

Field Hearing on Resilient Communications Networks

FCC Commissioner Geoffrey Starks
Friday, February 21, 2020 at 2:30 p.m.

University of Puerto Rico – Rio Piedras Campus School of Law, Room L-3
14 Ave. Universidad
San Juan, Puerto Rico 00925

Testimony of Puerto Rico Hospital Association Executive President Jaime Plá-Cortés

I. Introduction:

Good afternoon Commissioner Starks. Thank you for the opportunity to share the experience of Puerto Rico’s hospitals during and in the aftermath of Hurricanes Irma and Maria. We appreciate the opportunity to learn from all that are here today, and also to brief you on what the Puerto Rico Hospital Association is doing to deliver resilient communications infrastructure that resolves a critical unmet public safety need.

My name is Jaime Plá-Cortés, and I serve as the Executive President of the Puerto Rico Hospital Association, La Asociación de Hospitales de Puerto Rico, founded in 1942, and its membership bring together 67 of the 70 hospitals duly licensed in Puerto Rico. La Asociación de Hospitales de Puerto Rico also represents other institutions, such as: Diagnosis and Treatment Centers, Independent Ambulatory Surgery Centers, Ambulatory Services Centers, Health Homes, and distinguished figures in the health care field among others. Its purpose and mission are to ensure excellent health quality standards for all communities in Puerto Rico. I have served in this capacity since 2010.

II. Communications Problems and Solution:

After Hurricanes Irma and Maria, we conducted a survey that different healthcare professionals from various hospitals answered, and reviewed various state and federal reports and communications network options. Our results demonstrated:

1. **Satellite:** High expense, unreliability in weather, and risks stemming from user inexperience. As FEMA reported, “activating these phones often required user instructions, a line-of-sight with satellites, and implementation of a routine process.”
2. **P25:** High expense, fragmentation and conflicting special interests, which has consistently made it difficult to deploy an island wide and interoperable solution.
3. **FirstNet:** Built for public first responders and does not have a mandate for the private sector like the hospitals that support public safety. It is also fully dependent upon AT&T to operate and AT&T lost its network during Hurricanes Maria and Irma. The Association is unaware of the status of the FirstNet project since it was announced in August of 2017.

4. **Analog:** Inadequate to support island wide communications at an enterprise level, lack of adequate encryption protocols, inability to provide distributed call processing, requirement of TDM based backhaul solutions rather than Ethernet, and its inefficiency spectrally (fewer calls per channel compared to digital technologies).
5. **Solution: Digital Mobil Radio (DMR) Land Mobil Radio:** After this market review process, the Association has presented the opportunity to **deliver** a Digital Mobile Radio (DMR) Land Mobile Radio Solution **within 90 to 120 days**. The network is designed as a cost-effective complement to existing networks, and can serve as an additional layer of redundancy in the event that traditional networks go down.

III. Background

As a result of the damage inflicted on Puerto Rico by Hurricanes Irma and Maria, the residents of Puerto Rico suffered tremendous losses of life due to a host of reasons, much of which was due to a lack of communications that permitted the different Public Safety organizations to work together. The failure of this lifeline infrastructure and the Association's inability to communicate between public safety organizations, government (federal and local), first responders, medical institutions and private sector institutions delayed the recovery and more importantly affected the Puerto Rico government's ability to attend the medical needs of American citizens residing in the Island. Such failure was noted in an August 29, 2018 study the government did in conjunction with the Milken Institute School of Public Health at The George Washington University.

The George Washington University study reports that Puerto Rico Government personnel and key leader interview respondents indicated that communication contingency plans were not in place to anticipate multiple cascading failures of critical infrastructure and key resource sectors. Consequently, the central government was not prepared to use alternative communication channels for health-related and mortality surveillance, public health information dissemination and coordination with communities, including radio and interpersonal communication. Further,

An Urban Institute research report for the Puerto Rico Health Care Infrastructure Assessment stated that a shortage of medical professionals such as midlevel providers like physician assistants, nurse practitioners and specialists exacerbate the needed infrastructure reforms.

Understandably, without a functional telecommunication system, during and after a major storm or other natural disaster, the Association experienced a communication breakdown between its hospitals, doctors, and service providers. The Association faced severe complications in determining site status, where goods and services were most needed, and was unable to appropriately coordinate with FEMA and other federal agencies. Pharmacies struggled to stay open, access to patient therapies were unreliable / unavailable, and the important patient / doctor relationship compromised. Patients faced undue psychological consequences and hopelessness as they waited for support that was unable to respond, and sadly, the communications breakdown put the Association in a precarious position to deliver life-saving therapies.

The lack of reliable, fully operative telecommunication facilities not only impacted public safety on the Island but it caused irreparable damage to Puerto Rico's economy and has negatively impacted thousands of small businesses, the heart of the island's private sector and its principal job creator. Businesses in Puerto Rico were unable to communicate effectively with their employees, suppliers, customers, banks, and health and security-related entities, among others, resulting in a supply chain failure, more closed businesses, loss of jobs, increased migration, and loss of revenue to a government currently faced with serious financial problems. These challenges unnecessarily increased the death toll on the Island and made an already challenging recovery worse.

It is important to remember the initial and sometimes prolonged human hardship caused by telecommunication problems on individuals and their families, such as: not being able to go to work or school; shop for food either because stores were closed because of damage or for lack of supplies or long lines (the same for gasoline); not having cash because most banks were closed and ATMs were not functioning; not being able to call for medical services or go to hospitals because many were closed or not offering all essential services; not being able to call police or the fire department in emergency situations; and not being able to communicate with relatives, on or off-island, who were very concerned with their well-being.

Currently, many emergency medical service (EMS) crews and their hospitals require two dispatchers to radio communicate with one another because EMS has its own Land Mobile Radio (LMR) system, while hospitals typically use the police LMR system and the two systems are not interoperable. Puerto Rico's Federal, State and Local government agencies have never had a resilient, island-wide and truly interoperable communications system, and the private sector Telecommunications Providers Networks were not resilient enough to survive a major hurricane. The inability to communicate cost lives.

IV. The Experience of Rural Hospitals and Populations in Need

Public safety is reliant on health care services, which in turn, are reliant on communications.

1. **Hospitals:** Hospitals in HUD-identified Most Impacted and Distressed Areas include the Centro Medico Menonita de Cayey Top of Form. Other examples: Ryder Memorial Hospital, Buen Samaritano Hospital, Oriente Hospital, Cardiovascular Center, HIMA San Pablo Bayamón, HIMA San Pablo Cupey, Professional Hospital, HIMA San Pablo Humacao, Hospital Metropolitano de la Montaña.
2. **Community Healthcare Centers:** A critical part of the healthcare system in Puerto Rico that supports Puerto Rico's most isolated communities. Currently, 20 federally funded health centers provide primary and preventive care services at 93 urban and rural sites across the island. In 2016, health centers in Puerto Rico served 352,172 patients, over one in ten residents, and provided more than 1.5 million patient visits. Inadequate to support island wide communications at an enterprise level, lack of adequate encryption protocols, inability to provide distributed call processing, requirement of TDM based backhaul solutions rather than Ethernet, and its inefficiency spectrally (fewer calls per channel compared to digital technologies).

3. **Dialysis Patients:** According to an October 31, 2018 presentation by Fresenius which operates in 28 countries and has treated over a million patients and delivered over 100 international support programs across 90+ disease states, 400,000 members of the Puerto Rican population have CKD and require dialysis. The presentation states “Communication is an important element for all entities and providers involved in the care of the dialysis population. It further states that uninterrupted treatments and missed treatments lead to increased hospitalizations, higher complex care and costs, increased mortality, and concludes that communication at all levels is essential to an improved emergency plan and placing units at high priority for water and diesel at a state and federal policy level.
4. **Pharmacies:** In Cayey, a town of about 50,000 people 20 miles south of San Juan, the only way to communicate with the outside world immediately after h hurricane was AM radio station that kept transmitting in the aftermath of Maria. Elliot Pacheco, the owner of a drug store in the town said Cayey had no way of communicating with the outside world for three months. He said he lost hundreds of thousands of dollars in medicine and equipment to the water that seeped through his roof but stayed in his business to prevent losing more to looters.
5. **Medical Supplies for Mainland U.S.:** The FEMA report states, “the impact to Puerto Rico’s medical products manufacturing industry was felt around the U.S. When factories and distribution centers located on the island were impacted by the storm it caused a direct impact to local jobs and industry production, and a ripple effect throughout the mainland U.S. Hospitals across the country were faced with a shortage of intravenous (IV) fluids like saline and dextrose, which are essentials to everyday treatment. These IV fluids and bags are used in extremely large amounts in hospitals and clinics daily to deliver medications and rehydrate patients”.

As you can see, the indirect cost of failed communications had intended and unintended public safety consequences on us all.

V. Puerto Rico Hospital Association Need and Proposed Solution:

First responders and Public Safety organizations such as the Puerto Rico Hospital Association (the Association) require a unified Land Mobile Radio (LMR) communications network that will allow all related organizations (e.g. Hospitals, Urgent Care Clinics, Dialysis Centers, Pharmacies, Ambulances, EMT’s, etc.) to communicate with each other, at all times, in a unified and efficient manner, and coordinate between the public and private sector quickly in responding to and recovering from a natural disaster.

This critical and unmet infrastructure need would be resolved through an Energy Independent Island Wide Emergency Response and Business Continuity Infrastructure Network based on DMR technology. The network will ensure critical public safety supply chains supported by small, medium and large businesses operating in the US territory of Puerto Rico remain resilient and that lifelines remain open. But most importantly, it will save lives.

The goal of this initiative is to:

1. Integrate with Local (Police, Fire & Rescue, EMT's, etc.) and Federal authorities (FEMA, DHS, etc.) to facilitate communication and coordination during emergencies.
2. Be energy independent and self-sufficient (no dependence on PREPA).
3. Be designed with complete and total redundancy in order to ensure communication at all times before, during and after natural disasters.
4. Facilitate both communication, data connectivity and site monitoring (e.g. security, generators, diesel fuel, battery backup, etc.) for Hospital Association members and PR healthcare stakeholders.

We have a plan and can deliver it within 90-120 days upon funding. Here is what we are doing:

1. On December 11, 2018, The Puerto Rico Hospital Association submitted a grant proposal and compliance materials to the US Department of Housing and the Puerto Rico Department of Housing seeking funding from CDBG-DR grants.
2. The Association is seeking both unlicensed and licensed spectrum options to support the network.
3. Engaging with several public safety stakeholders on the island and in Washington, DC.

We look forward to continuing our discussion with you and welcome any questions. Thank you for the opportunity to present our views.