Discussion: Disaster code language is inconsistent. Few of the codes were consistently assigned to the same meaning, and none were universal. Color coding was the most common method, but there was little consistency even within color code systems. Additionally, some facilities used a combination of colors, numbers, terms, and plain language. Healthcare facilities should embrace standard terminology and create a consistent language for disaster codes to enhance response capabilities and medical security.

How Antibiotic Resistance Impacts Responses to Public Health Emergencies and Strategies to Mitigate the Impacts

Ms. Kathrine Robnett
Pennsylvania State University, University Park, United States

Introduction: Antibiotic resistance is when bacteria change and adapt in response to antibiotics, becoming able to defeat these drugs when used to treat infections. A direct consequence of this adaptation is an increased difficulty in treating multiple diseases. Because of increased antibiotic resistance, the World Health Organization has declared it a significant threat to public health.
Aim: One frequent consequence of natural disasters is infections, as seen in the December 2004 Indian Ocean tsunami. Survivors sustained a variety of wound infections that ranged from common pathogens to rarely seen organisms including fungi.
Methods: This research analyzes the microbiology observed in wound infections associated with exposure to freshwater, seawater, soil, fecal, and other contamination after Hurricane Harvey in 2017 and Hurricane Florence in 2018.
Discussion: Therapies for infections will also be discussed in addition to how the utilization of rapid detection technology for antimicrobial resistance and correct treatments require antimicrobial susceptibility knowledge to improve health outcomes, lower economic costs, prevent further spread of multi-drug resistant outbreaks and assist with antimicrobial stewardship.

How to Shorten the Rescue Time in Marathon by Using BLE Communication Devices: A New Study for the EMS System in Taiwan

Dr. Kuo-song Chang[1,2,3,4], Mr. Sun Chun-I[4], Professor Jung-Tang Huang[4], Mr. Shih-Chi Weng[5], Mr. Meng-Fan Chien[5]
1. Mackay Memorial Hospital, Taipei, Taiwan
2. MacKay Medical College, Taipei, Taiwan
3. Mackay Junior College of Medicine, Nursing, and Management, Taipei, Taiwan
4. College of Mechanical & Electrical Engineering, National Taipei University of Technology, Taipei, Taiwan
5. Institute of Mechatronic Engineering, National Taipei University of Technology, Taipei, Taiwan

Introduction: More than one million runners have joined the marathon games since 2007 in Taiwan. There were over 150 marathon games held in Taiwan in 2018. The increase rate was 21% as compared to that of 2014. The medical encounter rate was 1.33% in 2015 and increased to 1.41% in 2017. The most common type of injury was muscle spasm. The second most common was abrasion due to falls. The treatment for muscle spasm was RICE only. Cardiac arrest of marathon runners was reported occasionally and time is critical for rescue.
Aim: To shorten the rescue time of the runners in an emergency. Base on the prodromal research, BLE communication technology is further used to improve the rescue positioning communication technology in the marathon.
Methods: After rescue notification devices have been set up in each 0.5 km on the runway of the marathon, the runner can send a rescue signal through the rescue notification devices in case of emergency. The rescue signal, periodically advertisement SN# with rescue mark, of the runner can be precisely located and the rescue can be started very soon.
Results: In the simulation, the rescue signal can be located in 7.5 minutes, fastest in 3 seconds. The precision rate of timing is $\pm 160 ms/6\sigma$ that under IAAF accuracy requirement. The location error is less than 20 meters, and the rescue time can be shortened to one half as before.
Discussion: The rescue time of runner is correlated with the quality of marathon EMS. It is critical to the runner, especially in cardiac arrest. By using BLE communication devices, the runner can be located faster and more precisely. As rescue time shortened, CPR & AED can be given sooner. The quality of marathon EMS will be improved substantially.

The Human Disaster and the Urgency of the Intersetorial Join Between Public Social Policies: Lives that are Lost and Stories that Repeat Themselves

A/Prof. Maria Isabel Barros Bellini, Me. Nadianna Marques
Pontificia Universidade Católica/PUCRS, Escola De Saude Pública/ESP/SES, Porto Alegre, Brazil

Introduction: The human disaster is a permanent challenge for the Brazilian government because the difficulties faced are related to the lack of interface between public policies, resulting in fragile analyses of risk and non-prevention, being that annually several Brazilian lives are lost in disasters that continue to happen.
Aim: The article is the result of research and presents the analyses of health policy, actions, and programs developed to anticipate the fire victims of the Nightclub Kiss concert hall that took place in 2013 (Santa Maria, Brazil). The objective was to investigate and analyze the disasters and human disasters, especially the fire of Nightclub Kiss when 242 young people died. Causes and determinants were analyzed in order to subsidize public policies, in particular, the health policy.
Methods: A qualitative case study supported by the critical dialectic method with semi-structured interviews, focus group, documentary analysis, and bibliographic review.
Results: The experiences accumulated throughout history show that disaster situations require public policies to be able to act readily, resolve, and pay attention to the needs of the population involved. Disasters are increasingly recurrent episodes and