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**Study/Objective:** Objective of this study is to report the management by a military hospital of an influx of civilian casualties due to terror attacks.

**Background:** During the night of November 13, 2015, Percy army teaching hospital received 17 wounded in two convoys.

**Methods:** Retrospective, descriptive study

**Results:** Except one, all patients (8 AU and 9 RU) had GSW and nearly half of the patients had thoracic injuries (no body armor) in contrast to recent military series. Triage of GSW was easier than injuries by explosion. The hospital was away from sites of the attacks with a delay of two hours before the arrival of the first patient. Five trauma bays for AU were prepared with for each 1 anesthesiologist, 1 nurse, 1 anesthetist nurse. Eight patients were hospitalized in ICU. A binomial surgeon-anesthetist was in charge of triage which is the rule in French army. Before arrival of first casualties, bracelets with a temporary identity were generated to avoid any mistake of identity. During the first hours; 32 PRBC, 32 lyophilized plasmas and 3 platelet concentrates were transfused without incident. The use of the universal lyophilized plasma specific to the French army facilitated immediate transfusion. Prior to the arrival of the first patient, it was decided that only damage control procedures would be authorized regardless of the clinical condition (collective indications of damage control). The goal of this decision was to optimize the use of operating theaters. This decision was motivated by the risk of second attacks and experience of managing a large number of wounded with a limited operating theaters number during deployments. Operating theaters like the rest of the hospital were never saturated. As in times of war, the transmission of information between the different levels of care was difficult.

**Conclusion:** Military skills are useful in managing an influx of casualties.

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### Pray for the Best, Prepare for the Worst: Cholera Treatment Ward Preparation of Novice Haitian Healthcare Staff

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**Study/Objective:** To describe the preparing of Haitian Healthcare staff for triaging and management of cholera patients.

**Background:** Haiti has endemic cholera. This is exacerbated by our (yearly) rainy season. In 2016, this was further worsened by Hurricane Matthew, allowing massive contamination of water supplies in southern Haiti. This resulted in a much greater need

for Haitian healthcare workers with no previous exposure to this patient population, to be able to effectively recognize, treat and contain potential cholera patients.

**Methods:** Observational discussion and lessons learned from setting up a Cholera Treatment Ward in Southern Haiti, post Hurricane Matthew.

**Results:** Haitian Healthcare workers with no prior experience or capacity for treating cholera developed an effective knowledge base, skillset, and Cholera Treatment Ward (CTW), thereby proactively heightening local disaster management capabilities.

**Conclusion:** Many of our lessons learned are applicable to a wide variety of disasters, infectious diseases, capacity building situations and would be of interest to WADEM members' attendees.

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### Does Planning and Preparation Help in Disaster Risk Management? A Nepal Experience

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**Study/Objective:** To review the response mechanism and the preparation before the Nepal earthquake, for effective preparation and response.

**Background:** Nepal which lies between two large countries of China and India and is prone to natural disasters including earthquakes, floods, landslides and severe weather events. Bureau for Crisis Prevention and Recovery (BCPR) ranks Nepal as the 11th most at risk country in the world in terms of relative vulnerability to earthquake. The (last year) earthquake in Nepal had caused nearly 9,000 deaths compared to the expected 100,000 deaths, and this is due to the timing of the event. The earthquake occurred on Saturday, so all the schools and offices were on holiday, that is the one important reason for the lower number of casualties; and the other is the preparedness of the Ministry of Health and the hospitals. The first factor was not in our hands to modify but the second one was. Two factors, one was that the government had taken the lead of all the disaster preparedness by various International Non-Governmental Organizations (INGOs) through the cluster system. The Second is the training in disaster preparedness by the course called Hospital Preparedness for Emergencies developed by US Aid.

**Methods:** Hospital Preparedness for Emergencies (HOPE), Primary Trauma Care (PTC), Emergency protocols were conducted and the Health Emergency Operation Center (HEOC) was prepared before the earthquake which helped in saving many lives. The HUB hospital system was implemented by Ministry of Health to coordinate better among the hospitals.

**Results:** All of this preparedness may not have worked completely, but the review organized by WHO and Ministry of Health, Nepal after the disaster showed that these training protocols and HEOC had really helped to treat patients systematically.

**Conclusion:** Stakeholders should undergo disaster risk management training, and work closely with the Ministry of Health to save as many lives as possible.

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### Thrombolysis of Acute Massive Bilateral Pulmonary Embolism: A Success Story in a Ghanaian Emergency

#### Department

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**Study/Objective:** To report on the first successful management of a patient with acute massive bilateral Pulmonary Embolism, at the Komfo Anokye Teaching Hospital Emergency Department (KATH ED), Kumasi, Ghana.

**Background:** Pulmonary Embolism (PE) is an acute silent killer in developing countries, and is primarily a diagnosis of clinical suspicion. There are limitations in its diagnosis and interventions, increasing the mortality tendencies. Acute massive bilateral PE carries an exceptionally high mortality rate even with interventions.

**Methods:** We sought to describe the management of the first successful thrombolysis of a patient with acute massive bilateral PE who presented to our ED at KATH, because there is paucity of literature on successful ED management of such cases in Ghana.

**Results:** A 23 year-old woman, 2-months pregnant, G4P0<sup>+</sup>2, admitted with sudden onset of breathlessness, chest pain and a history of hemoptysis one week earlier. No significant past medical history. BP was unrecordable, tachycardia, saturating <90% on oxygen, with deteriorating mental status. She was intubated and started on IVFs and subsequently, dobutamine. Bedside ultrasound revealed a dilated Right ventricle, full IVC and a gestational sac. No evidence of DVT. ECG showed sinus tachycardia, extreme left-axis-deviation, S-wave in lead I; Q-wave and T-wave inversion in lead III. Wells Score was 5.5. Normal chest X-ray and chest CT-Angiography showed acute bilateral massive PE. Thrombolysis was used with Streptokinase via central line after obtaining a clotting profile. She spontaneously aborted and the evacuation of the uterus was done. CPR was done following an episode of cardiac arrest, and Return of Spontaneous Circulation (ROSC) was achieved. She was admitted to the ICU, extubated and discharged home on warfarin on Day 12. She currently attends her review sessions and was given counsel for preconception care.

**Conclusion:** High-risk emergencies can be managed in low resource settings. There is, however, the need for available and affordable diagnostic resources, medications and logistics to promptly identify and appropriately manage such cases.

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### Association Between Water Security, Disaster Risk Perception and Preparedness Behavior of a Rural Ethnic Minority Village in Chongqing, China: A Pilot Study

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**Study/Objective:** To explore the relationship between water security, disaster risk and preparedness among an ethnic minority rural community in China.

**Background:** Increased rainfall variability and water-related disasters can be expected due to climate change. Among the resource-poor in China, these water-related disasters will increasingly affect people's water security. There is a need to understand their current water security and disaster risk, to recommend long-term water management and disaster preparedness options.

**Methods:** A cross-sectional, cluster sample survey was conducted in February 2015, in Xingguang Village, south-eastern Chongqing, China. The target population was 520 households of 9 sub-villages. The survey included indicators on water security (time to fetch, water sufficiency, supply stability, water storage, and price), disaster risk (perception of living in high-risk area and ability to protect from future disasters) and preparedness (disaster bag). Descriptive and analytic epidemiological analysis was conducted using SPSS. Ethics approval was obtained from Chinese University of Hong Kong.

**Results:** Among 52 household representatives who completed the survey, 76.9% thought climate change impacted health, and water was their main health risk concern (36.5%), 63.5% have insufficient water on a normal basis, and 84.6% rely on rain-water as their main water source. Only 32.7% perceived to be living in a high-risk area, of which climate-related disasters such as storms (44.4%) and droughts (38.9%) were most frequent. Of all water security indicators, insufficient water was significantly associated with the perception of living in a high-risk area ( $p = 0.017$ ). No evidence was found between water security indicators and the ability to protect from future disasters. No evidence was found between disaster risk perception and preparedness.

**Conclusion:** Long-term water management should address water sufficiency. Interestingly, the ability to protect from future disasters is not related to water security indicators. Disaster preparedness education and further research is recommended.

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### A Lethal Lapse: Envenomation and Ebola, Critical Gaps in Aid Worker Preparation

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