CHALLENGE STATEMENT #01

1. Challenge Owner Index and Pseudonym

#01 – ED

2. Challenge Statement

We are seeking a learning solution to enhance the experiential learning of Pre-Hospital Trauma Life Support (PHTLS) training course that is applicable in both outdoor and indoor environments.

3. About the Challenge Owner Organisation

We are an emergency department in a tertiary hospital.

4. Define the Challenge

PHTLS is a course that aims to train participants to be proficient in managing traumatic injuries in a pre-hospital environment. The current conduct of PHTLS uses role-playing simulated patients and manikins. It involves applying trauma moulage (make-up) to the manikin or body surface of simulated patients. It is currently limited to an indoors training environment.

The main challenge is to create realistic training in the outdoor environment, as the trainees are expected to eventually put their skills to use in the real world where injuries could occur in both the indoor and outdoor environments.

The realism and "immersiveness" of current simulation training is inadequate in contrast to the "in-situ simulation" training model, which promotes experiential learning by training the healthcare provider in the actual environment in which the provider is expected to use these skills. This is in part due to the logistical challenges and cost of deploying manikins or simulated patients outside the hospital environment. These simulated scenarios were limited in their degree of realism and thus the majority of PHTLS lessons are conducted indoors instead of outdoors.

5. Targeted Learners / Users

Doctors and nurses involved in pre-hospital trauma care, e.g. disaster response in Ops Civil Emergency, VVIP medical cover in national events. Paramedics providing pre-hospital management of trauma casualties.

An estimation of 400-500 course participants per year, subject to prevailing safe-distancing requirements.

6. Deliverables

Create a new solution that is able to overcome these logistical challenges and thus allows the simulation training to be conducted in various realistic outdoor environments, offer trainees more authentic learning that mirrors closer to the real world and can positively impact the learning outcomes, adopting principles of best practice from in-situ simulation.

This solution can potentially be extrapolated to create a similar training system for educational purpose and testing of work flow protocols in the following settings:

1. Outdoor Adventure Education course (crisis management & basic trauma management in the field)
2. Gerontology nursing (Home Assessment for risk fall in the elderly)
3. Disaster response workflow involving multiple departments in the hospital (simulated casualty numbers can be scaled up to match training requirements)
4. Code Blue activation response to medical emergency in a hospital setting.
5. In-situ training of infrequent and high-risk resuscitation scenarios in the Emergency Department e.g. resuscitation of infant / child in an adult Emergency Department

7. Measures of Success

Trainees report feeling more engaged and involved throughout this new form of simulation training, greater retention of the skills taught and improved probability of reacting appropriately when managing a critical situation during actual deployment, i.e. intensive simulation training becomes a reflexive response that ensures the effectiveness of the rescuer even in high-stress situations.