Overview of Human Factors and Ergonomics Activities for Disaster Management Operations Related to COVID-19

The current COVID-19 crisis presents unique challenges to Disaster Management and Public Health practitioners. The scale and magnitude of the current pandemic has created a set of conditions that are seldom seen in any previous response, including:

- The expected extended duration of the COVID-19 crisis (i.e. weeks and months, compared to days in other events such as tornadoes and Hurricanes),
- The amount (and lack) of critical resources required to bring the event to resolution; and the complexity of the technical response (e.g., working while maintaining social distancing),
- High numbers of responders becoming patients, prolonged operations within a dangerous high-stress environment; etc.,
- The presence of the crisis nationally, rather than just in regional areas.

Overall, COVID-19 creates a challenging environment for even the most seasoned emergency responder and disaster manager.

A number of Human Factors/Ergonomics research and activities have been conducted that can help mitigate these issues:

1. Development of methods to support resilient performance in emergency management. [1]
2. Guidelines for training and team decision making to prepare responders using simulation-based training. [1]
3. Methods for leveraging computer supported cooperative work (e.g., virtual teaming) to facilitate recovery of the communities. [2]
4. Development of tools and methods to support emergency response personnel. [3,4]
5. Recommendations and guidelines for efficient Human-Artificial Intelligence (AI) teaming and cooperation in pandemics. [5]
7. Recommendations to improve health security and infection prevention during an ongoing pandemic. [7]

Human factors and ergonomics experts are available to support FEMA and state emergency response organizations as they confront this crisis.

About HFES

With over 4,600 members, HFES is the world’s largest nonprofit association for human factors and ergonomics (HF/E) professionals. HFES members include psychologists and other scientists, designers, and engineers, including researchers, practitioners, and federal agency officials, all of whom have a common interest in working to develop safe, effective, and practical human use of technology, particularly in challenging settings. HFES has a particularly strong expertise pertaining to the safe and effective use of medical technology, in order to ensure the safety of patients and healthcare workers.
References


