Editorial | Plotting the Course for Disaster Response: DATA

Opinion / **Published On February 25, 2021 05:38 PM /**

Staff Consortium February 25, 2021

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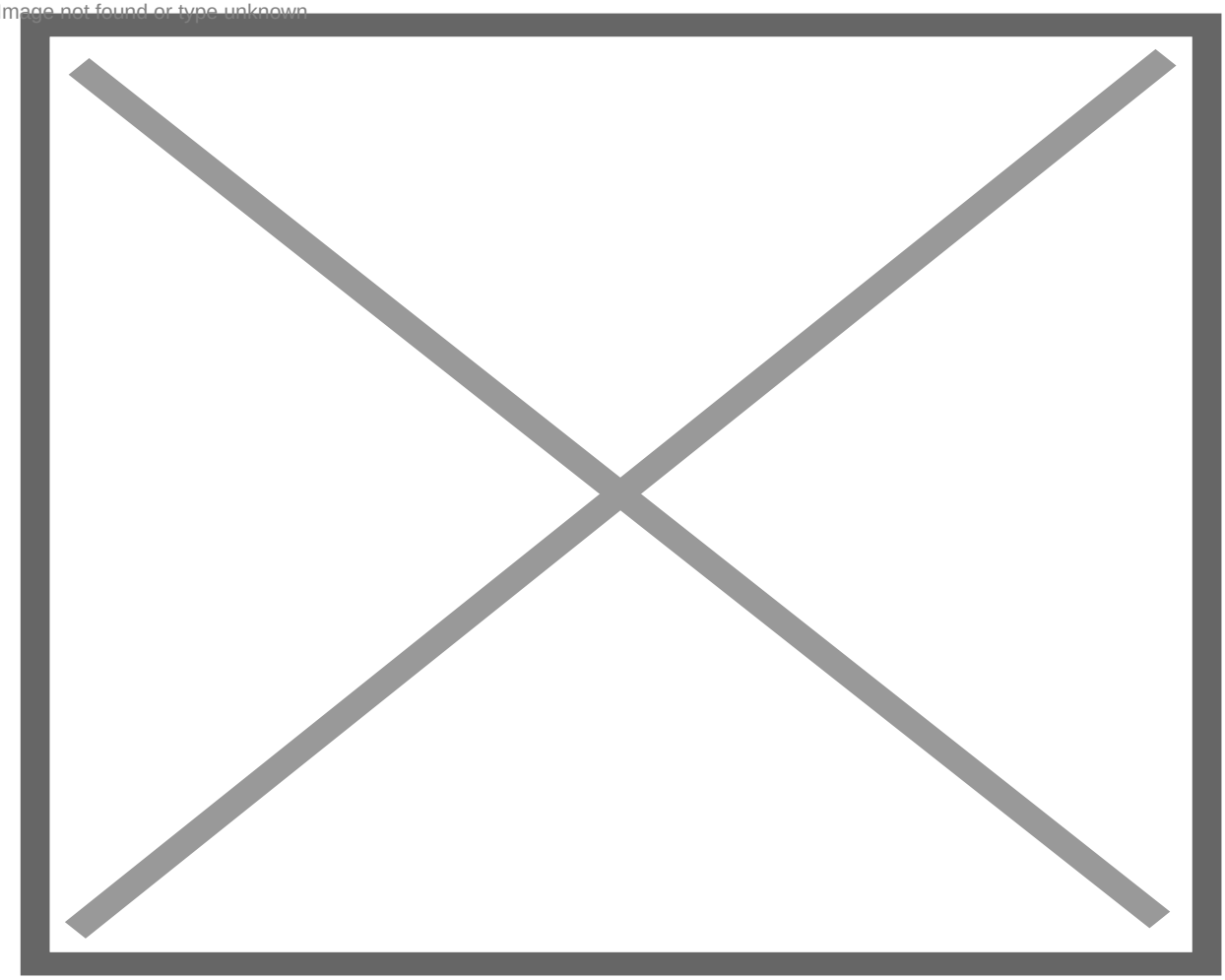

From left, Janet Turnbull-Krigger, Senior Advisor to the UVI Hazard Mitigation and Resilience Planning Team, and Dr. Joanne Luciano, a Distinguished Professor of Data Science at UVI. By. PROVIDED

The Virgin Islands, like other Caribbean islands, have been assailed and altered by natural disasters. Disasters are events with dire consequences, requiring multi-agency responses and resources beyond a single community's capability. Natural disasters threaten lives, destroy and weaken systems, cause inordinate economic losses, and compromise natural resources. The question is, what lessons has the Virgin Islands learned as we plot the course for disaster preparation, response, and recovery?

Disasters will occur. Systematic, evidence-based planning and preparedness are the elements we must master. Emergency preparedness encompasses more than adequate equipment, deployment of responders, training, and supplies. To understand the current capacity and readiness of emergency response, data must be analyzed.

Don’t underestimate data. Data must drive the strategy and planning efforts.

Data gathering is a continuous emergency management function; it is necessary for accurate warnings, during emergencies to keep government entities and the public updated, and after to evaluate and report the events and response. The data gathering aspect of any emergency operation ensures that decision makers can stay abreast of changing conditions. Making decisions about prioritizing resources, planning activities, or measuring progress is already severe and further compounded when there is a lack of data and a shortage of critical staff. Decisions about the frequency of data gathering also depend upon these factors; data collection and reporting must match the rate of change in the assessed situation.

We in the Virgin Islands are used to data driven decision making. The decision to put your shutters up after being notified that a hurricane warning has been issued for the territory is a data driven decision. The National Hurricane Center uses a diverse set of data to decide when and where to declare a hurricane warning.

Health care is an essential component of disaster recovery. Having access to robust datasets from a variety of sources enables emergency managers, government agencies and other organizations to strategize how best to help those in need. When the ordinary health service capabilities are overwhelmed by a natural disaster, the COVID-19 pandemic, or the recent Zika outbreak it is considered a public health emergency. As in all the public health emergencies, the Virgin Islands Department of Health has been collaborating with its stakeholders to mitigate the impacts on the population.

Emergency preparedness works to ensure sustained public health and medical preparedness in the inevitable event of an emergency. Vast amounts of health-related data are created during a disaster (i.e. personal, medical data, geolocation of roads, tracking of survivors, and more). This massive amount of carefully collected data from public health, clinics, human services, etc. is used to create information. Data collection is the first and most vital step in deploying aid, preventing further injury or loss of life, and providing authorities and disaster responders with the intelligence to make swift and shrewd decisions.

Successful tracking of data can illustrate how information flows within the healthcare system, but managing it all presents challenges. When effectively employed this data can provide vital information which is then used to prioritize and optimize emergency response to enhance situational awareness.

Decision making is most effective when it is transparent and has a holistic understanding of the communities it serves. Effective data collection also helps reveal new information that, once identified, can help emergency managers, first responders, agency heads and everyday citizens make better decisions.

Additional public health challenges, linked to natural disasters, climate change and other circumstances are on the horizon. The possibilities include new strains of influenza, other infectious diseases, fatal heat waves; intensifying violent storms and flooding, rising sea-levels and the contamination of freshwater supplies. Mitigation strategies can also be developed around drought, food security, aggravation of chronic conditions such as allergies and pulmonary disease.

The University of the Virgin Islands and the Virgin Islands Territorial Emergency Management Agency are working to develop a five-year plan to present to the federal government, proposing ways to prepare for and respond to a range of disasters. Promoting a plan that incorporates data-driven decision making is part of the strategy as development of this plan moves forward.

A well-prepared community is one in which the population is medically well-served; one in which a robust public health infrastructure is working effectively. It also demands community engagement and participation starting with the pre-emergency planning process. Emergency planning behind closed doors is not enough. As we've seen with the effectiveness of mask mandates and stay-at-home orders over the past year, public trust and community partnership are essential in emergency preparedness.

For us, data is crucial to help us make informed decisions and adapt to new things, and what we learn from it can save lives. Data highlights areas needing improvement, and serves as a blueprint on how to forge ahead to better future preparedness and response based on the information learned from the data collected. The challenges the territory is currently facing in its recovery efforts, is sounding the alarm that Virgin Islands leadership must seize the opportunity to make data governance a priority.

Submitted by: *Judith Freeman-Shimel*