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Response of human populations to large-scale emergencies JAMES BAGROW, DASHUN WANG, ALBERT-LÁSZLÓ BARABÁSI, Northeastern University — Until recently, little quantitative data regarding collective human behavior during dangerous events such as bombings and riots have been available, despite its importance for emergency management, safety and urban planning. Understanding how populations react to danger is critical for prediction, detection and intervention strategies. Using a large telecommunications dataset, we study for the first time the spatiotemporal, social and demographic response properties of people during several disasters, including a bombing, a city-wide power outage, and an earthquake. Call activity rapidly increases after an event and we find that, when faced with a truly life-threatening emergency, information rapidly propagates through a population's social network. Other events, such as sports games, do not exhibit this propagation.

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