New Web Applications Help Plan and Prepare for Disasters and Flu Outbreaks

When disasters and flu outbreaks strike communities, hospitals; emergency responders; and other city, state, and federal response agencies need to know what resources are available to accommodate a potentially large influx of injured or ill patients. Until now, emergency planners have lacked reliable tools to help them manage their resources for specific disasters or disease outbreaks.

In response, the National Center for the Study of Preparedness and Catastrophic Event Response (PACER), a Department of Homeland Security (DHS) Science and Technology (S&T) Center of Excellence, has developed the **PACER Disaster App Suite**, a suite of free Web-based tools to help emergency planners, medical centers, and other response agencies reliably forecast how disasters and flu outbreaks might affect their organizations.

Launched in January 2014, the PACER Disaster App Suite received more than 200 downloads in the first week. The App Suite is available online at ***https://www.pacerapps.org/*** and includes three applications:

- EMCAPS 2.0
- Surge
- FluCast

Home page of the PACER Disaster App Suite

EMCAPS 2.0: Predicting Casualties from Disasters

The **Electronic Mass Casualty Assessment and Planning Scenarios (EMCAPS)** 2.0 software helps disaster and emergency planners assess their organization's preparedness and response capabilities by estimating the number and types of casualties depending on the type of event.

EMCAPS 1.0 has been available for download since 2010. EMCAPS 2.0 improved the application with a dynamic and easy-to-use interface. EMCAPS 2.0 simulates 11 disasters, including an improvised explosive device (IED) like the Boston marathon, Sarin nerve gas release, chemical spill, or food contamination.

Surge: Planning for a Large Influx of Disaster Patients

When disasters strike, hospital emergency departments and critical care units often struggle to accommodate the unexpected influx, or surge, in patients. **Surge** analyzes resources to calculate surge capacity and identify the threshold at which a facility cannot safely take in new patients without compromising the standard of care.

The Surge tool simulates bed expansion, changes in patient intakes and discharge, and patient interventions to make room for disaster patients. Measurable resources include hospital beds, facility space, medical supplies, and equipment. Hospital staff and emergency planners can use Surge to assess the resources and capabilities of their facilities (e.g., emergency departments, intensive care units, clinics) and plan how they could efficiently and effectively allocate resources to serve those patients in greatest need.

FluCast: Forecasting Flu Outbreaks

When flu season or flu pandemics arrive, hospitals need to be ready to accommodate a surge in patients. The **FluCast** application allows hospital emergency departments and other hospital units to accurately predict if and when they should expect a surge in patients complaining of influenza-like symptoms during a given week. FluCast interfaces with Google Flu Trends to provide advanced warning of the expected number of influenza cases, thus allowing medical centers sufficient time to develop and activate measures, such as increased emergency department staffing, to ensure patients get a satisfactory standard of care.