Mass Casualty Decontamination Research: What Next?

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In response to the increase of Chemical, Biological, Radiological and Nuclear threats, implementation of attacks and HazMAT incidents, this presentation will focus on how responders must evolve decontamination capabilities to meet these threats for the whole community.

Currently, there is no federal 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. Recent research has found that the throughput of these populations was 10 times slower and the delays associated with decontamination processing will consequently have a negative impact for all casualties in terms of clinical and operational effectiveness.

The U.S. is currently implementing a response to CBRN and Hazmat incidents using a triple combination approach of dry, ladder pipe system and technical decontamination (Primary Response Incident Scene Management--PRISM). An international large-scale, multi-agency response exercise to evaluate the effectiveness of the PRISM (“Operation DOWNPOUR”) demonstrated for the first time that current disrobe and decontamination procedures lack technical evidence and are based on perceived best practices, relying on an assumption that the needs of all casualties can be met using ambulant protocols for those who are able to walk and maneuver through without assistance or accommodations.

In order to effectively respond to a CBRN or HazMat incident, communities must be resilient to such catastrophes which requires scientific data to support planning and 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.

There is a clear and urgent requirement to perform research to generate evidence-based federal decontamination guidance for at-risk casualties. Recognizing and understanding the threat and the risk that it poses is critical to determining the appropriate response. This interactive session will provide participants the forum to review and discuss new decontamination research aimed at removing the inequalities and fully integrate an evidence-based response for the safe and effective disrobe and decontamination for the whole community during a CBRN or Hazmat incident.