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Introduction: Early in the Russian-Ukrainian conflict, the Ukrainian Ministry of Health (MoH) implemented policy reform to allow for pre-hospital whole blood transfusion (pWBT). Team Rubicon (TR) worked with a multinational group of experts to disseminate training that accelerated the implementation of pWBT across the country.
Method: TR utilized an assess, align, and act (A3) approach to drive the pWBT implementation. TR established relationships with Ukrainian providers to understand current needs, restrictions, and protocols for pWBT. TR aligned pWBT advocacy efforts, working with the disaster medicine program at Ivano-Frankivsk Medical National University to create a local lead advocate. Existing and novel coordination mechanisms were used to unite and inform MoH, World Health Organization, Non-Governmental Organizations, and local health systems. Finally, TR coordinated a multispecialty, multi-national team of healthcare providers who developed and delivered a training package in alignment with national guidelines utilizing a combination of didactics, videos, and demonstrations. From August to October of 2022, TR conducted pWBT trainings across Ukraine. Pre- and post-surveys were utilized to determine comfort with pWBT and usefulness of the training.
Results: TR emerged as the point of reference for pWBT in Ukraine. 109 individuals from over 14 organizations were trained. Participants included 69 physicians, 23 paramedics, 7 nurses, and 10 other professionals. 95% of those surveyed had not received prior pWBT training. Participants reported increased comfort levels, with average pre- and post-course comfort scores of 1.7 and 3.2 (4=very comfortable), respectively. The majority of participants found the training useful (average score of 3.8, 4=very useful). Feedback demonstrated high satisfaction ratings and an increased awareness of the regulatory changes.
Conclusion: TR utilized the A3 model to drive a coalition that supported policy reform and trauma system improvements in Ukraine. TR's ability to leverage international medical expertise, work collaboratively with MoH, and provide material resources supported local implementation of pWBT.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s7–s8
doi:10.1017/S1049023X23000675

The Integration of Point-of-Care Ultrasound into Practical Trauma Training in Ukraine: A Case Study Highlighting Feasibility, Satisfaction, and Pre- and Post-Training Comfort with the Technology

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Introduction: As of October 2022, the civilian casualty count of the invasion of Ukraine is reported to be 16,295, with actual figures believed to be considerably higher. As explosive trauma continues to terrorize populations, frontline medical personnel are faced with escalating resource constraints including transport, imaging modalities, and electricity. Point of care ultrasound (POCUS) is considered the gold standard in acute trauma evaluation, but very few hospitals or pre-hospital medics have access to or training in POCUS.
Method: In collaboration with the Ukrainian Ministry of Health, the World Health Organization, and the Global Health Program at Butterfly Network, Team Rubicon developed and conducted 64 practical trauma trainings and donated 50 Butterfly iQ+ portable ultrasound devices in Ukraine between August and October, 2022. Of these trainings, 19 specifically focused on the use of POCUS for trauma. Pre- and post-surveys were deployed to determine demographics, comfort level with POCUS for trauma care, and usefulness of the course.
Results: In total, 149 individuals were trained in POCUS for trauma. Of these, 130 were physicians, 15 were paramedics, three were RNs, and one was a pharmacist. Only 14.8% of these clinicians self-reported any previous POCUS training. All participants reported an increase in comfort level, with an average pre- and post-course comfort scores of 1.9 and 3.3 (4=very comfortable), respectively. General satisfaction with the training was high (average score of 9.8/10). Qualitative feedback commended the quality and novelty of this training, requested further examples of pathology, and endorsed more POCUS trainings, generally. The most critical lesson learned was the need to re-orient training around the foundations of POCUS given low levels of experience and training.
Conclusion: Access and training in POCUS for trauma is critical for resource-constrained medical personnel operating in conflict-affected communities. A one-day POCUS practicum-oriented course is feasible to support awareness and proficiency.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s8
doi:10.1017/S1049023X23000687

Emergency Nurse Roles, Challenges, and Preparedness in Hospitals in the Context of Armed Conflict

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Introduction: Emergency nurses' views on their roles, challenges, and preparedness in the context of armed conflict are necessary to capture in-depth insights into healthcare needs. They can identify the required education and training for emergency nurses and provide evidence of the situations of care in the context of armed conflicts. Unfortunately, the evidence about these factors in the context of armed conflict is scant.

Method: A semi-structured interview with 23 participants was conducted using qualitative content analysis. The study was conducted in Saudi border hospitals that are shared with Yemen. The COREQ guideline for reporting qualitative research was followed.
Results: The emergency nurses' roles in hospitals in the context of armed conflict discussed clinical nurses' and head nurses' roles. The main challenges that emergency nurses faced include poor orientation, access blocks, and communication barriers. Various perspectives about the preparation, including education, training, and strategies for preparing emergency nurses, were identified. The most striking findings in these settings were the diversity of armed conflict injuries, clinical profile, triage of mass causality, trauma care, surge capacity, orientation, communication, and strategies for preparing nurses.
Conclusion: This study provided an estimate of the scope of ED nurses' roles, and how they were prepared across a range of hospitals in the armed conflict areas and therefore a snapshot of their experiences significant to be an informative resource for these settings. This study has provided essential implications for preparedness and planning. Given the large number of prepa-rational courses being undertaken by ED nurses in these settings, the choice of the required education and training must be planned accordingly considering the clinical profile of patients in armed conflict areas, trauma care, triage of mass causality, surge capacity, safety and security, communication, policies, and law.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s8–s9
doi:10.1017/S1049023X23000699

Triage, Trauma, and Civil Unrest: Decreasing Critical Care Overcrowding and Nursing 'Undertriage' Praxes at the University of Gondar Public Hospital, Ethiopia

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Introduction: In March of 2022, the Washington Post reported that the: "Deadliest war isn't in Ukraine, it's in Ethiopia." Current death toll estimates are around 600,000: 50,000-100,000 (warfare); 150,000-200,000 (starvation), and 100,000 (lack of medical treatment). Due to increasing civil unrest, a mixed-methods study began at the University of Gondar Hospital in Gondar, Ethiopia. Between 2018-2022, the estimated (daily average) of patients was reported to have quadrupled, from 100 to 400. The global research team implemented 12 new systemic revisions in overcrowding, triage nursing praxes, and resuscitations. Patient data from 521 hospital records was evaluated, as well as resource allocation(s) in staffing, equipment, and training.
Method: The study's inclusion criteria for A&E data included all patients who sought emergency care at UoG Teaching Hospital's Emergency Department between May 13, 2018, and June 29, 2018, primarily during the normal daytime working hours between 9am and 2pm, as nighttime security and road travel were deemed less secure for data collectors.
Results: After the 12-benchmark implementation, there was an approximate 15%-25% decrease in direct-from-triage 'Red' patient admission; congestion dropped 50%-70%; and the occurrences of successful resuscitations increased. The study revealed that over 75% of patients presented with symptoms indicative of illness(es), and 24.4% presented with trauma (remaining psychiatric). Of the trauma cases, approximately 28.3% were 'intentional' injuries. The patients' mean TEWS triage score was 3.294, with a standard deviation from the mean of 1.9938.
Conclusion: The overall prevalence of patients necessitating surgical evaluation, the elevated use of triage discriminators due to space, equipment, and staff concerns, and the predominant use of 'Yellow Zone' services–all pointed to the vital need for resource re-allocation(s), stricter ECCN adherences to TEWS triage indices, as well as future Mass Casualty Planning, Triage, and Response, and Mass Casualty Medical Operations training.

Prehosp. Disaster Med. 2023;38(Suppl. S1):s9
doi:10.1017/S1049023X23000705

Ukraine Report from the Field: TCCC in the Multidomain Battlespace

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Introduction: Russia invaded Ukraine in February 2022, leading to significant preventable death across Defense forces and communities. When appropriate and adequate training has been provided, the use of point of injury (POI) care guidelines as exhibited by tactical combat casualty care (TCCC) and the implementation of damage control resuscitation (DCR) and damage control surgery (DCS) can reduce preventable morbidity and mortality in the far foreword environment.
Background: Russia invaded Ukraine in 2014 exacting a heavy increase in preventable morbidity and mortality on the battlefield. Multiple global health engagement strategies by allied forces and health partners have focused on prehospital medicine. The most recent iteration of violence has seen a comprehensive invasion with the use of multi-domain battle and conventional weapons systems across nearly every state in Ukraine. These conventional weapon systems deployed by Russian forces exact a heavy lethality on all communities.
Method: This report uses anecdotal data from undisclosed locations in Eastern Ukraine from the tactical evacuation care, Role 1, Role 2 to the Role 3 echelons of care as reported.
Results: Appropriate application of combat application tourniquets (CATs), pressure dressings, access to tranexamic acid