

## “CONCORDE PROJECT”

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### Foreword from the coordinator



In October 2004 the WHO launched a patient safety programme in response to a World Health Assembly Resolution (2002) urging the WHO and the Member States to pay the closest possible attention to the problem of patient safety. The programme aims to coordinate, disseminate and accelerate improvements in patient safety worldwide and to provide a vehicle for international collaboration and action between WHO Member States, WHO's Secretariat, technical experts, and consumers, as well as professionals and industry groups. Beyond this wide-reaching patient safety initiative by the WHO, patient safety has become an international priority with major research programmes being carried out in the USA, UK, and elsewhere. However most research programmes address in-hospital patient safety. Reliable evaluation solutions of safe practices during emergency medical response in Out-of hospital settings and safe transition to In-hospital settings are yet to be facilitated.

In line with the world-wide research

initiatives on Patient Safety and in line with the priority of the Security Call for research to contribute to Prevention, Prediction and Containment of Damage in health crisis situations, the COncORDE project focuses on patient safety, which in the context of emergency management means to reduce the Emergency response associated injuries/potential for damage.

COncORDE's specific contribution to disaster research is to introduce a new point of view, which shifts the paradigm of researching how to handle uncertainty - to a paradigm of user-driven research of how to increase certainty in the first instance. As a Clinical Innovation project it focuses on improving coordination of patient-centered emergency response by addressing the controllable risks to patient safety. With this the project brings the clinically validated Patient-centered approach into disaster research, which will help extract the simplicity hidden in apparently complex environments and enable generalisability across the globe.



### Coordination Mechanisms For Medical Emergency Response

COncORDE is an EU funded project in which 14 international partners led by Cambridge University Hospitals tackle the task to improve coordination of health system response in emergencies through integration of existing solutions in a back-end

Web platform, building an intelligent one-stop-shop tool box. More specifically, the project implements a web-based, task-driven platform that will offer a set of functionalities, such as communication (linking users) and visualisation solutions, as well as algorithms for decision support.



Solutions will be provided to emergency medical services to better “do what they usually do”, aiming to save time, better match the response provided to the patient’s needs, improve the effectiveness of using available resources and enlist the support of resilient communities to increase the capacity for response beyond the resources available in a given health system. This involves not only testing of solutions for integration of bystanders in emergency response but also utilising the potential for social intelligence to contribute to the resilience.

**The COncORDE solution serves a dual role:**

1. Addresses the security research dimension, aiming at developing methodologies, models and processes towards wider standardisation across the EU in a range of problems of the medical system’s response to large-scale emergency situations.
2. Addresses the technology research dimension, primarily aiming at developing a platform of ICT tools and services that will make the best use of existing technologies for medical emergency management during small and large scale emergency situations.

The use of technology in COncORDE is patient-centred: it is there to enable responders to better meet the needs of a person requiring emergency medical team assistance. Putting the patient needs in the centre of the work enables the COncORDE solution to be valid across different health systems and their local specifics. The project will provide customisable, interoperable solutions to support the principle tasks that emergency medical responders perform, irrespective of which health systems they work in and what the locally preferred approaches and algorithms are. COncORDE will serve the purpose to support emergency medical professionals during emergencies of any scale - from every day small incidents to large scale disasters and to do this while using the tools and the rules they usually work with.

Finally, COncORDE also aims to enable capturing how each emergency situation unfolds. It will store the incoming information, the emergency response and decisions made as well as an audit trail of the status of the affected people for the purposes of evaluation, audit and training and collection of real-life evidence of best approaches which is difficult to gather at present.

More information about the project is available at [www.concorde-project.eu](http://www.concorde-project.eu)



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**COncORDE end-users survey**

**The COncORDE consortium is now looking for input from potential end-users in designing its Web platform. The survey, available here, aims to obtain an overall impression of the interests and needs of potential end-users regarding the COncORDE system.**

**Please fill out the survey online and help make the COncORDE project a success and its results truly useful.**

The overall aim of the Web platform will be to support and enhance the existing decision processes during medical emergencies at local, regional and cross-border level, from small incidents to large scale emergency situations. It will offer a set of functionalities, such as communication (linking users) and visualisation solutions, as well as algorithms for decision support.

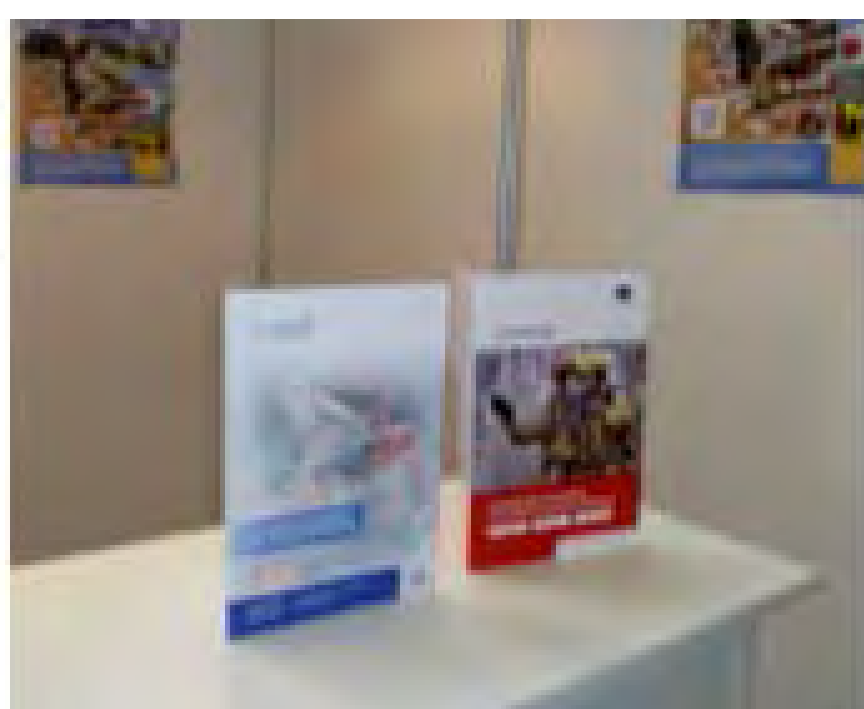
time in critical situations, better match the response provided to the patient’s needs, improve the effectiveness of available resources and enlist the support of resilient communities to increase the capacity for response beyond the resources available in a given health system. The COncORDE tools will be possible to put into use across the borders of EU Member States, irrespective of local difference, thus achieving an EU-wide impact in improving coordination of emergency medical response.

COncORDE solutions will aim to save

For more information, please contact: [secretariat@psc-europe.eu](mailto:secretariat@psc-europe.eu)



## COncORDE at the Critical Communications Conference in Berlin



The Critical Communications Expo (CCEXPO) is held annually in Berlin. This year it took place on 6th and 7th October. CCEXPO presents a neutral platform for mission critical information and communications, professional mobile radio (PMR) and control rooms in all fields of critical infrastructure at both national and international level. Experts, project and system managers, developers, procurement officers, technicians, trainers and end-users of information and technologies in critical infrastructure attend the Expo each year to engage in discussions, listen to interesting presentations and exchange information.

COncORDE project partner PSCE

(Public Safety Communication Europe) attended CCEXPO this year to spread information about the project, distribute brochures, and extend the COncORDE network of interested stakeholders. PSCE had an exhibition booth at the Conference, where the COncORDE dissemination material was also exhibited. Professionals from several European countries, as well as the USA, approached the PSCE / COncORDE booth with great interest in the project. Several useful contacts were established as a result and will be retained for future use throughout the project in order to keep them up to date with the latest COncORDE developments and involve them as much as possible in COncORDE.



## COncORDE Workshop in Graz, Austria

A COncORDE workshop was organised at the end of May in the framework of the Public Safety Communications Europe (PSCE) bi-annual Conference, which took place on 27th and 28th May in Graz, Austria. PSCE is a key partner in the COncORDE project. The PSCE Conferences provide a platform for researchers, industry and users to exchange ideas, information, experiences and best practices. This year the PSCE Conference focused on four key topics: (1) Common Information Space; (2) SATCOM Policy; (3) Emergency Management; (4) Handling large-scale incidents.

Under the topic of “Emergency Management”, COncORDE delivered a workshop, which was led by project coordinator Toni Staykova, Cambridge University Hospitals. The workshop first introduced the COncORDE project, explaining that it aims to create a tool that can be used by all EU Member States in order to better manage both small-scale emergencies, as well as large-scale



crises. A series of questions were then set out for discussion.

These included:

- What happens on the field of an incident?
- How much does the commander know / see?
- Is it useful to tag victims and/or responders to better visualise the emergency location?
- What is the minimum data set necessary?
- How can bystanders be used better as organised networks?

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## COncORDE Exhibition Booth at EENA Conference

The European Emergency Number Association (EENA) annually hosts a conference, gathering experts from European emergency services, public authorities, research institutes and industry. This year the Conference took place from 22nd to 24th May in

Bucharest, Romania, and was attended by a total of 462 participants from 49 countries, including numerous EU Member States, as well as Australia, Ecuador, India, New Zealand, and the United Arab Emirates. The COncORDE project consortium was invited by the

EENA to present the project at the Conference exhibition area.

The CONcORDE project was present on the exhibition area and the consortium was represented by Cambridge University Hospitals – project coordinator Dr. Toni Staykova, as well as Takis Kotis and James Taylor. During the three Conference days, the CONcORDE exhibition booth received much attention. CONcORDE branded brochures, as well as note

pads and markers, were distributed to the Conference participants. The CONcORDE banner was also displayed at the CONcORDE exhibition booth.

Valuable contacts were made with all types of stakeholders. These contacts will be kept and utilised throughout the course of the project in order to inform them about the most recent CONcORDE achievements and involve them as much as possible in the project.



Dr. Toni Staykova, coordinator in a discussion with Mr. Peter Goulding, Public Safety Specialist Industry Solutions, Motorola, UK



Networking at the evening event with Alfonso Junquera, CEO of DEO Drones, Spain and Miquel Oyaga, modelling of patient status engineer, EYP-SCAP, Spain



The delegates of the AXEGA-Axencia Galega de emergencias - Galician Agency of Emergencies, Spain



James Taylor, CUH and Miquel Oyaga, EYP-SCAP, Spain



Stephen Hines, London Ambulance Service and Tamsin Fuller, volunteer via Good Samaritan App at St John's Ambulance London <https://www.goodsamapp.org/assets/pdf/Brochure.pdf>

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## The first CONcORDE Stakeholder workshop in Limassol

**The First CONcORDE Stakeholder Workshop with title “CONcORDE Emergency Response Stakeholders Case Studies” took place on the 15th October in Limassol, Cyprus.**

The workshop took place as a final session after the actual CRITIS 2014 conference sessions. The objective was for local and international stakeholders of CONcORDE to meet early in the stages of the project and discuss on specific case studies that were presented by project partners, so as to collect valuable feedback to drive the technological design and development phases. Local stakeholders had the opportunity to share their experience and everyday practice, which stimulated discussion on available versus expected technological solutions. Moderated by Takis Kotis, representative of Cambridge University Hospitals, the workshop started with presentations delivered by representatives of the Ministry of Foreign Affairs of Cyprus, the Ministry of Health of Cyprus, as well as the Cyprus Fire Services and JRCC Larnaca, which outlined how the emergency response is organised in Cyprus. The CONcORDE partners

then presented 3 case studies for discussion with the local stakeholders: The Gap between available technology and reality, The Role of the bystanders and e-Learning. As expected, these raised heated discussions and provided valuable feedback, as well as engaged the audience in further communication with the CONcORDE team beyond the frame of the meeting.

This was the first of the planned six workshops to be held under the CONcORDE project. Throughout the course of the project, similar workshops are planned at various locations throughout the EU. They will aim to educate local audiences about the purpose of the CONcORDE project, as well as explain and encourage debate on the emerging results. Moreover, the workshops will seek to gather feedback from stakeholders and industrial partners, which will later be incorporated in the development of the project.



## COncORDE publications

**COncORDE team has published the following scientific papers:**

Staykova, T., Kotsiopoulos, I., Milis, G., Polycarpou, M., "COncORDE project: Coordination Mechanisms and Decision Support in Emergency Environments," in Proceedings of the 9th International Conference on Critical Information Infrastructures Security (CRITIS 2014), 2014 © Springer.

Koumidis, K., Pingas, A., Kolios, P., Panayiotou, C., "An Experimental Evaluation of the HelpNet Emergency Response Networking Protocol," in Proceedings of the 9th International Conference on Critical Information Infrastructures Security (CRITIS 2014), 2014 © Springer.

Kantorovitch, J., Milis, G., Kolios, P., Giakoumaki, A., Korakis, A.,

Papadopoulos, H., and Staykova, T., "Semantic knowledge modelling framework - towards user-centered medical services delivery in the emergency context", IEEE ICT-DM, Britain France, Nov 29-Dec 2, 2015 (accepted)

Kolios, P., Milis, G., Panayiotou, C., Staykova, T., and Papadopoulos, H., "A resource-based decision support tool for emergency response management", IEEE ICT-DM, Britain France, Nov 29-Dec 2, 2015 (accepted)

Konstandinos Koumidis, Panayiotis Kolios, Christos Panayiotou, and Georgios Ellinas, ProximAid: Proximal ad-hoc networking to Aid emergency response, IEEE ICT-DM, Britain France, Nov 29-Dec 2, 2015 (accepted)



## New UN Guidelines on Heatwaves Have Been Issued

The World Health Organisation (WHO) and the World Meteorological Organisation (WMO), both sub-bodies of the UN, have issued a new set of guidelines that warn about the growing intensity of heatwaves in the future due to the acceleration of climate change. Europe already suffered from an unexpected heatwave in 2003 and this year multiple European countries have already issued weather warnings due to rising temperatures.

The UN guidelines, entitled "Heatwaves and Health: Guidance on Warning-System Development", aim to turn the attention of decision-makers, health services, and the general public, to the health risks posed by heatwaves. The UN notes that it is common to have special weather forecasts warnings about high temperatures, but they usually do not address the health risks that heatwaves pose.

The main recommendation stemming from the guidelines is for countries to create alert systems to counter the health risks of heatwaves. Many countries, most notably France, already have some plans in place, but others should follow suit. The guidelines have been published in the aftermath of the WMO revelation that 14 of the 15 hottest years recorded have all occurred in the 21st century.

Heatwaves this year have already reached many countries in Western Europe, including Belgium, France, Italy, Spain, the Netherlands, and the UK. These countries have all issued weather warnings aimed at young children, older people, and those with serious illnesses, which could be further aggravated due to unusually high temperatures.

The UN Guidelines are available [here](#).



## New Framework for Health Emergencies Presented at the World Health Assembly

The 68<sup>th</sup> World Health Assembly (WHA) took place from 18<sup>th</sup> to 26<sup>th</sup> May in Geneva, Switzerland. The Health Assembly is the supreme decision-making body of the World Health Organisation (WHO) and is attended yearly by delegates from all WHO Member States. Its main functions are to determine the policies of the WHO, supervise financial policies, and review and approve the proposed programme budget.

At this year's World Health Assembly, WHO Director-General Dr Margaret Chan presented the framework for the creation of a single

new WHO programme for health emergencies. The new programme will be independent from the WHO and have its own business rules and operational platforms. A new global health emergency workforce will be set up as part of the new programme. According to the WHO Director-General, a new US\$100 million contingency fund is necessary to carry out the programme. The changes envisioned in the programme should be complete by the end of this year.

More information and highlights from the WHA are available [here](#).



## New Report from the ICRC on Attacks against Medical Personnel

The ICRC has published a new report analysing incidents of violence against healthcare professionals. The data in the report is based on various sources from 11 countries and was collected between January 2012 and December 2014. The objective of the report is to study and identify the main types of acts and threats of violence against healthcare in emergencies and their effects on people, healthcare facilities and medical transports.

The findings of the report highlight the main patterns of violence against both the sick, as well as healthcare personnel and facilities. According to

the report, more than 4,200 people have been victims of violence against healthcare. Over 50% of attacks have taken place around, inside or targeted at healthcare facilities. Additionally, more than 700 medical transports have been affected by attacks, either directly or indirectly.

The data contained in the report can be used by decision-makers to make better decisions regarding their operational and disaster response strategies in order to prevent further attacks against medical personnel and patients.

More information is available [here](#).



## eCall Service to Automatically Alert Emergency Services in Case of Accident

On 28<sup>th</sup> April 2015, the European Parliament adopted legislation on the eCall system in its plenary session in Strasbourg. The green light has now been given for the roll-out of the eCallsystem in all EU Member States, as well as in Iceland, Norway, and Switzerland, by 31<sup>st</sup> March 2018.

eCall is an emergency call service that notifies the emergency services in case of a severe road accident. As soon as the eCall device installed in a car senses the impact of an accident, it automatically initiates an emergency call to the nearest emergency centre and automatically transmits a series of data, including the specific geographic location of the accident. An emergency call via eCall can also

be generated manually by passengers in the vehicle or from passengers in a vehicle that have witnessed the accident. Regardless of whether the call has been made automatically or manually, there is always a voice connection between the vehicle and the emergency call centre. This way, it is possible for the emergency call centre to gain additional information about the accident from either the victims themselves or nearby witnesses.

It has been estimated that knowing the exact location of a crash site cuts the response time for emergency services by up to 50% in rural and 40% in urban areas. Consequently, eCall is expected to save several hundred lives throughout the European Union each year.



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## WHO Training Courses for Health Emergency Managers

The WHO Europe office has been working together with national authorities in Serbia and Turkey to create a base of well-trained health emergency managers. This is a part of the WHO international training courses that are aimed at strengthening the emergency preparedness and risk management level of national healthcare systems throughout the WHO European Region.

In March, the WHO Europe office organised two five-day training courses on Public Health and Emergency

Management (PHEM), held in Belgrade, Serbia, and Urla, Turkey, respectively.

The courses included a large variety of topics, including international health regulations, emergency management, public health in emergencies, and capacity building. As a result, a total of 49 senior managers from national Ministries of Health, Ministries of Interior and Public Health Institutes were trained to design and conduct national PHEM courses in their own countries.

More information is available [here](#).



## First Global Register for Disaster Response Teams

The world's first global register for disaster response teams was unveiled early in April. The register will be run by the World Health Organisation (WHO) and will act as an intermediary between larger organisations, hospitals, military and the victims of disasters in various parts of the world. That way the register will seek to cut down on the time between when the disaster occurs and when the response teams arrive in the area.

All foreign emergency teams will be registered online to ensure that emergency alerts and responses can be better managed in the future. The WHO expects that around 150 relief agencies will sign up in the coming year, with a further 400 response team joining the database later on. Under the new system, only these pre-registered teams will be allowed into countries where help is needed.

More information is available [here](#).



## The Possibility of a Drone Ambulance

At a recent conference, Argodesign, a company specialised in product design and development, presented a proposal for a drone ambulance.

The drone would be comprised of a quadcopter carrying a pod that would be big enough for one emergency medical technician and one patient. It would be able to fly autonomously or by a pilot and would be capable of landing just about anywhere.

That means that a single pilot could be able to command a large number of

drone, as human assistance would only be required for very difficult manoeuvres.

The primary benefit of a drone ambulance would be its ability to avoid ground-based traffic, thus decreasing the time it takes to get from the emergency scene to the hospital. This could ultimately save precious seconds or minutes that determine the difference between life and death for the victim.

More information is available [here](#).



## New Smartphone App to Improve Communication between First Responders and Emergency Rooms

A new smartphone app is currently being developed at the University of Iowa that could bring emergency services and professionals in emergency rooms closer.

The app, named TraumaHawk, aims to help bring the crash scene into the emergency room through a set of specific pictures that would be taken by emergency services when they arrive at the scene. The images would then be directly sent to the emergency room in the hospital.

Now, when emergency services get to the scene, there are numerous aspects of the scene that need to be reported back to the emergency room to ensure that professionals there are ready for the arrival of the patient.

This includes description of the crash itself, as well as the body language, blood pressure, and heart rate of the victims. This kind of communication can be vague and often misinterpreted.

By providing images, the TraumaHawk app would give doctors better knowledge of the scene and allow them to prepare more effectively and efficiently for the arriving patient. It would also cut down the time spent communicating between emergency services and professionals in the emergency room.

At the moment, the app is still being tested internally at the University of Iowa Hospitals and Clinics.

More information is available [here](#).



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## New Survey on Health System Preparedness for Disasters

A new survey has been conducted, studying the disaster preparedness level of health systems in 27 European Union Member States. The survey was conducted in 2012, as part of the Disaster Training Curriculum (DITAC) project, which has received funding from the European Commission.

National health systems are key components of disaster management, and the preparedness of the health system is essential for an effective response. It has been noted that in instances where the health systems are unprepared, communities become more vulnerable to the negative consequences of disasters.

The checklist used in the survey was taken from the World Health Organisation's toolkit for assessing health-system capacity for crisis management. The WHO form was slightly modified and three specialists

from each country were asked to provide answers to the questions.

The survey found the average level of disaster management preparedness in the health system of the 27 European Union Member States to be acceptable. The highest level of preparedness was seen in the UK, Luxembourg, and Lithuania.

However, there is still room for improvement for all Member States. According to the survey, the elements of the disaster management system that suffer the most from insufficient levels of preparedness are hospitals and education and training facilities. The study suggests that a collective strategic plan is necessary at the European level in order to establish a comprehensive and standardised disaster management strategy plan.

More information is available [here](#).

**COncORDE** 

Further information:  
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