

**Introduction:** Hazardous materials (HazMat) training is not a requirement for accreditation of US Emergency Medicine (EM) residencies, nor for EM board certification by the American Board of Emergency Medicine (ABEM). However, the US Occupational Safety and Health Administration (OSHA) requires hospitals train all personnel expected to deal with contaminated patients. This QI project aimed to develop an EM physician-specific HazMat course and evaluate the physician comfort level with HazMat personal protective equipment (PPE) donning and doffing, triage, procedural skills, and decontamination.

**Method:** A four-hour “HazMat for Docs” course was designed at a large urban academic trauma center and offered to second-year EM residents. Additionally, we performed a quantitative survey of a cohort of 72 current and recently graduated EM residents (classes 2019–2024), some of whom had taken the course in person. Our primary outcome was to measure improvement in comfort level with essential HazMat tasks after completing the course. Our secondary outcome was to evaluate the current or recently graduated EM physician's overall comfort levels with managing a HazMat incident, as well as HazMat skills and knowledge retention.

**Results:** A total of 53 responses (73.6%) were obtained. 45.3% of the respondents were male and 54.7% female. 37.8% of the respondents were recent EM graduates, with 20.8% PGY-4, 13.2% PGY-3, 15.1% PGY-2, 13.2% PGY-1. 16/53 (30.2%) had prior EMS experience. EM Physicians were most comfortable with donning and doffing PPE (4.92 on a 7-point scale) and least comfortable with decontamination procedures (2.98/7). After completing the HazMat course, EM physicians increased their comfort level with HazMat decontamination procedures by 8.6% and with organizing a multi-disciplinary ED HazMat response by 10.5%.

**Conclusion:** EM Physician comfort levels with HazMat procedures are low. Increased training aimed at improving physician knowledge, preparedness, and comfort level for such events is necessary and can be accomplished through a short course.

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### “Is Resilience Useful, Usable, and Used? Outlining the Social Characteristics of a Resilient System”

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**Introduction:** The COVID-19 pandemic has underlined the international priority to systemically operationalise resilience in the face of increasing prevalence of complex and cascading hazards. This concept paper identifies the components of a resilient society, establishing the usefulness and usability of

the application of ‘resilience’, and proposes the characteristics used by a resilient system.

**Method:** Through the review of case-based examples and previously published concept papers, this paper underwent a concept analysis to understand and qualify the characteristics of a resilient community. Through extensive research and critical analysis of disaster risk responses both effective and not, the authors condensed the literature to identify the key components of a resilient society.

**Results:** To respond to this evolving landscape of disaster risk, community and governmental responses should be collaborative in order to be successful and sustainable to increase resilience across communities, societies and networks. To unpick the complexity of how communities and governments might promote resilience effectively, we explore whether community and social capital are useful resources to create and sustain resilient approaches to disaster risk reduction and management. We consider that by exploring how social capital links, bridges and bonds actors within a system are qualitative key facets of a resilient community. A resilient system is the product of trust and collaboration between asset-based networks of bonded and bridged communities and risk and support-based networks of bonded and bridged organizations.

**Conclusion:** By evaluating the usefulness and usability of the concept, we consider that a resilient system is an iterative learning process, asset based, trusting across power and resource gradients and is best built before or even if essential during a crisis. Noting that resilience is a dynamic process which requires integrated collaboration and continual adjustment to develop a sustainable framework, we consider that social characteristics of a resilient system are useful, useable and should be used.

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### Mass Hospital Evacuation During COVID-19 Pandemic: Experience of Hospital Cluster Infection in Taiwan

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**Introduction:** A mass hospital evacuation occurred in Taiwan in 2021 due to the clustered COVID-19 infection in Hospitals. To maintain essential services with limited manpower, 74 patients are triaged and evacuated to 12 hospitals in 6 cities in 16 hrs for further treatment.

**Method:** All patients were evaluated by physicians for discharge. The patients who still needed hospitalization were classified into three groups according to the risk of infection<sup>1</sup>. The high-risk group of patients were cared for by infected staff directly; the moderate-risk group were patients admitted to the same ward but didn't receive care from infected staff. The low-risk group were patients avoiding infection outbreak. Only the low-risk group patients were transferred, excluding patients with unstable vital signs, hospice, and prison. Command Center of HICS of TGH set up a transfer execution team to handle this task.

