

necessity, so SOPs can be implemented to teach non-medics. The medics will be needed for the first aim of disaster medicine.

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#### Neuropsychiatric Manifestations of Wildfire Exposure

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**Introduction:** Wildfires are life threatening incessant fires in thickly vegetated areas that spread extremely rapidly to human habitat and are difficult to control by human force. The impact of wildfires is enormous on population health and causes tremendous financial burden to individuals and communities.

**Aim:** The aim is to understand the potential disease burden secondary to wildfires both at an individual and population level and reflect upon the immediate and delayed neuropsychiatric manifestations of smoke exposure.

**Methods:** Data on wildfires associated direct and indirect costs on individual health and health care delivery appears to be scant. The effort of this presentation is to present the federal data from 2012 to 2016 on nationwide wildfires, estimated acreage consumed in wildfires, the population exposed, and deaths. Information was extracted from the National Interagency Fire Center, the United States Fire Administration, and the Federal Emergency Management Agency. Through literature review on neuropsychological sequelae of wildfires smoke inhalation and associated trauma, the goal is to reflect upon potential healthcare burden secondary to neuropsychiatric manifestations.

**Results:** Per National Center for Health Statistics, the national fire death rates from 2012 to 2016 ranged 10 to 11 per million population each year, and the property loss both residential and non-residential was estimated at 9 to 10 billion dollars each year. We know healthcare cost is expensive in the United States, and with the stated estimates, one can only envision the health care and public health system burden.

**Discussion:** The characteristic neuropathology of carbon monoxide toxicity is bilateral Globus pallidus necrosis and the common neuropsychological symptoms include fatigue, affective conditions, emotional distress, memory deficits, sleep disturbance, vertigo, dementia, and psychosis. The health effects and associated disability demand policymakers to allocate resources for wildfire prevention/containment and primary health care providers education, research, and building effective healthcare delivery systems.

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#### Next Level Triage: Applications of Point-of-Care Ultrasound in Disaster Response and Recovery

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**Introduction:** Ultrasound applications are widespread, and their utility in resource-limited environments are numerous. In disasters, the use of ultrasound can help reallocate resources by guiding decisions on management and transportation priorities. These interventions can occur on-scene, at triage collection points, during transport, and at the receiving medical facility. Literature related to this specific topic is limited. However, literature regarding prehospital use of ultrasound, ultrasound in combat situations, and some articles specific to disaster medicine allude to the potential growth of ultrasound utilization in disaster response.

**Aim:** To evaluate the utility of point-of-care ultrasound in a disaster response based on studies involving ultrasonography in resource-limited environments.

**Methods:** A narrative review of MEDLINE, MEDLINE InProcess, Epub, and Embase found 20 articles for inclusion.

**Results:** Experiences from past disasters, prehospital care, and combat experiences have demonstrated the value of ultrasound both as a diagnostic and interventional modality.

**Discussion:** Current literature supports the use of ultrasound in disaster response as a real-time, portable, safe, reliable, repeatable, easy-to-use, and accurate tool. While both false positives and false negatives were reported in prehospital studies, these values correlate to accepted false positive and negative rates of standard in-hospital point-of-care ultrasound exams. Studies involving austere environments demonstrate the ability to apply ultrasound in extreme conditions and to obtain high-quality images with only modest training and real-time remote guidance. The potential for point-of-care ultrasound in triage and management of mass casualty incidents is there. However, as these studies are heterogeneous and observational in nature, further research is needed as to how to integrate ultrasound into the response and recovery phases.

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#### No More Suffering: Building Human Resource Capacities with the Sphere Standard

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