



**ECCU 2017 CONFERENCE & EXHIBITION • A CALL TO ACTION...AND ALL THAT JAZZ!**

# Restart a Heart Day

*Sophie Skellett*



London

**ECCU2017**   
Emergency Cardiovascular Care Update

 **CITIZEN CPR  
FOUNDATION**  
Helping citizens and communities save lives

# Presenter Disclosure Information

**Sophie Skellett**

Restart a Heart Day

## **FINANCIAL DISCLOSURE:**

- No relevant financial relationship exists

## **AFFILIATIONS (unpaid):**

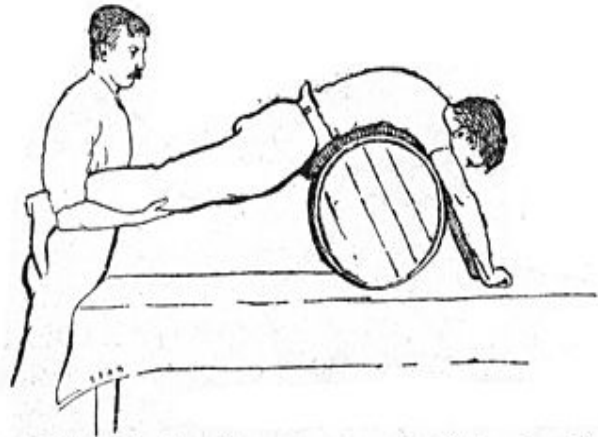
- Chair EPALS subcommittee RC(UK)
- Executive committee member RC(UK)
- Deputy Chair Paediatric sub-committee RC(UK)
- NCAA steering group



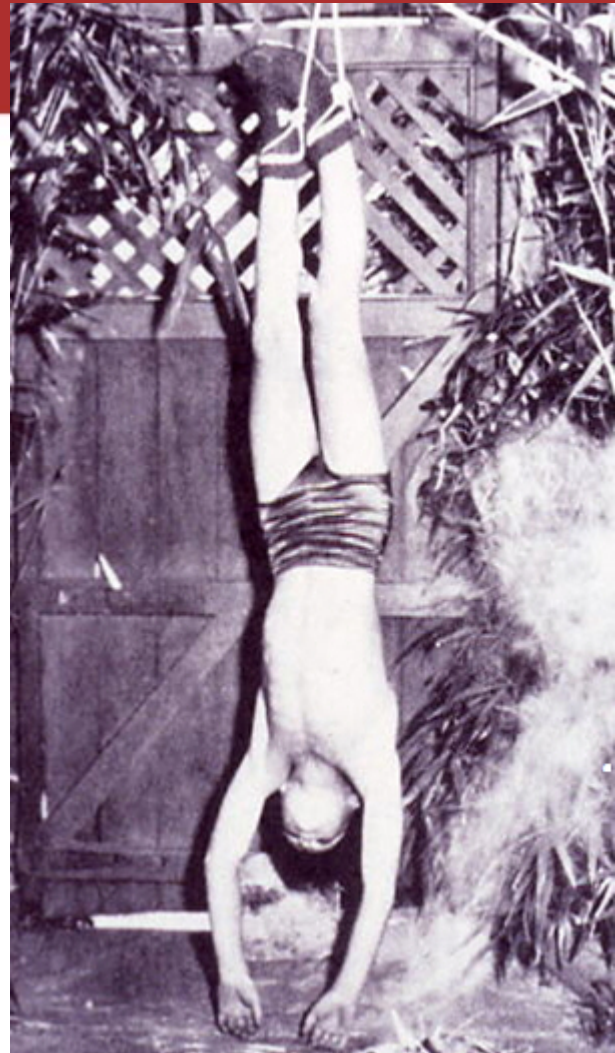
# Out-of-Hospital Cardiac Arrest

- Our management of Out-of-Hospital Cardiac Arrest (OHCA) has come a long way.....

# 1700....in the UK



The "barrel" method. Commencement of the inspiratory phase.



# CA secondary to drowning..

## 1745.....

- Ear
- tech
- sm

- was
- me
- stim

- 1745 - 1811



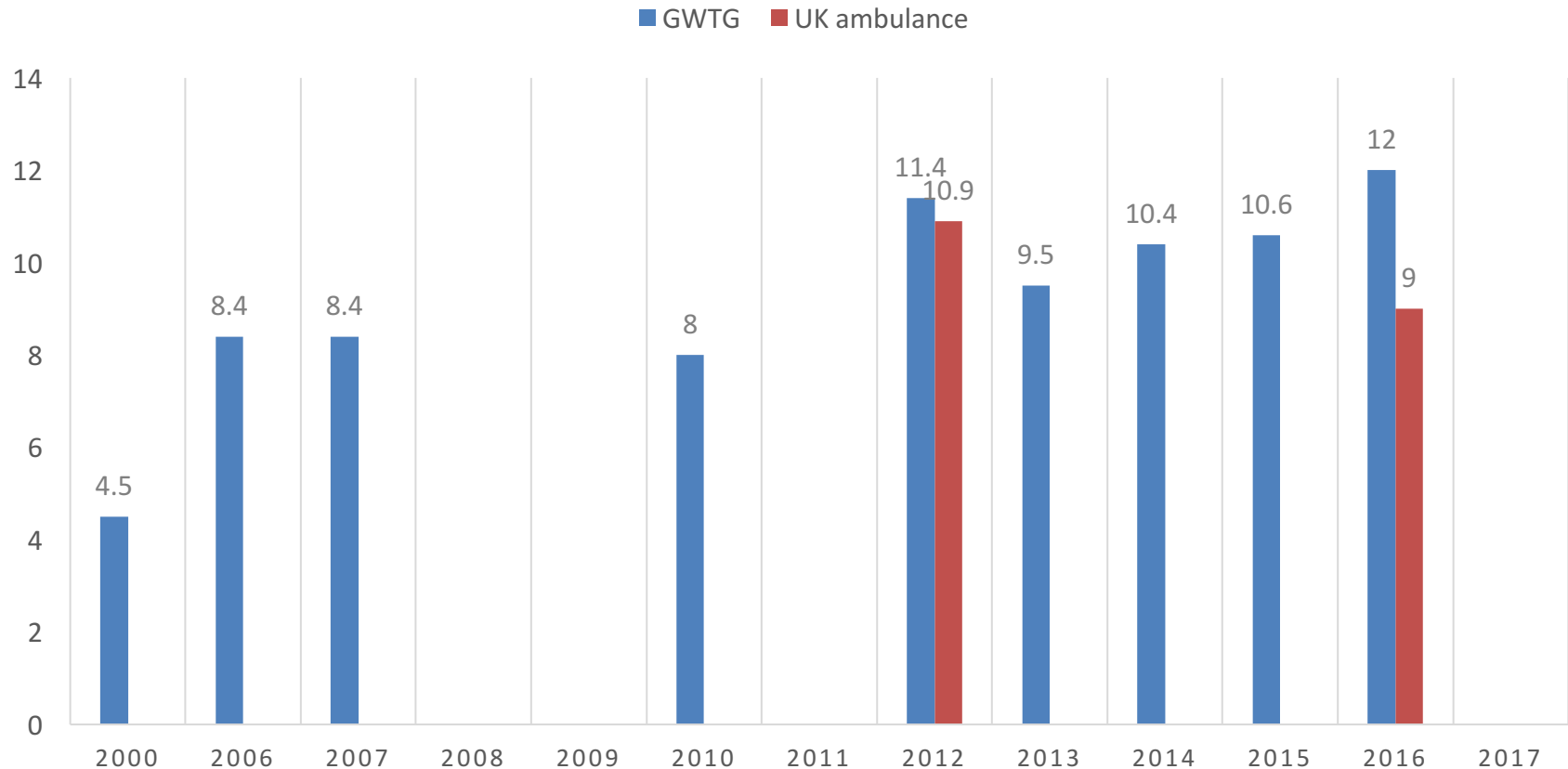
ED?



# What now?

- .....but despite science having markedly improved our techniques for CPR since then .....
- survival figures for OHCA have remained disappointingly low over past 20 years
- .....and very variable from country to country and region to region

# OHCA – % survival to hospital discharge



## From: Regional Variation in Out-of-Hospital Cardiac Arrest Incidence and Outcome

JAMA. 2008;300(12):1423-1431. doi:10.1001/jama.300.12.1423

**Table 3.** Incidence and Outcome of EMS-Assessed Out-of-Hospital Cardiac Arrest<sup>a</sup>

	Alabama (n = 715)	Dallas (n = 2462)	Iowa (n = 1028)	Ottawa (n = 2965)	Pittsburgh (n = 1217)	Portland (n = 1320)	Seattle (n = 2349)	Toronto (n = 5155)	Vancouver (n = 2373)	Overall (n = 19 584)
Adjusted incidence rate per 100 000	106.7	159.0	93.1	71.8	105.1	77.5	144.0	96.8	75.9	95.0
Adjusted mortality rate per 100 000	103.3	153.2	86.1	68.9	101.1	71.4	131.8	93.5	70.0	90.0
Case-fatality rate, %	96.9	96.0	92.7	96.0	96.3	92.0	91.8	96.4	92.1	94.7
Survival to discharge, %	1.1	2.4	6.1	3.3	3.3	6.5	8.1	3.2	6.7	4.4
Vital status data missing, %	2.0	1.5	1.2	0.7	0.3	1.5	0.1	0.4	1.2	0.8

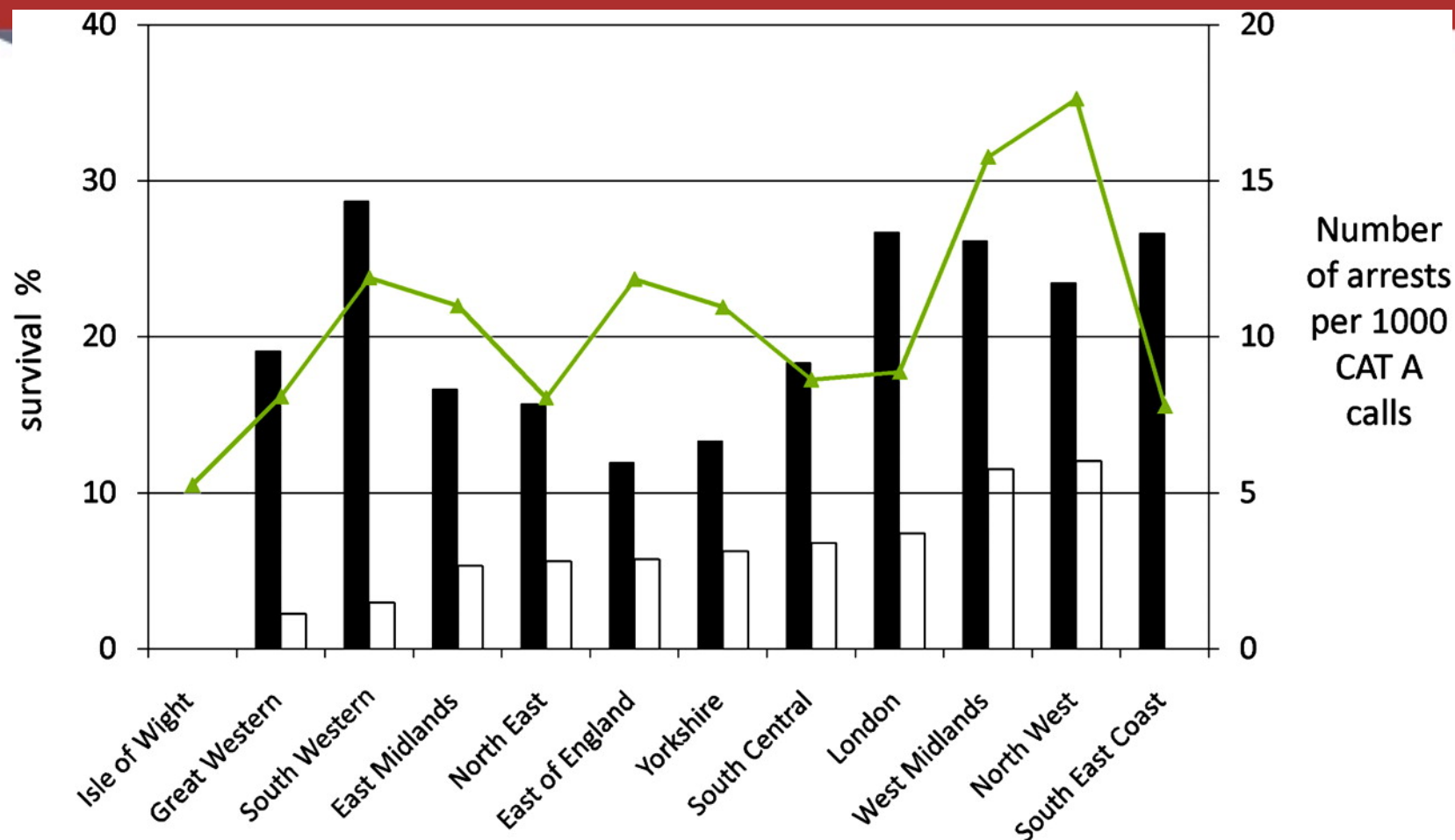
Abbreviation: EMS, emergency medical services.

<sup>a</sup>Milwaukee was excluded from this analysis because of self-reported incomplete data on patients in whom resuscitation was not attempted. All rates were unequal across sites at  $P < .001$ .

Figures from 2006-2007



# Cardiac arrest, return of spontaneous circulation (ROSC) and survival to discharge rates for UK Ambulance Services (April 2011).



Gavin D Perkins, and Matthew W Cooke Emerg Med J  
2012;29:3-5

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FOUNDATION**  
Helping others help you

**EMJ**

# What about comparison with in-hospital cardiac arrest?



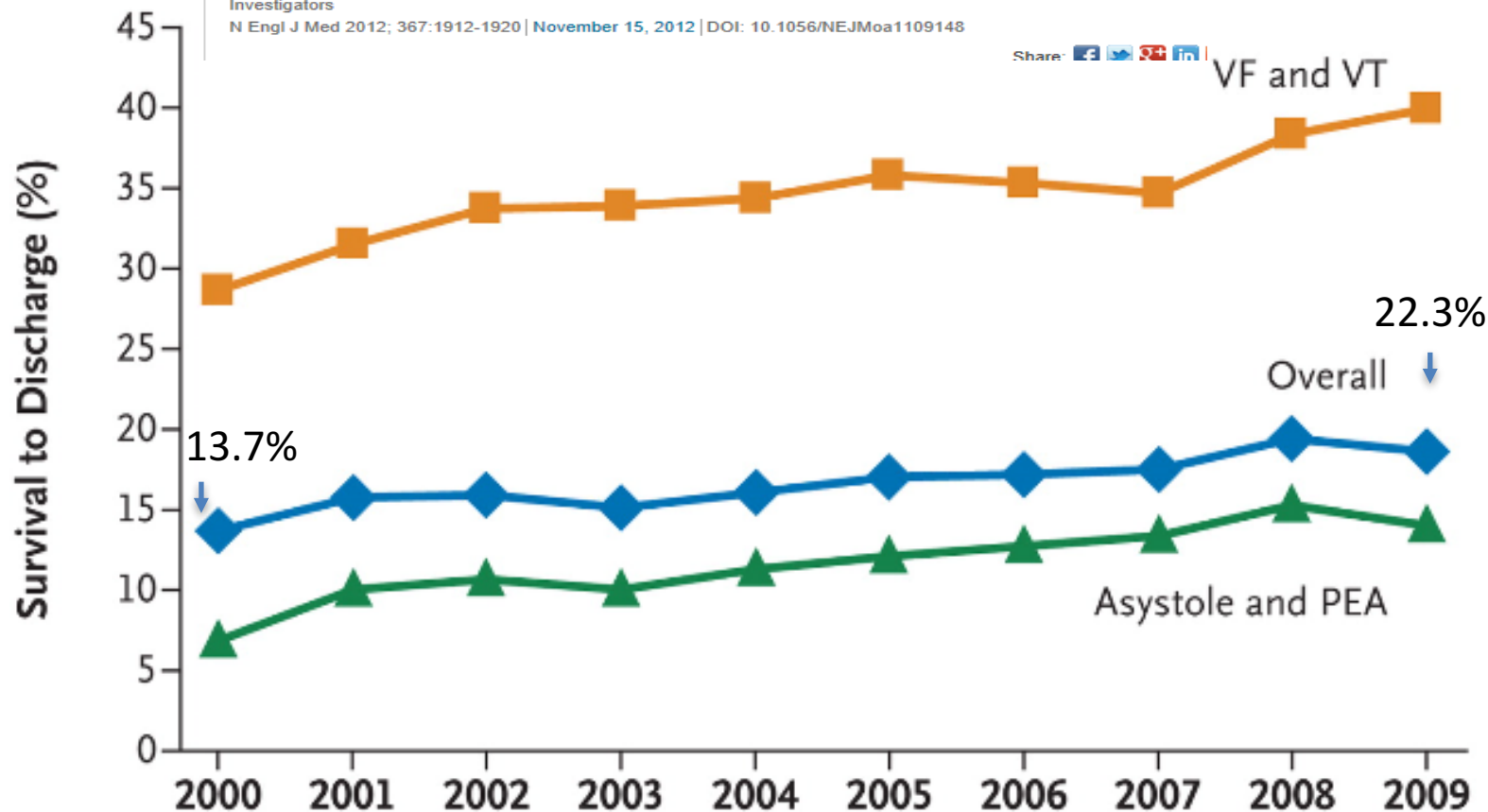
ORIGINAL ARTICLE

## Trends in Survival after In-Hospital Cardiac Arrest

Saket Girotra, M.D., Brahmajee K. Nallamothu, M.D., M.P.H., John A. Spertus, M.D., M.P.H., Yan Li, Ph.D., Harlan M. Krumholz, M.D., and Paul S. Chan, M.D., for the American Heart Association Get with the Guidelines—Resuscitation Investigators

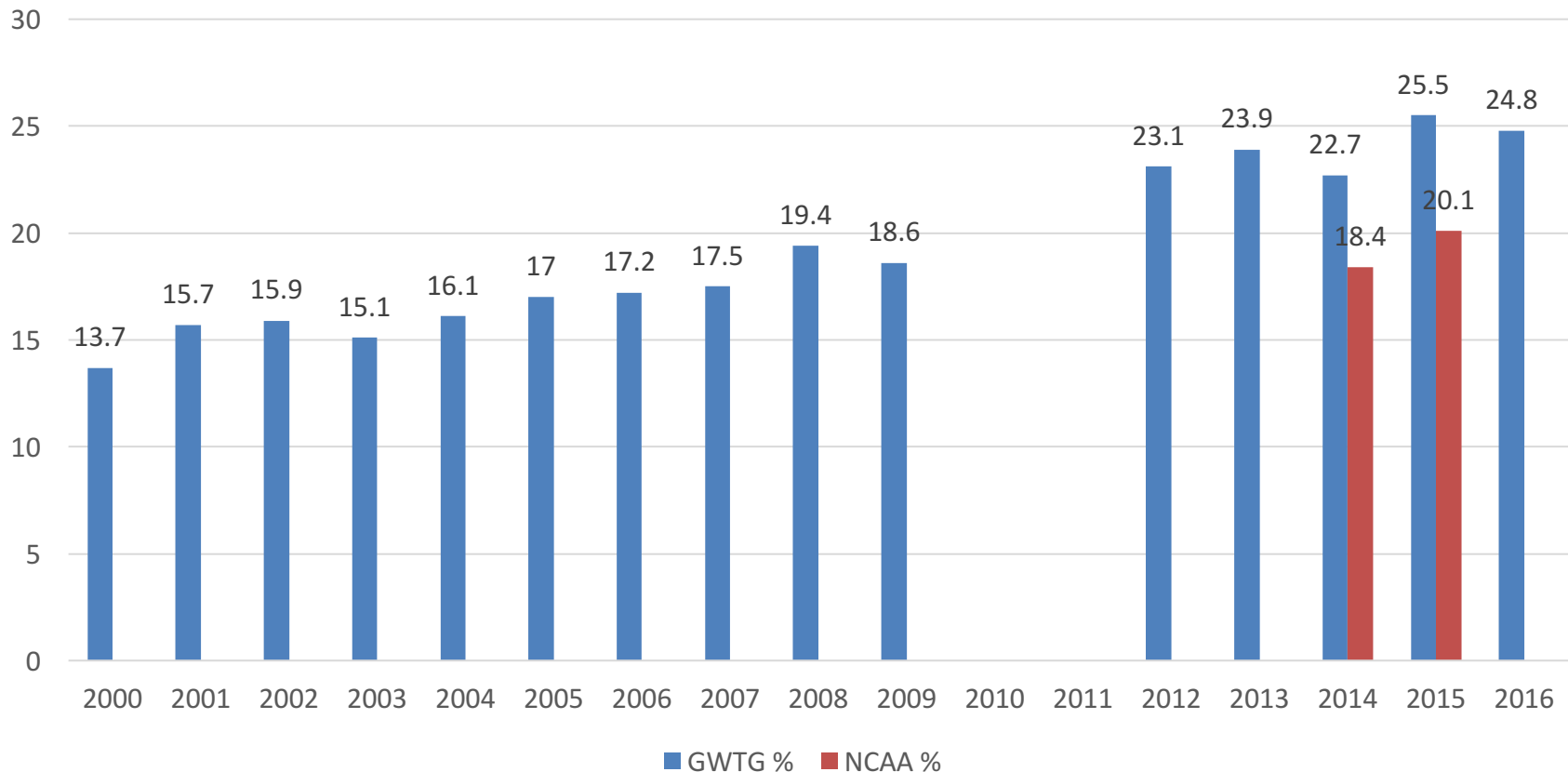
N Engl J Med 2012; 367:1912-1920 | November 15, 2012 | DOI: 10.1056/NEJMoa1109148

Share    



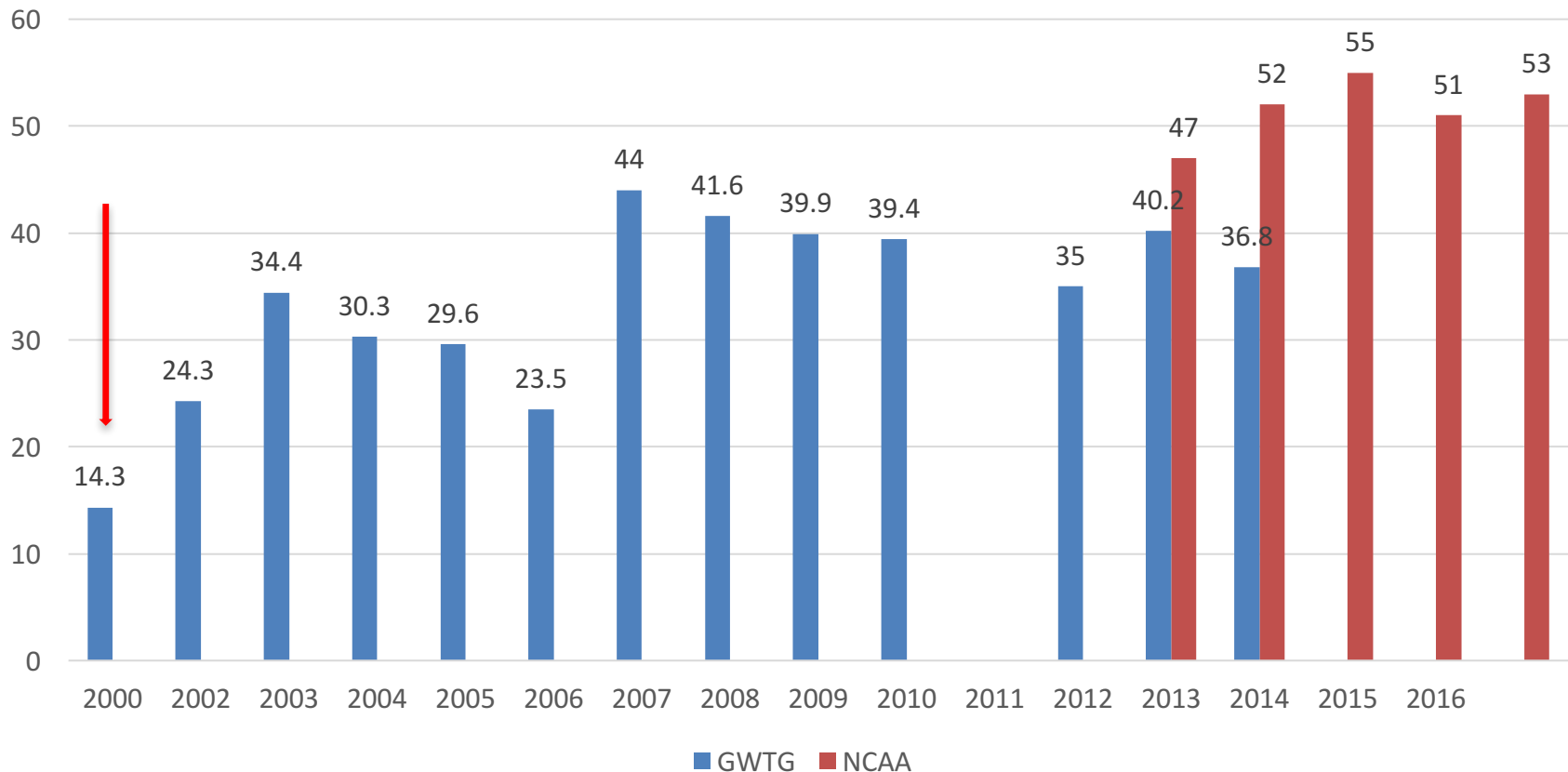


# Adult IHCA - % survival to hospital discharge



# What about IHCA survival in children?

# % Survival to hospital discharge for Paediatric IHCA



*Girotra, Circ Cardiovasc Qual  
Outcomes 2013*



# Survival OHCA vs IHCA

- OHCA 60 – 80% patients arrest of cardiac origin
- And IHCA sicker patients, fewer present in CA with shockable rhythms
- ...therefore OHCA survival rates should theoretically be better than IHCA

# Why the difference?

- CPR not started in crucial early window within the first 4 – 6 minutes and variable quality
- Ambulance fast response time 7-8 minutes (if achieved) and a few minutes for them to be activated
- Poor rates bystander CPR
  - Fear doing harm, not knowing what to do, being sued...
  - Fear AED
  - Not knowing where AEDs located
- .....the resuscitation community has not got the message across as effectively as they had hoped



**GoodSAM**

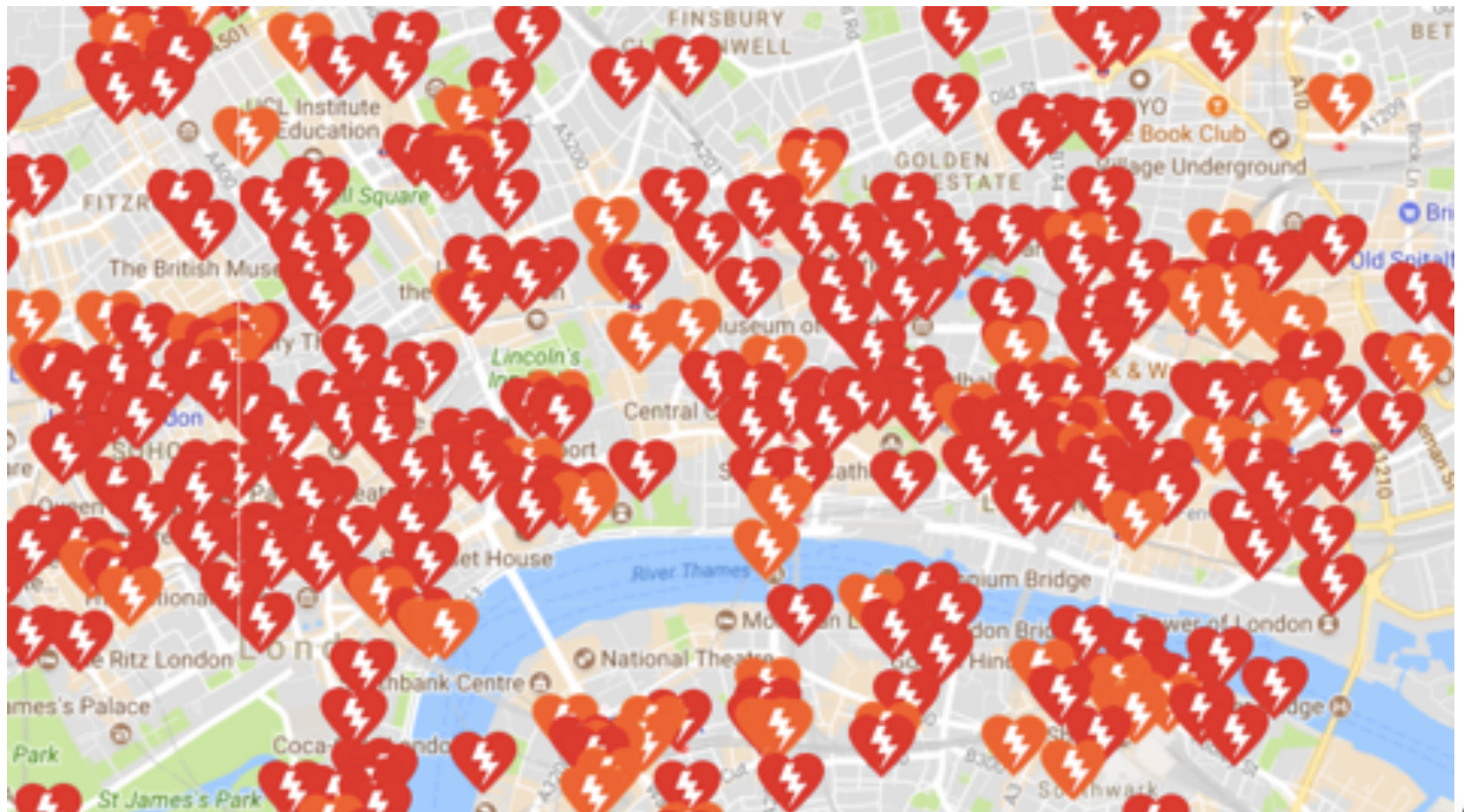
Alerts trained volunteers to Cardiac Arrests  
Integrates with CAD  
Database of > 28,000 AEDs  
Over 15,000 volunteers registered  
Highly governed and flexible

ECCU2017

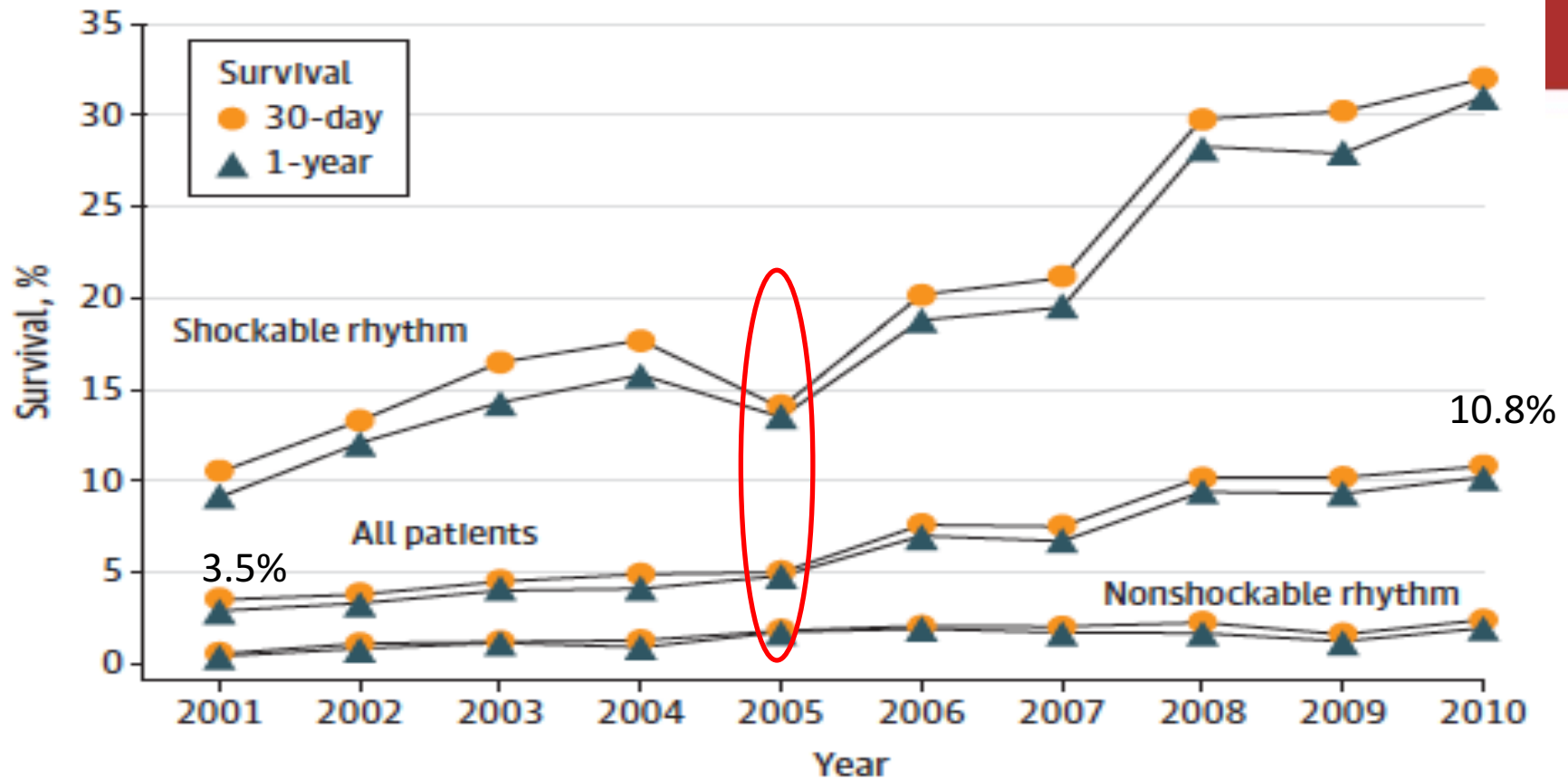
# UK public survey 2017

- Government survey 2000 adults
- 1 in 5 had witnessed an OHCA
- 58% had had some form of training in CPR
- 93% would phone 999
- 58% would perform CPR (76% trained)
- 56% would perform COCPR
- 42% would retrieve a defibrillator (74% trained)
- Use defib: 74% if trained/ 24% if not trained

# Does Bystander CPR make a difference?



**Figure 3. Survival Following Out-of-Hospital Cardiac Arrest, 2001-2010**



JAMA. 2013;310(13):1377-1384. doi:10.1001/jama.2013.278483

21.1% to 44.9% bystander  
AED 1.1% to 2.2%

**Association of National Initiatives to Improve Cardiac Arrest Management With Rates of Bystander Intervention and Patient Survival After Out-of-Hospital Cardiac Arrest**

Mads Wissenberg, MD; Freddy K. Lippert, MD; Fredrik Folke, MD, PhD; Peter Weeke, MD; Carolina Malta Hansen, MD; Erika Frischknecht Christensen, MD; Henning Jans, MD; Poul Anders Hansen, MD; Torsten Lang-Jensen, MD; Jonas Bjerring Olesen, MD; Jesper Lindhardsen, MD; Emil L. Fosbol, MD, PhD; Søren L. Nielsen, MD; Gunnar H. Gislason, MD, PhD; Lars Kober, MD, DSc; Christian Torp-Pedersen, MD, DSc



# The NEW ENGLAND JOURNAL of MEDICINE

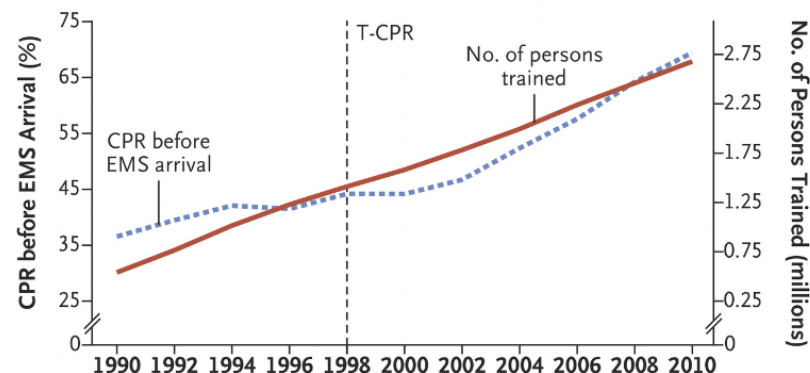
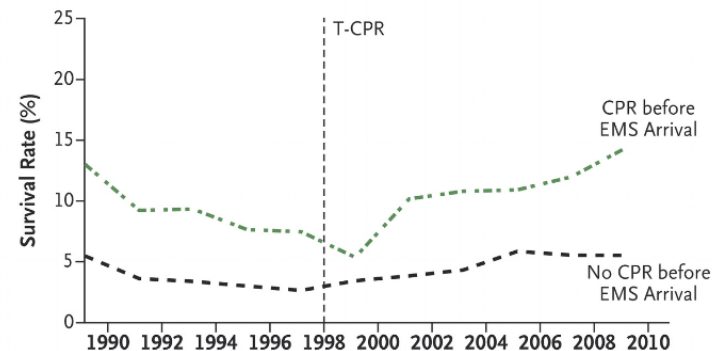
HOME ARTICLES & MULTIMEDIA ▾ ISSUES ▾ SPECIALTIES & TOPICS ▾ FOR AUTHORS ▾ CME ▾

## ORIGINAL ARTICLE

### Early Cardiopulmonary Resuscitation in Out-of-Hospital Cardiac Arrest

Ingela Hasselqvist-Ax, R.N., Gabriel Riva, M.D., Johan Herlitz, M.D., Ph.D., Mårten Rosenqvist, M.D., Ph.D., Jacob Hollenberg, M.D., Ph.D., Per Nordberg, M.D., Ph.D., Mattias Ringh, M.D., Ph.D., Martin Jonsson, B.Sc., Christer Axelsson, R.N., Ph.D., Jonny Lindqvist, M.Sc., Thomas Karlsson, B.Sc., and Leif Svensson, M.D., Ph.D.  
N Engl J Med 2015; 372:2307-2315 | June 11, 2015 | DOI: 10.1056/NEJMoa1405796

Sweden 9.7 mill pop; 3 million trained  
Registry data, Swedish resus council  
1990 – 2011  
30,381 witnessed arrests; 15,512 with  
bystander CPR ( 10.5% 30 day survival);  
14,689 no bystander CPR (4% 30 day  
survival)





February 2017

# Association of Bystander Cardiopulmonary Resuscitation With Overall and Neurologically Favorable Survival After Pediatric Out-of-Hospital Cardiac Arrest in the United States

## A Report From the Cardiac Arrest Registry to Enhance Survival Surveillance Registry

Maryam Y. Naim, MD<sup>1</sup>; Rita V. Burke, PhD, MPH<sup>2</sup>; Bryan F. McNally, MD, MPH<sup>3</sup>; [et al](#)

» [Author Affiliations](#)

*JAMA Pediatr.* 2017;171(2):133-141. doi:10.1001/jamapediatrics.2016.3643

- 46% had bystander CPR
- CPR survival : Bystander 13.2%; No Bystander 9.5% (Overall 11.3%)
- Neurologically favourable: Bystander 10.3%; No Bystander 7.59%
- 49% conventional CPR
- 51% COCPR
- Neurologically favourable better in conventional group
- Infants – survival after COCPR similar to no bystander



# The NEW ENGLAND JOURNAL of MEDICINE

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## ORIGINAL ARTICLE

### Bystander Efforts and 1-Year Outcomes in Out-of-Hospital Cardiac Arrest

Kristian Kragholm, M.D., Ph.D., Mads Wissenberg, M.D., Ph.D., Rikke N. Mortensen, M.Sc., Steen M. Hansen, M.D., Carolina Malta Hansen, M.D., Ph.D., Kristinn Thorsteinsson, M.D., Ph.D., Shahzleeb Raian, M.D., Freddy Linnert, M.D., Fredrik Folke, M.D., Ph.D., Gunnar Gislason, M.D., Ph.D., Lars Køber, M.D., D.Sc., E. Jensen, M.D., Ph.D., Thomas A. Gerds, Ph.D., Christian Torp-Pedersen, M.D., D. Ph.D.

N Engl J Med 2017; 376:1737-1747 | [May 4, 2017](#) | DOI: 10.1056/NEJMoa1601891

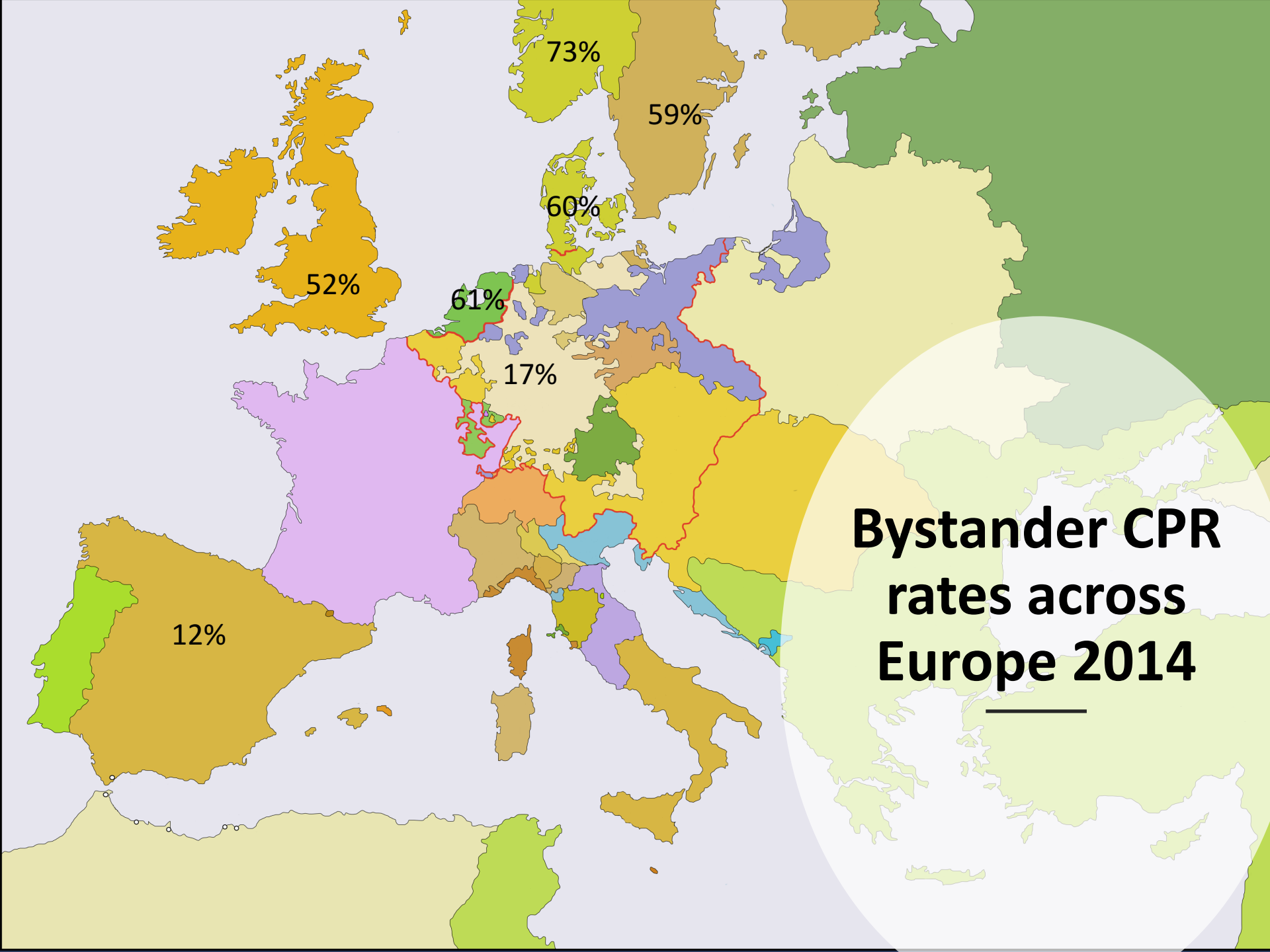
#### Conclusion:

**Bystander CPR associated with decreased risk brain injury, nursing home admission and lower risk death**

- Linked CA registry with functional outcomes – death, nursing home, anoxic brain injury
- Bystander rates 66.7% to 80.6%
- AED use 2.1% to 16.8%
- Rate brain injury from 10% to 7.6%
- All cause mortality 18% to 7.9%

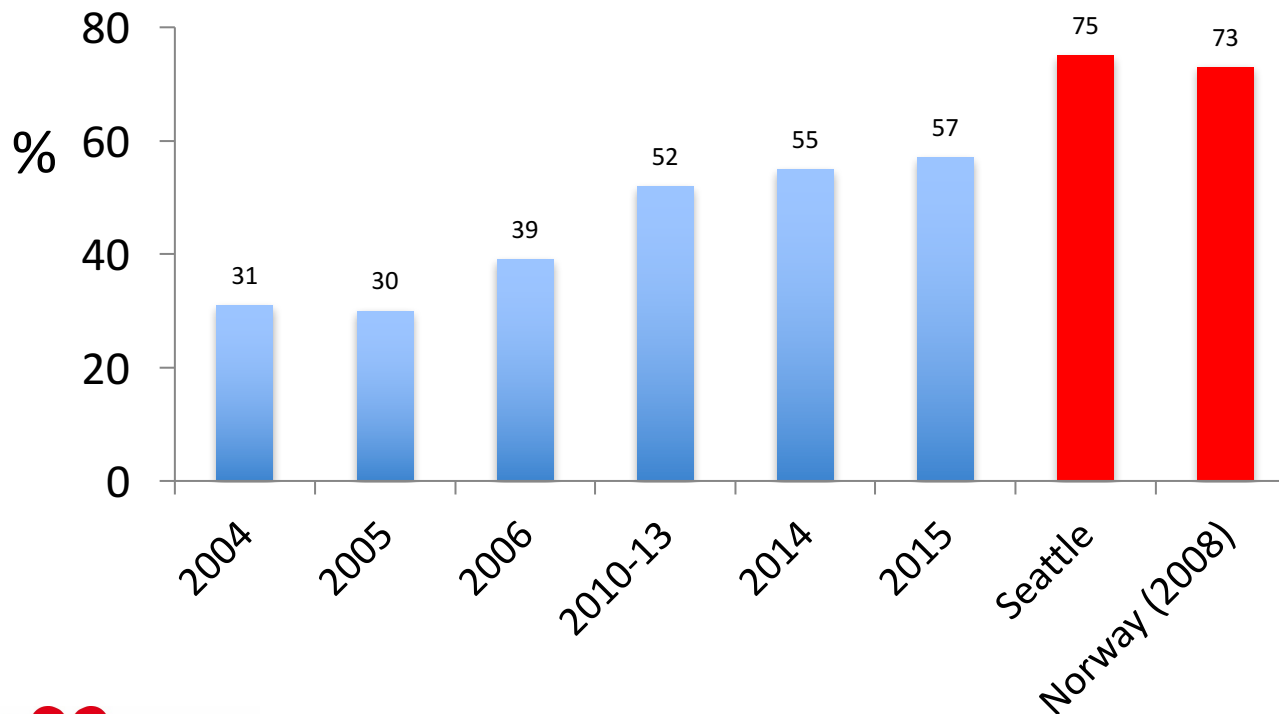
# So how did Restart a Heart Day come about?

- In 2011 it was clear to the European resuscitation community that bystander rates were variable across Europe
- Additionally that countries with better bystander rates had better outcomes from OHCA



# Bystander CPR rates across Europe 2014

# Bystander CPR UK- data 2016



## Our mission

The ERC aims to preserve human life by making high-quality resuscitation available to all.



# European Resuscitation Council:



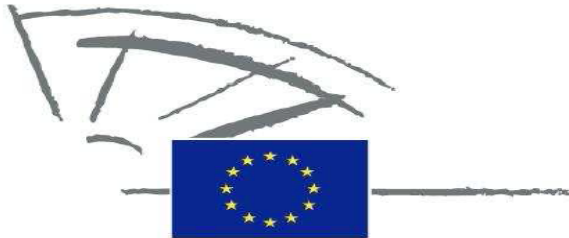
- Austria
- Belgium
- Bosnia and Herzegovina
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Netherlands
- Egypt
- Finland
- France
- Germany
- Hungary
- Iceland
- Italy



- Luxembourg
- Malta
- Norway
- Poland
- Portugal
- UK
- Romania
- Russia
- Serbia
- Slovakia
- Slovenia
- Spain
- Sudan
- Switzerland
- Tunisia

- Turkey
- UAE





EUROPEAN PARLIAMENT



1. Calls on the Commission and the Council to encourage:

Marios Georgiou

- the adoption of common programmes for implementing AED in public places and training lay people in all Member States,
- the adjustment of legislation in order to facilitate CPR and defibrillation by non-medical persons,

2012



European Parliament

[Index](#) [< Previous](#) [Next >](#) [Full text](#)

## Texts adopted

Thursday, 14 June 2012 - Strasbourg

European cardiac arrest awareness week

### ► Declaration of the European Parliament of 14 June 2012 on establishing a European cardiac arrest awareness week

*The European Parliament*,

– having regard to Rule 123 of its Rules of Procedure,

A. whereas in Europe approximately 400 000 people suffer an out-of-hospital sudden cardiac arrest every year, with a survival rate of less than 10%;

B. whereas the survival of many apparently healthy victims depends on cardiopulmonary resuscitation (CPR) administered by bystanders and early defibrillation, and whereas an intervention within 3-4 minutes may increase the chance of survival to more than 50%;

C. whereas in Europe, automated external defibrillator (AED) programmes are only partially implemented;

1. Calls on the Commission and the Council to encourage:

- the adoption of common programmes for implementing AED in public places and training lay people in all Member States,
- the adjustment of legislation in order to facilitate CPR and defibrillation by non-medical persons,
- systematic data collection for feedback and quality management in every programme;

2. Calls on the Commission and the Member States to establish a European cardiac arrest awareness week aimed at improving the awareness and education of the general public, physicians and healthcare professionals;

3. Calls on the Commission to support the Member States in adopting and implementing national strategies for equal access to high-quality CPR;

4. Calls on the Commission and the Member States to enact harmonised legislation across the EU in order to provide immunity from liability to non-medical first responders who offer voluntary assistance in cardiac emergencies;

5. Instructs its President to forward this declaration, together with the names of the signatories<sup>(1)</sup>, to the Council, the Commission and the parliaments of the Member States.

**16<sup>th</sup> October 2013**  
**- First event**

**YOUR  
HANDS  
CAN SAVE  
LIVES!**

EUROPEAN  
**RESTART  
A HEART**  
— DAY —

**16  
OCT**

RAISING  
CARDIAC ARREST  
AWARENESS





# Restart a Heart 2013 – ‘Children Save Lives’

- Several countries hosted a RSAH day in 2013
- Theme: targeting children
- Germany
- Malta – National Sports Complex
- UK – Lifesaver RC(UK), lobbying for CPR on secondary school curriculum, ambulance trusts
- European Parliament



# RSAH UK

- Co-ordination in each country took time
- Pockets of success
- 2015 RC(UK) co-ordination of all events and to promote more activity
- Andy Lockey from RC(UK) – CEOs all ambulance Trusts – all signed up
- BHF, RC, RC(UK), St. JA, Amb Trusts



St John  
Ambulance



BritishRedCross



ECC  
Emergency Care





# RSAH GOSH

Kids saving lives



**Liesje and Denise**



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Emergency Cardiovascular Care Update

 **CITIZEN CPR  
FOUNDATION**  
Helping citizens and communities save lives

# RSAH GOSH 2016

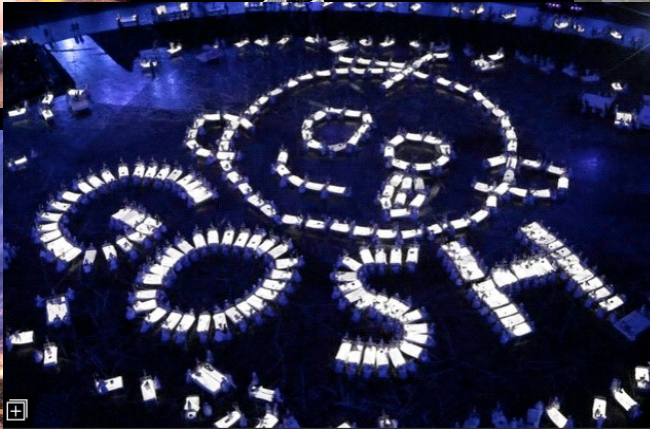
- Invited local schools by ringing around headmasters
- Children of staff invited with parents!
- Past patient reps PICU invited
- Charity and Press office liaison
- Young Survivor CA invited
- Ready availability instructors EPALS
- Standardised training
- Lifesaver video on monitors
- Goody bags: stickers, presents
- Free food for everyone
- Representatives RC(UK) and GOSH exec team
- Televised London Tonight





# RSAH GOSH 2016

## GOSH RSAH, London 2016





# **GOSH RSAH 2016**

- Total children trained  
2016

- = 317



<https://life-saver.org.uk/>

THE RESUSCITATION COUNCIL UK PRESENTS

# LIFESAVER

SECOND EDITION

AN INTERACTIVE FILM BY MARTIN PERCY

PRODUCED BY UNIT9

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RESUSCITATION COUNCIL (UK)





# Restart a Heart Day 2016

*Kids saving lives*



EUROPEAN RESTART A HEART DAY

- Aim was to train >100,000 young people
- Engagement from every UK Ambulance Service
- National collaboration between organisations led by RC(UK)
- Total trained = **150,581**

# Restart a Heart Day 2017

- Bigger and better, beat 2016 totals
- Events planned **on or around** Monday 16<sup>th</sup> October
- Harness good work of existing local/regional schemes
- Aim – to train as many young people as possible in CPR
- Target = 150,000 +
- National co-ordinator hired by RC(UK)



# Restart-a-Heart Day 2017



GREATER MANCHESTER  
FIRE AND RESCUE SERVICE





Resuscitation Council (UK)

*From the RC (UK) website*

- Restart a Heart Day 2017 is a designated day of action across Europe with the aim to teach vital life saving cardiopulmonary resuscitation (CPR) skills to as many people as possible. This was the fourth year bringing young people together up and down the country to learn how to save lives.



*Training people, saving lives*

## Restart a Heart Day – 16 October 2017

### Guide for First Aid Training Providers

1

Liaise with a local secondary school or youth group who hasn't already signed up for restart a heart day. You can find an information pack and flyer to give them here:

<https://www.resus.org.uk/events/rsah/>

If necessary, we can put you in touch with your local ambulance service, who might have schools on a waiting list.

2

Eligible schools can apply to the British Heart Foundation, who will provide a **free restart a heart pack** for the school. This includes 35 inflatable CPR minikins and a CPR training DVD. The pack will belong to the school and should be retained for future use.

3

We recommend a minimum ratio of 1 facilitator to 12 children. For 35 children, this could be one qualified first aid trainer, with two assistants who are proficient in CPR.

*See info below on DBS checks\**

4

Of course, you can also use your own CPR training manikins!

Smaller groups are acceptable if you don't have as much kit. When you know what equipment is being used, you can confirm your attendance with the school/youth group.

**PLEASE LET US KNOW DETAILS** using this form: <http://bit.ly/RSAMD2017Survey>

**Jason Carlyon**  
National Project Manager  
Restart a Heart

**Dr Andrew Lockey**  
Hon. Secretary  
Resuscitation Council (UK)

RC (UK) also  
provided step  
by step advice  
on how to  
organise an  
run each event



# RSAH



- One of the keys to success in the UK was to partner with high profile organisations such as the British Heart Foundation, a charitable organisation – their extensive media reach and marketing campaigns guaranteed a large audience
- Additionally they were able to offer free school packs with training videos and started the 'CPR champions programme' which appealed to children
- Schools were also able to apply for AEDs

# Build confidence, save lives

Select volunteers to represent life saving across your school. First, put up the poster and sign-up sheet to generate interest. Then select your Champions and present them with the letter and licence card to mark their commitment.

Use your Champions to promote CPR in assemblies and tutor groups, to organise the trainings and to record names and numbers.

Use CPR as an opportunity to build confidence and skills.



## A commitment to helping others

Training in CPR is a chance to become a lifesaver. Can you rise to the challenge?

## A great communicator

Can you explain CPR to a room of your peers? Get the message out and save lives.

## A skill for collecting data

The BHF needs to know how many young people are being trained. Can you make a list of everyone in your training and reporting your progress to the BHF?

## Someone who thinks ahead

Can you prepare CPR





## Sheffield Football players motivating fans



[Information](#) [Gallery](#) [Media](#) [Social Media](#) [Celebrity Endorsements](#) [Sponsors & Partnership](#)

RESTART  
A  
HEART  
DAY

17





## Why don't you learn CPR? One day you could save a life!

On Monday 16 October 2017, to mark European Restart a Heart Day, we provided cardiopulmonary resuscitation (CPR) training to more than 25,000 youngsters at secondary schools across Yorkshire. A huge thank you to all the volunteers, youngsters who made it possible!

If someone suffers a cardiac arrest, their chances of survival double if it happens to a bystander who immediately starts CPR before our arrival.

Watch this space for how to register for Restart a Heart Day 2018!



Emmerdale Supports Restart a Heart Day



Thanks to #CPRSavedMyLife Campaign Supporters



Only 1 in 10 survive a cardiac arrest

**WE CAN  
BEAT  
THAT**



**RESTART A  
HEART DAY**  
OCTOBER 16

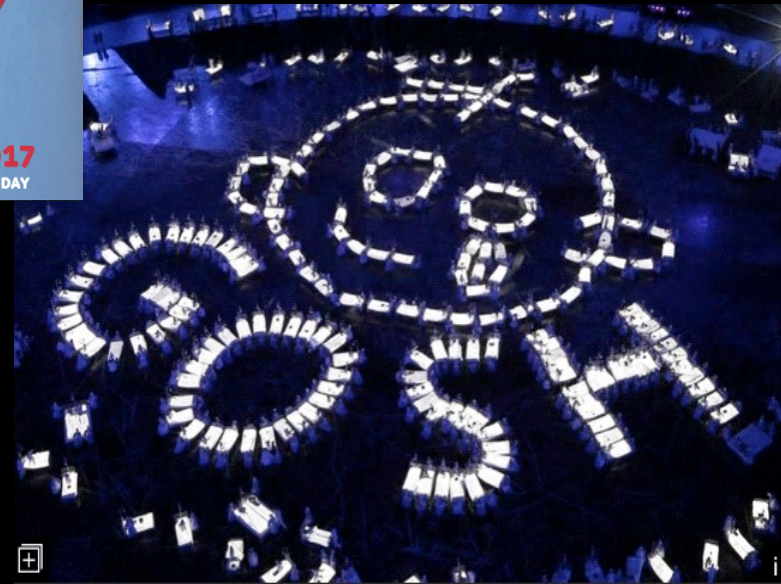
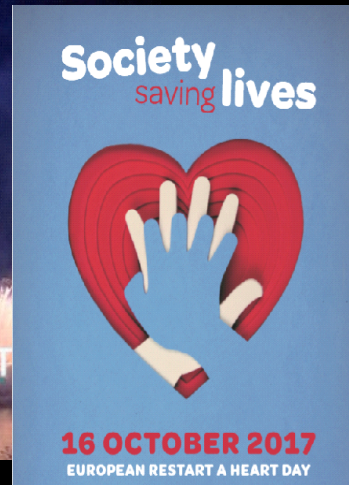


# RSAH GOSH 2017

- Invited local schools by ringing around headmasters
- Timetable for schools
- Volunteers to show the way
- Children of staff invited with parents!
- Charity liaison
- Young Survivor CA invited again!
- Ready availability instructors EPALS
- Standardised training
- Industry input
- Lifesaver VR video on monitors
- Goody bags: stickers, presents
- Magicians, Facepainting
- Free food for everyone
- Representatives RC(UK) and GOSH exec team
- Consent to photograph schoolchildren!



# GOSH RSAH, London 2017







**GOSH RSAH  
2017**

**Total children  
trained 2017  
= 358**

# Lifesaver and Lifesaver VR

- Original Lifesaver updated with 2015 guidelines
- Additionally Lifesaver VR developed to show teenagers saving teenagers in more immersive way
- Dispatcher advice given
- Used in sessions to enhance learning
- <https://life-saver.org.uk/>

THE RESUSCITATION COUNCIL UK PRESENTS

# LIFESAVER

AN INTERACTIVE FILM BY MARTIN PERCY

PRODUCED BY UNIT9





To read this article in full, please review your options for gaining access at the bottom of the page.

The school Lifesavers study—A randomised controlled trial comparing the impact of Lifesaver only, face-to-face training only, and Lifesaver with face-to-face training on CPR knowledge, skills and attitudes in UK school children☆





[Joyce Yeung](#), [Ivor Kovic](#), [Marija Vidacic](#), [Emma Skilton](#), [Dan Higgins](#), [Teresa Melody](#), [Andrew Lockey](#)✉

- Primary outcome: Immediate F2F superior
- No difference 3 and 6 months
- Secondary outcomes: All gps >60 % CCF
- Combined > LS and F2F at 3 and 6 months

- 3 UK schools
- 81 students
- LS vs F2F vs combined
- Outcomes:
  - CC rate and depth
  - CCF, CPR performance and attitudes
- Measured immediately, 3 and 6 months

- For those who cant get F2F training good option
- Reinforce F2F

# Social Media reach

- **#Restartaheart** trended in the UK
- 198 posts across    
- Social reach of 344,224 from Thunderclap
- Total social media reach of **1,138,914**



# Restart-a-Heart Day 2017



- Total from Ambulance Trusts in 2016 was **117,000**
- Total from Ambulance Trusts in 2017 was **145,000**

## Special mention:

- North West and West Midlands trained >30,000
- Isle of Wight trained 428
- Northern Ireland trained 600



**NHS**  
West Midlands  
Ambulance Service  
NHS Foundation Trust



Isle of Wight  
NHS Trust



North West Ambulance Service



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 **CITIZEN CPR  
FOUNDATION**  
Helping citizens and communities save lives

# Restart-a-Heart Day 2017



- Total from Ambulance Trusts in 2016 was **117,000**
- Total from Ambulance Trusts in 2017 was **145,000**
- Training provided separate to Ambulance Trusts 35,000
- Additional numbers included participants from RCEM anniversary event the week before



The Royal College of  
Emergency Medicine





# Total Number Trained for Restart a Heart 2017

**195,623**



# Community training

- RSAH day part of KIDS SAVE LIVES initiative of ERC
- Initiative to get all children in Europe taught CPR in schools
- Examples: Denmark and Sweden
- Now on board: Italy and Germany
- .....we have a lag problem

? BREXIT  
EFFECT



# What now?

- Plans already commencing for Restart a Heart 2018
- This time, however, it will be WORLD Restart a Heart Day!



# Thank you!



**195,623** trained in 2017  
**#RestartaHeart**

Merry Christmas to all  
from London



And success in creating many  
more Lifesavers in the New  
Year

