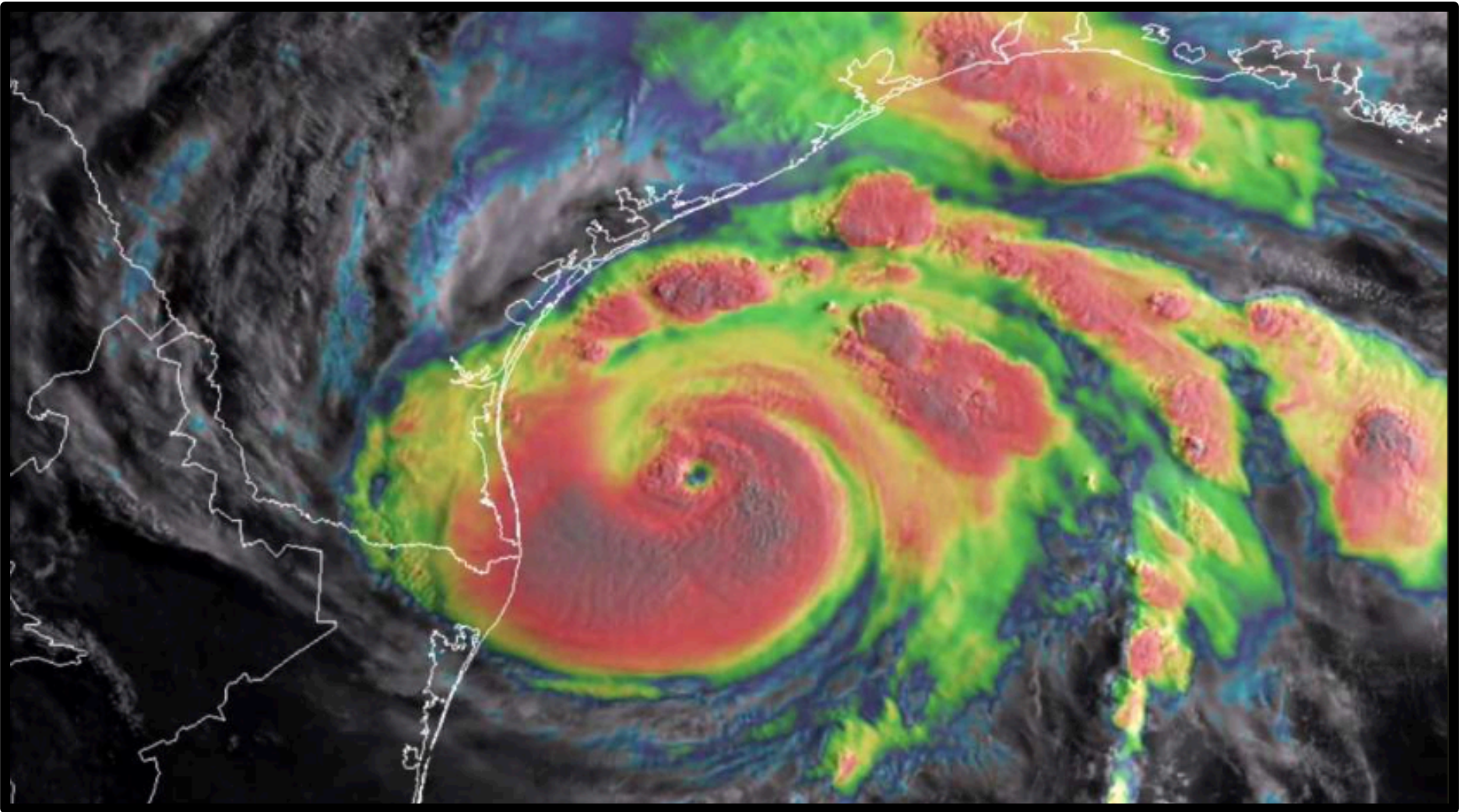


Experiences with Untoward Events

James McCarthy, MD

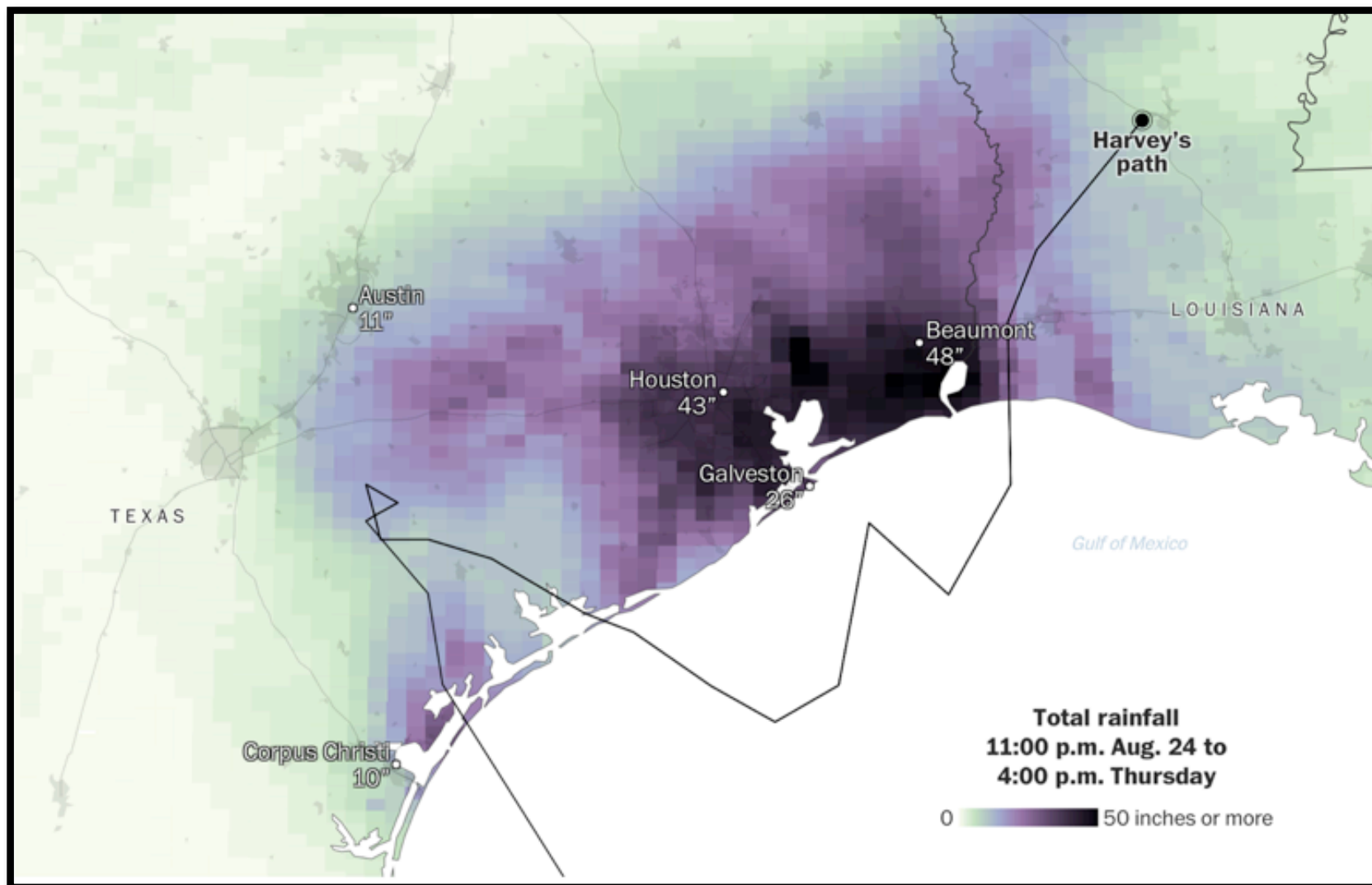
The University of Texas Health Science Center
McGovern Medical School-Houston

Harvey



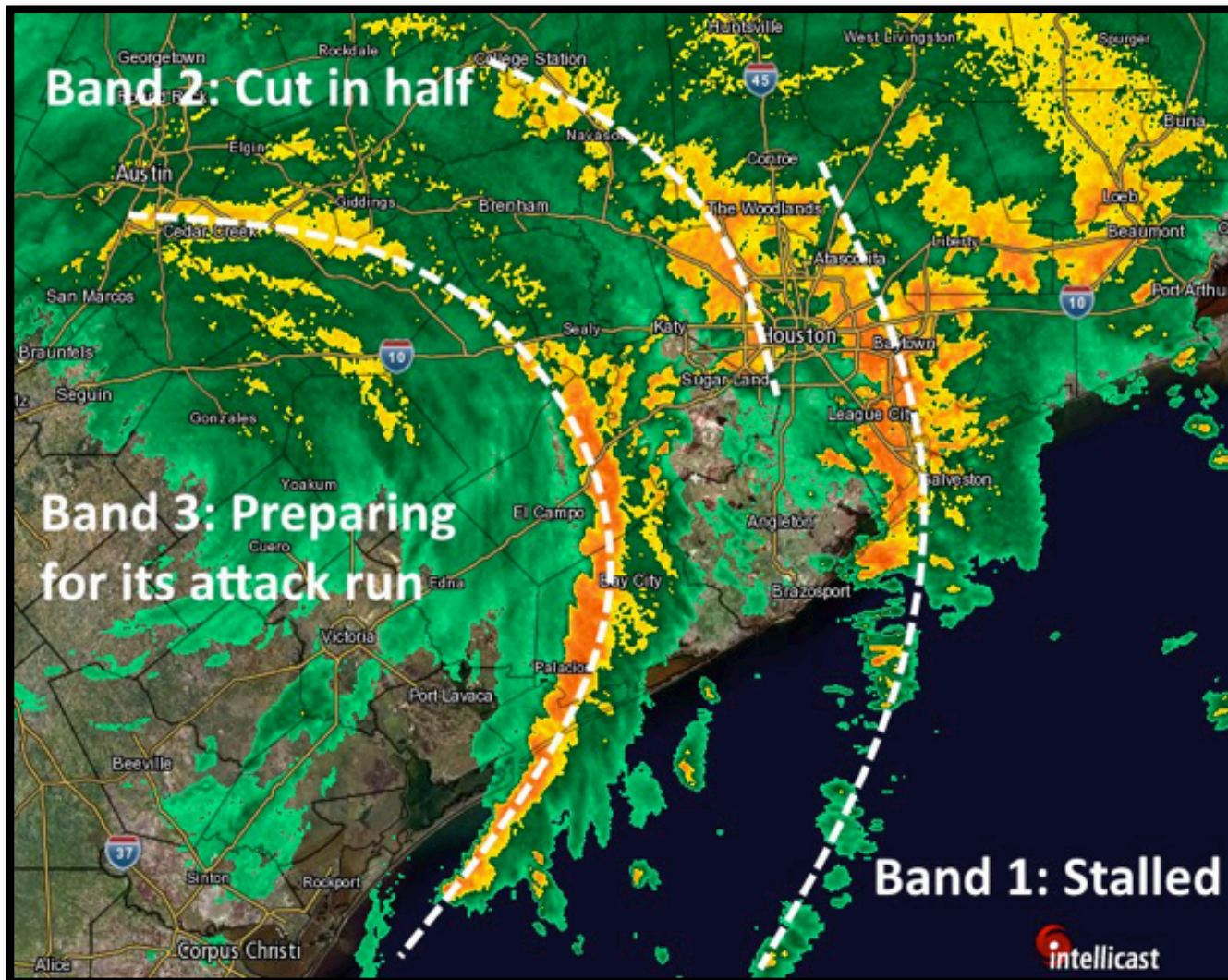
Space City Weather

— Hype-free forecasts for greater Houston with Eric Berger and Matt Lanza, sponsored by Reliant —



Space City Weather

— Hype-free forecasts for greater Houston with Eric Berger and Matt Lanza, sponsored by Reliant —





27 trillion

*Gallons of rain Harvey dumped
on Texas (and Louisiana) in 6 days*



56,000

*Number of calls to
Houston 911 in the first 15 hours.
(Average for a typical
day is 8,000)*



72,000

*Number of people rescued
(as of Friday)*



51

*Inches of rain — a record
from a tropical cyclone
in the continental US*



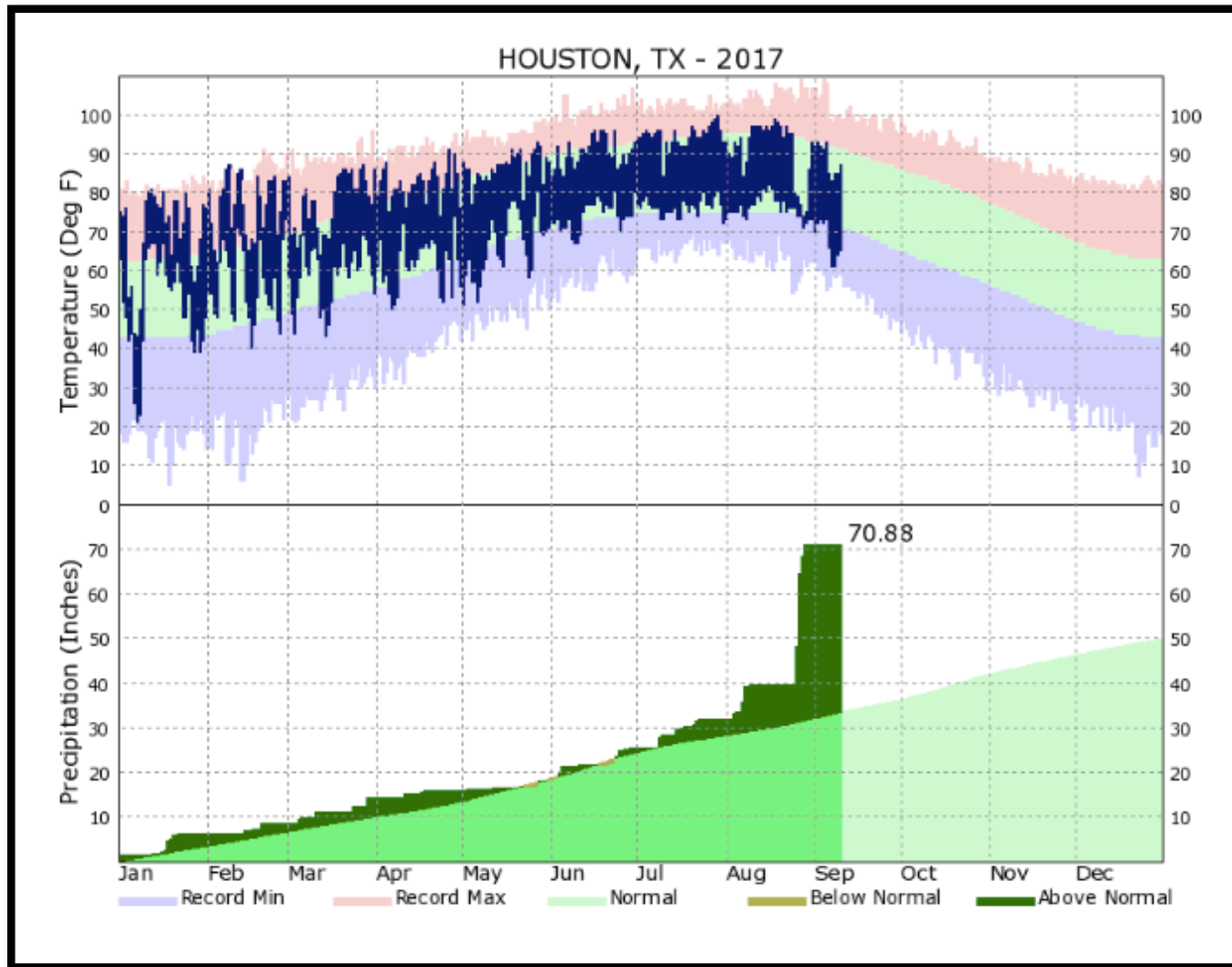
75 billion

*Amount, in dollars,
of estimated losses from Harvey*



Space City Weather

— Hype-free forecasts for greater Houston with Eric Berger and Matt Lanza, sponsored by Reliant —



Friday, Aug. 25



HOUSTON

• Hermann
Park golf
course

10 MILES

Sunday, Aug. 27



HOUSTON

- Hermann Park golf course

10 MILES

Google Maps

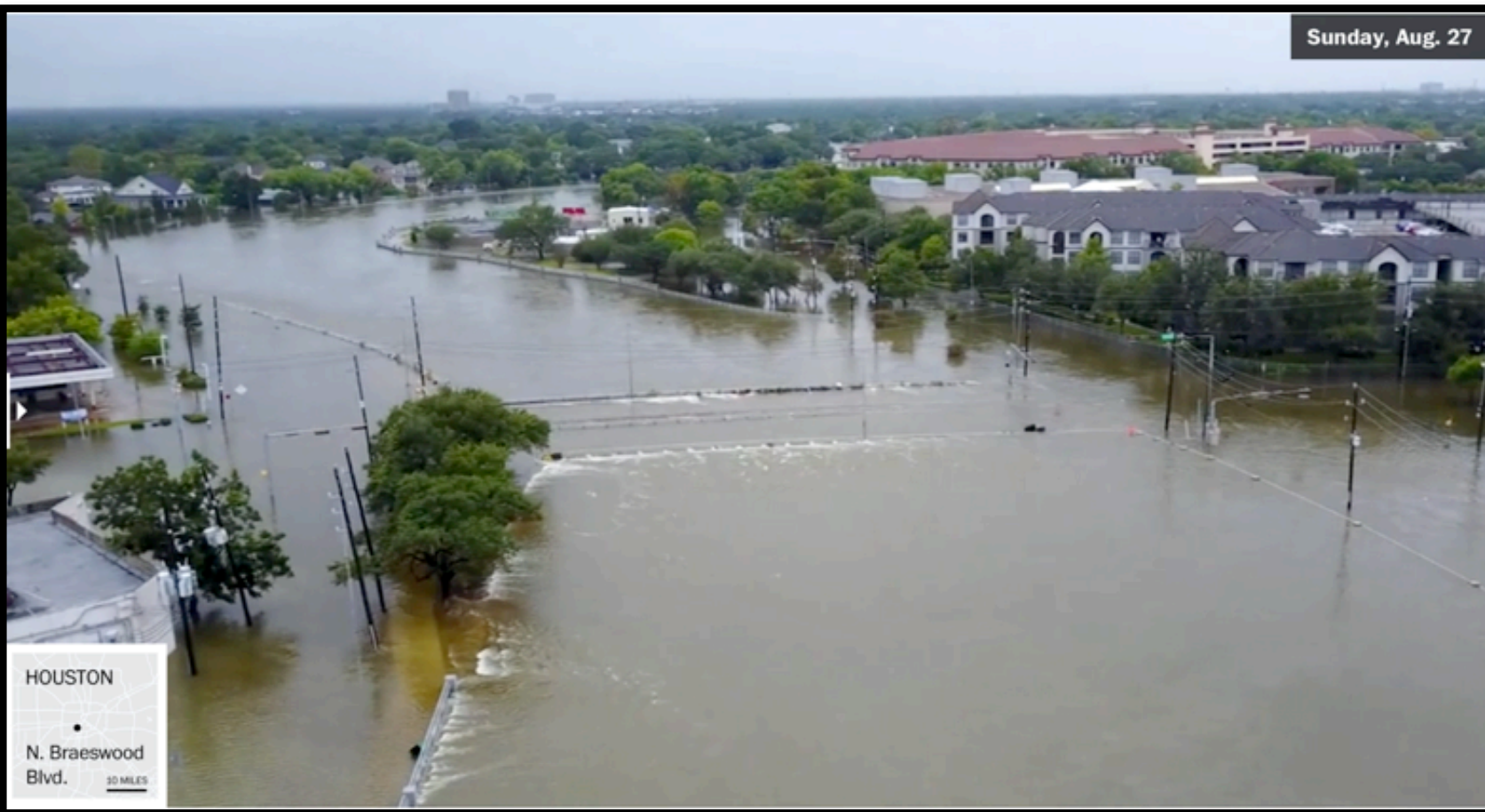


HOUSTON

N. Braeswood
Blvd.

30 MILES

Sunday, Aug. 27



HOUSTON

N. Braeswood
Blvd.

30 MILES

Monday, Aug. 28



HOUSTON

• Jacinto
City

10 MILES

2017 14:26:39

651

Sunday, Aug. 27

I-610 E Loop @ Market Street



HOUSTON

Jacinto
City

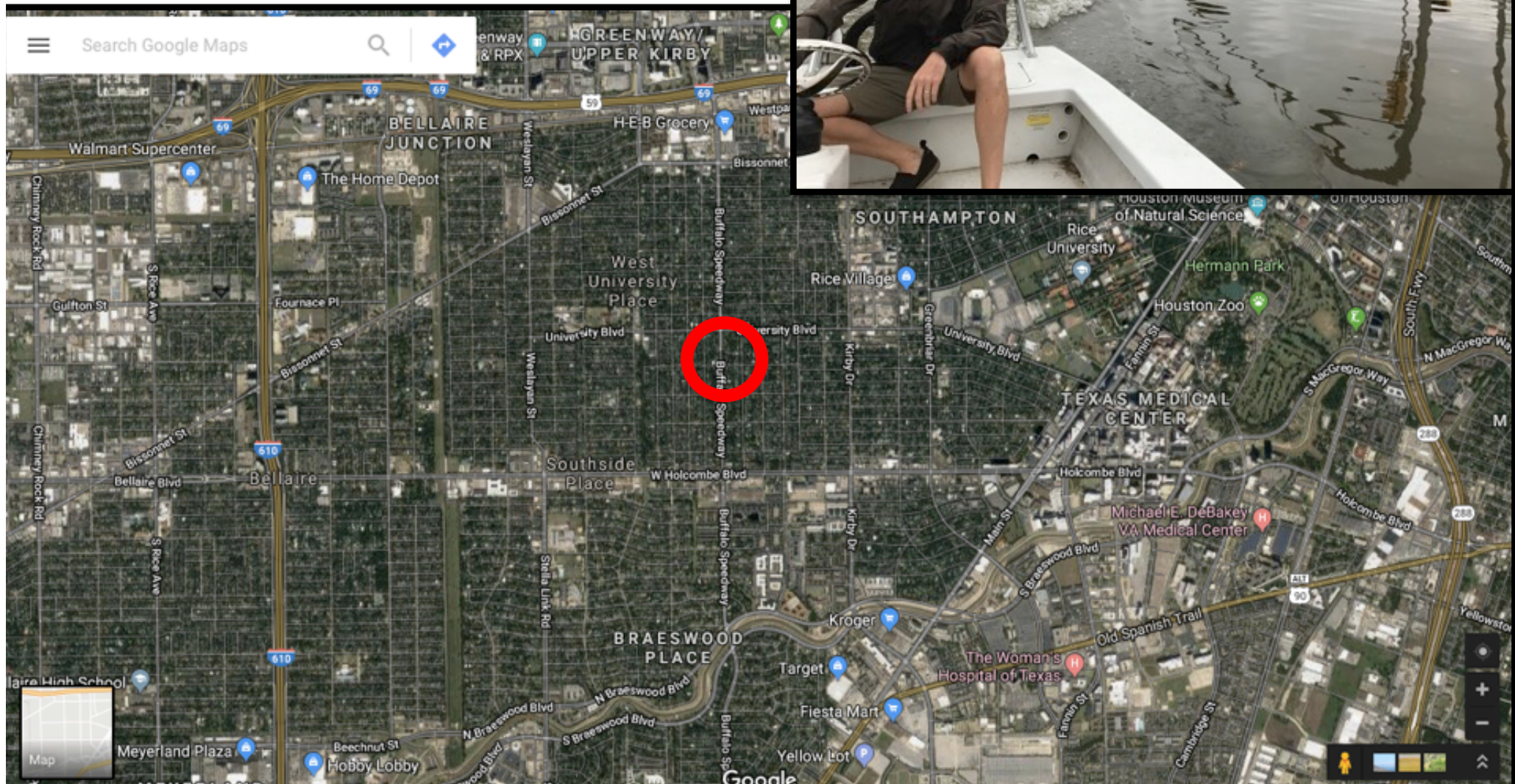
10 MILES

610 east into Houston





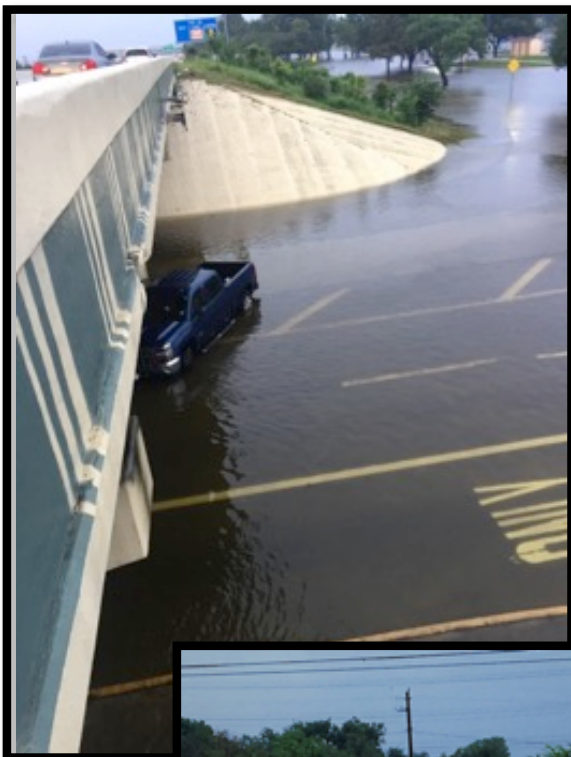
My Hood



LBJ - Plotting the rescue



LBJ



Fighting the last storm

Ike vs. Harvey

During The Storm

- Hospital Pressure
 - Minimal patient arrivals during storm
 - Roads in-accessible to EMS, providers and patients
- Power
 - 4.5 million vs. 320K
- Wind/Rain
 - Heavy vs. biblical
 - Massive vs. light

After the Storm

- Protracted in-ability to access hospital
- Many staff forced to evacuate flooded homes.
- Many providers “trapped” at home.
- Dialysis, Dialysis, Dialysis
- No trauma this time.
 - curfew
- Manageable post storm volumes

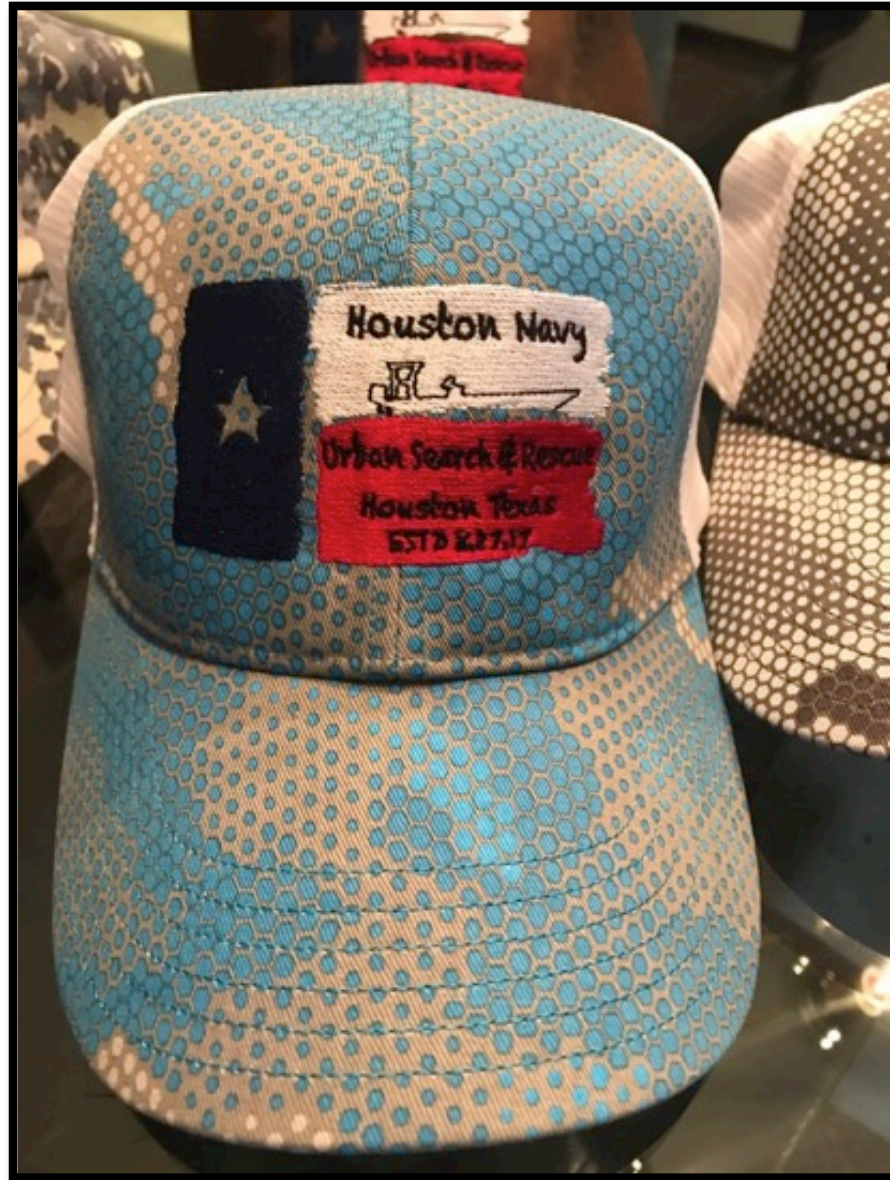
Many departments not prepared for inability to access hospital for 48-72 hours

- Post event review and pre-event planning
 - Suggest written plan for staffing numbers for all specialties
- Robust analysis of who's actually needed in-house for ride out team.
 - Essential Subspecialties – does everyone need to be in house?
- Need prep for a 4-5 day event for LBJ
 - High water response.
- Analysis of the relief team location
 - Pre-storm staging

Prop scars



Houston Navy



Experiences with Untoward Events Charlottesville, Virginia

Robert E O'Connor, MD, MPH

Kathleen M Acevedo, MBA

Special thanks to William Brady, MD

Charlottesville, Virginia

Ranked as #3 – The South's Best Small Town

- Oldest Wine Region in the U.S.
- Monticello
- College Town

(Southern Living Magazine, 2017)



Charlottesville, Virginia

#3 Happiest Small Towns In America – “Joy Town”

(House Beautiful Magazine , July 2017)



Prelude to *August 12th*

- Crux of Conflict: Removal of the Robert E Lee statue (war monument) from a local park
- May 4th – City Council in a 3-2 vote to remove the statue
- Preceding event: July 8th KKK rally led by a few dozen members of the North Carolina-based KKK, protesting against the removal of the statue. 1,000 counter protestors attended. This rally was dispersed by the state police with pepper spray.

Expectations of the Event

- August 12th Protest Rally: Permit for 400 people was scheduled for noon to 5:00 p.m.
- Sources predicted the protest would to be the largest hate-gathering event in decades with violent protestors on both sides

The Evening of Friday, August 11th

- Alt Right Protestors with tiki torches circle the Thomas Jefferson statue near the Rotunda on the UVA campus.
- Tempers flare and participants are carrying weapons.
- Charlottesville became ground zero for this violent clash largely attended by individuals from out of town.

August 12, 2017
Charlottesville, VA

UVA Health System
Preparedness & Response
to Social Unrest

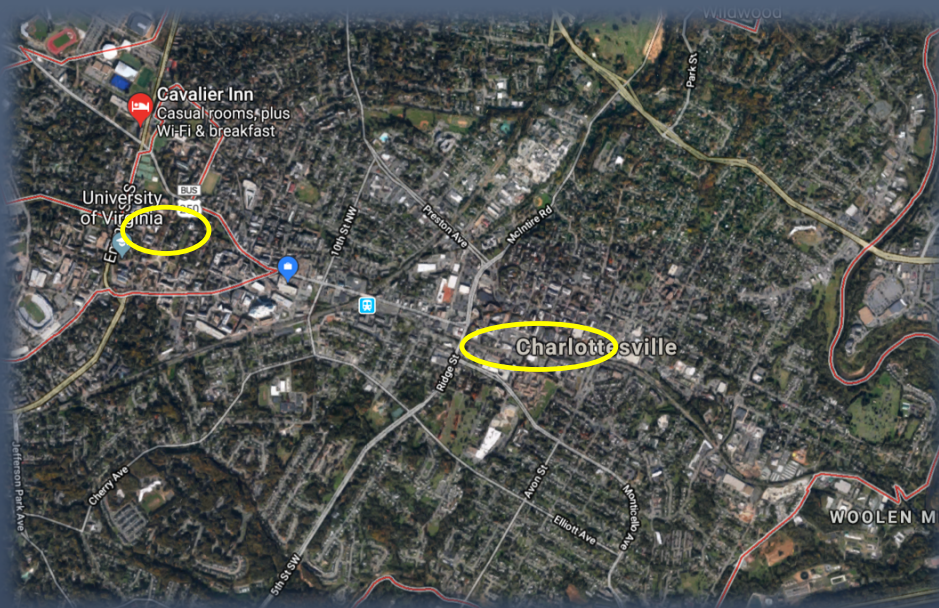
William Brady, MD

University of Virginia

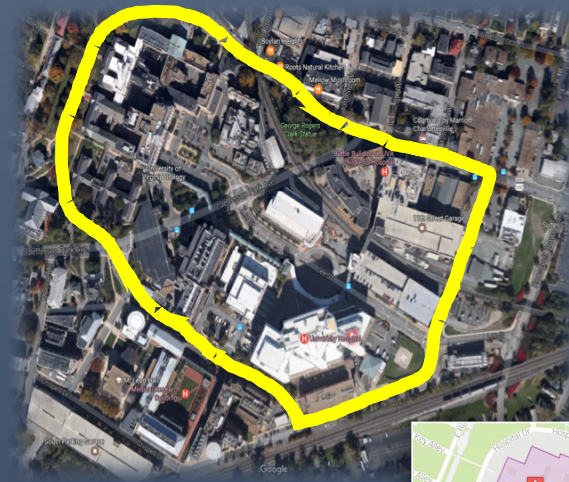
August 12, 2017
Charlottesville, VA

- **August 12**
- **MCI**
- **UVAHS planning & preparation**
- **UVAHS response on August 12**

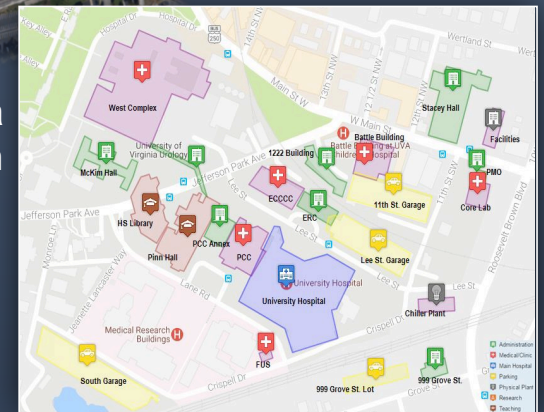
UVA Health System & Relation to Area of Civil Unrest



UVAHS located approximately 1.5 miles from event



University of Virginia
Health System



August 12, 2017
Charlottesville, VA

- **Potential MCI resulting from civil unrest**
- **Protest removal of General Lee statue**
- **Protest permit...12–5 pm...with 400 protestors**
- **Estimated 5,000 protestors attended event**
- **Open carry & violence mentioned in social media**

August 12, 2017
Charlottesville, VA



Auto vs Pedestrian Attack @ 1342



Initial Fire Rescue Triage & Care

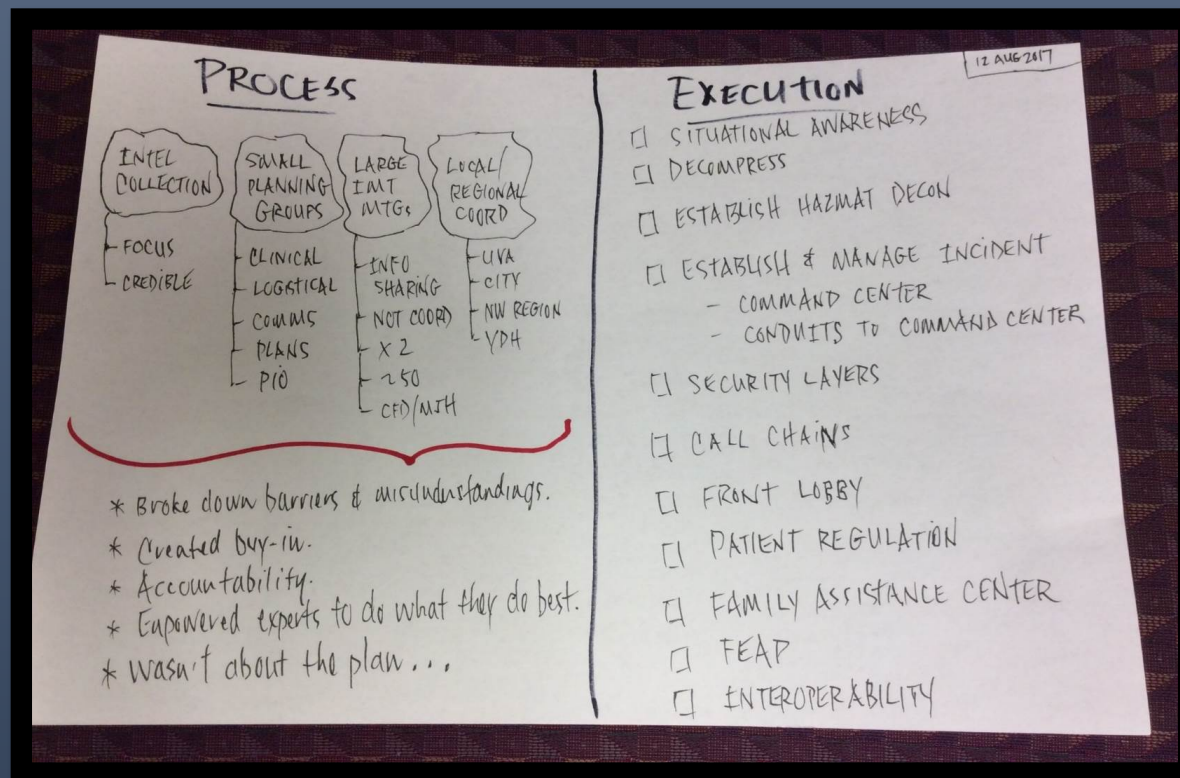


Sequence of Events

Medical Center Command Center

- 1344** – Forward command notification of MCI...40 patients
- 1345** -- Notification of event to ED leadership
- 1347** -- Activation of UVAHS MCI plan
- 1347** -- Activation of hospital-based notification systems
- 1348** -- EMS diversion from UVAHS ED of non-priority patients
- 1348** -- ED triage moved from ED to hospital lobby
- 1352** -- Report of “CPR in progress” on 1 victim
- 1358** -- Arrival of first priority patients at UVAHS
- 1425** -- All priority patients have arrived & received initial care
- 1445** – Return to normal ED & hospital operations

Planning & Preparation



Planning & Preparation

- Over preceding 6 weeks...as well as past years
- Multiple areas of inter-related process, function, & personnel
- UVAHS & UVA executive leadership involved & supportive
- Interface with local public safety...Charlottesville Fire Dept
- Internal & external to UVAHS

Planning & Preparation

- **Internal & external to UVAHS**
 - Appropriate physician & nurse involvement
 - ED & related hospital capacities with through-put
 - Additional patient care areas
 - Logistical support
 - Security
 - etc.

UVAHS Situational Awareness

Several Weeks in Advance

- **Notification of all Medical Center personnel prior to event**
- **Local planning RE routine, non-event medical operations**
- **Notification & planning of operational personnel RE medical operations during event**

Healthcare Team

Communication, Response, & Responsibilities

- **Physicians, nurses, administrators, therapists, pharmacists,...**
- **Medical groups**
 - Emergency medicine
 - Trauma surgery
 - Anesthesiology
 - Surgical subspecialties
 - Medical intensivists
- **Community public safety partners**



Healthcare Team

Communication, Response, & Responsibilities

- **Trigger for activation**
- **Method of rapid, widespread communication**
- **Expected, anticipated staging area**
- **Assigned response**
- **Additional shift(s) of personnel for sustained effort & recovery purposes**

UVAHS Hospital Capacity & ED Through-put

- **Decisions made 5 days prior to event**
- **Endorsed by senior leadership**
- **Hospital capacity actions**
 - Limit non-urgent procedures & admissions 48 hours in advance of event
 - Non-urgent transfers were suspended for duration of period (48 hr prior to event to event)
- **ED through-put**
 - Truncated admission process
- **Very successful interventions**

Additional Patient Care Areas

- **Hospital lobby**

- Initial entry point for all patients
- Care area for low acuity issues
- Pre-staged stretchers & supplies
- IT equipped
- Staffing

- **Procedural & recovery areas**

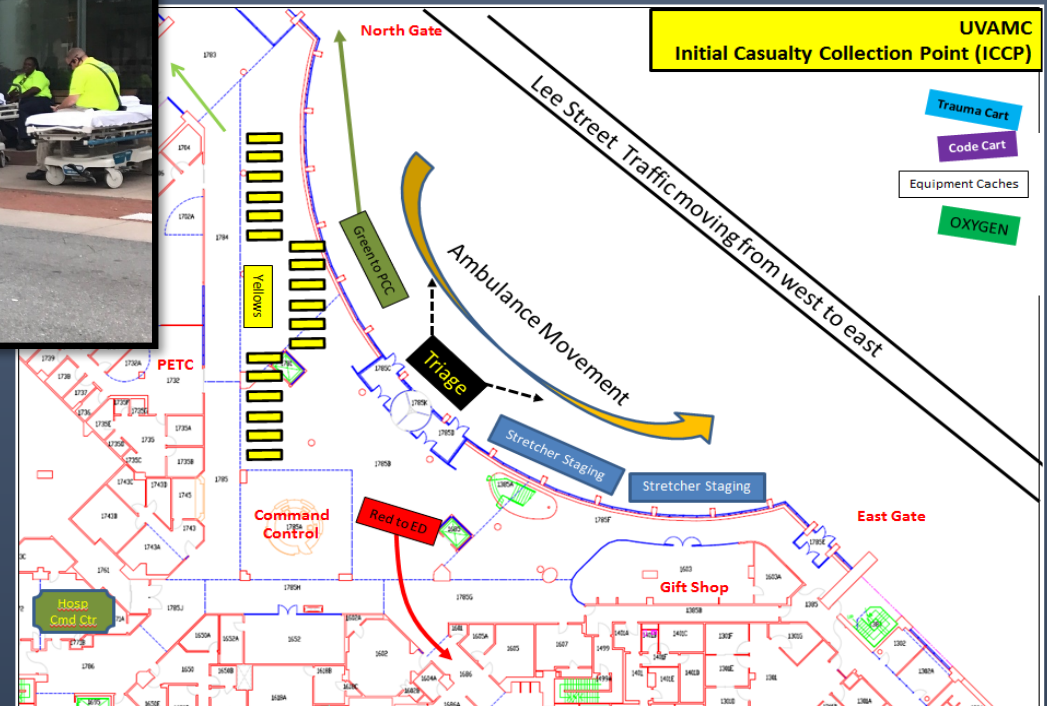
- Used as admission holding unit for stable, non-ICU patients





Initial Casualty
Entry Point

Medical Center Lobby



Medical Center Lobby

Initial Casualty Care Entry Point



UVAHS Command Center

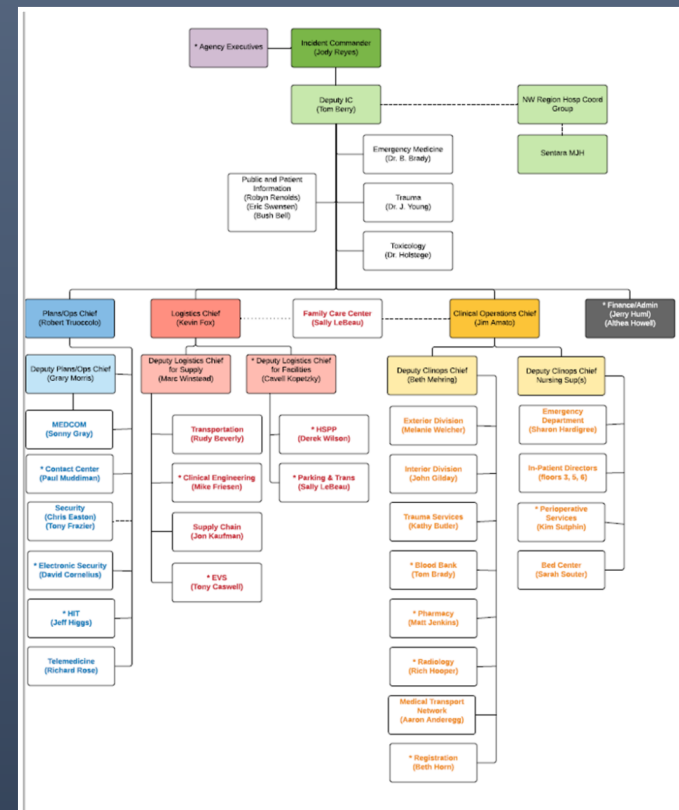
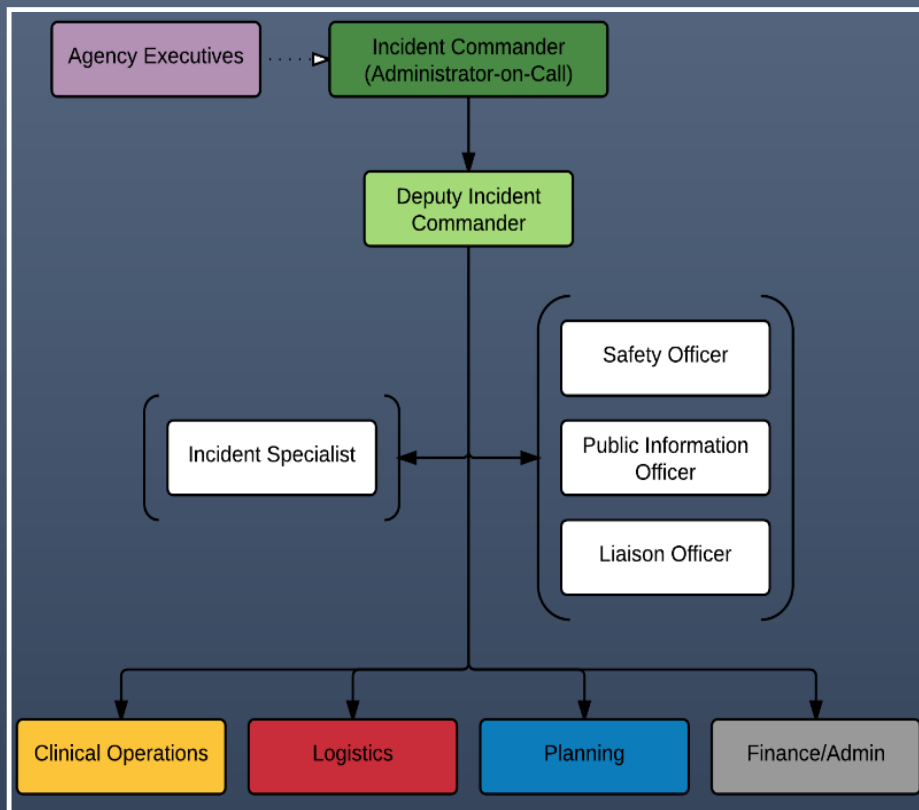
Medical Center command & control



Communications



Incident Command Structure



Communications

- **Primary clinical personnel & groups**
- **Command Center to...**
 - ED
 - Key MD & RN leaders
 - Forward Command Center
 - Fire Dept Command
- **Monitoring of event by...**
 - On-site observer
 - Radio
 - Telephone
 - Telemedicine
 - Video



Interface Public Safety & Other Healthcare Community Partners

- **Planning meetings with local fire rescue**
- **Established communications**
- **Pre-planned management scenarios**
- **Local law enforcement was slower to engage with medical planning**

Additional Resources

Established in Response to Gathered Intelligence

- **Report of potential aerosolized material**
- **Large-volume decontamination set-up**



Key Issues

- **Planning & preparation as a team...including community partners**
- **Primary operational personnel**
 - Awareness
 - Activation / communication
 - Response expectations
- **Expanded care areas, for triage, management, & admissions**
- **Increase hospital capacity & reduce ED through-put processes**
- **Command Center that is in command**
- **Planning with community & regional partners**

August 12, 2017
Charlottesville, VA

