

Medical First Responders up for new training methods, VR is the new black.

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#### **MOTIVATIONAL STATEMENT:**

First of all, let me explain a little about who we are:

Me and the rest of the workgroup I'm representing currently work for SUMMA112 which is the Emergency Medical Service in Madrid, Spain. Our Service has approximately 3,000 health professionals: 600 doctors, 400 nurses, 1,200 technicians (EMTs) and other support staff. We work distributed between advanced and basic life support units, call center staff, logistics support units, pharmacy staff and administration personnel. The service is divided into different teams: there are 29 Advanced Life Support Units, 16 Rapid Intervention Vehicles (Advanced Life Support units without patient transfer capacity), 50 Medical Home Care units, 1 vehicle with a psychologist, an Advanced Neonatal Life Support unit, 2 helicopters (with the possibility of landing and rescue in remote areas), 7 nursing units, 1 emergency center (with the capacity to care for 15 patients at a time, a critical patient room, X-ray and laboratory) and a call center which is divided in two separated locations.

SUMMA112 tends to a population of almost 7 million people, to which we have to add over 2 million annual visitors, both national and international. All together a total of 1,349,921 calls were answered in the call center last year, out of which 933,000 required on-the-spot assistance, the rest were mainly requests for information resolved via telephone by call center staff. That makes an average of 2557 patients assisted per day.

Last year we intervened in 20 mass casualty incidents defined in our medical service as any incident with 10 or more potential victims, including traffic accidents, collapsed buildings, fires in buildings... Although it may not seem like a high number of incidents, because of their complexity implicit in the high number of

patients assisted at the same time, it shows how important it is to learn and improve the way we work in these situations, both at a human and technical level.

On a more personal level I'll introduce myself, my name is Jessica Naldrett and I am a physician specialized as a general practitioner for four years in the south of Spain and later trained in a master's degree as a medical first responder to work in prehospital life support. Since 2017 I've been working in Madrid for SUMMA112 on their advanced life support units, call center and occasionally on the helicopters with either 12 or 24 hour shifts. A very important part of our job is to be in constant training to keep our knowledge up to date with new advances and it is in this issue I believe virtual and augmented reality can be a great ally.

The work group I am currently part of is at present participating in a European project aiming to design virtual/augmented reality training equipment that will allow us as medical first responders and the rest of participants in the project (police, firefighters) to fully immerse ourselves in mass casualty incidents for training reasons. One of the most important aspects to train is the way we must all work together as a team, so different to our average day to day patients as well as the highly stressful and often dangerous environment it is to work in.

We believe that the development and implementation of this project will demonstrate how virtual reality can contribute to better training in many areas of our work. For example, it will make it possible to simulate situations that would be very difficult to reproduce through conventional training. This training will allow emergency personnel to reproduce and analyze different scenarios and generate the necessary automatisms to act efficiently under conditions of maximum stress. In addition, these automatisms will help develop the much needed organizational and communicative tools between all first responders as well as assistance skills to face these situations with a higher level of confidence and safety.

Many common concerns move our workgroup, but the main driver is the motivation to keep training so we can improve in our day-to-day work and that way be able to offer the best quality of care to our patients. Persistent and steady training is the foundation to updating our knowledge, training and acquiring skills. As end users of a virtual reality project, we believe it will be very enriching to see how other first responders (firefighters, police) perform their training because we are sure we can all learn from each other. Attending the workshop that you are organizing will be a unique opportunity to carry out one of our main objectives: to learn and improve our knowledge and skills.

We are a team of medical first responders with a range of professionals from different categories and qualifications eager to learn and collaborate in different educational and training fields. In the same way, we believe that we could be very useful when putting out what we have learned, both at a teaching and divulgational level.

We are willing to collaborate with you and your organization within our possibilities so that all the teams that participate in this project form a multidisciplinary team where we can grow on a personal and professional level.

Above all as mentioned before, we are health professionals, and our primary goal is and will always be the well-being and quality of care for our patients.