



Medical Center Makes Preparedness Along with Patient and Employee Safety a Priority

MIAMI BEACH, FL – Mount Sinai Medical Center’s main campus sits on a barrier island, separated from the mainland by three miles of Biscayne Bay. Its unique location puts the medical center in an area prone to flooding and hurricane damage. Budget limitations were a major consideration in solving the power outage problem. Finding a solution would require exploring grant opportunities available at FEMA. The county applied for Mitigation grant funding under the 5 Percent Initiative which considers funding projects that are difficult to pass the benefit-cost analysis. FEMA and Wisconsin Emergency Management (WEM) awarded the grant to Bayfield County in August 2013.

Mount Sinai, the only hospital in Miami Beach, also serves as a hub during disasters for critically ill patients dependent on electrical devices. It also coordinates such emergency services with local officials. Because Mount Sinai plays a critical role during emergencies, the development and implementation of a resiliency master plan was a priority.

“The resiliency plan included several elements,” said Steven D. Sonenreich, president and CEO. “These included site grading and elevation, relocation of operating rooms to upper floors, drainage and infrastructure upgrades, facility hardening, utility replacement and seawall replacement.”

Sonenreich also said the big push to enhance disaster resiliency emerged in 2005 after Florida experienced two consecutive record-breaking hurricane seasons with hurricanes Charley, Ivan, Jeanne, Katrina, Dennis, Frances and Wilma. Mount Sinai sustained more than \$3 million in damage from Hurricane Wilma and more than \$500,000 from Hurricane Katrina.

“The patients and staff are our number-one priority. Following the 2005 storms, we launched a hurricane-preparedness project which has spanned 12 years. Using a variety of funding sources, tens of millions of dollars were spent in making our facilities more resilient,” said Sonenreich.

“We are unable to evacuate in the event of a hurricane due to Mount Sinai’s size and the intense level of nursing care provided. Even after police and fire personnel are evacuated from Miami Beach in a Category 4 or 5 hurricane, Mount Sinai must shelter its patients and caregivers in place.”

Mount Sinai received more than \$22 million from FEMA to fund projects to enhance its resiliency to hurricane winds. The grant was administered by the Florida Division of Emergency Management. The total cost for these projects was nearly \$30 million with a non-federal share of \$8 million.



Located on a barrier island, Mount Sinai has 955 beds, employs 3,000 people and attracts 500 volunteers. *Photo courtesy of Mount Sinai Medical Center.*



The scope of work included wind retrofits on seven buildings. These retrofits included:

- Reinforced walls of buildings
- Waterproofed entire exterior walls
- Hardened utility bridge with additional steel columns
- Roof upgrades on all buildings to meet current Miami-Dade County specifications that included sealing and reinforcing roofing membrane
- Replacement of windows with hurricane impact glass
- Replacement of doors to comply with large missile impact requirements
- Installation of shutters on all exterior openings of the Ascher Building



Supported by steel columns, the hardened utility bridge connects Energy Center Building #1 to the Medical Center. ***Photo courtesy of Florida Division of Emergency Management***

Two generators were installed 30 feet above the floodplain; the structure that houses them can withstand winds of 180 mph.

In 2017, Hurricane Irma's damaging winds swept across Florida. Gusts with a maximum speed of 71 mph were recorded on Miami Beach but Mount Sinai Medical Center reported no major or significant damage to its facilities and infrastructure.

For additional information, visit:

- www.msmc.com/
- <https://archive.floridadisaster.org/mitigation/Hazard/>
- www.fema.gov/hazard-mitigation-assistance