

## **CONCURRENT SESSION 2 – INSIGHTS AND APPLICATIONS OF SOCIAL SCIENCE TO DECONTAMINATION**

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### **Social Vulnerability and Resilience in Decontamination Research**

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In response to the increase of Chemical, Biological, Radiological and Nuclear (CBRN) threats and HazMAT incidents, this presentation will focus on how decontamination capabilities can intersect with the CDC/ATSDR Social Vulnerability Index and the Socioeconomic Index to enhance an equitable and accessible response for the whole community.

The two main US federal guidance documents which relate to management of populations during a CBRN or HazMat incident are “Patient Decontamination in a Mass Chemical Exposure Incident: National Planning Guidance for Communities” (‘NPG’) and Primary Response Incident Scene Management (PRISM). Both NPG and PRISM guidelines highlight the needs of at-risk individuals and adaptations of standard procedures.

Consequently, there are no evidence-based decontamination procedures for at-risk individuals including those with disabilities, seniors, chronic health conditions, service animals, durable medical equipment and those with language barriers. Research to evaluate the effectiveness of current decontamination procedures demonstrated that current decontamination procedures lack technical evidence and are based on perceived best practices, relying on an incorrect assumption that the needs of all casualties can be met using the same patient protocols. As a result, the throughput of at-risk populations was 10 times slower and the delays associated with processing had a negative impact for all casualties in terms of clinical and operational effectiveness.

The implementation of the CDC/ATSDR Social Vulnerability Index using 15 U.S. census variables and the Socioeconomic Index help responders to identify communities requiring additional support and provides a new strategy to combat CBRN and HazMat incident response inequalities. In order to effectively respond to a CBRN or HazMat incident, community resilience to such catastrophes needs to systematically and deliberately address the social vulnerability and inequities of the incident response.

Reducing the delay between initial exposure to a contaminant and subsequent emergency response actions is considered one of the most important factors for optimizing the number of lives saved. The longer duration of treatment observed for at-risk casualties will either have a detrimental effect on the operational effectiveness of established incident response procedures or will result at-risk casualties receiving treatment secondary to other casualties.

This session will provide participants the forum to review and discuss the impacts of social vulnerability and equity in the decontamination of at-risk populations. In addition, this session will review the use of Social Vulnerability Index and the Socioeconomic Index as an integral response strategy. In addition, this session will also review the direct application and direction of future research requirements aimed at removing the inequalities and fully integrate an evidence-based response for all members of the community during a CBRN incident.

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