Introduction: On August 29, 2021 Hurricane Ida struck New Orleans with Category 4 winds. While the most severe weather occurred during a 24-hr period on August 29, the city suffered significant damage to telecommunication systems, medical facilities, and infrastructure for several weeks afterward. At the height of the storm, multiple events affected routine deployment of EMS, including damage to transmission lines causing interruption of the 911 system, and suspension of ambulance travel for safety when the winds exceeded 50 mph. These factors, as well as pre-storm preparations, affected utilization of EMS by residents and thus a "peri-hurricane" period was examined to determine the overall effect of Hurricane Ida on New Orleans EMS operations.

Method: Run sheets for calls to NOEMS between August 26-September 9, 2021 were analyzed to assess the most frequently reported medical complaint just prior to and after the hurricane. Run sheets were also evaluated to determine average time from call to arrival on scene, time to arrival at patient ("response time"), and time from leaving scene to arrival at destination ("transport time"). To account for the atypical period during which EMS response was suspended due to wind, both mean and median times were calculated. Data was compared to a control period of Aug 26-Sept 9, 2022.

Results: During the study period, 1,971 calls were received, with trauma and respiratory the most common complaints. The mean call-to-arrival time was one hour, although the median time was 15 minutes. Response time was 34 minutes compared to 21 minutes in 2022, and median response time was comparable to the control period. Transport time mean and median were 12.3 and 11.3 minutes, also similar to 2022.

Conclusion: Despite citywide infrastructure failures and suspension of operations for over 12 hours during landfall, multiple mitigation strategies enabled NOEMS to quickly resume operations and minimize impact on patient care times.

Effectiveness of and Adherence to Triage Algorithms during Prehospital Response to Mass Casualty Incidents

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Introduction: At mass casualty incidents (MCIs) medical needs exceed available resources, requiring prioritization of response efforts and materials. Principles of triage have evolved since the 18th century into several modern-day algorithms that sort casualties into priority groups based on clinical parameters. It is unclear, however, if such algorithms are effective and practical during real-world MCIs. This analysis reviews the literature on use and efficacy of prehospital MCI triage algorithms.

Method: The MEDLINE, Scopus, and Google Scholar databases were searched for peer-reviewed and grey literature on prehospital MCI medical response. Articles discussing MCI triage concepts, triage at MCIs, or algorithm efficacy were included. Articles were excluded if they described law enforcement, ethical, psychological or epidemiological perspectives without detailing the medical response.

Results: Frequently-cited MCI triage algorithms include START (Simple Triage & Rapid Treatment); Triage Sieve; CareFlight; SALT (Sort, Assess, Lifesaving Interventions, Treatment/Transport); and RAMP (Rapid Assessment of Mentation & Pulse). They differ in the physiologic parameters assessed, inclusion of numerical measurements, and number of triage categories. Surveyed providers were less likely to have performed full triage at MCIs (16%) than in training (69%), and more likely to have performed no triage (29% vs. 1%). In retrospective trauma registry analyses, algorithms were generally poorly predictive of the need for life-saving interventions (13-58% sensitive, 72-97% specific) in one study, and variably predictive of critical injury (45-85% sensitive, 86-96% specific) in another. The Glasgow Coma Scale motor component was associated with critical injury (73% sensitive, 96% specific if <6); other physiologic variables had sensitivities under 40%. In prospective studies, algorithms were accurate for 36-52% of adults and 56-59% of children. Some suggest clinician judgment may be similarly effective.

Conclusion: Multiple algorithms exist for MCI triage, but they are infrequently utilized and may be inaccurate. Simpler, more realistic, scalable, and widely accepted response systems need to be instituted.

Learning from Each Other, Improving Medical Command and Control after the COVID-19 Pandemic: Experiences from a Bosnian-Swedish Collaboration.

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Introduction: The Covid-19 pandemic strained health care organizations to their limits, and sometimes beyond. Different countries took different approaches to minimize the effects of the pandemic, both to protect public health and to safeguard the capability of the health care system.

A collaborative project between Sweden and Bosnia-Hercegovina with the aim to share and learn from experiences of managing the COVID-19 pandemic from a medical command and control perspective, initiated in 2021.

The project departed from three theoretical stances: sociotechnical systems perspective, experiential learning theory, and organizational learning theory. Framing the problem using a holistic systems approach, compared to focusing on individual experts, allows for understanding interactions on a system level. Hence, could these theories contribute to supporting individuals' learning and organizational change?

Method: A two-day workshop involving participants from both Swedish and Bosnian (N=21) medical command and control allowed for the exchange of experiences and another's perspective on similar challenges. During the workshop, two themes were addressed: common operational picture and evaluation. First, an introductory presentation was held, then the theme was discussed and reflected upon in small groups. After this, the groups presented their conclusions, and a full group discussion was moderated.

Results: The discussions resulted in participants sharing perspectives on the selected themes, providing personal insights and experience, allowing for deepened and increased understanding of the theme. In spite of major differences between the Swedish and the Bosnian health care systems and Covid-19 approaches, several shared conclusions were identified. For example, reflections on decision processes and strategies, as well as interest in improving the crisis organization.

Conclusion: Exposing participants to different views on well-known processes and challenges allows for reflecting, verbalizing, and reaching a deeper understanding. By displaying a culturally differently organized way of approaching the challenges the contrast is even more evident.

Issues of the Nuclear Disaster Core Facility Through Nuclear Disaster Training

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Introduction: In addition to national nuclear disaster training, local training is conducted once a year to identify issues with training.

Method: The facility is located in the urgent protective action planning zone (UPZ), an exposure medical facility was built in 2015 and has conducted four trainings so far. The fifth training was conducted this time to develop human resources (training), manage equipment and materials, receive medical teams, collaborate with the Advanced Radiation Medical Support Center, review manuals, and inform local residents.

Results: There are currently eleven nurses registered as nuclear disaster response nurses at the facility, and two nurses participate in the national nuclear disaster training program each year. On the other hand, unlike physicians and other professionals, the number of nurses enrolled for reasons such as relocation has not increased. The facility also functions as a core hospital in the event of a disaster, and currently has about 30 nurses who are willing to be dispatched in the event of a disaster. It was found that even in core facilities for nuclear disaster response, awareness of nuclear disasters within the facilities is low and few personnel are willing to work there. Previous studies have shown that they are anxious about radiation, the possibility of late effects from low-dose exposure, and concerns about the genetic effects of exposure and its effects on themselves in nursing.

Conclusion: As a core facility for nuclear disasters, issues were reported on and identified through training, such as human resource development, management of materials and equipment, and review of manuals.

Patient Factors which Lead to Disagreement in Triage Decisions

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Introduction: Multiple triage algorithms have been proposed to optimize the allocation of medical resources in mass casualty incidents. Despite attempts at standardization, first responders often assign patients to triage categories that deviate from those prescribed by these algorithms. This study seeks to understand what patient level factors cause these deviations, and identify clinical factors which cause variance toward over or under triage. Rather than evaluate these decisions against a gold standard, we instead seek to identify patients that cause controversy among first responders with respect to their choices.

Method: This will be an online survey distributed to EMT and Paramedic students in the US. They will be provided with fifty patient cards containing a clinical vignette including description of injuries and vital signs. For each vignette, they will select a triage category (Red, Yellow, Green, or Black.) We will analyze responses to identify areas of controversy, where triage classification showed a significant split between respondents. We can then evaluate these patients for clinical trends.

Results: Data collection and analysis are planned for completion by March 30, 2023.

Conclusion: Identifying patient-level characteristics that contribute to triage variance can allow emergency managers to anticipate under-triage and over-triage following an MCI. This can aid emergency providers as they plan to receive an influx of patients. It also addresses the sub-cognitive biases that