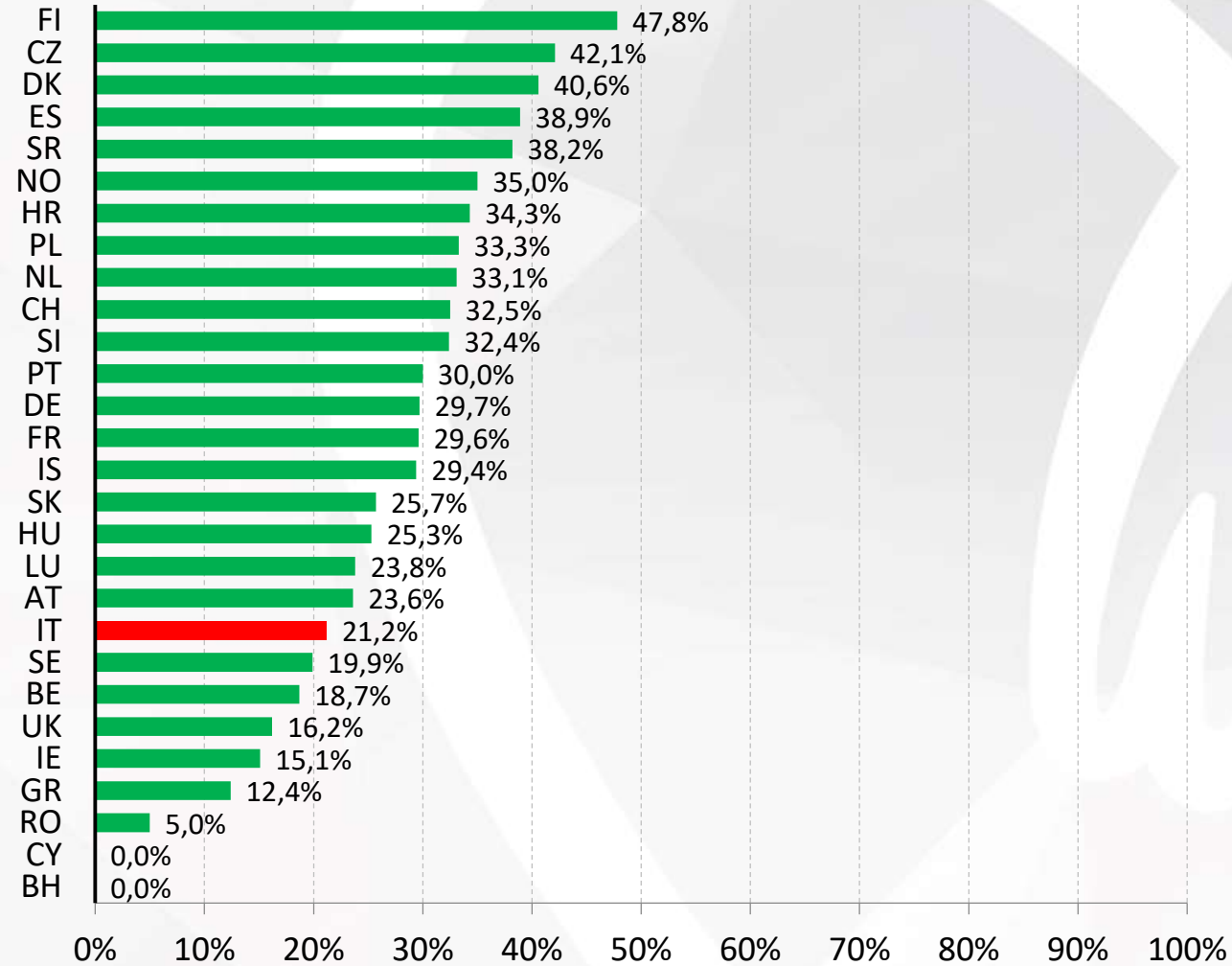


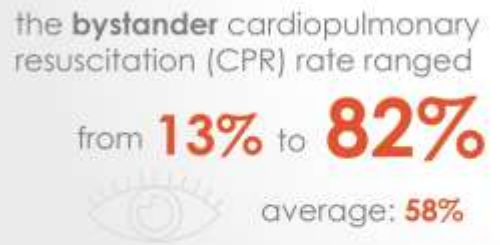
Fig. 3 - Survival rate for patients for whom CPR was started. Data points are mean values and bar indicates 95% confidence interval. Countries with >25% missing outcome data were excluded (IT, GR, PT, DE, CH, RO); n = 17,798. Country codes are specified in Supplemental table 3.

Italy, Greece, Portugal, Germany, Swiss, Romania



Survival rate if treated in hospital. Data from 6,842/9,035 cases; from 2,193 cases outcome data were missing. Reported number of cases from CY 27, from BH 2 cases, both without hospital survival.

RESULTS



* This study involved the collection of registry-based data over a **three-month period** (1st October 2017 to 31st December 2017).



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EURECA
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of Cardiac arrest

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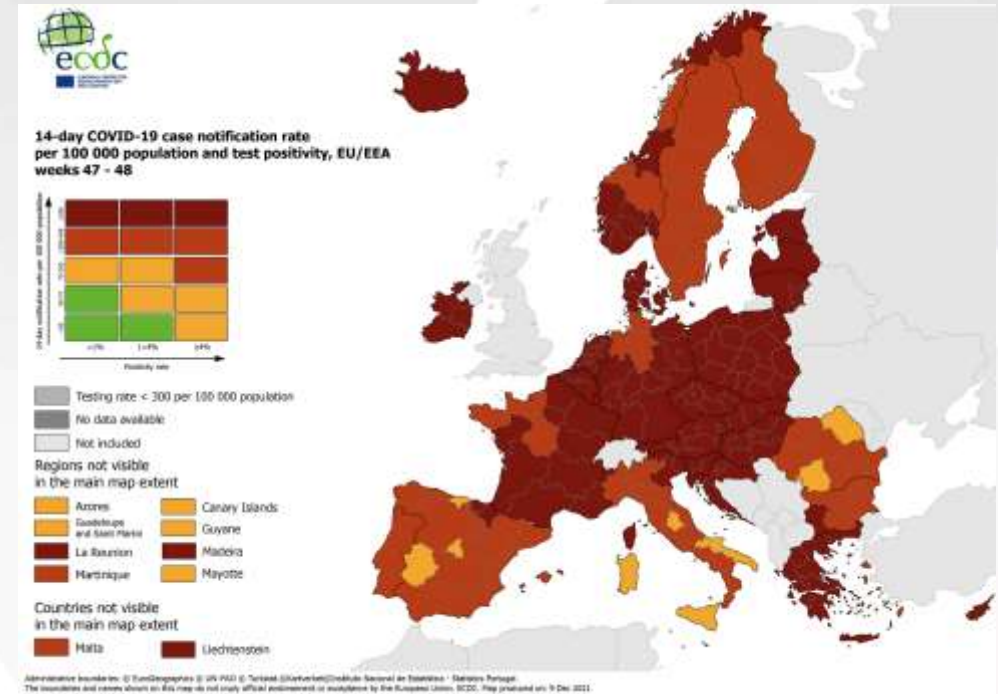


- Timeframe for EuReCa3 data collection
- Recommended time frame – 3 months
- Recommended start date: 1st September 2022





European Cancer Organization



European CDC

“ IF YOU CAN'T MEASURE IT,
YOU CAN'T
MANAGE IT ”

-PETER DRUCKER



