

# SHOULD I STAY OR GO?: NURSING HOME AND ASSISTED LIVING ADMINISTRATORS' CONCERNS DURING HURRICANE IRMA AND OTHER STORMS

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ACKNOWLEDGMENT: NATIONAL INSTITUTE ON AGING  
R01AG060581-01 STRATEGIC APPROACH TO FACILITATING EVACUATION BY  
HEALTH ASSESSMENT OF VULNERABLE ELDERLY IN NURSING HOMES II

### University of South Florida IRMA lab

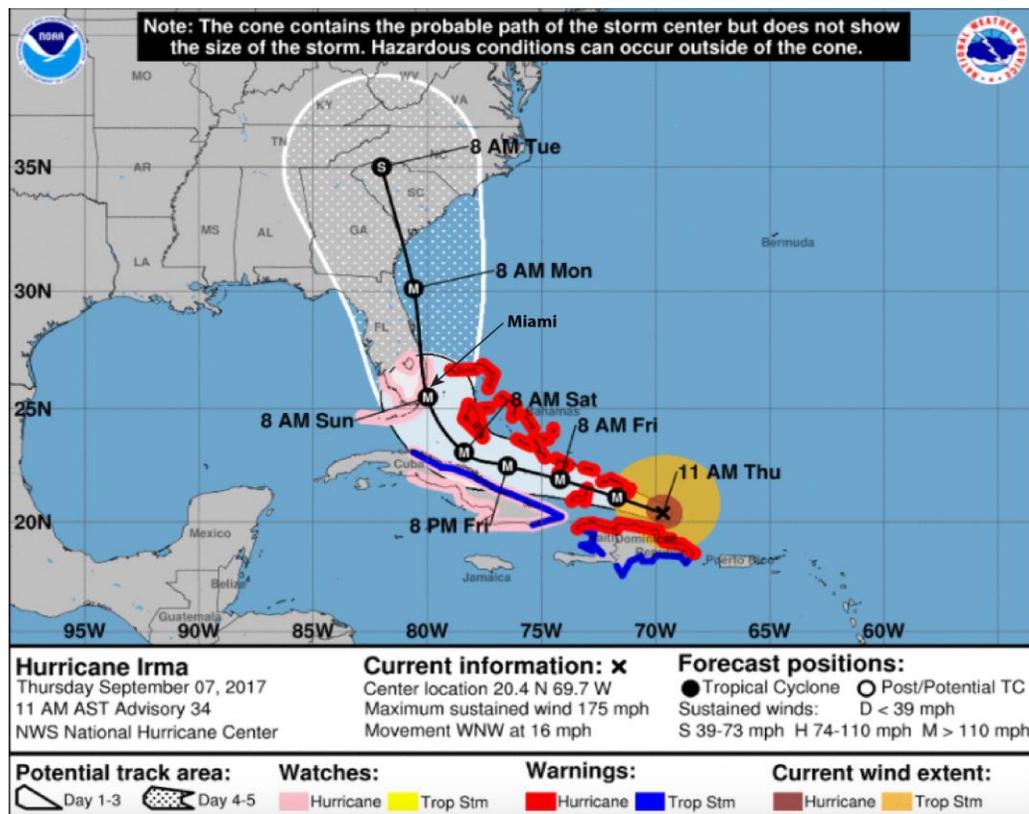
- Dylan Jester
- Joseph June, MPH
- Mingyang Li, PhD
- Lindsay Peterson, PhD
- Nazmus Sakib, MS

### Brown University

- David Dosa, MD, MPH
- Kali Thomas, PhD, MA
- Agency for Healthcare Administration
- Florida Health Care Administration
- Nursing Home Administrators
- Assisted Living Administrators

# PROJECTING THE PATH OF A HURRICANE IRMA

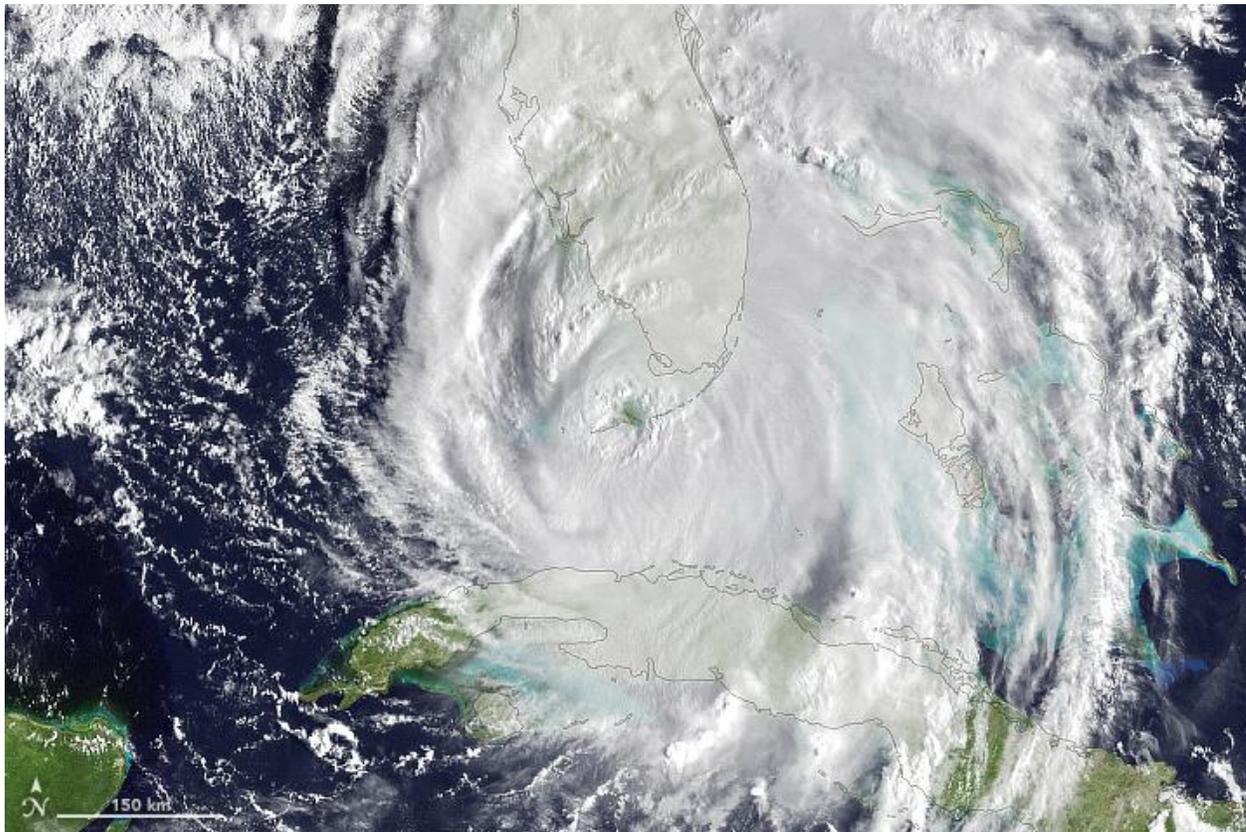
Thursday, Sept 6, 2017



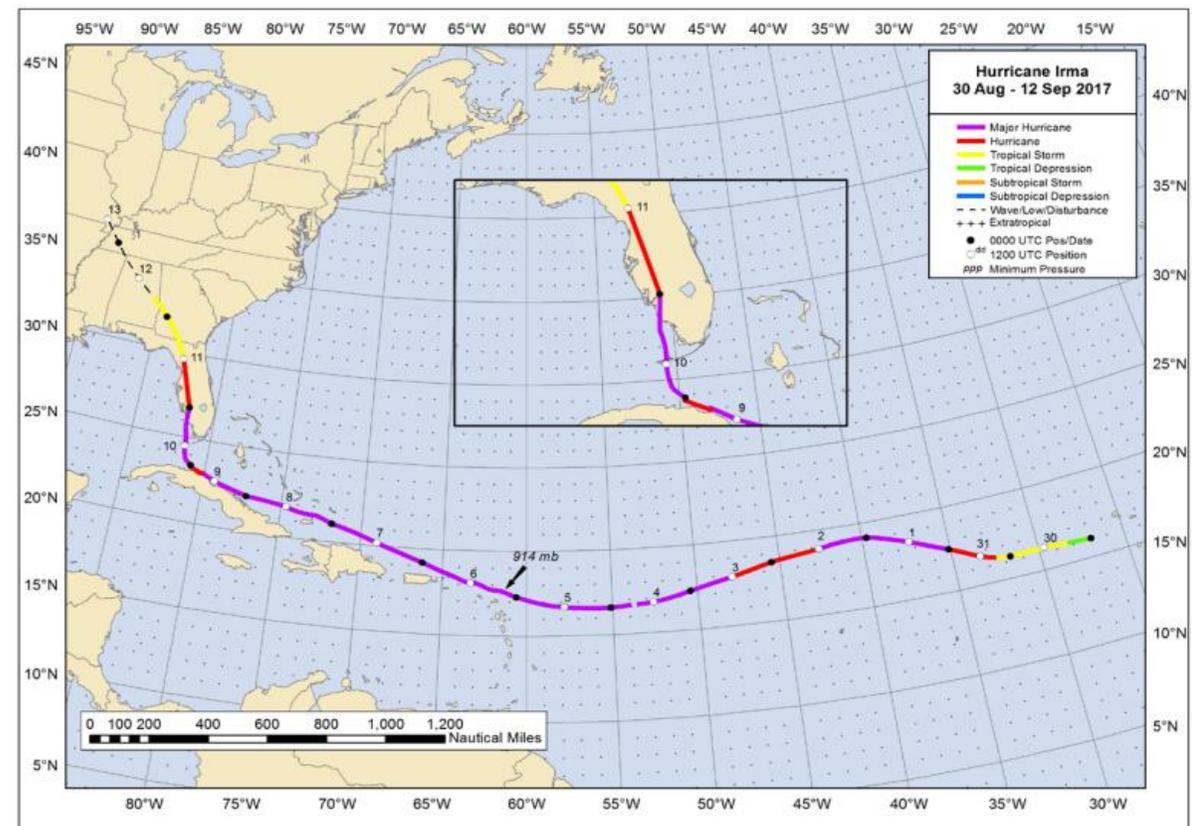
Saturday, Sept 9, 2017



# HURRICANE IRMA LANDFALL



Source: NASA Earth Observatory,  
<https://earthobservatory.nasa.gov/images/90948/hurricane-irma-strikes-florida>



Source: National Hurricane Center,  
[https://www.nhc.noaa.gov/data/tcr/AL112017\\_Irma.pdf](https://www.nhc.noaa.gov/data/tcr/AL112017_Irma.pdf)

## PRIOR WORK ON NURSING HOME EVACUATION

- Hurricanes increase probability of Nursing Home deaths among long-stay residents
- Nursing Home Deaths and Hospitalizations increased during
  - Hurricanes Katrina, Rita (2005)
  - Hurricanes Ike and Gustave (2008)
- Evacuation of Residents **INCREASED** deaths and hospitalizations beyond storm effects

## FRACTION OF “EXCESS” DEATHS/HOSPITALIZATIONS “ATTRIBUTABLE” TO EVACUATION BEFORE STORM

	Hospital 30 Days	Death 30 Days	Hospital 90 Days	Death 90 Days
Katrina (%)	14%	5%	15%	10%
Rita(%)	92%	x	95%	21%
Gustav(%)	95%	x	95%	31%
Ike(%)	x	x	x	x

Notes: All fractions are significant at the 10 percent level.

[x] cells are those where the “excess” deaths in storm year were not significantly different from zero.

## POLICY: REQUIRED NURSING HOME EMERGENCY PREPAREDNESS CHANGES AFTER KATRINA, RITA, IKE, SANDY

- New Nursing Home Comprehensive Emergency Plans for ALL hazards released in September 2016
- More disaster training, incorporation of Nursing homes into Community Emergency Planning, Report Actual Practices
- Requirement to have “Alternative power to maintain temperature between 70-81
- Required to be implemented by **NOVEMBER 2017**

# Federal and State Comprehensive Emergency Management Plans

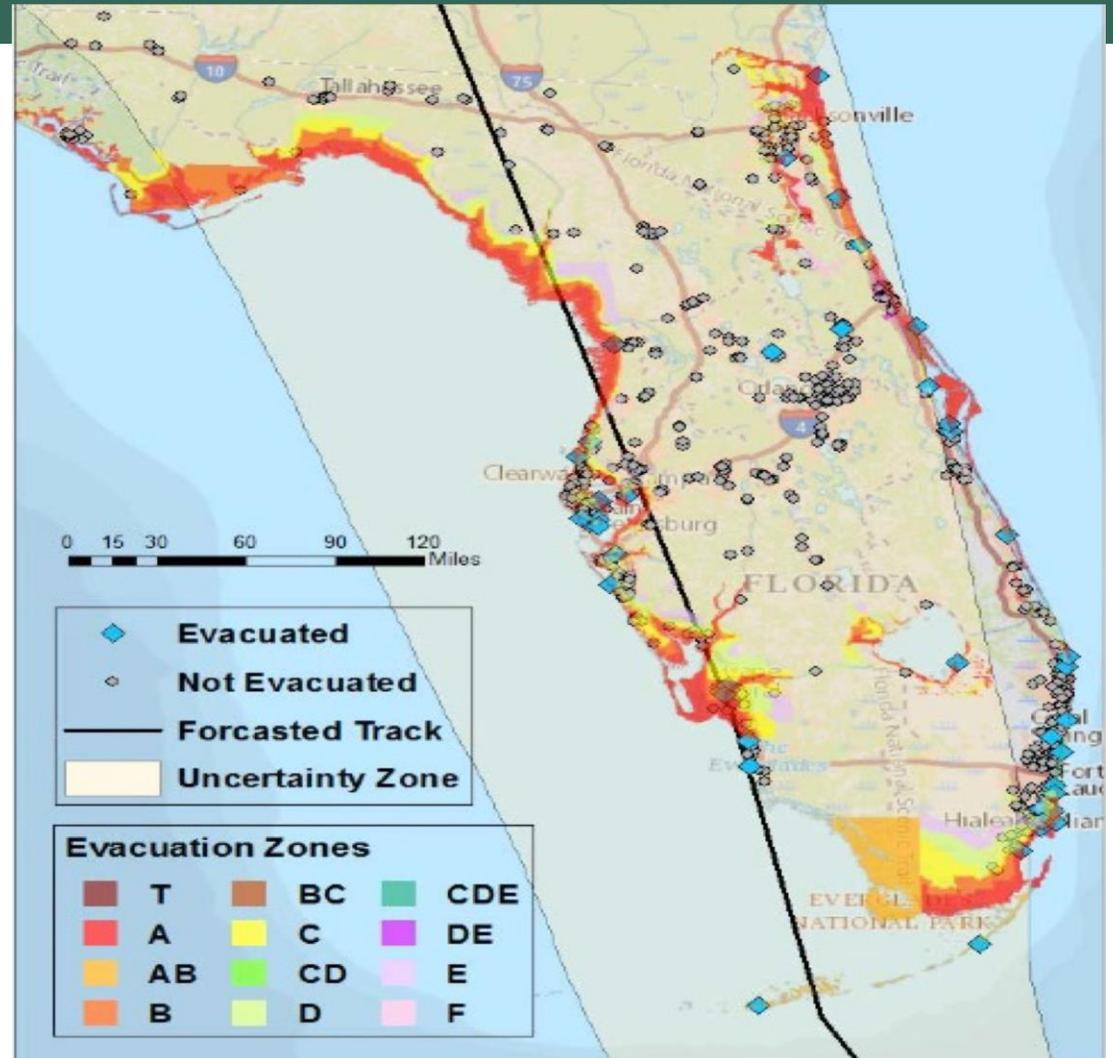
FOUR PROVISIONS FOR ALL PROVIDER TYPES



# FL NURSING HOMES AND ASSISTED LIVING EVACUATING 48 HOURS BEFORE PROJECTED LANDFALL

81 nursing homes evacuated  
7,700 resident (12% of all NHs)  
61 prior to storm  
20 evacuated after the storm

445-650 Assisted Living Facilities  
evacuated = estimate at least  
20% of AIs,  
Smaller more likely than larger  
to leave



# Florida power outages by county during Hurricane Irma



Sep 11, 2017 3:00 p.m.

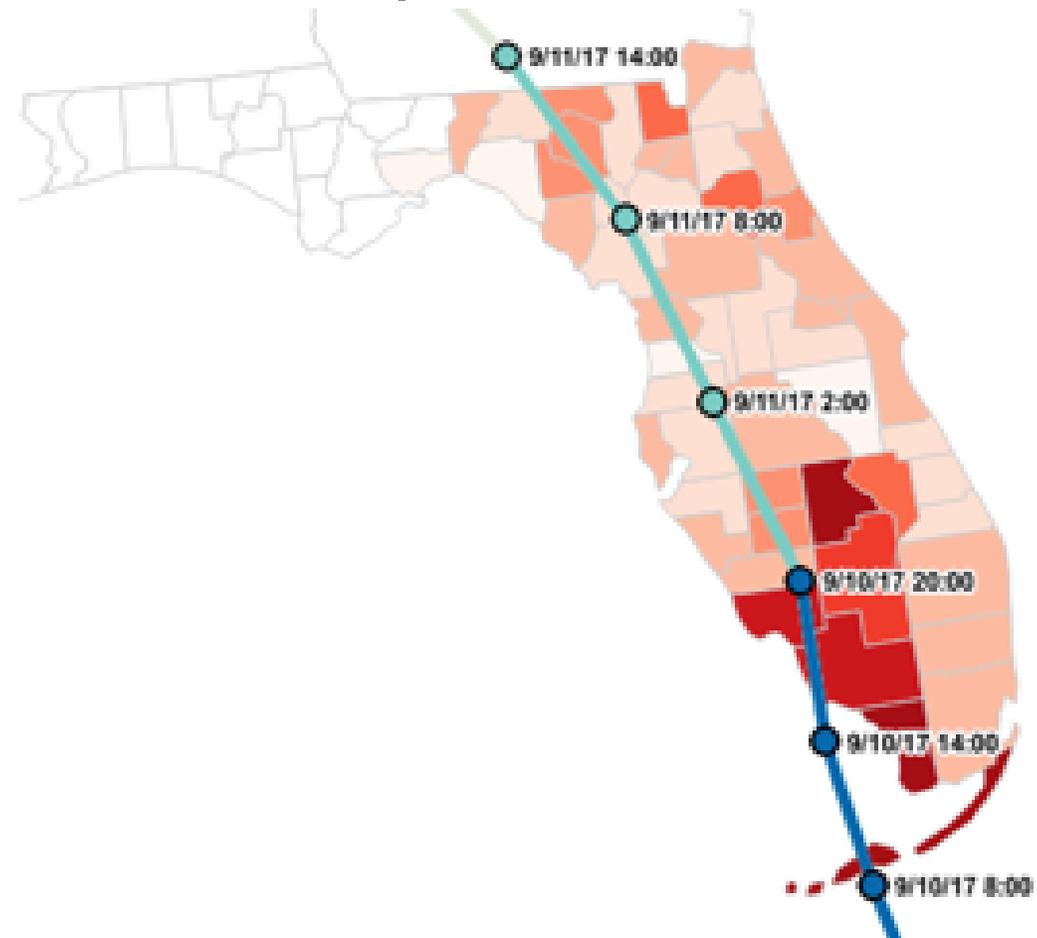
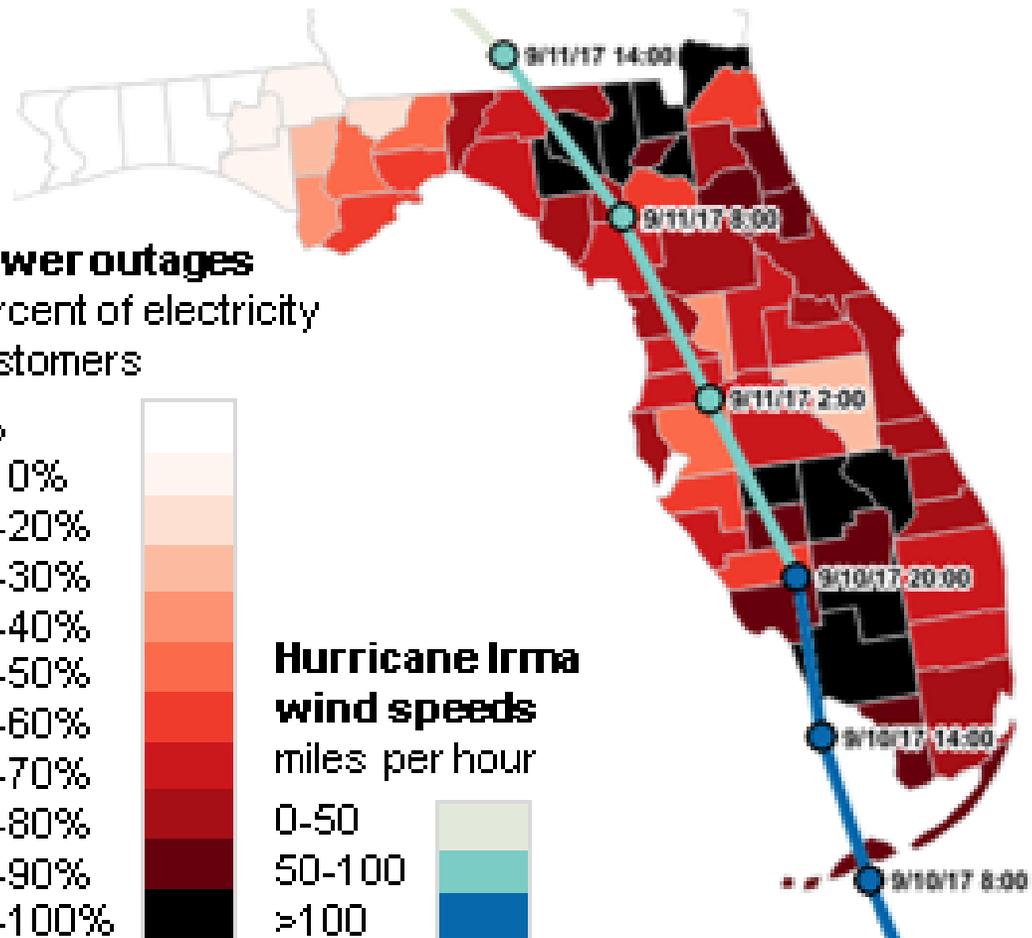
Sep 14, 2017 3:00 p.m.

**Power outages**  
percent of electricity  
customers

- 0%
- 0-10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-100%

**Hurricane Irma  
wind speeds**  
miles per hour

- 0-50
- 50-100
- ≥100





## LEARNED EMERGENCY OPERATIONS CENTERS MUST HELP

- Power restoration essential- Electricity and Air conditioning matters
- Transportation contracts failed
- Evacuation CEMP contract was unavailable- Shelters, and at least 17 providers evacuated more than once.
- Staffing: Needed help, especially after storm
- Medical Supplies: Needed replenishment
- Equipment: Generators and Fuel for replenishing
- Other: (Food, Water, Linens, Mattresses, Clothing, Medications, Walkers, Wheelchairs, Oxygen, Medical Records, Personal Belongings)

## NH AND AL REQUIRED ASSISTANCE - INTERVIEWS

- “Finding a local evacuation site due to the undetermined path of the storm and patient safety in transport.”
- “Last minute evacuation so locations and transportation contracts weren’t able to be used.”
- “Physically assisting the residents to the shelter.”
- “We had some buses available, but our emergency management also assisted in sending buses.”

# FINDINGS

- Both NHs and evacuated ALs had difficulties implementing CEMP.
  - Primary site evacuated, was full, or did not accept evacuating NHs, ALs
- Differences in generator use by status and generator type by size.
- Evacuated ALs did not go to primary evacuation site.
  - Shelters do not accept Assisted Living residents –except they did
- Almost half of small ALs cared for all residents during evacuation.

# EMERGENCY POWER FUEL- REQUIRED JULY 1, 2018 OR JANUARY 2019

## Nursing Homes

- ❖ Support internal temperature for 96 hours
- ❖ 72 hours on site fuel or piped gas
- ❖ 48 hours onsite fuel or piped gas for 16 or less beds
- ❖ Bring additional fuel onsite (to achieve 96 hours) upon declaration of an emergency
- ❖ If fuel storage is restricted by regulations and piped gas is not available, must replenish 24 hours prior to depletion
- ❖ Carbon monoxide detectors are required

## Assisted Living

- ❖ Support internal temperature for 96 hours
- ❖ 72 hours on site fuel or piped gas for 17+ beds
- ❖ Bring additional 24 hours of fuel onsite (to achieve 96 hours) upon declaration of an emergency
- ❖ If fuel storage is restricted by regulations and piped gas is not available, must replenish 24 hours prior to depletion

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# INITIAL POLICY IMPLICATIONS

- NHs know County Emergency Management Operations
- Need better relationships between ALs and Emergency Management
- Failure of evacuation plans
  - Shelters were needed for AL residents
  - Medical supplies, food and water for sheltering ALs
- Many ALs had difficulties deciding to evacuate due to path of Irma.
- New generator rule and its effects on ALs (especially smaller ALs).
  - Cost to implement plan
  - Fuel requirements





PREPAREDNESS MATTERS, PRACTICE HELPS, EMERGENCIES REQUIRE COMMUNICATION



Reuters / Jeff Mitchell

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THANK YOU



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