Provider (PCP) program. They were randomized into either a UAV group or a non UAV group. The study scenario was based on a highway accident involving ten vehicles with seven hazards. Each group was given a 60 minute lecture on UAV technology, and a 30 minute lecture on hazards. Each subject entered the scene after receiving a brief narrative. Having been informed that there were 7 hazards to be identified, the UAV group remained at the UAV ground station while the non UAV group was able to approach the scene. After identifying all hazards, the time to identification and order was recorded. Primary outcome measures were the difference in time to identification, and difference in identification order.

Results: The mean time (SD, range) to identify the hazards were 3'68" (1.62, 1'48"-6'48") and 2'43" (0.92, 1'43"-4'38") in UAV and non UAV groups respectively, corresponding to a mean difference of 58" (P = 0.11). A non parametric permutation test showed a significant (P = 0.04) difference in the hazard identification order driven by two hazards, fuel and workplace hazardous material information system placard.

Conclusion: This study demonstrated that there is a statistical difference in the identification order of hazards. Interestingly, preliminary results were unable to identify a difference in time to hazard identification.

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Developing the Chemical Information System Requiring Emergency Medical Information in Disaster

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Study/Objective: The study objective is to make the basis of a chemical emergency medical information system.

Background: There are many database sets and websites which provide chemical databases in chemical accidents, but they don't have adequate roles for emergency medical support in Korea.

Methods: We reviewed the database sets and websites, which provide chemical database and emergency medical records in prehospital transport to hospitals. After an analysis was done, an adequate database set was proposed, and the algorithm for elicitation of chemicals suitable for emergency medical support, accident cases.

Results: By four steps of elicitation of chemicals, the number of chemicals of more than 100,000 was decreased to less than 1,000. The standard steps were accident preparedness, toxicity, and circulating amounts. We made an algorithm for the elicitation of chemicals.

Conclusion: When mass exposure by toxic chemical occurs, chemical emergency medical information systems will be helpful for acute identification of chemical and emergency medical response.

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Thailand's Hospital Awareness in Emergency and Disaster Preparedness (THAI-EDP) Study: A National Survey

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Study/Objective: To determine the nationwide current status of hospital awareness in emergency and disaster preparedness.

Background: Hospital awareness and preparedness is the cornerstone for community health management in emergency and disaster as it plays a critical role in taking care of injured patients. To assess the current system is the first necessary step to improve hospital readiness for emergency and disaster.

Methods: A questionnaire was distributed to every provincial, general, and university hospital in Thailand. The data were extracted and reported as number and percentage. Single logistic regression analysis was used to identify factors related to hospital preparedness. Values were significant when P < .05.

Results: The questionnaire response rate was 112/119 (94%) from hospitals in every province of Thailand. Forty-four percent of the hospitals were general hospitals and 10% were academic hospitals. Only 50% of the hospitals had full-time emergency physicians. Most of the hospitals had risk assessment activities and moderate risk for disaster. An emergency management committee was set up in over 95% of the hospitals while 56% had regularly meetings. Most hospitals had an emergency management plan and sub-plan, an incident command system, triage system, hospital map, communication and staff callback system, mass-casualty incident training, and adequate personal protective equipment. Nearly 60% of the hospitals had a decontamination area and a negative pressure room for patients who are contaminated and have communicable diseases. Hospital preparedness was related to regular meetings of the emergency management committee (P = .005).

Conclusion: Most Thai hospitals are aware of emergency and disaster preparedness, while preparedness of chemical and communicable disease needs to be improved. A regular meeting of an emergency management committee is a predicting factor for hospital preparedness.

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Being Aware of the Situation: Situational Awareness in the Emergency Department

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Study/Objective: To outline the application and benefits of Situational Awareness in the Emergency department. To show the basic aspects of Situational Awareness that can be applied in Emergency care.

Background: Awareness is an important concept arising in medical care. It has been a widely applied concept in aviation and military circles. Awareness is simply Knowing, being aware. Knowing what is going on around you and applying that knowledge in any situation until it becomes second nature; when you can immediately know the important aspects of the situation, and what will lead to life or limb threatening events.
Methods: To highlight the concepts key to Situational awareness; Normal, Change, Distractions, Bias, Target lock. Translating how training in these concepts improves outcomes. Defining the key concepts, understanding them and presenting exercises to assess the Emergency physicians grasp of the concepts.
Results: Projecting the gains this training has had in military and aviation, where it has improved the effectiveness of teams and outcomes of events. Leaders have been able to observe events as they unfold, identify the key aspects that would threaten outcome or prove fatal. It enables them to see changes in the progress of events and how numerous factors influence outcome. It shows the disadvantage of bias in any situation, and how focusing only on a small part of the bigger picture can be a problem.
Conclusion: The application of Situational awareness in emergency medicine and patient care, would optimize patient care and identify early changes or events that could be life or limb threatening. It consciously puts the emergency physician in a position to identify information and changes, which when acted upon early can improve patient outcome.

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Challenges for Cross-Jurisdictional Interoperability by Web-Based Situational Awareness System (SAS), Japan

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Study/Objective: The objective of this study is to analyze the regional response capability change in Hyogo prefecture for 3 years.
Background: A major incident necessary for the cross-jurisdictional response is rare. But, we experienced such an incident 3 years ago with neighboring Kyoto-prefecture. Our Hyogo-prefecture has been developing the web-based SAS, similar to the Hyogo-prefecture Emergency Medical Information System (HEMIS) for data communications.
Methods: Adding to our response record, we investigated the response records on site and questioned the stakeholders of the Explosion in Kyoto/Fukuchiyama. From lessons learned, we investigated the web-based EMISs in each prefecture.
Results: An outline of the Explosion in Kyoto/Fukuchiyama is as follows: 45 Burn patients were transferred to the only critical care center, and 59 burn patients were sent to 3 hospitals in this area, within 66 minutes. There were 5 medical teams from three prefectures dispatched to the hospital. HEMIS could easily reveal that the 11 hospitals could receive 19 severe patients, and was enabled to share the information with all stakeholders. Finally, 9 among 16 severe burn patients were transported to Hyogo-prefecture, and 3 were to Osaka for further intensive treatments. As for starting prompt medical responses across the jurisdictions, voice communications are necessary, and those now depend on Drs' personal performance. Communications among local governments should be facilitated by principal disaster hub-hospitals in each jurisdiction. Web-based SAS is necessary for cooperation between medical and Fire/Ambulance agencies, but it is developing independently in each jurisdiction, and the national EMIS have no function. To fill the gaps, 6 jurisdictions in KINKI Region swapped each ID/Password for the systems login. We applied this framework to the contingency plan of an airport.
Conclusion: The cross-jurisdictional interoperability is a challenge to improve our response capability. Gaps of governance and technology should be filled by daily training and exercises among multi-agency or jurisdictions.

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Situation Display for the EMS Dispatch Team during Multi-Casualty Incident Management

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Study/Objective: Design and test a situation display for EMS dispatch
Background: Effective management of multi-casualty incidents requires rapid, tight, yet flexible coordination among members of the EMS dispatch to assist in managing ambulances and hospitals. Cognitive processes such as situational awareness, communication, and decision-making are critical for effective teamwork. Shared situation displays can facilitate effective situational awareness and decision-making. This paper introduces the user-centered design and preliminary testing of a situation display for the EMS dispatch during multi-casualty incident.
Methods: User research included: 1) Review and analyses of procedures and incident reports; 2) Interviews with experienced EMS dispatch personnel; 3) Observations of routine work in the dispatch center. Task analysis and operational flow diagrams identified the cognitive aspects of various tasks such as, situational awareness, dynamic decision making, and teamwork processes. The analysis uncovered the need to have information integrated to support the team. The conceptual design of the display consists of four primary areas: 1) Movement of ambulances to the incident site; 2) The incident site; 3) Evacuation from the site to hospitals; and 4) Routine operations. Details include amount and locations of ambulances to the site or from the site to hospitals, casualties on site,