



Franco Valagussa Lecture

Federico Semeraro, MD, FERC



Italian
Resuscitation
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franco valagussa cardiologia



Tutti

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Finanza

Strumenti

Attualmente è direttore scientifico dell'associazione “Brianza per il Cuore” e responsabile operativo del settore educativo dell' “Hearth Care Foundation” fondazione per la lotta alle malattie cardiovascolari dell'Associazione Nazionale Medici Cardiologi Ospedalieri. 5 lug 2003





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Arengario.net

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[Franco Valagussa - Monza - Arengario.net](#)



Brianza per il Cuore

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[Il saluto a un uomo di fede](#)

4 dic 2006 — **Franco Valagussa** è stato il motore del pro- getto MONICA per l'area Brianza che, insieme ad altri 30 centri nel mondo, per conto dell ...

8 pagine



Brianza per il Cuore

<https://www.brianzaperilcuore.net> › public › brian... PDF ⋮

[Brianza per il Cuore completa il sogno di Franco Valagussa](#)

1 ott 2007 — Scrivo su questo numero di Brianza per il Cuo- re il mio primo intervento da presidente, una carica che ho assunto con la consapevolezza di.

*.....Dal 1992 ad oggi abbiamo addestrato almeno circa **25.000 giovani alla rianimazione cardiopolmonare con il progetto “Salvare il Cuore”**. Ed ora nella città di Monza sono oggi circa **250 i “laici” addestrati all'uso del defibrillatore semiautomatico per integrare il Sistema di emergenza Medica 1-1-8 (carabinieri, polizia di stato, polizia municipale, vigili del fuoco, protezione civile)**. Proprio in questi giorni Brianza per il Cuore darà, grazie alla generosità della comunità, **30 defibrillatori pronti all'impiego al SSUEm 118 per la città di Monza**. Poi il progetto si estenderà all'intera Brianza, spero in tempi rapidi. Lo scopo è quello di portare la sopravvivenza per arresto cardiaco dall'attuale 5% al 20-25% entro due anni.*

Per esempio?

A quell'età l'aspetto ludico è essenziale. Alle medie inferiori con “giochi di ruolo” un po' più impegnativi, per esempio facendo finta di creare un'immaginaria città di cui gli studenti siano amministratori e chiedere loro cosa fare per affrontare e risolvere il problema. Questo crea partecipazione e stimola la fantasia. **Alle scuole superiori si può già fornire una vera informazione scientifica**, anche se semplificata e sempre adeguata al livello d'età. Alcuni di questi programmi di intervento nel mondo scolastico, come quello mirato alle scuole superiori, hanno ormai vent'anni di vita, mentre due anni fa siamo partiti con un altro programma per le scuole elementari e medie inferiori che è un vero e proprio minicorso di pronto soccorso per emergenze cardiache.



Nella mia vita professionale ho avuto la fortuna di incontrare grandi maestri....
Franco Valagussa è stato uno di loro.

Erga Cerchiari



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«Serietà professionale, rigore scientifico, capacità di ascoltare, disponibilità al dialogo, riservatezza e discrezione, il tutto con una buone dose di ironia così lo ricordano in tanti.

La sua umanità e la qualità del suo lavoro l'hanno portato a importanti ruoli nella comunità cardiologica e non. Ha costruito una Cardiologia di riferimento nazionale all'avanguardia in fatto di dotazioni tecnologiche, è stato il precursore di temi assolutamente nuovi per i suoi tempi la prevenzione cardiovascolare, la rianimazione cardiopolmonare, l'educazione alla salute nelle scuole, la cardiologia di comunità, il ruolo centrale del malato».

Laura Valagussa

«Un'avanguardia costruita su un rigoroso aggiornamento e un silenzioso lavoro quotidiano.

Non è stato un papà perfetto ma un cittadino esemplare ed un grande medico che purtroppo, come una macchina, senza la benzina di mamma è andato in panne e si è fermato.

Perché caro Federico papà è stato quello che è stato perché al suo fianco aveva una meravigliosa ed esplosiva donna....»



Franco e Gabriella





Formazione, Ricerca e Passione

Conflict of Interest



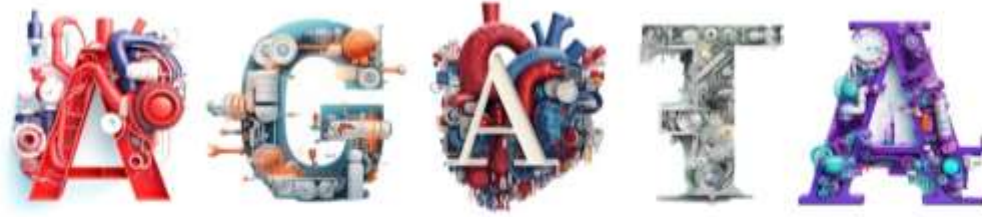
**EUROPEAN
RESUSCITATION
COUNCIL**



EUReCA
THREE
European Registry
of Cardiac arrest



Chair European Resuscitation Council
ILCOR BLS Task Force Emeritus Member
IRC Foundation Member
Kids Save Lives campaign co-chair
EuReCa National Coordinator Italy
Sci-Fi & AI addicted



<https://agatateam.blog>



Captain's Log



Memories

Love for the technology

Wearable devices

VREM, Mini-VREM & Virtual Reality


Serious games & Relive

Kids Save Lives

AI and the future







European & Italian Resuscitation Councils
A.O. San Camillo-Forlanini

Advanced Life Support Provider Course
Roma 18.19.20 Marzo 2002

Programma

Lunedì 18 Marzo 2002 / 1 giornata

0900 – 1000	Registrazione e caffè	Riunione istruttori
1000 – 1030	Benvenuto a ALS in Prospettiva	Erga Cerchiari
1030 – 1100	Cause e prevenzione dell'arresto cardiaco	Sandro Petrosoli
1100 – 1135	Basic Life Support	Gianluca Monaco
1135 – 1210	Gestione delle vie aeree	Claudio Ajmone-Cat
1210 – 1255	Monitoraggio cardiaco e riconoscimento ritmi	Carlo Liberati
1255 – 1340	Pranzo	
1340 – 1415	Defibrillazione	Tiziana Latini
1415 – 1430	Caffè	
1430 – 1710	Stazioni di addestramento (-> pagina 2)	Tutti gli istruttori
1710 – 1810	Test defibrillazione e vie aeree (-> pagina 2)	Tutti gli istruttori
1810	Riunione degli istruttori	

Centro di Riabilitazione Ospedale S.Camillo – 18.19.20 Marzo 2002

UNIVERSITÀ DEGLI STUDI DI ROMA "LA SAPIENZA"
FACOLTÀ DI MEDICINA E CHIRURGIA

SCUOLA DI SPECIALIZZAZIONE IN ANESTESIA E RIANIMAZIONE
DIRETTORE PROF. A. GASPARETTO

TESI DI SPECIALIZZAZIONE

**Analisi della ritenzione di conoscenze e capacità operative
dopo addestramento in Advanced Life Support (ALS)
ed in relazione all'esperienza professionale.**

Relatore:
PROF. SSA ERGA LAURA CERCHIARI

Candidato:
DOTT. FEDERICO FIORENZO SEMERARO

Correlatore:
PROF. LUCIANO SIGNORE

ANNO ACCADEMICO 2001-2002

Resuscitation (2005) 48, 101–108



ELSEVIER

TRAINING AND EDUCATION



RESUSCITATION

www.elsevier.com/locate/jresuscitation

Retention of CPR performance in anaesthetists^{1,2}

Federico Semeraro^{1,*}, Luciano Signore², Erga L. Cerchiari¹

¹ Department of Anaesthesia and Intensive Care, Ospedale Maggiore, Bologna, Italy
² Department of Anaesthesia and Intensive Care, University "La Sapienza", Rome, Italy

Received 4 January 2005; received in revised form 3 April 2005; accepted 9 June 2005

KEYWORDS

Advanced life support (ALS);
CPR; anast; Cardiorespiratory resuscitation (CPR); Training

Summary The objective of this study was to evaluate retention of ALS knowledge and performance among anaesthesiologists, who, in Italy, respond to in-hospital emergencies as team leaders.

Methods: 47 anaesthesiologists (23 consultants and 24 residents) were invited at one week's notice to attend a re-evaluation session, 6 months after successful completion of an ERC ALS course. Knowledge retention was assessed by a multiple choice question test, and skills and management by evaluation of performance as team leader in one of the six standardized CAStest scenarios. During the performance, the times of first defibrillation, completion of the three shock sequence, adrenaline (epinephrine) administration and intubation were recorded. Results were compared between consultants and residents.

Results: Compared to the results at the end of the ALS course, the percent of correct answers to the multiple choice question test decreased from 85.89 ± 5.28% to 79.45 ± 6.62% (P = 0.001), the number of candidates achieving a pass performance decreased from 47/47 to 30/47 (P = 0.001). Time to first defibrillation was 73.38 ± 18.72 s, time for completion of the third defibrillation was 113.04 ± 25.58 s and subsequent ALS interventions were very delayed or forgotten. Comparison between consultants and residents showed that consultants retained knowledge information better, skills decreased comparably in both groups and residents performed tasks faster.

Conclusions: The significant decay of ALS skills 6 months post-ALS recorded among anaesthesiologists supports the need for periodical reinforcement during intervals before rehospitalizations.

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Introduction

¹ A Spanish translated version of the summary of this article appears as Appendix in the online version at 10.1016/j.resuscitation.2005.06.011.

* Corresponding author. Tel.: +39 (0)51 4478848.

fax: +39 (0)51 4478847.

E-mail address: fsemeraro@unibo.it (F. Semeraro).

The poor quality of resuscitation skills, particularly among medical staff, has been well documented.^{1–4} On this basis, major efforts have been promoted to provide permanent in-hospital resuscitation training⁵ and advanced life support



P-109

HOME SWEET HOME: CD-ROM MULTIMEDIA FOR TOXICOLOGY INFORMATION

Federico Semeraro^{1,2}, A. Russo¹, S. Sechi¹, F. Taggi¹, S. Ricalzone¹, L. Signore¹, ¹Anaesthesia and Intensive Care, Poison Control Center-University of Rome 'La Sapienza', Viale del Policlino, Rome, Italy; ²Via Benozzo Gozzoli 36, 00142, Rome, Italy.

Purpose of the study: Accidents at home are common and need careful consideration because many could be avoided by keeping a few simple precautions. Most of the more serious accidents are toxicological in nature and especially children are involved because of their habit of putting everything to their mouth. It is really surprising how many ordinary household articles are dangerous in this respect. In 2000,

more than 1.1 million unintentional poisoning cases among children less than 5 years old were referred to the U.S. Poison Control Centers. More than 90% of all poison exposures occur at home. We hereby presented a new CD-ROM multimedia for medical and family toxicological information about home dangers. *Materials and methods:* The information is presented as a walk through a typical house with its potential danger situations. It is possible to move within the house and across each room: drawing-room, bedroom, kitchen, bathroom, terrace and lumber-room. The CD-ROM contain general aspects on toxicology, basic and advanced life support, decontamination, and antidotes. It also includes much information about different drugs and toxic substances. For each substance two separate cards exist: for the family and for the doctor. In the 'family card' advice is given as to what to do in a situation of toxicological risk; special care is paid to measures to be avoided. In the 'medical doctor card' more complete information is given in different sections: summary, epidemiology, mechanism of toxicity, clinical effects and treatment. *Conclusion:* The authors submit this program for the attention of the general population and the doctor. Worldwide distribution of computers should improve acceptance and utility of the medium. Basic public medical awareness can help to prevent some of the more serious poisoning incidents involving children; doctors can find a ready-to-use source of information on toxic exposure.







Congresso Nazionale IRC
Expo Napoli • Congress Palace, Napoli 6 - 7 Giugno 2008

LA PREVENZIONE DELL'ARRESTO CARDIACO: aspetti clinici e didattici delle situazioni periarresto

1022195

Equilibrio Acido Base ed alterazioni elettrolitiche

- Equilibrio Acido Base nello Shock
- Equilibrio Acido Base, Alterazioni elettrolitiche ed arresto cardiaco
- Sintomi insidiosi con casi clinici

Prevenzione dell'arresto cardiaco nel giovane e nella sport

- Epidemiologia delle morti improvvise nella pratica sportiva
- Psicologia antropologica ereditaria e prevenzione sportiva
- Diffusione ed uso del DAE nelle sedi di attività sportiva
- Sintomi insidiosi, ruolo dell'elettrocardiogramma nella diagnosi e prevenzione

Ruolo del medico nella Prevenzione dell'Arresto Cardiaco

- Virusismo Pleurico
- Pneumococco
- Impostamento cardiaco, funzione respiratoria destra e sinistra
- Integrazione dell'ecografia nell'algoritmo ALS

Sintomi e segni cardiaci

- Prevenire l'arresto cardiaco nel trauma
- Sintomi insidiosi con casi clinici

Prevenzione in Pediatria

- Prevenzione e sicurezza in età pediatrica
- Il trasporto del bambino critico
- Nuovi modelli formativi
- Sintomi insidiosi con casi clinici

Sintomi e segni circolatori

- Seconda formazione e conduzione
- Ruolo virtuale, prototipo per l'addestramento in emergenza
- Internet, simulazione e formazione
- Simulazione, nuove tecnologie e didattica

Emergenza Intossicologica

- Modelli di risposta alle emergenze intossicologiche
- Servizi di risposta rapida negli ospedali pediatrici
- La formazione per chi chiama: il Corso MEDAL
- La formazione per chi risponde: il Corso RRG
- Sintomi insidiosi con casi clinici

Formazione in emergenza urgenti: il modello Italiano

- Formazione di base e avanzata che realizza un modello
- Recettori del formatore o Democof
- Gli Educatori e il controllo di qualità della didattica
- Il Learning Path
- Il corso instructor permanente

Addestramento di gruppo in Riassunzione Cardio-polmonare

- Organizzazione di addestramenti: oltre i guanti di 300 esperti delle scuole superiori

Servizi Innovativi in Telemedicina

- Sintomi di Simulazione in sede di emergenza

Sintomi di rielaborazione: interpretazione della RCP in sede di emergenza

Servizi Comunitari Live

- Enrico Luca Pignone

Servizi Live

- Enrico Franco Magagnoli



Virtual Reality Enhanced Mannequin (VREM)

Short communication

Virtual reality enhanced mannequin (VREM) that is well received by resuscitation experts[☆]

Federico Semeraro^{a,*}, Antonio Frisoli^b, Massimo Bergamasco^b, Erga L. Cerchiari^a

^a Department of Anaesthesia and Intensive Care, Ospedale Maggiore, Bologna, Italy

^b Percro, Scuola Superiore Sant'Anna, Pisa, Italy

Summary: The objective of this study was to test acceptance of, and interest in, a newly developed prototype of virtual reality enhanced mannequin (VREM) on a sample of congress attendees who volunteered to participate in the evaluation session and to respond to a specifically designed questionnaire.

Methods: A commercial Laerdal HeartSim 4000 mannequin was developed to integrate virtual reality (VR) technologies with specially developed virtual reality software to increase the immersive perception of emergency scenarios. To evaluate the acceptance of a virtual reality enhanced mannequin (VREM), we presented it to a sample of 39 possible users. Each evaluation session involved one trainee and two instructors with a standardized procedure and scenario: the operator was invited by the instructor to wear the data-gloves and the head mounted display and was briefly introduced to the scope of the simulation. The instructor helped the operator familiarize himself with the environment. After the patient's collapse, the operator was asked to check the patient's clinical conditions and start CPR. Finally, the patient started to recover signs of circulation and the evaluation session was concluded. Each participant was then asked to respond to a questionnaire designed to explore the trainee's perception in the areas of user-friendliness, realism, and interaction/immersion.

Results: Overall, the evaluation of the system was very positive, as was the feeling of immersion and realism of the environment and simulation. Overall, 84.6% of the participants judged the virtual reality experience as interesting and believed that its development could be very useful for healthcare training.

Conclusions: The prototype of the virtual reality enhanced mannequin was well-liked, without interference by interaction devices, and deserves full technological development and validation in emergency medical training.

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Kuyt et al. *Advances in Simulation* (2021) 6:11
<https://doi.org/10.1186/s41077-021-00158-0>

Advances in Simulation

RESEARCH

Open Access

The use of virtual reality and augmented reality to enhance cardio-pulmonary resuscitation: a scoping review

Katherine Kuyt¹, Sang-Hee Park², Todd P. Chang³, Timothy Jung⁴ and Ralph MacKinnon^{1,4*} 



Publications by year

The first original article published on these topics was in 2009 and reported on the acceptance of, and interest in, a newly developed prototype of a virtual reality enhanced manikin (VREM) [17]. The following year, further data on this VREM was presented during a conference [18]. In addition, in 2010, a review discussing the potential uses of VR in nursing education and CPR was published [19]. From 2016, there has been an exponential growth of publications regarding VR and AR in CPR. Although the data was collected only part way through 2020, the expectation is for this trend to continue. Earlier publications reviewed the use of VR; the first of the included publications based on the use of AR technology was not published until 2016 [20] (Fig. 2).



EUROPEAN
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Second Life ERC 2008



Italian
Resuscitation
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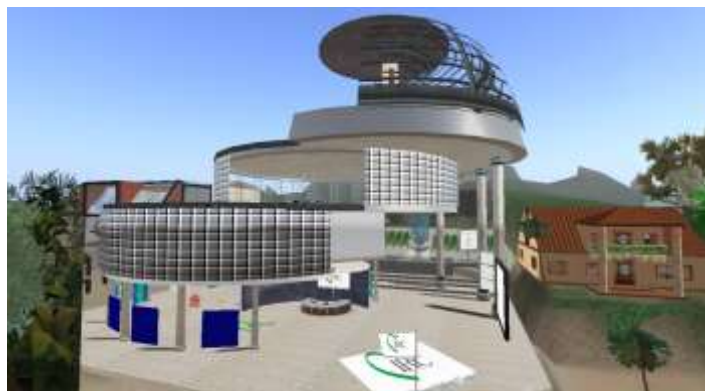
A NON CONVENTIONAL WAY TO TEACH

F.Semeraro, A.Carloni, A.Barelli, A. Scapigliati, M. Gianolio



Italian Resuscitation Council

Federico Semeraro
Maggiore Hospital – Bologna
Italian Resuscitation Council



Early crazy ideas (2008-2009)



Federico Semeraro
Maggiore Hospital – Bologna
Italian Resuscitation Council

CPR in Second Life



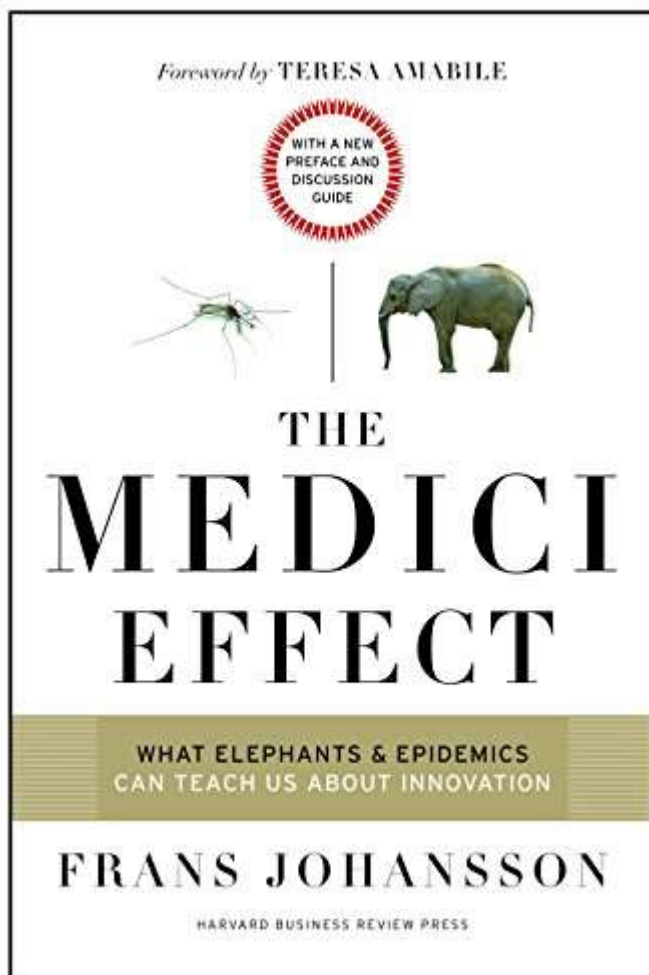
iCPR: NEW SOFTWARE FOR CARDIOPULMONARY RESUSCITATION TRAINING

F. Semeraro¹, L. Marchetti², F. Taggi¹, G. Tammaro¹, G. Imbriaco¹, E.L. Cerchiarì¹
¹Maggiore Hospital, Anaesthesia and Intensive Care, Bologna, Italy,
²d-Sign, Bologna, Italy

Methods

- We built a software specifically dedicated to self-directed CPR training through a tutorial including a simple feedback module dedicated to guide training in relation to the quality of CPR.
- The software can be used with iPod and iPhone on armbands commonly used for running.







iCPR - iPhone App for CPR training

iCPR is a iPhone App dedicated to CPR training for lay persons and healthcare professionals.

iCPR is capable to detect the rate of chest compressions using the built-in accelerometer of iPhone/iPod touch and displays both the rate and count of compressions. This feature makes iCPR a perfect App companion for both instructors and students.

Accuracy of iCPR was tested in a study carried out at the Maggiore Hospital in Bologna, Italy and presented at ESICM 2009 and ERC 2009.



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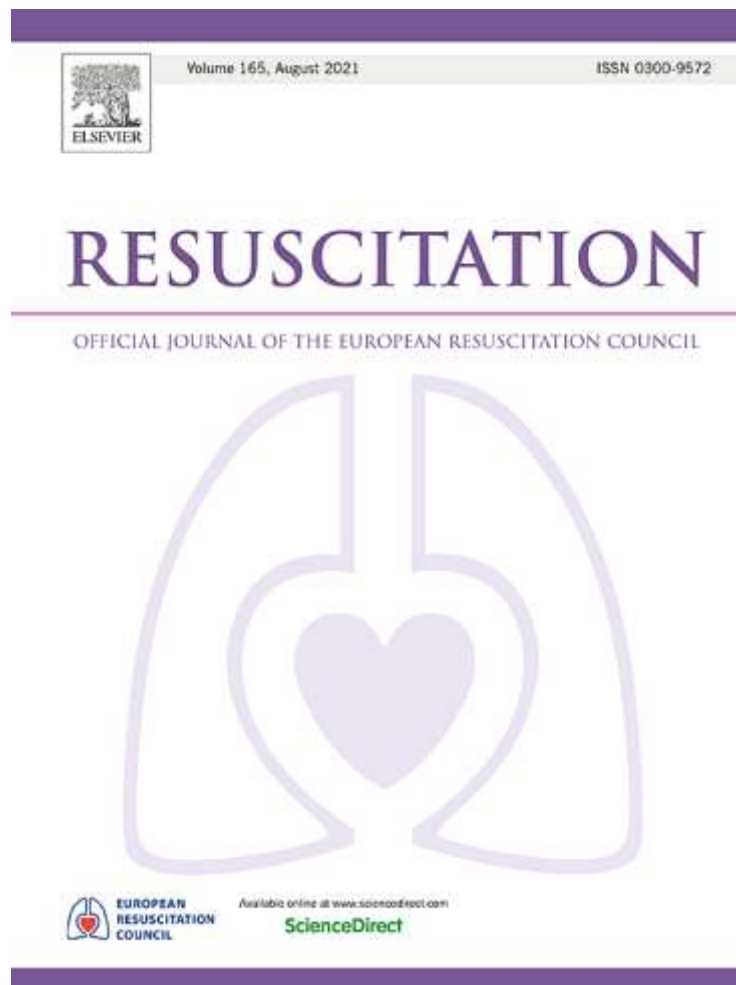
January 2009

July 2009

October 2009



iCPR: a new and friendly application for cardiopulmonary resuscitation training



RIAC - IRC





Registro Arresti Cardiaci IRC

Italian Resuscitation Council

Email:

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RESUSCITATION



Articles Publish Topics About Contact

LETTER TO THE EDITOR Volume 84, Issue 12, E193-E194, December 2014 [Download Full Issue](#)

The "Italian Registry of Cardiac Arrest – RIAC", a National achievement to portrait the Italian reality and to contribute to the wider European vision by "EuReCa"

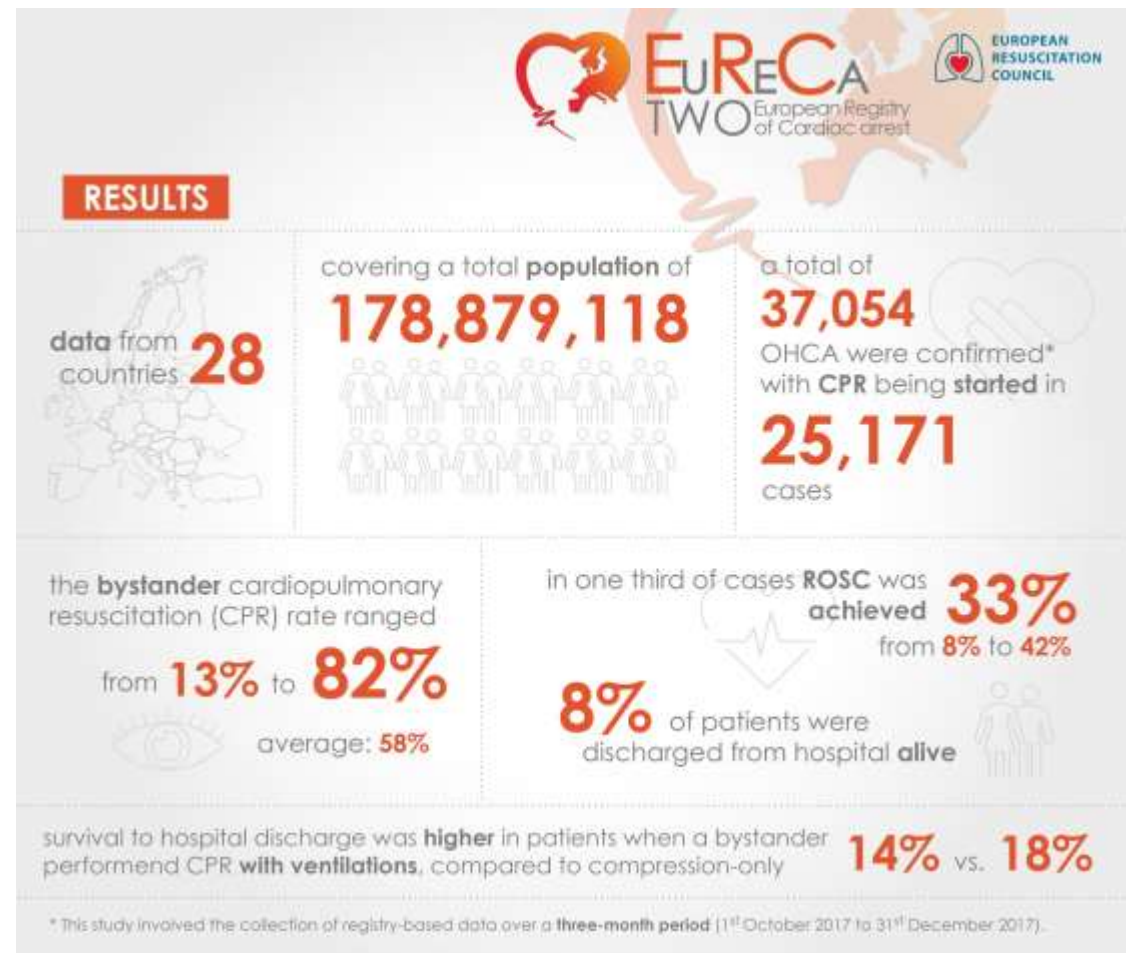
Giuseppe Ristagno ^{1,2,3,4} - Federico Semeraro ^{5,6} - Giulio Radeschi ^{6,7} - Tammaso Pellis ^{8,9} - Giovanni Gardini ¹⁰ - Salvatore Ferro - Ergo Cerchiarri ¹¹ Show less



Clinical paper

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

Jan-Thorsten Gräsner^{a,b,1,*}, Jan Wnent^{a,b,c,1}, Johan Herlitz^d, Gavin D. Perkins^{e,f}, Rolf Lefering^g, Ingvild Tjelmeland^{h,a}, Rudolph W. Kosterⁱ, Siobhán Masterson^j, Fernando Rossell-Ortiz^k, Holger Maurer^l, Bernd W. Böttiger^{m,o}, Maximilian Moertlⁿ, Pierre Mols^o, Hajriz Alilhodić^p, Irzal Hadibegović^q, Marios Ioannides^r, Anatolij Truhlár^{s,t}, Mads Wissenberg^u, Ari Salo^v, Josephine Escutnaire^w, Nikolaos Nikolaou^x, Eniko Nagy^y, Bergthor Steinn Jonsson^z, Peter Wright^A, Federico Semeraro^B, Carlo Clarens^C, Steffie Beesems^D, Grzegorz Cebula^E, Vitor H Correia^F, Diana Cimpoesu^G, Violetta Raffay^H, Stefan Trenkler^I, Andrej Markota^{J,K}, Anneli Strömsöe^{L,M,N}, Roman Burkart^O, Scott Booth^e, Leo Bossaert^{P,Q}



Later crazy ideas (2010....)



**RESUSCITATION
NOVEMBER 2-4, 2010
PORTO PORTUGAL**

NEW TECH OR OLD STYLE IN EMERGENCY TRAINING. THAT IS THE QUESTION...

Semeraro Federico - Maggiore Hospital, Bologna
Tammaro G¹, Scapigliati A¹, Centini G¹, Barelli A²

SMART-Tech Working Group
Member of Training Group IRC, Educator IRC
E Educator and Training Group IRC Coordinator
E President Italian Resuscitation Council



November 03, 2010 03:42

Contents lists available at ScienceDirect

Resuscitation

Journal homepage: www.elsevier.com/locate/resuscitation



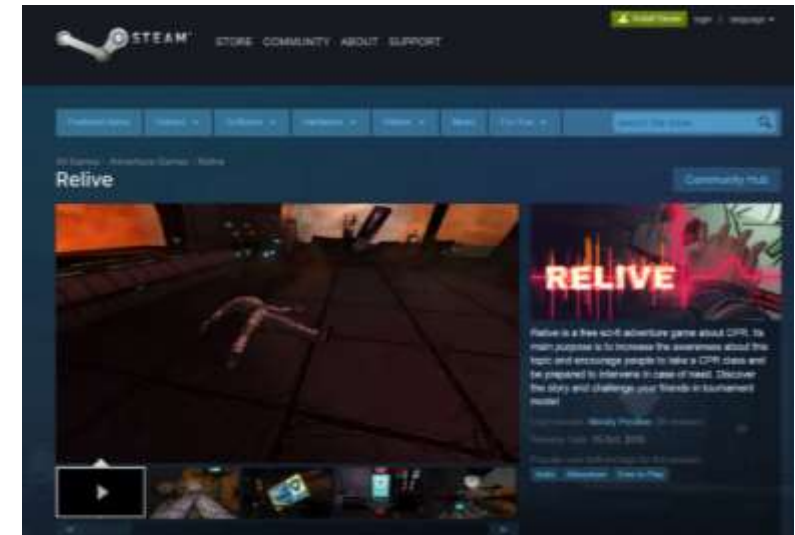

Letter to the Editor

Motion detection technology as a tool for cardiopulmonary resuscitation (CPR) quality improvement

31

The most popular method of training in basic life support and AED remains instructor-led training courses. Recent reviews provide good evidence to support alternative methods of training including lay instructors, self-directed learning (web, video, games) and CPR feedback/simulators.^{1,2} We report here the results of the prototype testing of the previously described Mini-VREM project.³ In brief we used the Kinect[®] sensor system to monitor the performance of CPR on a manikin. Kinect[®] is a motion sensing input device made by Microsoft for the Xbox 360 game console. It enables users to control and interact with the Xbox 360. It does this through a natural user interface which recognizes gestures and spoken commands without the need to reach a game controller. Kinect's camera is driven by both hardware and software. It does two things: it generates a three-dimensional image of the objects in its field of view and recognizes human beings among these objects. The camera transmits invisible near-infrared light and works like radar. At the present, both the Kinect's hardware—its camera and IR-light projector—and its firmware called "middleware" are operating. The Kinect[®] has an on-board processor which uses algorithms to process the data to render the three-dimensional image. The middleware can distinguish between body parts, joints and movements, as well as distinguish individual human faces from one another. The Kinect[®] sensor can detect objects within a working distance of 1.2–1.5m. The horizontal field of the Kinect[®] sensor is 87 cm, and the vertical field is 63 cm, resulting in a resolution of just over 1.5mm (0.051 in.) per pixel. With this technology, Kinect[®] can distinguish objects depth within 1 cm and their height and width within 7 mm. This resolution is sufficient for quality CPR analysis (chest compression rate and depth). Recently, Microsoft released a non-commercial Kinect[®] software development kit (SDK) for Windows. It enables the academic and enthusiast communities easy access to the capabilities offered by the Microsoft Kinect[®] device connected to computers running the Windows 7 operating system.⁴ Our preliminary tests demonstrate the feasibility of the Kinect[®] sensor to monitor CPR performance and can be viewed on YouTube.⁵ Kinect[®] was able to reproducibly track chest movement during manual chest compression and demonstrated excellent synchrony with simultaneous video recordings. We are now

looking for experienced developers willing to collaborate in this project. Further research and technology development is needed to understand if Kinect[®] will be able to measure quality CPR data.

STEAM STORE COMMUNITY ABOUT SUPPORT

Relive

Relive is a free sci-fi adventure game about CPR. Its main purpose is to increase the awareness about first aid and encourage people to take a CPR class and be prepared to take care in case of need. Discover the story and challenge your friends in tournament mode!

Developed by: **Relive Project**

Released: **16 Oct 2010**

Available on: **Windows**



MINI-VREM PROJECT
Mini Virtual Reality Enriched Mannequin

Semeraro F¹, Fritoli A¹, Bergamasco MF, Centini G¹
Department of Anesthesia and Intensive Care, Ospedale Maggiore, Bologna, Italy
¹Italian Superior Card Care, Pisa, Italy

Purpose of the study
The main objective of this research project is the development of a low-cost training platform for quality cardiopulmonary resuscitation of lay and health care personnel, aimed at both retention (in particular chest compression and ventilations) and self-evaluation of acquired skills.



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doi:10.1016/j.resuscite.2011.07.001



Testi approvati

Giovedì 14 giugno 2012 - Strasburgo

Istituzione di una settimana europea di sensibilizzazione sull'arresto cardiaco

P7_TA(2012)0266

P7_DCL(2012)0011

Dichiarazione del Parlamento europeo del 14 giugno 2012 sull'istituzione di una settimana europea di sensibilizzazione sull'arresto cardiaco





Il Parlamento europeo,

– visto l'articolo 123 del suo regolamento;

- A. considerando che ogni anno in Europa circa 400 000 persone sono colpite da arresto cardiaco improvviso al di fuori degli ospedali e che il tasso di sopravvivenza è inferiore al 10%;
 - B. considerando che la sopravvivenza di molte persone colpite, apparentemente sane, dipende dalla rianimazione cardiopolmonare (CPR) eseguita dagli astanti e da una defibrillazione tempestiva, e che un intervento entro 3-4 minuti può aumentare di oltre il 50% le possibilità di sopravvivenza;
 - C. considerando che in Europa sono attuati solo parzialmente programmi per l'utilizzo del defibrillatore automatico esterno (AED);
1. invita la Commissione e il Consiglio a incoraggiare:
 - l'adozione di programmi comuni per l'installazione di AED in luoghi pubblici e per la formazione di non esperti in tutti gli Stati membri;
 - l'adeguamento della legislazione al fine di facilitare il ricorso alla CPR e alla defibrillazione da parte di personale non medico;
 - una raccolta sistematica di dati che garantisca un feedback e una gestione della qualità per ogni programma;
 2. invita la Commissione e gli Stati membri a istituire una settimana europea di sensibilizzazione dedicata all'arresto cardiaco, finalizzata a migliorare la sensibilizzazione e la formazione del grande pubblico, dei medici e del personale sanitario;
 3. invita la Commissione a sostenere gli Stati membri nell'adozione e nell'attuazione di strategie nazionali volte a garantire un accesso equo a una CPR di elevata qualità;
 4. invita la Commissione e gli Stati membri ad adottare una legislazione armonizzata in tutta l'UE, al fine di garantire l'immunità da ogni responsabilità ai soccorritori non professionisti che offrono volontariamente assistenza in caso di emergenza cardiaca;
 5. incarica il suo Presidente di trasmettere la presente dichiarazione, con l'indicazione dei nomi dei firmatari⁽¹⁾, al Consiglio, alla Commissione e ai parlamenti degli Stati membri.


(1) L'elenco dei firmatari è pubblicato nell'allegato 1 del processo verbale del 14 giugno 2012 (P7_PV(2012)08-14/ANNEX1).

WEIL CONFERENCE



Conference on
**CARDIAC ARREST,
SHOCK AND TRAUMA**

Save Patients Lives Through Research
in Critical Care and Education



ISTITUTO MARIO NEGRI 8-9 September 2012 - Milan, Italy
First Translational - Second Announcement



Federico Semeraro

9 settembre 2012 - Milano · 🌐



Full of Science after Weil Conference !!! — con [Andrea Scapigliati](#) presso Istituto Mario Negri.
Congratulations [Giuseppe Ristagno](#)— con [Andrea Scapigliati](#) presso Istituto Mario Negri.





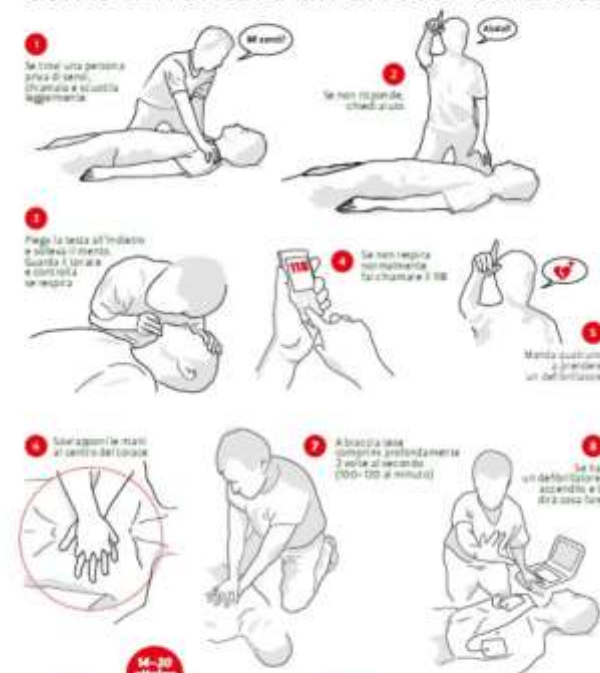


Pieve di Cento IRC 2013





La vita nelle tue mani come affrontare un arresto cardiaco



European Restart A Heart 2013



European Restart A Heart 2013



Viva! Bologna 2013



Games for Health Europe 2013





Relive & Viva! 2014

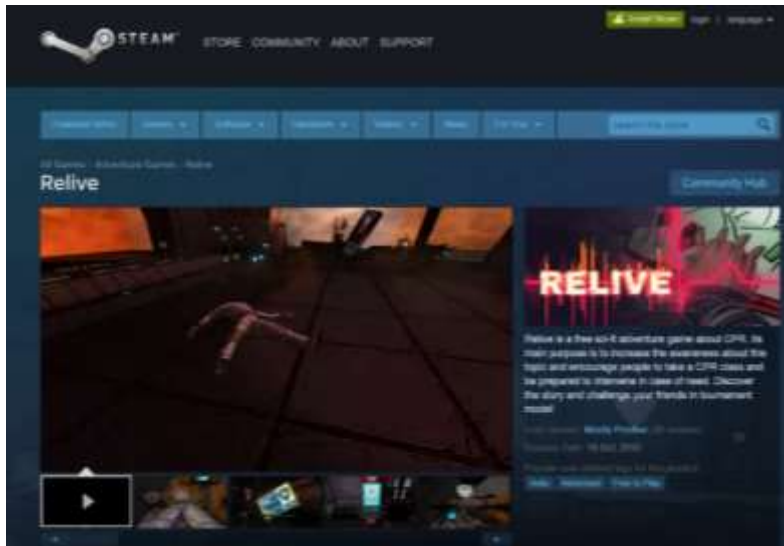


Relive VR



Relive is a free sci-fi adventure game about CPR. Its main purpose is to increase the awareness about this topic and encourage people to take a CPR class and be prepared to intervene in case of need. Discover the story and challenge your friends in tournament mode!

Language: Italian, English, Dutch



Relive

<https://store.steampowered.com/app/404580/Relive/>

Community Hub



Relive is a free sci-fi adventure game about CPR. Its main purpose is to increase the awareness about this topic and encourage people to take a CPR class and be prepared to intervene in case of need. Discover the story and challenge your friends in tournament mode!

ALL REVIEWS: **Mixed** (152)

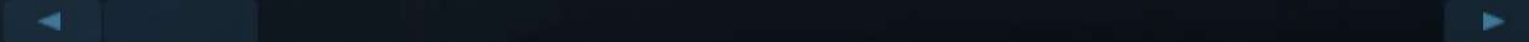
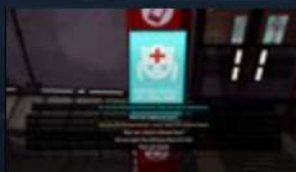
RELEASE DATE: 15 Oct, 2015

DEVELOPER: **Studio Evil**

PUBLISHER: **Studio Evil**

Popular user-defined tags for this product:

[Free to Play](#) [Indie](#) [Adventure](#) [+](#)



Kids (learn how to) save lives in the school with the serious game Relive



Month 1-2

65 students

Month 3-4

65 students

Competition

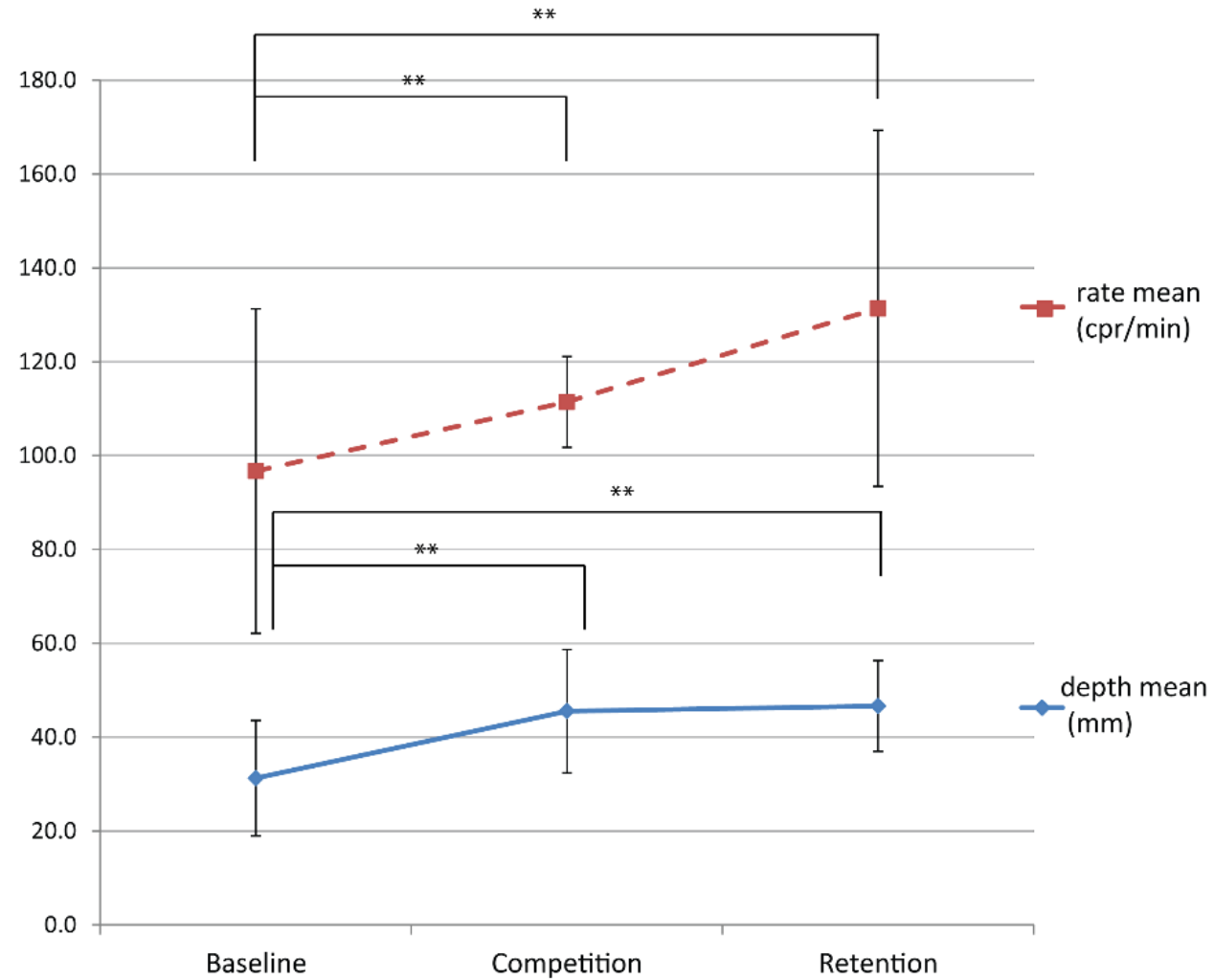
15 students
dropped out

Month 8

50 students



Retention

Kids (learn how to) save lives in the school with the serious game Relive




Conclusions

Relive Tournament Mode was able to improve significantly awareness in terms of knowledge of CA and CC skills in a group of schoolchildren without any previous experience in CPR. Relive was able to improve retention of knowledge and was able to ensure retention of CC depth skill at 3 months after only one session of competition. The RTM was perceived as easy to use and providing an effective feedback. Relive could be useful as a tool to spread CPR knowledge and skills in the schools.

 Gamified learning for resuscitation education:
 EIT 6412; TFSR

 ILCOR staff
Created: December 06, 2023 - Updated: December 06, 2023

Treatment Recommendations 

The Task force suggests the use of Gamified Learning (GL) to be considered as a component of resuscitation training for all types of basic and advanced life support courses (weak recommendation, very low certainty of evidence).



Virtual Reality for CPR training: How cool is that? Dedicated to the “next generation”

[Federico Semeraro](#)  

Maggiore Hospital, Bologna, Italy

[Andrea Scapigliati](#)

Institute of Anesthesia and Intensive Care, Catholic University of the Sacred Heart, Rome, Italy

[Giuseppe Ristagno](#)

Istituto di ricerche farmacologiche “Mario Negri” – IRCCS, Milano, Italy

[Anita Luciani](#), [Stefano Gandolfi](#)

Italian Resuscitation Council Foundation, Bologna, Italy

[Andrew Lockey](#)

Calderdale Royal Hospital, Halifax, UK

[Michael P. Müller](#)

Department of Anaesthesiology and Intensive Care Medicine, University Hospital, Technische Universität Dresden, Dresden, Germany

[Sabine Wingen](#), [Bernd W. Böttiger](#)

University Hospital of Cologne, Kerpener Straße 62, 50937 Köln, Germany



We received 258 responses from 18 countries. The background of participants was:
key person in national resuscitation council, educator, instructor and members of the ERC Research NET



Available online at www.sciencedirect.com

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Letter to the Editor

Over 675,000 lay people trained in cardiopulmonary resuscitation worldwide — The “World Restart a Heart (WRAH)” initiative 2018

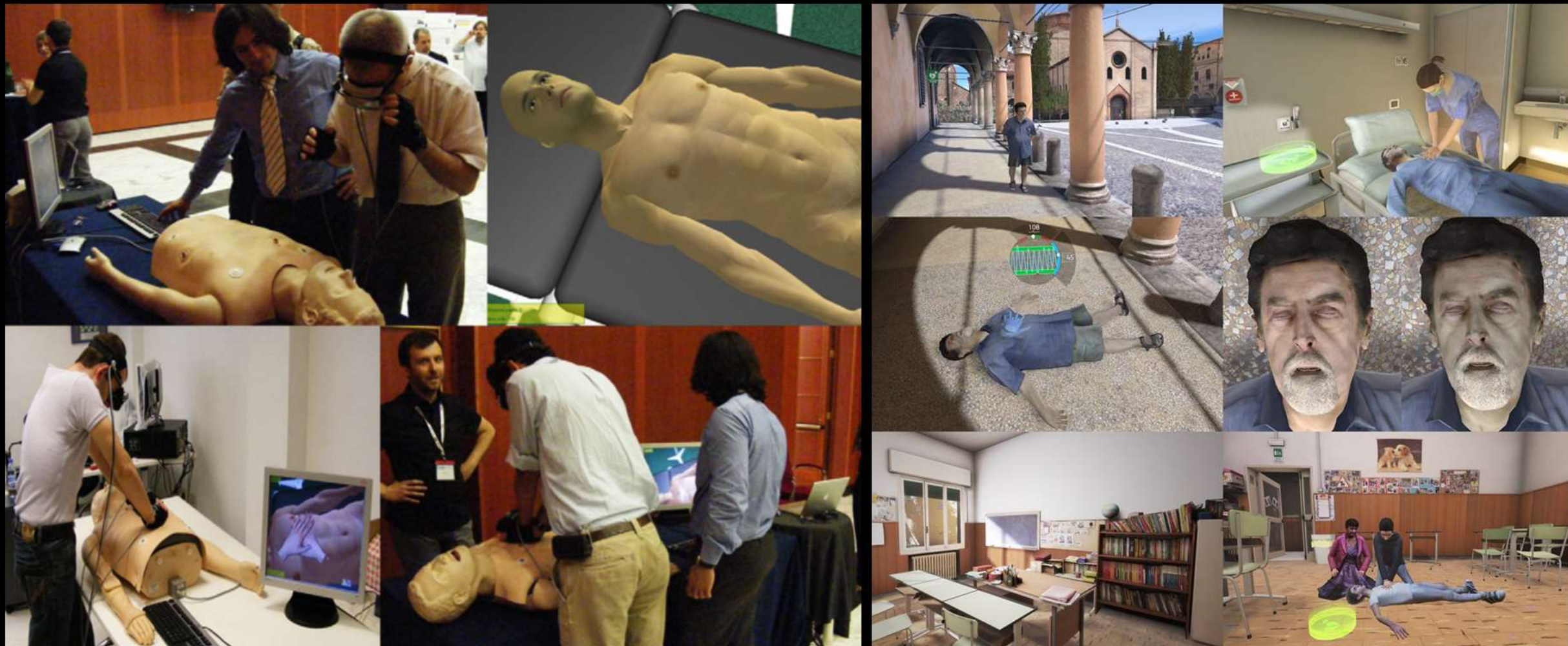
SPECIAL REPORT

Up to 206 Million People Reached and Over 5.4 Million Trained in Cardiopulmonary Resuscitation Worldwide: The 2019 International Liaison Committee on Resuscitation World Restart a Heart Initiative

Bernd W. Böttiger, MD, ML, DEAA ; Andrew Lockey, MB, ChB, MMedEd; Richard Aickin, MbChB 
Maria Carmona, MD, PhD ; Pascal Cassan, MD; Maaret Castrén, MD, PhD; SSC Chakra Rao, MD;
Allan De Caen, MD; Raffo Escalante, MD; Marios Georgiou, PhD; Amber Hoover, RN, MSN; Karl B. Kern,
MD ; Abdul Majeed S. Khan, SBIM ; Cianna Levi, BSc; Swee H. Lim, MBBS; Vinay Nadkarni, MD;
Naomi V. Nakagawa, PT, PhD ; Kevin Nation, NZRN; Robert W. Neumar, MD, PhD; Jerry P. Nolan,
MB, ChB; Jannicke Mellin-Olsen, MD; Jacopo Pagani, MD; Monica Sales, BA; Federico Semeraro, MD;
David Stanton, CCA; Cristina Toporas, BSc; Heleen van Grootven, MA; Tzong-Luen Wang, MD, PhD,
JM; Nilmini Wijesuriya, MD; Gillian Wong, MPH; Gavin D. Perkins, MB ChB, MD



Ten Years Challenge! #TenYearsChallenge #TenYearChallenge #TenYears



#VirtuReality #VRCPR #SchoolOfCPR #VREM #Relive #IRC



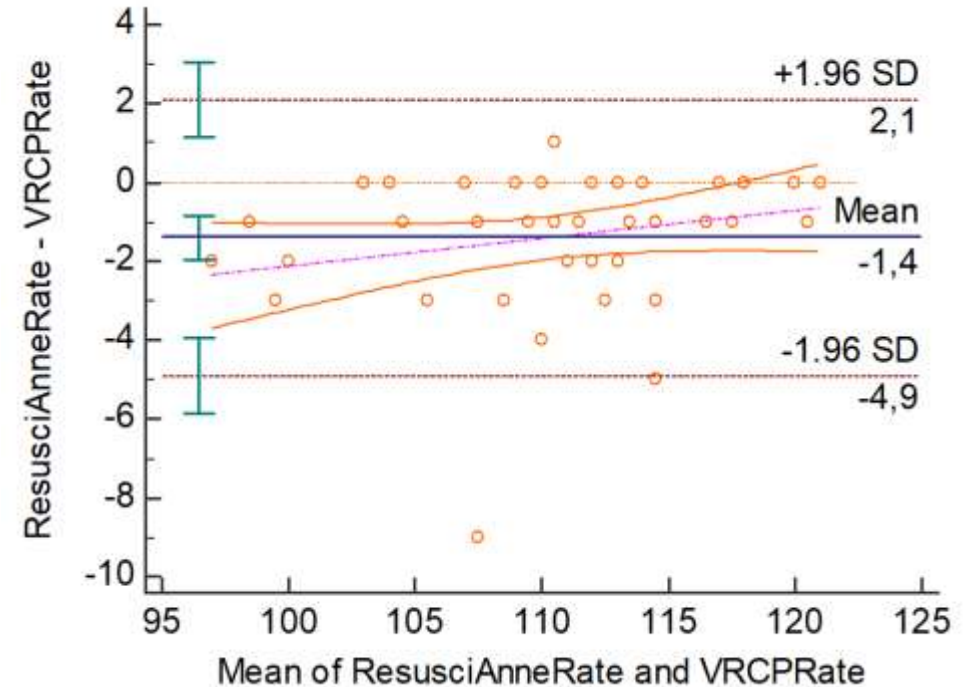
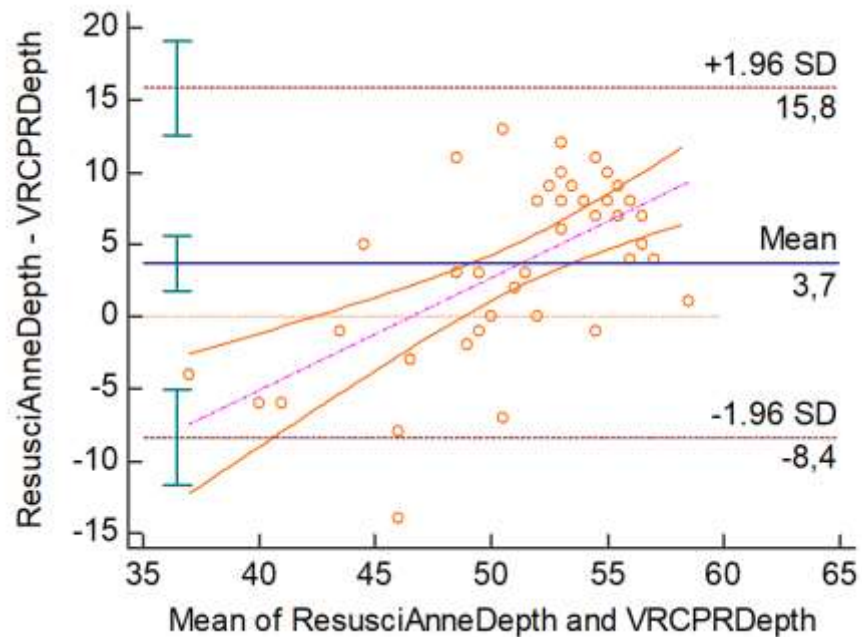
VR CPR versus CPR “Real” Training



- The VR CPR was tested in 43 users.
- Medical students at first year of medicine and surgery degree.
- All students were ERC BLS provider from 2018.
- The sample consisted of 25 (58%) male and 18 (42%) women
- Average age of 21 ± 3 years and BMI 22 ± 2 .

Virtual Reality cardiopulmonary resuscitation (CPR) experience: a tool for quality training in resuscitation
Semeraro et al. Resuscitation. 2019 Feb;135:234-235.

VR CPR versus CPR “Real” Training



The Bland–Altman plot of chest compression depth and chest compression rate (Resusci Anne vs. VR CPR) in the 43 students' performance of 120 s chest compressions only-CPR.



ELSEVIER

Available online at www.sciencedirect.com

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Letter to the Editor

Back to reality: A new blended pilot course of Basic Life Support with Virtual Reality



Basic Life Support & Virtual Reality



BLS Quality CPR Skill



Participants' feedback

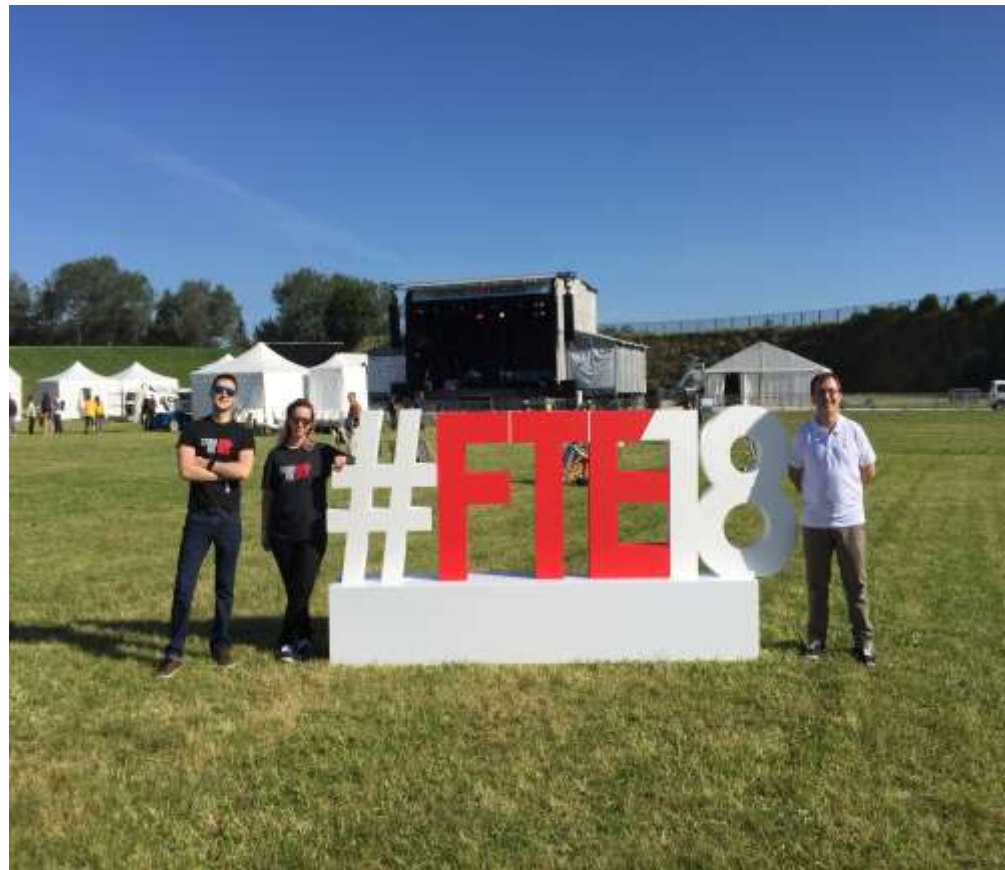


Table 1 – VR experience evaluation. Participants' feedback on VR experience. Participants rated the following statements using a 7-point Likert scale (1 = completely disagree, 7 = completely agree).

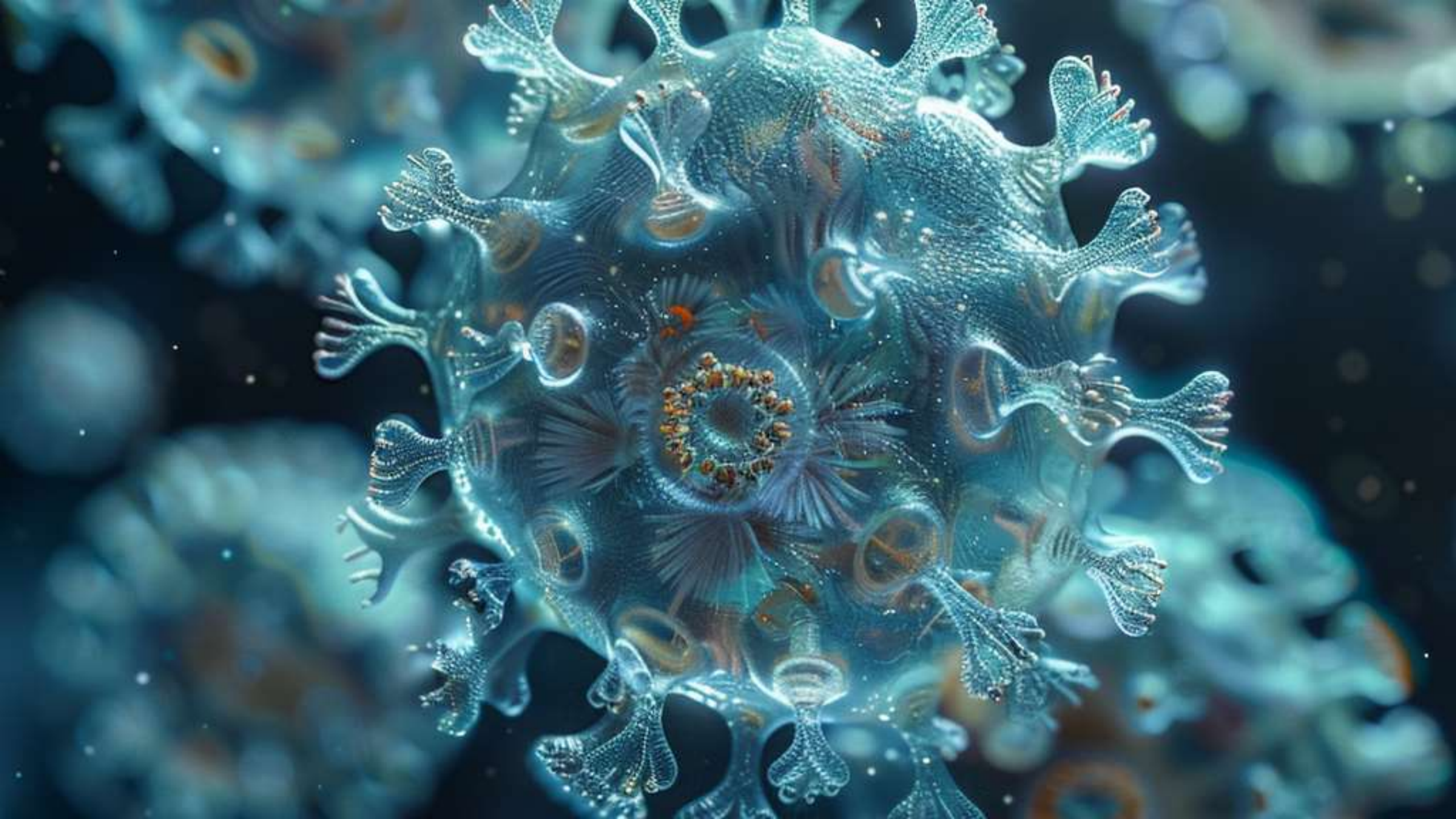
	N	Yes	No
1. Did you have any previous experience of Virtual Reality?	22	4	18
	n	Median	[range]
2. It is very difficult to wear and use the VR setup	22	1	[1-7]
3. It is difficult to perform chest compression with the use of VR setup	22	2	[1-7]
4. I have the feeling that the patient is really present in front of me	22	7	[5-7]
5. The patient presents the classical signs of cardiac arrest (unconscious, gasping, pale skin, etc)	22	7	[6-7]
6. I have the impression to be in the real Bologna square and/or in a real hospital	22	7	[4-7]
7. The environment of the Santo Stefano Square is very realistic	22	7	[5-7]
8. The perception of the three-dimensional space is very high	22	7	[6-7]
9. The interaction with the patient is very realistic	22	7	[5-7]
10. The feeling of personal involvement in the resuscitation procedure is high	22	7	[5-7]
11. The feedback received from VR CPR on my chest compression performance during the 2 minutes of CPR is clear	22	7	[3-7]
12. VR CPR helps me to perform a chest compression rate between 100 and 120 compressions per minute	22	7	[5-7]
13. VR CPR helps me to perform a chest compression depth between 50 and 60 millimeters	22	7	[4-7]
14. I feel emotionally more involved when experiencing VR CPR training in comparison to the standard CPR manikin training	22	7	[6-7]
15. I agree Virtual Reality will improve the results of CPR Training in the near future	22	7	[4-7]
	N	Yes	No
16. Do you think that VR CPR should be implemented to improve effectiveness of healthcare personnel training?	22	22	0

Festival Tous Engagés #FTE18

Testing in Real life









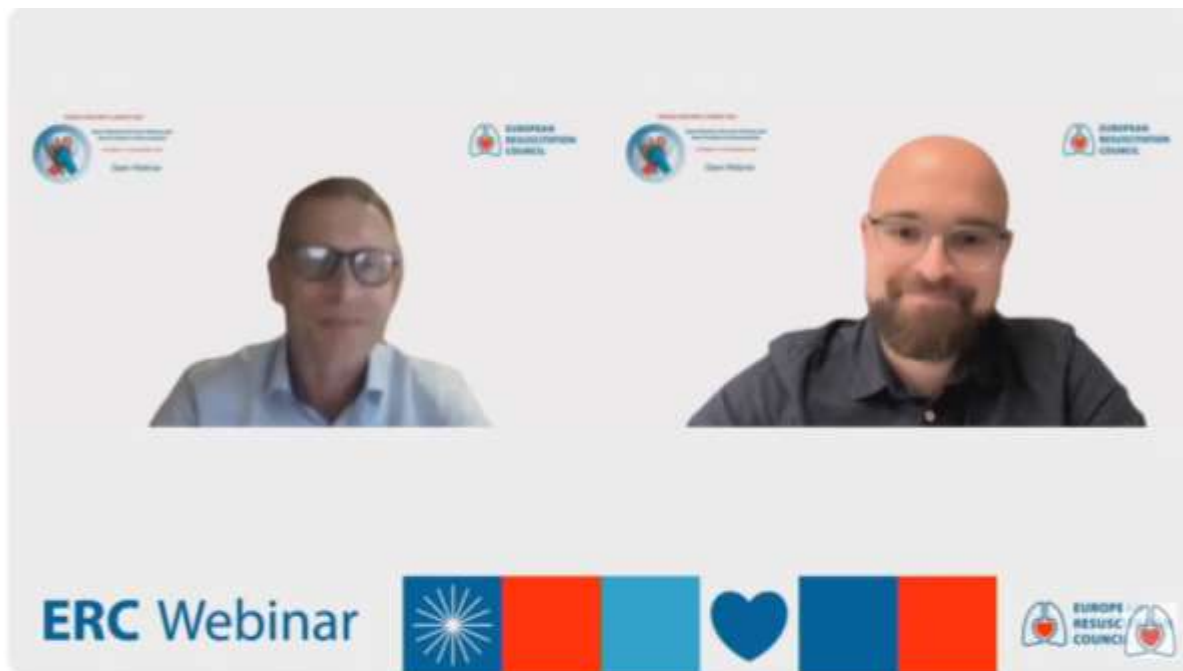
Chair-Elect European Resuscitation Council





Potential Years of Life Lost (PYLL)

**PYLL = 228
anni**



ERC Webinar: Open Webinar on Survivors' Communities



ERC Webinar: Open Webinar on Survivors' Communities



ENFORCER



Lo studio è finanziato dalla "Fondazione IRC Italian Resuscitation Council ETS", un'associazione no-profit dedicata a supportare i sopravvissuti all'arresto cardiaco e le loro famiglie, e sviluppato e promosso da Azienda USL Bologna e Montecatone Rehabilitation Institute.



www.studioenforcer.it
intErnet-based iNterventions FOR
Cardiac arrEst suRvivors





7 giugno 2013, Pieve di Cento



16 dicembre 2021, Rimini

Un sistema per salvare vite

Le proposte di **Italian Resuscitation Council** diventano realtà con la legge
**UTILIZZO DEI DEFIBRILLATORI SEMIAUTOMATICI ED
AUTOMATICI (DAE) IN AMBIENTE EXTRAOSPEDALIERO**



1
Art. Collocazione dei DAE negli uffici, nelle scuole e sui mezzi del trasporto pubblico



2
Art. Diffusione dei DAE nei luoghi pubblici




3
Art. Protezione legale per chi presta soccorso




4
Art. Presenza di un DAE in tutti gli impianti sportivi




5
Art. Insegnamento della rianimazione cardiopolmonare nelle scuole secondarie di primo e secondo grado




6
Art. Registrazione dei DAE presso le centrali operative del sistema di emergenza sanitaria 118



7
Art. App per allertare altri soccorritori e conoscere l'ubicazione del DAE più vicino. Guida a distanza da parte dell'operatore 118



8
Art. Campagne di informazione e sensibilizzazione



*Spedito in abb. post. - art. 1, comma 1
Legge 27-02-2004, n. 46 - Filiale di Roma*

Anno 162° - Numero 193

GAZZETTA UFFICIALE

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3° Serie speciale: Regioni (pubblicata il sabato)
4° Serie speciale: Concorsi ed esami (pubblicata il martedì e il venerdì)
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La Gazzetta Ufficiale, Parte Seconda, "Foglio delle inserzioni", è pubblicata il martedì, il giovedì e il sabato

LEGGI ED ALTRI ATTI NORMATIVI

LEGGE 4 agosto 2021, n. 116.

Disposizioni in materia di utilizzo dei defibrillatori semiautomatici e automatici. (21G00126)



ELSEVIER

Available online at [ScienceDirect](#)

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation



Letter to the Editor

The new Italian law “A systems saving lives” the first European former application of ERC 2021 guidelines



Scapigliati A, Semeraro F, Di Marco S, Ristagno G; Italian Resuscitation Council Executive Committee. Resuscitation. 2021

I am not afraid of death.
I am an old physicist.
I am afraid of time.



Interstellar Professor Brand

SYSTEMS SAVING LIVES GL 2021

RAISE AWARENESS ABOUT CPR AND DEFIBRILLATION

KEY EVIDENCE

- Bystander CPR and defibrillation saves lives
- Bystander CPR is not always provided
- Public Access Defibrillators are not always readily accessible

KEY RECOMMENDATIONS

- Raise awareness of the importance of bystander CPR and AEDs
- Engage with World Restart a Heart Day
- Train as many citizens as possible
- Develop new and innovative systems and policies that will save more lives



Un sistema per salvare vite

Le proposte di Italian Resuscitation Council diventano realtà con la legge

UTILIZZO DEI DEFIBRILLATORI SEMIAUTOMATICI ED AUTOMATICI (DAE) IN AMBIENTE EXTRAOSPEDALIERO

8 Campagne di informazione e sensibilizzazione

Art. 

 Italian Resuscitation Council



10 YEARS

EUROPEAN CARDIAC ARREST AWARENESS WEEK

14 JUNE 2012 – 14 JUNE 2022

CELEBRATE WITH US 10 YEARS OF EUROPEAN RESTART A HEART

Post on Facebook, Twitter and Instagram
memories of the last 10 years of European
Restart a Heart using the hashtag **#ECAAWA**

#ECAAWA

JOIN THE CHALLENGE FOR WORLD RESTART A HEART DAY

16 OCTOBER 2022

SHARE WITH US YOUR VIDEOS

- 1** Record yourself while performing CPR (CHECK, CALL, COMPRESS) or while showing the WRAH poster
- 2** Try to do this in the funniest, unusual, and original environment or situation
- 3** Post the video on social media using the hashtag **#WorldRestartAHeart** and nominate other 3 colleagues/friends to do the same

#WORLDRESTARTAHEART

SYSTEMS SAVING LIVES GL 2021

USE TECHNOLOGY TO ENGAGE COMMUNITIES

KEY EVIDENCE

Alerting first responders improves the rate of bystander-initiated cardiopulmonary resuscitation (CPR), reduce the time to first compression and shock delivery, and improve survival with good neurological recovery



KEY RECOMMENDATIONS

-  Implement technologies to alert first responders to cardiac arrests through smartphone apps / text messages
-  Develop communities of first responders to help save lives
-  Map and share the locations of public access defibrillators

Un sistema per salvare vite

Le proposte di Italian Resuscitation Council diventano realtà con la legge

UTILIZZO DEI DEFIBRILLATORI SEMIAUTOMATICI ED AUTOMATICI (DAE) IN AMBIENTE EXTRAOSPEDALIERO

Art. 7

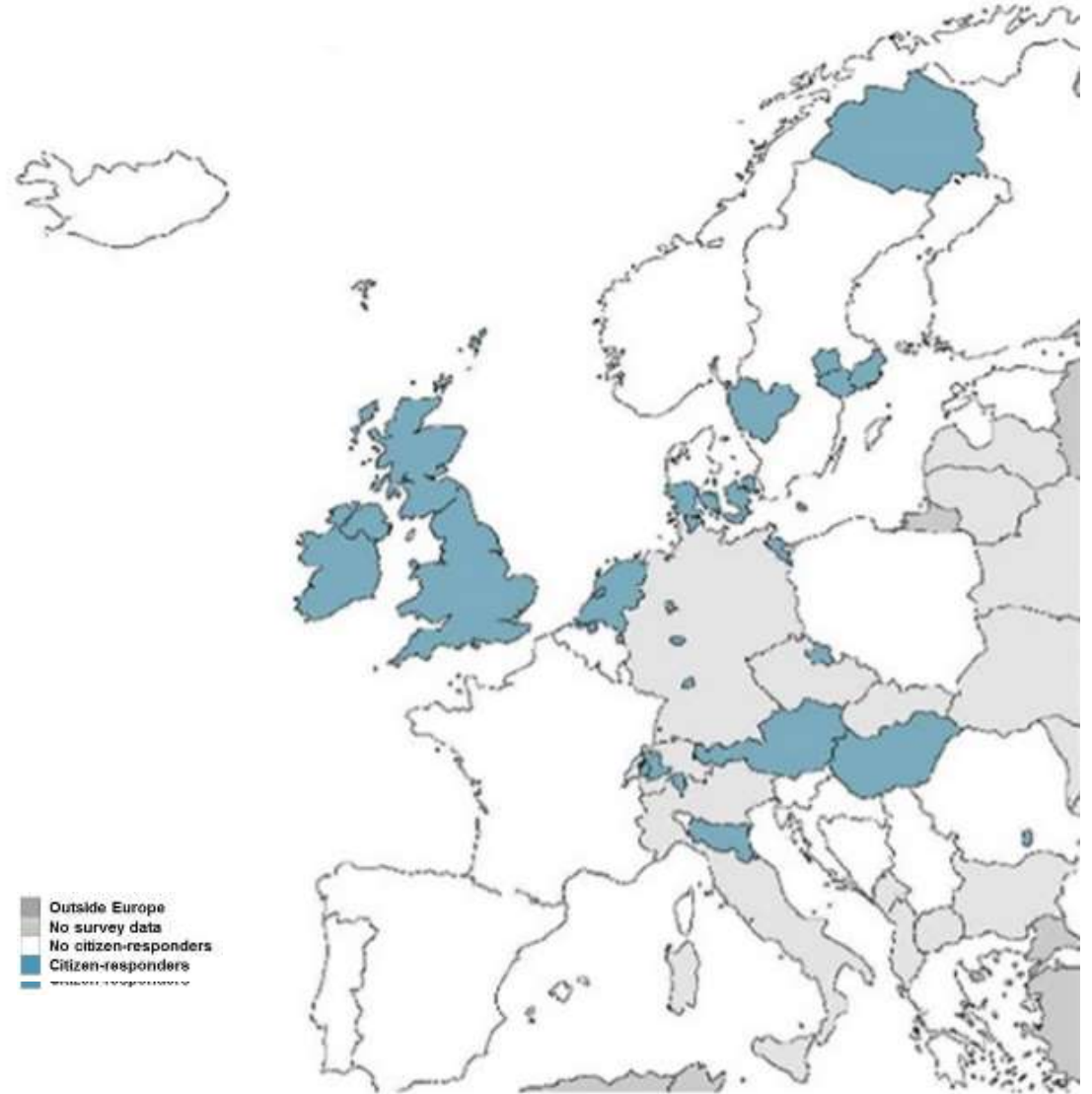
App per allertare altri soccorritori e conoscere l'ubicazione del DAE più vicino. Guida a distanza da parte dell'operatore 118



 Italian Resuscitation Council

First-response treatment after out-of-hospital cardiac arrest: a survey of current practices across 29 countries in Europe

Iris Oving¹, Siobhan Masterson², Ingvild B.M. Tjelmeland³, Martin Jonsson⁴, Federico Semeraro⁵, Mattias Ri Anatolij Truhlar⁶, Diana Cimpoesu⁷, Fredrik Folke^{8,9}, Stefanie G. Beesems¹, Rudolph W. Koster¹, Hanno L. Tan^{1,10}, Marieke T. Blom¹ and for the ESCAPE-NET Investigators



 Regione Emilia-Romagna



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA



Con il contributo di

FONDAZIONE DEL MONTE
DI BOLOGNA E RAVENNA
1473

DAE RespondER

L'App che allerta i defibrillatori

La **App DAE RespondER** è integrata con la **Centrale Operativa 118** e consente a chiunque sia registrato di essere allertato, con l'obiettivo di contribuire a **ridurre i tempi di intervento sui sospetti ARRESTI CARDIACI** in Regione Emilia-Romagna. Consente inoltre di **localizzare il DAE più vicino**, per poterlo recuperare e portarlo dove si trova la persona colpita. È infine possibile **chiamare il 118** inviando la propria posizione in modo automatico.

Scarica la **APP** disponibile su
Apple Store e **Play Store**.



DAE RespondER App Store



DAE RespondER Google Play



RESUSCITATION 185 (2023) 109748



Available online at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

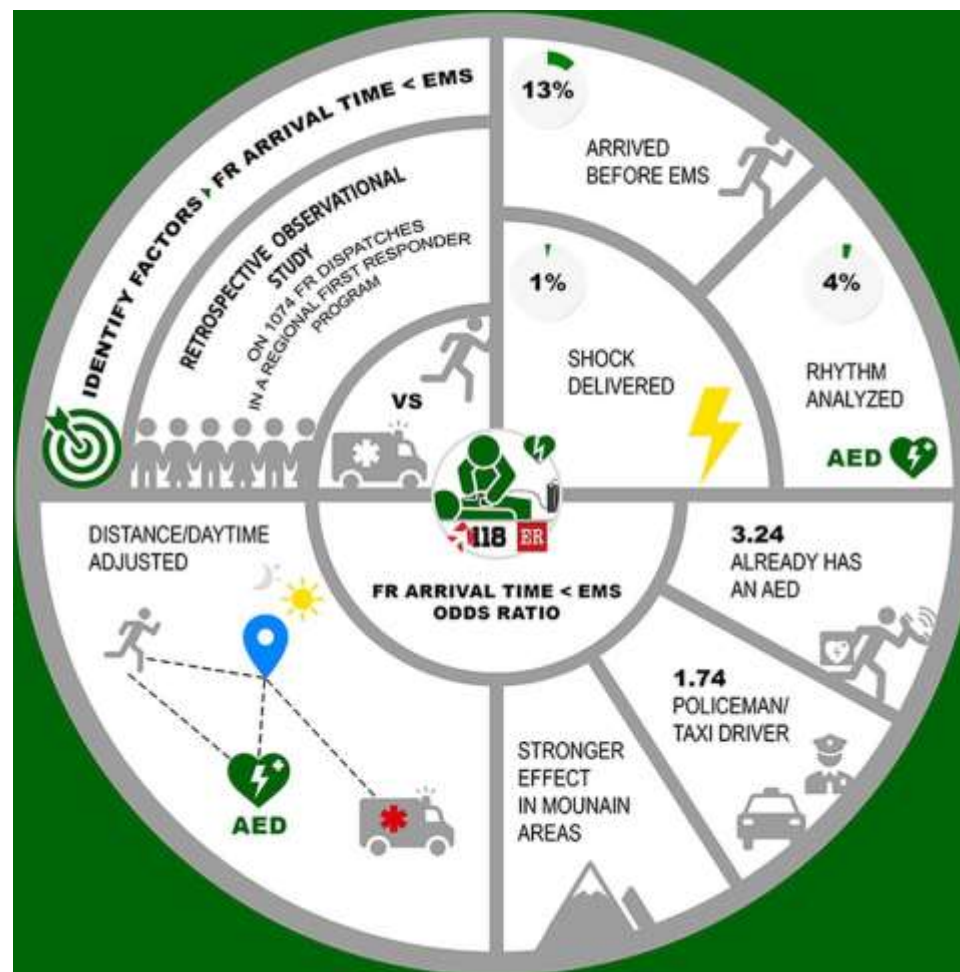


Clinical paper

Factors associated with the arrival of smartphone-activated first responders before the emergency medical services in Out-of-Hospital cardiac arrest dispatch



Lorenzo Gamberini^a, Donatella Del Giudice^b, Stefano Saltalamacchia^a, Benjamin Taylor^c, Isabella Sala^{d,e}, Davide Allegri^f, Antonio Pastori^g, Carlo Coniglio^{a,*}, Giovanni Gordini^a, Federico Semeraro^a, Collaborators¹



SYSTEMS SAVING LIVES GL 2021 


KIDS SAVE LIVES

KEY EVIDENCE



Mandatory nationwide training of schoolchildren has the highest and most important long-term impact for improving bystander CPR rate

KEY RECOMMENDATIONS



- Teach all school children to do CPR using "check, call and compress"
- Continue training in higher education, particularly for healthcare students
- Get children to teach their parents and relatives how to do CPR
- Engage governments and politicians to pass laws to mandate training school children in CPR

Un sistema per salvare vite

Le proposte di **Italian Resuscitation Council** diventano realtà con la legge **UTILIZZO DEI DEFIBRILLATORI SEMIAUTOMATICI ED AUTOMATICI (DAE) IN AMBIENTE EXTRAOSPEDALIERO**

5 **Insegnamento della rianimazione cardiopolmonare nelle scuole secondarie di primo e secondo grado** 

Att.



Italian
Resuscitation
Council

ILCOR Scientific Statement

KIDS SAVE LIVES: Basic Life Support Education for Schoolchildren: A Narrative Review and Scientific Statement From the International Liaison Committee on Resuscitation

Daniel C. Schroeder, Federico Semeraro, Robert Greif, Janet Bray, Peter Morley, Michael Parr, Naomi Kondo Nakagawa, Taku Iwami, Simon-Richard Finke, Carolina Malta Hansen, Andrew Lockey, Marina Del Rios, Farhan Bhanji, Comilla Sasson, Stephen M. Schexnayder, Tommaso Scquizzato, Wolfgang A. Wetsch, Bernd W. Böttiger, on behalf of the International Liaison Committee on Resuscitation



Detection of Cardiac Arrest

- Highlight that cardiac arrest detection is the first key element of the chain of survival by using a simple algorithm
- Teach young children how to assess for consciousness and normal breathing



Transmission of an Emergency Call

- Begin teaching the emergency telephone number to young children from the age of 4 years
- Teach how to alert the emergency service correctly (eg, address of the emergency) to schoolchildren from the age of 6 years



Chest Compression Depth and Rate

- Young children should be taught the correct compression depth and rate, although they may not achieve these to guideline standards
- For schoolchildren, focus on the key components of high-quality CPR: minimizing chest compression interruptions, correct chest compression rate and depth, and full chest recoil
- The ability to practice BLS skills during training and retraining is critical
- The use of cognitive aids (eg, metronomes, music at 100–120 beats/minute) or real time feedback devices is recommended



Automated External Defibrillation (AED)

- Integrate AED education and practice in schoolchildren gradually
- Emphasize proper positioning of the pads of an AED and order of BLS
- Emphasize safety in delivering shock: "Do not touch the person."



Mouth-to-Mouth Ventilation

- In young children, focus on compression-only CPR
- Teach schoolchildren the technique, sequencing, and rates for breathing, taking into consideration some schoolchildren may have difficulty achieving ventilation volumes



Use of BLS Training Manikins and Multiplier Effect

- Consider professional BLS training manikins during BLS-lessons to teach high-quality chest compressions
- Distribute take-home BLS training kits for schoolchildren BLS training
- Motivate schoolchildren to act as a multiplier
- Use homework as an opportunity to consolidate knowledge and skills and teach others BLS



Duration of Training Sessions and Group Size

- Use group sizes of 3–5 pupils for BLS training when possible
- Ensure at least 2 hours of BLS training



Innovative Technology-Enhanced Learning and Social Media Tools for BLS Education

- Use technology-enhanced learning, social media tools, and virtual learning environments to engage, motivate, and educate schoolchildren in BLS
- Technology can be considered where resources or time do not permit formal instructor-led training or in combination with traditional training



Integration of Kids Save Lives in School Curricula

- Promote schoolchildren BLS training as an effective instrument to increase survival after OHCA
- Advocate to legislate schoolchildren BLS training as a graduation requirement at all levels of government
- Use published principles by local resuscitation organizations as underlying foundation for schoolchildren BLS training



Who Should Teach?

- Train schoolteachers as BLS instructors
- Include teaching BLS in the curriculum when training student teachers at universities
- KSL programs and resuscitation councils should serve as contact for schoolteachers and support them as BLS instructors



Appropriate Starting Age

- Train all schoolchildren in BLS annually independent of their age
- Arouse interest for BLS in young children from the age of four years



Motivational Aspects of Schoolchildren Towards BLS

- Increase motivation for learning and performing BLS by explaining the importance of timely interventions
- Identify and address barriers to performing BLS that are raised by schoolchildren



Development of Cognitive Skills

- Use a combination of theoretical lessons and practical skill training
- Emphasize practical skill training and blended learning



Retrieval of Theoretical Knowledge

- Include evaluation of theoretical knowledge in BLS education
- Provide annual theoretical and practical refresher training for maintenance of knowledge and skills



Role of Public Campaigns

- Include schoolchildren in campaigns initiated to increase bystander CPR rates





Progetto

App

Kids Save Lives

Info

Kit didattico

Eventi

Kids Save Lives

Imparare come salvare una vita

Scopri di più



SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Unità Sanitaria Locale di Bologna

Istituto delle Scienze Neurologiche
Istituto di Ricovero e Cura a Carattere Scientifico



Italian
Resuscitation
Council



FONDAZIONE DEL MONTE
DI BOLOGNA E RAVENNA
1473

Kids Save Lives 2022-2024



Kids Save Lives 2022-2024



Kids Save Lives 2022-2024

PROGETTATO DA

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EMILIA-ROMAGNA
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Istituto delle Scienze Neurologiche
Istituto di Ricerca e Cura a Carattere Scientifico

IN COLLABORAZIONE CON

 118

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CON IL CONTRIBUTO DI

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DI BOLOGNA E RAVENNA
1473



**KIDS
SAVE
LIVES**

IMPARARE
COME SALVARE
UNA VITA

Un pic-nic...
MOZZAFIATO VR!



Kids Save Lives 2022-2024



6 - 10 anni

11 - 18 anni

> 18 anni



Un picnic
mozzafiato



Un picnic
mozzafiato VR



School of CPR VR



DAE Responder



Kids Save Lives 2022-2024



Kids Save Lives 2022-2024



RESUSCITATION 194 (2024) 110088

Available online at ScienceDirect

Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation




Simulation and education

Empowering the next Generation: An innovative “Kids Save Lives” blended learning programme for schoolchildren training

Federico Semeraro^{a,*}, Guglielmo Imbriaco^{b,c,*}, Donatella Del Giudice^b, Marco Antognoli^a, Daniele Celin^b, Micaela Cuttitta^a, Vincenzo Lo Guasto^a, Gabriele Giulini^a, Tania Gnudi^a, Alessandro Monesi^a, Elisa Nava^b, Riccardo Tucci^a, Alessandra Carenzio^{d,e}, Sara Lo Jacono^{d,e}, Giovanni Gordini^a, Lorenzo Gamberini^a, Collaborators, Carlo Coniglio^f, Marzia Baldazzi^f, Chiara Landini^g, Martina Guarnera^h, Juliette Masinaⁱ, Giorgia Ghediniⁱ, Lucia Potriⁱ, Donatella Tortolani^h

Abstract

Introduction: Guidelines recommend teaching resuscitation from school age; however, little is known about the best methods to provide it. We devised a blended learning program for primary and secondary students (Kids Save Lives – KSL) consisting of brief lectures, practical training with mannequins, and virtual reality. We aimed to evaluate its impact on students’ attitudes towards intervening during cardiac arrest and their knowledge about basic life support.

Methods: This observational, prospective, before-and-after study assessed attitudes and basic life support knowledge in primary and secondary school children exposed to the KSL program. 20 events were conducted in the metropolitan area of Bologna, Italy. A multiple-choice test (before and after the course) explored attitude, knowledge and perceptions of realism, engagement, and agreement with the virtual reality method.

Results: A total of 1,179 students (response rate 81.4%) were included in the final analysis, with 12.85% from primary schools, 5.94% from middle schools, and 81.17% from high schools. Students’ willingness to intervene during a cardiac arrest rose from 56.9% to 93.1% ($p < 0.001$) post-course. The course’s realism, engagement, and future prospects received positive feedback, with median scores notably higher in primary schools compared to secondary schools.

Conclusion: The blended learning method improved students’ understanding of basic life support techniques and their attitude to act during cardiac arrest situations. The positive reception of the virtual reality component underscores technology’s potential to bolster engagement and should be further explored for basic life support teaching in schoolchildren.

Keywords: Blended learning, Cardiopulmonary resuscitation, Kids save lives, Resuscitation education, Students, Virtual reality

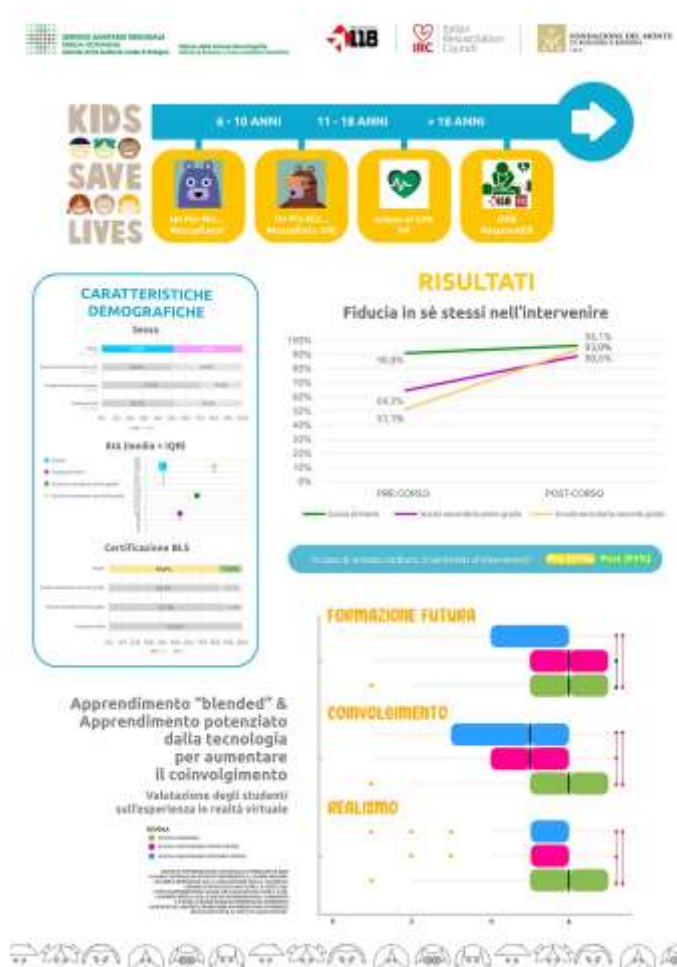


Apprendimento “blended” & Apprendimento potenziato dalla tecnologia per aumentare il coinvolgimento

Valutazione degli studenti sull’esperienza in realtà virtuale



Kids Save Lives IRC Congress



RESUSCITATION

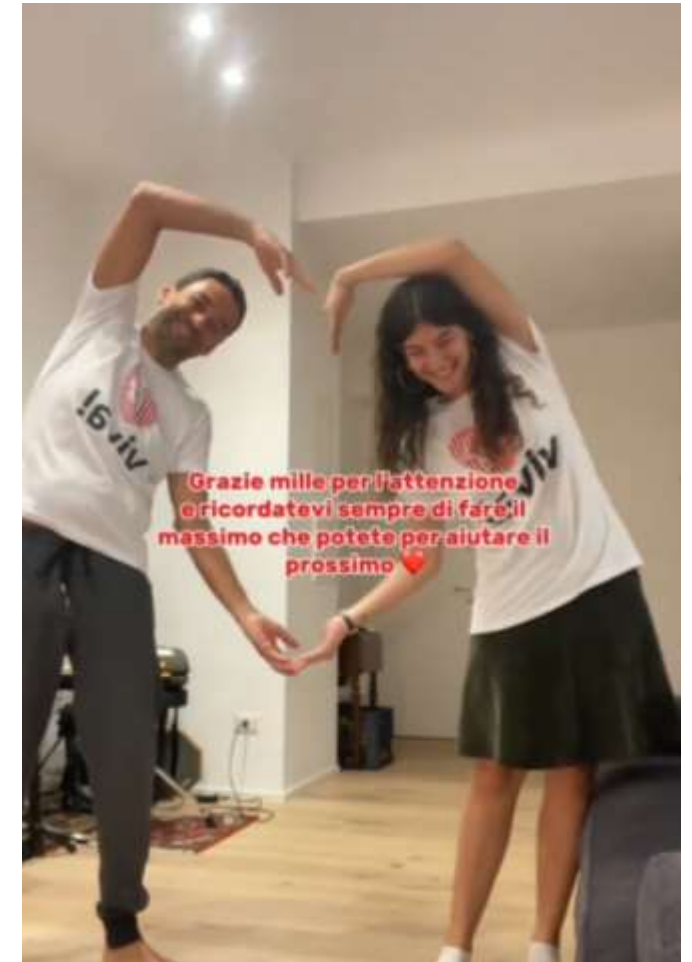


Articles Publish Topics About Contact

LETTER TO THE EDITOR · Volume 205, 110420, December 2024

Young adults: How much impact does a social media post have on CPR awareness?

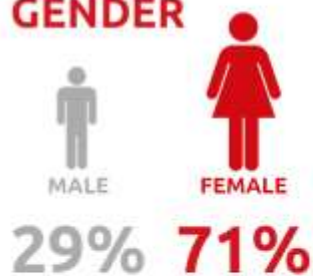
Federico Semeraro ^a · Flaminia Scapigliati ^b · Giuseppe Ristagno ^{c,d} · Andrea Scapigliati ^{b,e}



YOUNG ADULTS: HOW MUCH IMPACT DOES A SOCIAL MEDIA POST HAVE ON CPR AWARENESS?

THE ANALYSIS OF TIKTOK COMMENTS*

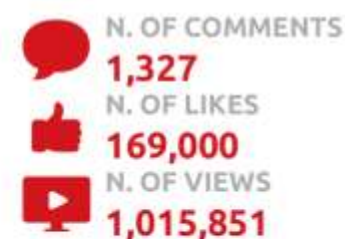
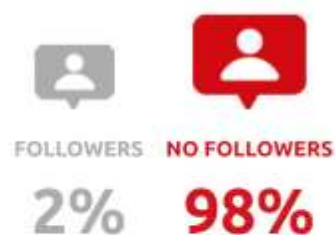
GENDER



AGE GROUPS



TYPES OF VIEWERS



CLARITY OF EXPLANATIONS

CLARITY OF EXPLANATIONS



VALUE OF CONTENTS

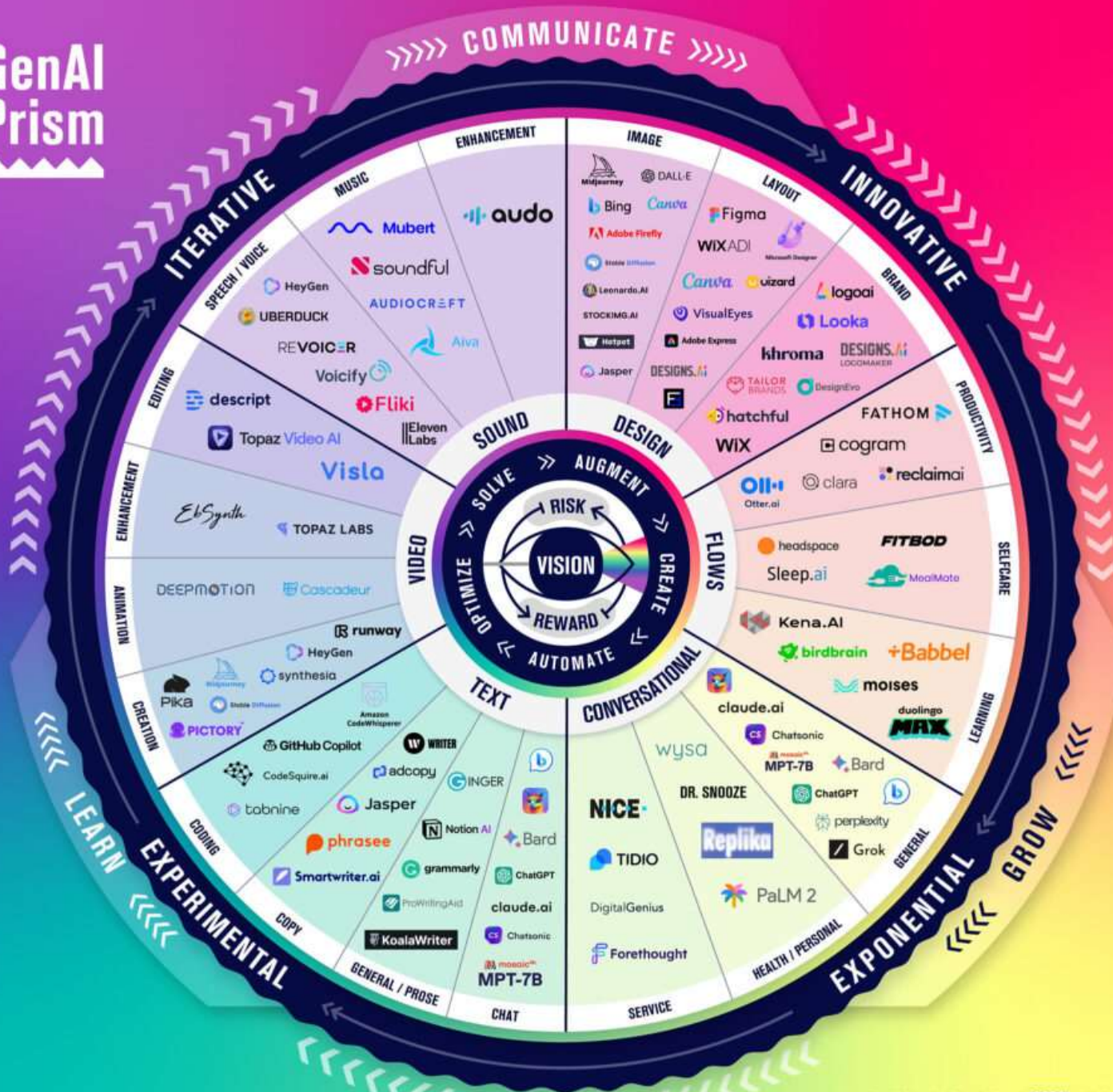


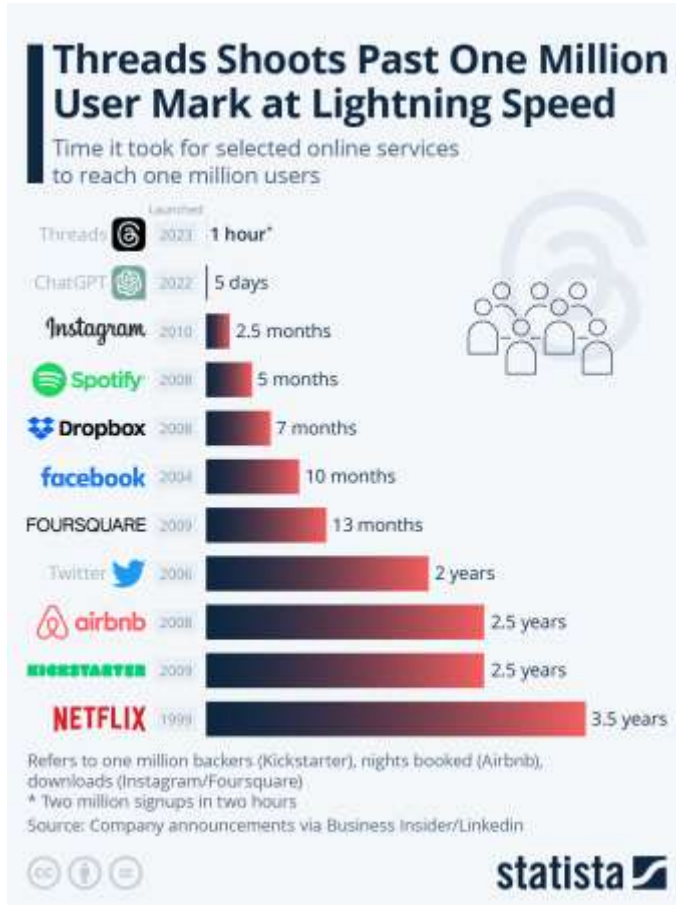
A top-down view of a dark grey circuit board with intricate patterns of copper traces and various components. The letters 'AI' are prominently displayed in the center, glowing with a bright cyan light. The 'A' is a bold, sans-serif capital letter, and the 'I' is a vertical bar of the same style. The glow of the letters illuminates the surrounding traces and components, creating a high-tech, futuristic aesthetic. The overall lighting is dim, with the primary light source being the glowing text.

AI



GenAI Prism







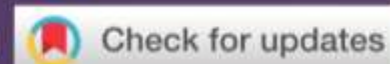
RESUSCITATION



Trends and insights about cardiac arrest and artificial intelligence on PubMed using ChatGPT-4

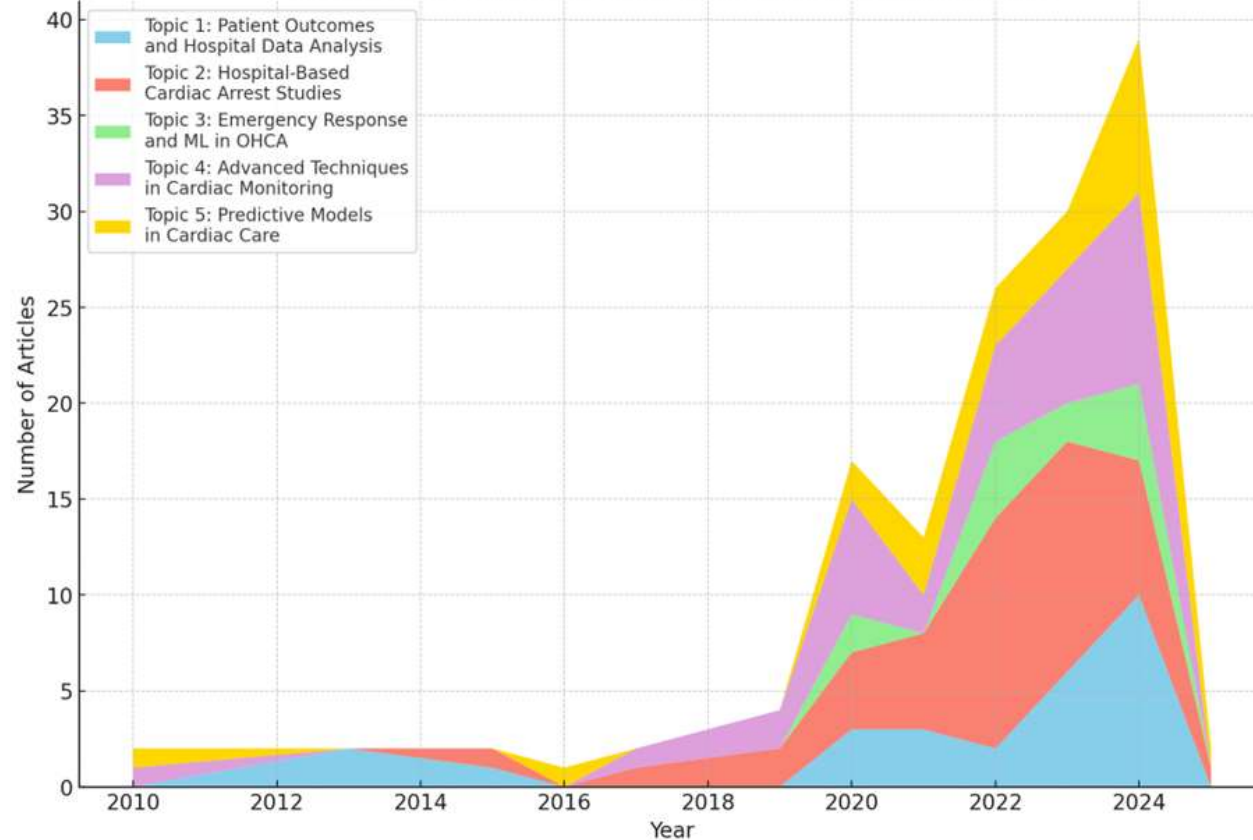
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Published: January 25, 2024 • DOI: <https://doi.org/10.1016/j.resuscitation.2024.110131> •

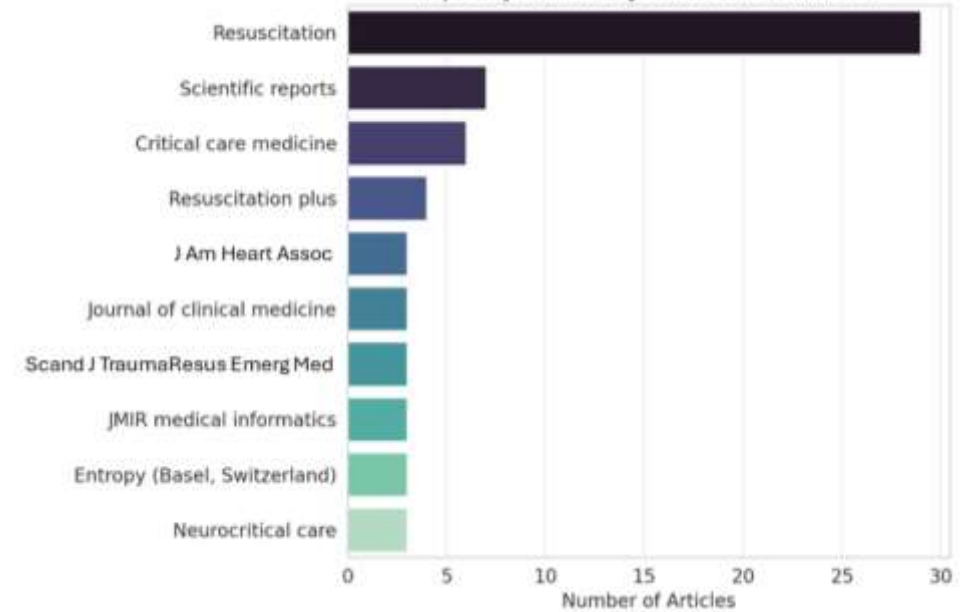


Cardiac Arrest & AI

Distribution of Topics Over Time (Stacked Area Chart)



Top 10 Journals by Number of Articles



COMMENTARY AND CONCEPTS | [ARTICLES IN PRESS](#), 110250

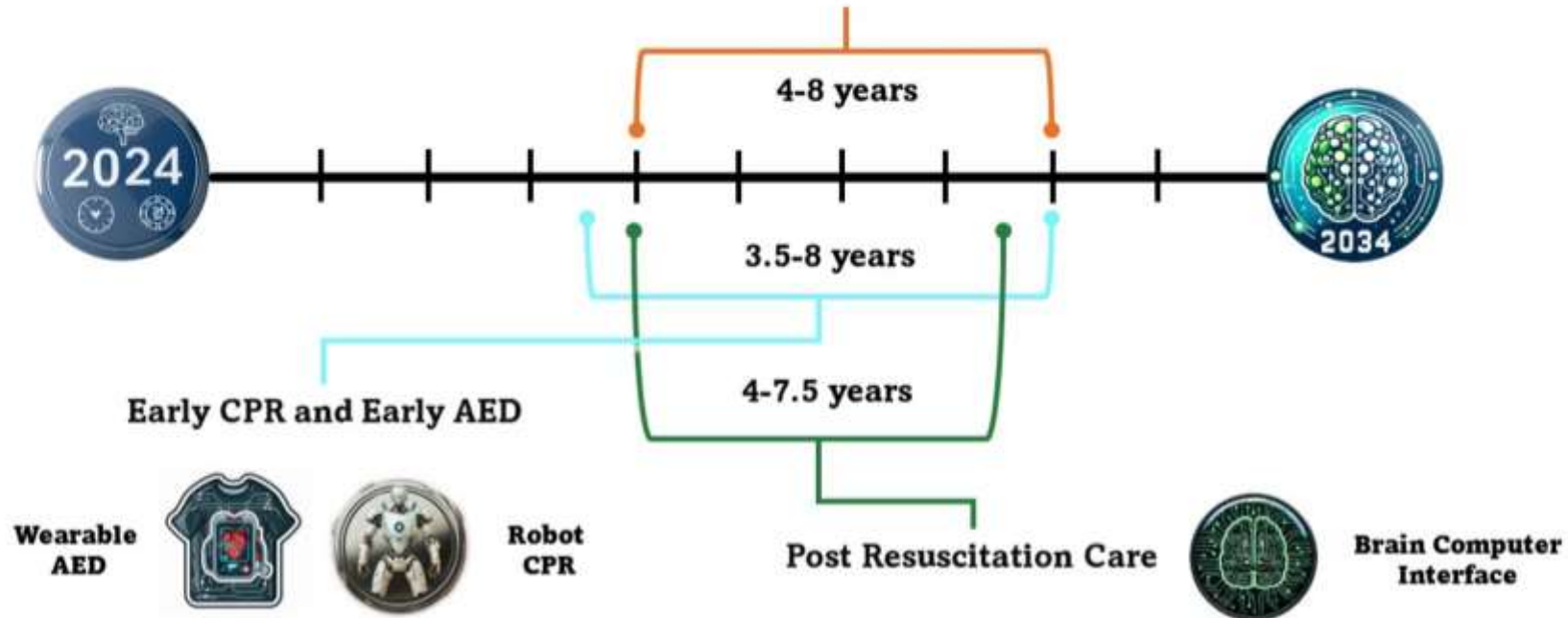
Cardiac arrest and cardiopulmonary resuscitation in the next decade: Predicting and shaping the impact of technological innovations

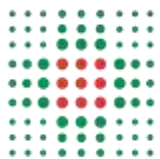
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Published: May 22, 2024 • DOI: <https://doi.org/10.1016/j.resuscitation.2024.110250>



Early Recognition and Call for Help





SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA

The future ?

AREA **CRITICA**



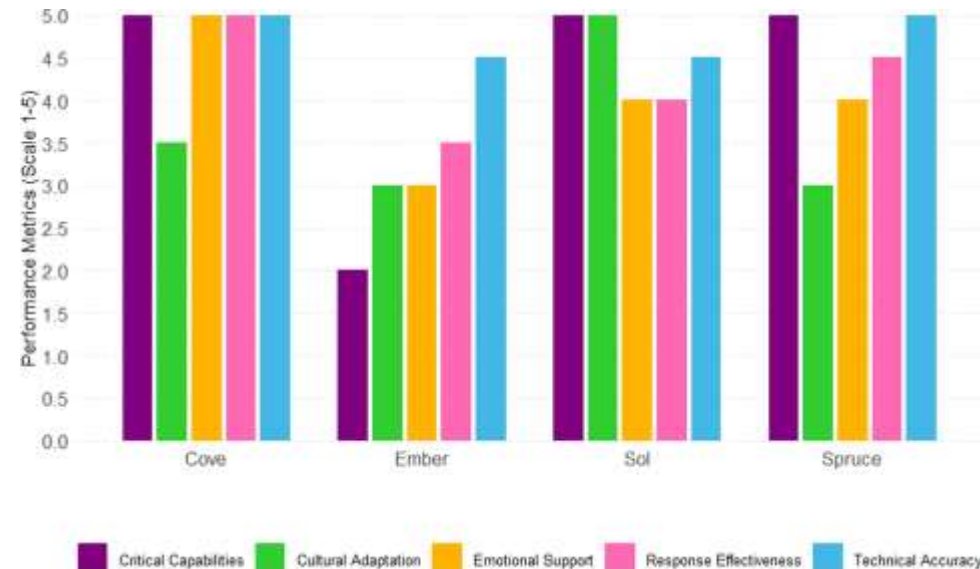
The future ?



LETTER TO THE EDITOR · Articles in Press, 110447, November 27, 2024

Enhancing cardiac arrest response: Evaluating GPT-4o's advanced voice interaction system

Federico Semeraro ^a · Elena Giovanna Bignami ^b · Jonathan Montomoli ^c · Koenraad G. Monsieurs ^d



Articles in Press November 27,
2024

The future ?




RESUSCITATION 

LETTER TO THE EDITOR Article in Press, 2024; November 25, 2024

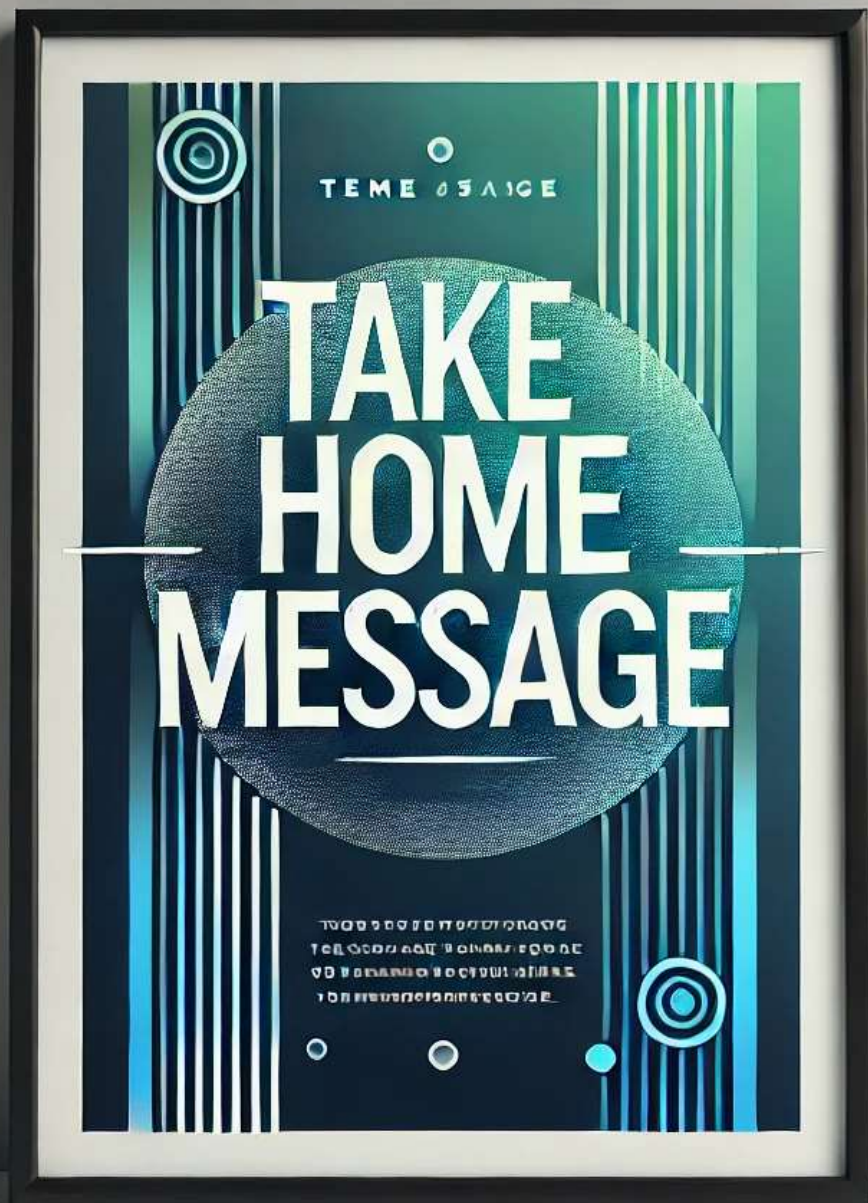
Enhancing cardiac arrest response: Evaluating GPT-40's advanced voice interaction system

Federico Semerari ^{1, *} ■ Elena Giovanna Bigazzi ² ■ Jonathan Marmorelli ¹ ■ Riccardo G. Mordant ⁴

Cove
Composed and directed



Made with ChatGPT
chatgpt.com/voice



TAKE HOME
MESSAGE

ERC Congress 2025

Rotterdam Ahoy Convention Centre

Rotterdam, Netherlands

23 – 25 October 2025



ERC Congress 2026

Alianz MiCo, Milan Italy

17-19 September 2026





“

*Non smettete mai di sognare,
solo chi sogna può volare..*

”

Peter Pan

"Un amico è qualcuno che sa tutto di te e ti ama comunque."



Mark Twain





THAT'S ALL
FOLKS



*"A life is like a garden.
Perfect moments can be
had, but not preserved,
except in memory. LLAP"*

*-Leonard Nimoy
@TheRealNimoy*

