

outdoor activities and gatherings in a post-COVID-19 world will further expose large numbers of people to the potential vulnerabilities of vehicle-based terrorism. The scale of the casualties from a vehicle-based terror attack can overwhelm traditional resources and strain the abilities of the healthcare sector. Counterterrorism and disaster medicine specialists are crucial players in educating first responders and emergency medicine providers, allowing them to adequately prepare for an evolving threat in a world devastated by COVID-19.

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Terrorism-Related Attacks in Sub-Saharan Africa from 1970-2020: Analysis and Impact from a Counter-Terrorism Medicine Perspective

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Introduction: Sub-Saharan Africa (SSA) has become a hotspot for global terrorism, with nearly 50% of global terror-related deaths occurring in SSA in 2021. To address growing terrorism-related health implications the field of counter-terrorism medicine (CTM) seeks to study the impacts of terrorism and implement healthcare initiatives. This study is a semi-quantitative analysis of terrorist-related activity in SSA from 1970-2020.

Method: A retrospective analysis of the Global Terrorism Database (GTD) was performed for the region of SSA between 1970-2020. The number of attacks, deaths, and injuries, as well as primary weapons types, country where attacks occurred, and primary target types, were collated into a Microsoft Excel™ spreadsheet (Microsoft, Redmond Washington, USA) and analyzed.

Results: A total of 19,320 attacks were recorded, resulting in 77,565 deaths and 52,986 injuries. Nigeria had the greatest number of attacks. Firearms were the most frequent weapons used, followed by explosives, unknown, and incendiary, with all others making up the remainder. Private citizens and property were the most frequently targeted entities, followed by general government facilities, police, business, military, diplomatic government facilities, and religious figures/institutions, with all other targets making up the remainder.

Conclusion: The majority of deaths from terrorism in SSA are the result of firearm attacks. Nigeria had the largest number of attacks and the highest number of killed and wounded. Private citizens and property are the most frequently targeted. Terrorism poses unique challenges to governments, populations, healthcare systems, and aid organizations. By understanding the impact and scope of terrorist activity in SSA, Counter-Terrorism Medicine (CTM) initiatives can be employed to improve healthcare outcomes.

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Terrorist Attacks on Refugees, Internally Displaced Peoples, and Asylum Seekers

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Introduction: The United Nations High Commissioner of Refugees (UNHCR) estimates that there were over 100 million displaced people as of May, 2022, which has left many people without adequate healthcare and strained local healthcare systems. While there is concern about violence that may be brought as a result of these large influxes of people, few are focused on attacks that are perpetrated on these displaced peoples. This study is a semi-quantitative analysis of terrorist attacks on refugees, refugee camps, internally-displaced peoples, and asylum seekers.

Method: A retrospective search of the Global Terrorism Database (GTD) was performed for all terrorist-related events from 1970 to 2020 that targeted refugees, refugee camps, internally displaced peoples (IDPs), and asylum seekers. The number of attacks, country of attacks, weapon types, numbers wounded, and numbers killed were collated into a Microsoft Excel™ spreadsheet (Microsoft, Redmond Washington, USA) and analyzed.

Results: There were a total of 683 attacks which resulted in a total of 3148 deaths and 4374 injuries from 1970-2020. These occurred in 56 countries, with Sudan having the largest number of attacks at 113, followed by Germany (71), Iraq (61), Nigeria (51), and Sweden (43). The most frequent weapons used were explosives (213), followed by firearms (210), incendiary (140), unknown (74), melee (45), and chemical (1).

Conclusion: Terrorist attacks against refugees/IDPs/asylum seekers resulted in 3148 deaths and 4374 injuries in 683 attacks. Sudan had the highest number of terrorist attacks, and the most frequent weapon used was explosives. Attacks against refugees pose unique challenges to government, NGO's, and other stakeholders due to the lack of healthcare access and transient nature of this population. By understanding the scope and impact of terrorist-related attacks against this vulnerable population counter-terrorism medicine initiatives can be employed to improve healthcare access and outcomes.

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Prehospital Whole Blood Transfusion Training in Ukraine: A Case Study Highlighting the Efficacy of Collaboration and Advocacy

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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.

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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.

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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.