Conclusion: This study demonstrated that implementing the BEC course has significantly improved the emergency provider knowledge base. Further studies are needed to demonstrate the impact of BEC training on patient care and morbidity/mortality outcomes.

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A Blended Learning Approach to Emergency Airway Training in a Low Resource Environment

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Introduction: Global Emergency Care Skills (GECS) is a charity which delivers medical training to health care professionals in low and middle income countries. Teaching airway management both didactically and through simulation training is a key component of the GECS Emergencies and Trauma Course. In 2022, a team of doctors delivered an intensive, five-day teaching course with a strong emphasis on airway management and airway emergencies at St. Joseph's Nyabondo Mission Hospital in rural Kenya. This course was delivered to a group of doctors, nurses and clinical officers. At the conclusion of this course we collected qualitative feedback from course participants. The aim of this study was to assess airway knowledge and skills acquisition, as well as real-world application and potential for ongoing teaching of acquired airway skills.
Method: A questionnaire was distributed to course participants to ascertain their experience of didactic airway teaching, airway skills stations, and airway simulation. Each question offered a binary response. To continue to enhance course content, we invited participants to submit qualitative feedback at the end of the questionnaire.
Results: Questionnaires were returned by 19 of a total 24 participants. 53% were registered nurses, 21% were clinical officers, 5% were medical officers and 21% did not respond to this question. Median post graduate clinical experience was four years (2.75-5.25). 37% indicated that they had not heard of simulation training for medical education before undertaking this course. 58% had no previous airway training although 63% had prior exposure to clinical situations which required emergency airway management. 100% reported feeling more confident in their airway skills and potential for training colleagues following this course.
Conclusion: The results indicate that participants gained knowledge, skills, and confidence when approaching airway emergencies. Furthermore, results showed increased perceived competence by participants at providing airway training to colleagues.

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Reporting Safely in Crisis Zones: Medical First Response for Journalists and Filmmakers

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Introduction: Journalists work in dangerous places. In recent years, the risk of illness and injury while reporting has increased, whether in the setting of conflict, protest, extreme weather, or environmental disaster. Journalists are targeted more than ever before. Working safely in remote and dangerous settings, especially without the protection of a large organization, requires a wide range of skills related to safety and security. For several years, the Dart Center for Journalism and Trauma at Columbia University has offered brief, intensive courses focused on personal safety, self defense, cyber-security and medical skills for freelance journalists working in dangerous settings.
Method: We re-conceptualized the medical first responder portion of the Dart Center's "Reporting from Crisis Zones" course to emphasize basic skills related to acute injury and illness, from trauma resuscitation (e.g, hemorrhage control) to environmental exposure and medical illness. We identified the most common medical concerns that these learners might encounter and incorporated feedback from prior courses to develop a one-day curriculum meant to address the most pressing needs of incidental first responders with minimal medical training, and whose primary mission is not providing medical care to others.
Results: The resulting 8-10 hour curriculum focuses on hemorrhage control, basic airway and respiratory maneuvers and wound care, with additional focus on medical illness, indications for evacuation, and communication and prevention techniques. The re-structured curriculum was first offered in Spring 2022. Feedback from learners was positive.
Conclusion: Basic first responder skills are critical for journalists working in dangerous settings, who represent a unique population of learners with specific needs and objectives. Next steps include developing a better understanding of the medical and traumatic problems truly encountered by this population in the field, assessing the long-term educational impact of the course, and developing ongoing opportunities to reinforce learning via online resources, refresher sessions, and guideline development.

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Evaluating the Educational Effectiveness of Hospital Healthcare Providers after Chemical Mass Casualty Response Training Program

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Introduction: Chemical exposures can cause direct and indirect injuries to responding medical personnel. Therefore, hospital healthcare providers should be provided with disaster response training that includes identification of chemical hazards, establishment of the hazard zone, personal protective equipment use, decontamination, and chemical injury antidote use. This study evaluates the educational effectiveness of the chemical-mass casualty incident response education module (C-MCIREM) for hospital healthcare providers.
Method: This was a retrospective quasi-experimental study. Subjects were hospital providers who enrolled in the C-MCIREM program between May 1, 2021, and July 26, 2022. Subjects were hospital providers from Bucheon, Mokpo, Iksan, Jeonju, and Dae-gu cities in South Korea. Subjects completed pre, post, and three-month knowledge retention and self-assessments of readiness tests, as well as evaluations on tabletop exercises (TTX), and a satisfaction survey (11-point Likert) after the course. The instructors scored teamwork measures via standardized evaluations on TTX throughout the course. The K-paired Sample Friedman test was used to compare samples.
Results: 127 respondents were enrolled. The median knowledge score rose from 51/100 (39, 66) to 85.5/100 (73.75, 90) with a median retention score of 74/100 (64, 88) ($p<0.001$). Participants felt their readiness to respond increased in all facets (all $p<0.001$) on the post and retention test for the MCI situation. All three hospital teams showed significant increases in teamwork between the median of the 1st and 4th TTX as 27/100 (23.5, 29) and 69/100 (66.75, 69.5) ($p<0.05$). Participants were overall satisfied (9.1/10 SD 1.13) and would recommend the training to others (9.15/10 SD 1.2).
Conclusion: C-MCIREM participants had high satisfaction with a significant increase and persistence in knowledge, improved teamwork, and self-assessed readiness to respond to a chemical mass casualty incident.

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Development and Evaluation of Scenario-based E-Simulation for Humanitarian Health Training

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Introduction: In response to the global upward trend of humanitarian emergencies, the humanitarian health workforce has grown substantially in the last decades. Still, humanitarian education and training programs are limited in availability, geographical locations, and teaching methods, and are too expensive for local respondents. To address these gaps, an e-learning tool for humanitarian public health has been developed and evaluated.
Method: Action research was used to develop the e-Learning tool. Rapid prototyping–a modified analysis, design, development, implementation, and evaluation (ADDIE) model, was used to identify the content and instructional design. This iterative process involved consultations and feedback from public health and disaster medicine instructors and students at different levels and training programs from within and outside CRIMEDIM. Qualitative data were analyzed using thematic analysis. Quantitative data were appropriately summarized. Pre/post-test change in knowledge score was tested with paired t-test.
Results: Although different levels of training are needed, targeting health professionals at the entry-level in the humanitarian field is identified as a priority. Scenario-based e-Simulation covers health needs assessment, essential health services, communicable diseases standards, and the health system was developed and evaluated. Trainees were highly satisfied by the clear objectives, the realism of the simulated scenarios, quizzes, and interactivity. In the 1-7 numerical scale, the median for overall experience satisfaction was 6.3 (IQR=5.3-7, N=35). The mean of the post-test score was 7.71, which was significantly higher than the mean of the pre-test score of 5.88. The large effect size of 1.179 indicates the training effectiveness. Poor internet was identified as a potential barrier to delivering the training.
Conclusion: This participatory study resulted in the development of effective Scenario-based e-Simulation. Offline mode of training will be adapted for trainees with poor internet connection settings. Successful factors in instructional design will be used to inform the development of advanced training in the field.

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The Challenge of Mass Casualty Incident Response Simulation Exercise Design and Creation: A Modified Delphi Study

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