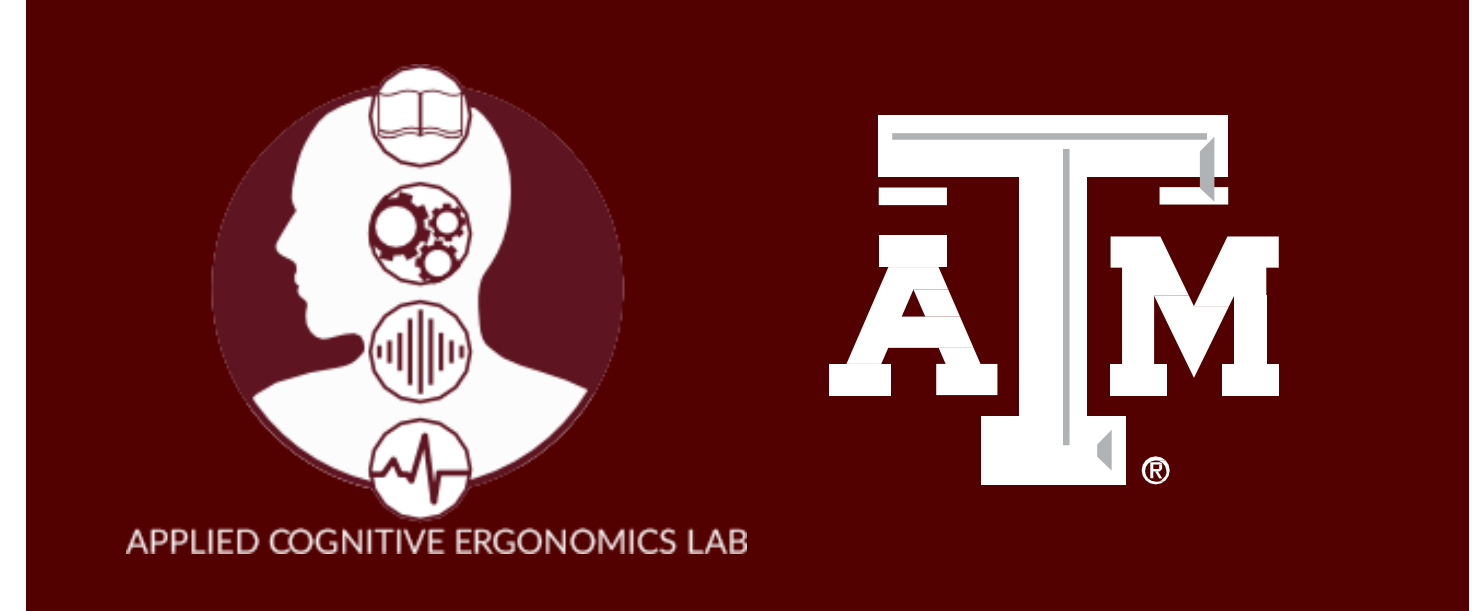


A Comparison between Government and Hospital Incident Management Teams during Hurricane Harvey



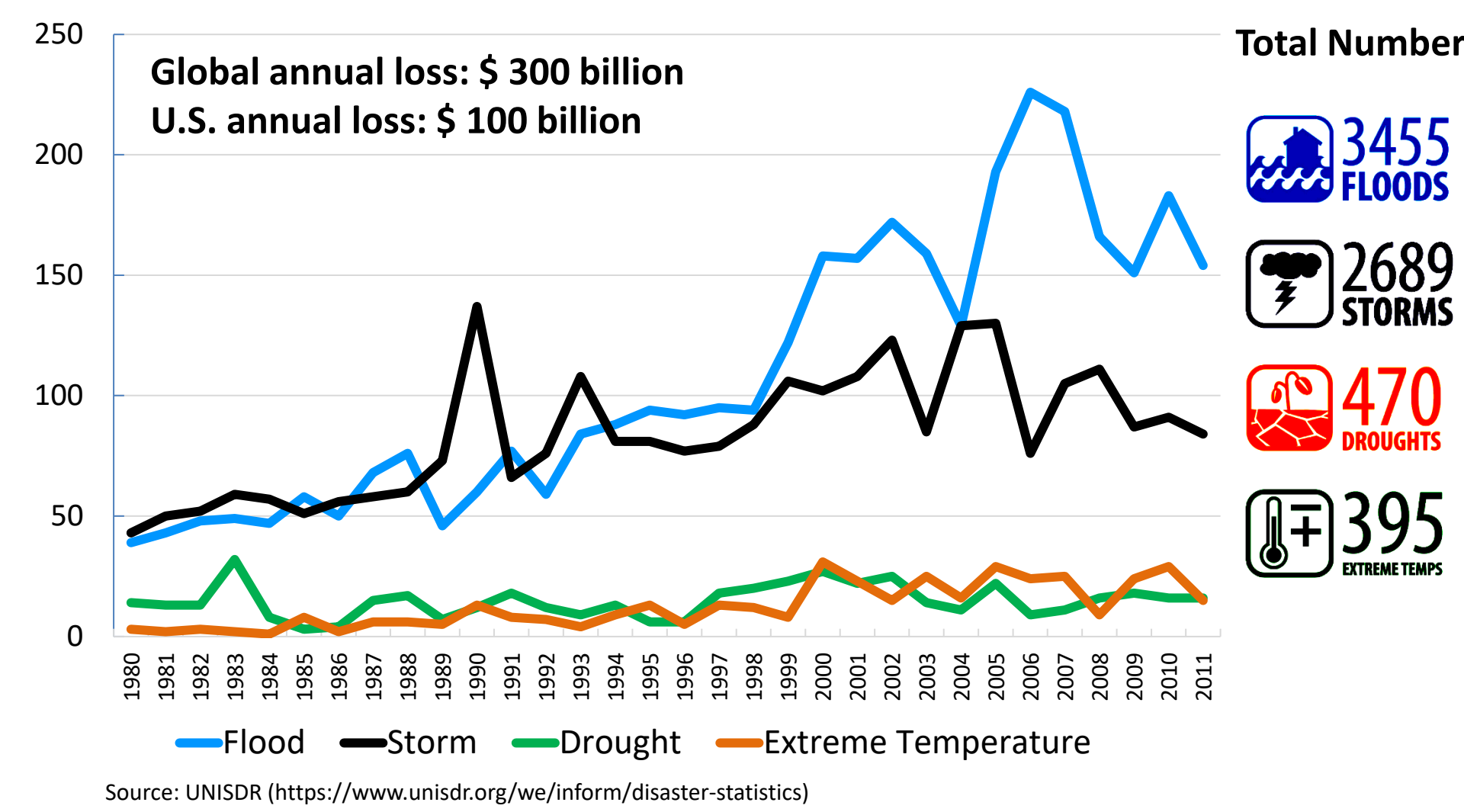
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BACKGROUND

Increasing Threats of Natural Disasters



Hurricane Harvey in 2017



Source: abcNEWS (<https://youtu.be/Zo3Wb8LIWFw>)

- The costliest tropical cyclone in the U.S. history
- Inflicted \$ 125 billion in damage
- Considered a 1,000-year flood
- 30,000 people sought shelter
- 10,000 rescue missions
- Major Disaster declared by State

Incident Management Team (IMT)

- **Multidisciplinary:** fire, law, medical, etc.
- **Multijurisdictional:** multiple cities, counties, and states.
- **Impromptu formation:** constituting members may (can) not be pre-determined.
- **Under pressure:** limited time, lack of resources, inaccurate and incomplete information.
- **Needs for adaptation:** coping with constantly changing conditions.



An IMT established during Macondo Well Blowout

RESEARCH AIMS

- Aim 1** To identify similarities and differences between government and hospital IMTS operated during Hurricane Harvey
- Aim 2** To offer recommendations for improved emergency responses against future disasters

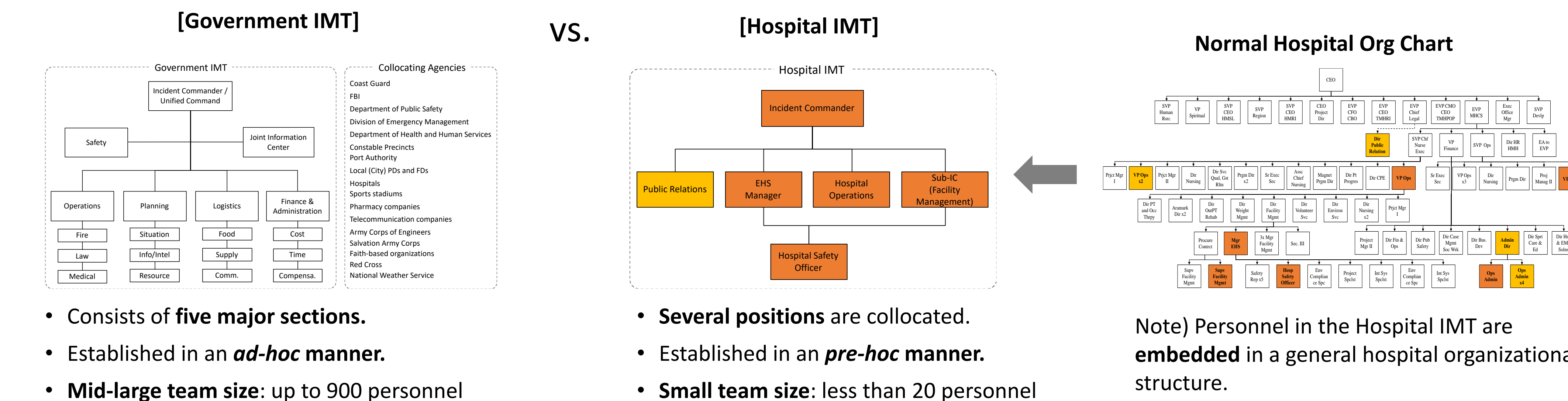
METHODS



- **Participants:** 16 (10 gov. + 6 hospital)
- **Period:** March to September 2018
- **Transcribing the interviews**
 - Automated (AI-based) and manual
- **Qualitative data analysis**
 - Thematic analysis (Braun and Clark, 2006)
 - Using MaxQDA Analysis Pro 2018

RESULTS

1) Structural Aspect



2) Functional Aspect

[Government IMT]

'Abnormal emergency'

"I have never seen a hurricane [that] stalled five counties in the state ever in my life and nobody had."

"Hurricane hit on a majority of the people that had never experienced or even weren't around for Alicia, Allison."

VS.

[Hospital IMT]

'Normal emergency'

"We had people who were able to do the jobs they normally do."

"So a lot of our emphasis in our role is placed on resuming the normal operations"

3) Interface Aspect

[Government IMT]

A wide range of inter-governmental interface with other government and non-government organizations.

VS.

[Hospital IMT]

Intra-communication within the hospital.

Limited coordinating activities with adjacent hospitals.

Healthcare IT is not fully integrated with government systems.

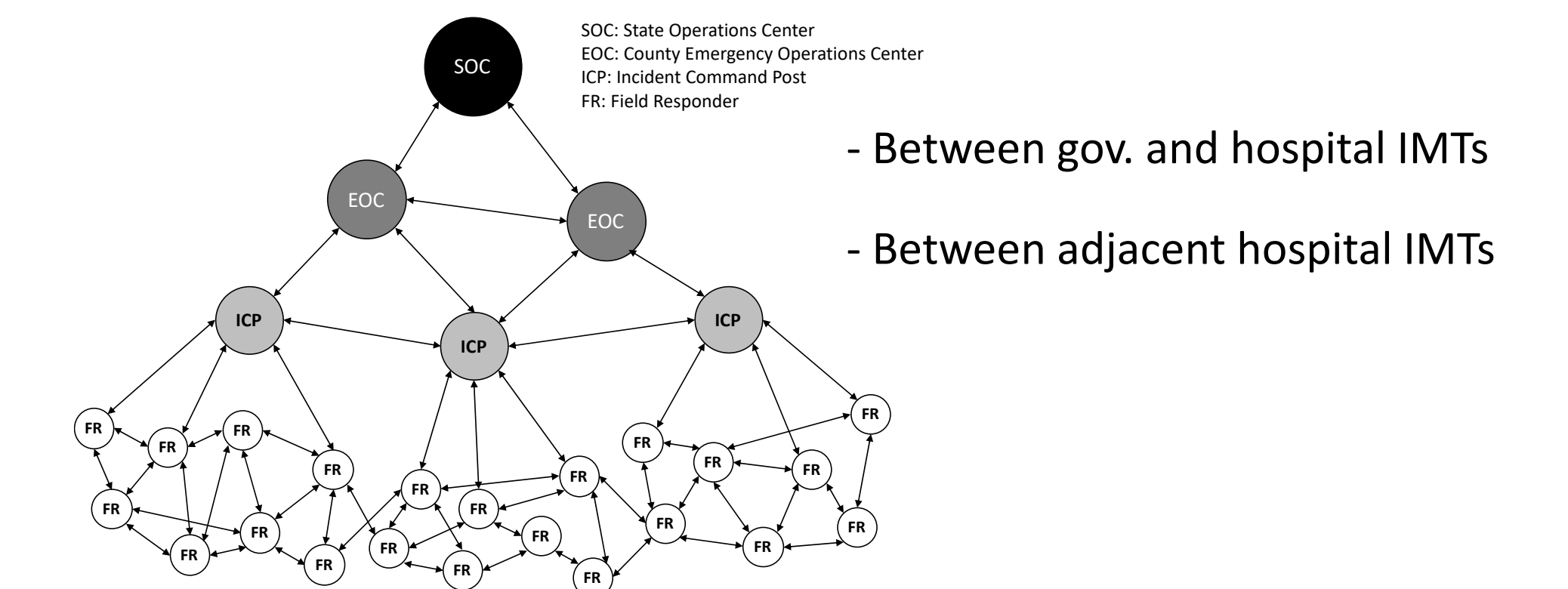
IMPLICATIONS

Practical implications for IMTs

- **Flexibility of IMT structure**
 - Structure can be adjusted depending on type and scale of events
 - Needs to tailor the IMT to predicted scenarios in the hospital context

Recommendations for Improved Incident Response

- **Importance of training for duties during incident operations**
 - Training for unfamiliar duties for government IMTs (e.g., five functions)
 - Training for unexpected scenarios for hospital IMTs (e.g., mass casualty)
- **More interfacing efforts between IMTs**



FUTURE WORK

For theoretical aspect

- **Resilience of IMTs during disasters**
 - How the two types of IMTs handle expected and unexpected events and remain functional during a disaster.
- **Team cognition of IMTs during disasters**
 - How the IMTs establish and maintain team cognition (or common operating picture) during a disaster.

For methodological aspect

- **An in-situ study of real-world incident**
 - Real-time observation for better understanding of IMT operations
 - Identification of adaptive and improvisational behaviors of members

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