

Faculty Disclosure

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Ms. Nagel has listed no financial interest/arrangement that would be considered a conflict of interest.

LESSONS LEARNED FROM HURRICANE IKE

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SESSION OBJECTIVES

Participants will be able to identify two issues regarding

- ⦿ Special medical needs in patient evacuation
- ⦿ Participants will be able to discuss sufficiency of care versus standard of care in disaster situation

Crazy Dave andthe best laid plans....



A bit of background:

TXMAT

- Texas Medical Assistance Team – special ops
- Different in concept from Federal DMATs
- Assist...advise....assess.....*get dirty*.....

Hurricane IKE



Satellite Image



**Image from the Space
Station**

A little history lesson



H. Gustav made landfall:
Sept 1st, 2008

H. Ike made landfall:
Sept 13th, 2008

Gustav Leftovers??

Consider the following

- ⦿ There was less than two weeks between storms
- ⦿ Most of the southeast quadrant of Texas evacuated to east Texas and the DFW area
 - Not all evacuees had returned home.
 - Not all evacuees behaved nicely
 - Not all impacted hospitals played fair

Gustav's lessons

- UT Tyler School of Nursing
 - Established a medical special needs shelter
 - Staffed with Nursing Faculty and nursing students
 - On campus in the Patriot Center
 - Unique experience
 - Clinical hours
 - Faculty supervision
 - other state and federal assets used area churches and schools

Gustav's Lessons

- Shelter Cots: average height 18 inches
 - Ergonomic nightmare
 - Some totally disabled patients
 - Physical caregiver strain
 - Obese patients
 - Elevate HOB?
 - Vent patients?
- Where's the Muscle? Where's the safety?

Gustav's lessons

- ◎ Evacuee's "Stuff"
 - (clothes, pets, family)

- ◎ Mental Health issues
 - Pre-existing
 - Exacerbation
 - Regression
 - s/p previous evacuation..territorial

Gustav's lessons

◎ Repatriation:

- I came “healthy”, but now I’m sick
- New hospital admit
- Evacuated hospitals refusing repatriation transfers
 - Not being transferred to “higher level of care”
 - Less Medicare days available
 - Not my patient...not my problem
 - Patient's left behind by families

Gustav's Lessons

Almost there...I promise

- ⦿ Mental Health issues
- ⦿ “What do you mean the storm is heading straight for us?” and the domino effect
- ⦿ Para transit repatriation
- ⦿ Miscommunication and Ego contests
(Hard to believe, isn't it)

The *other* domino effect...

- ◎ Before and During H. IKE
 - East Texas initially refused shelter patients
 - Tyler specifically refused Federal Assets
 - Dallas and Ft Worth refused federal assets not because of issues, but they felt they could “hold their own”.
- ◎ Evacuee burnout
 - “They were wrong about the last storm.....”

Sept 8th H-120 and the “*fun*” begins...?

- ◎ TxMAT Incident Management Team
 - DSHS Austin
 - Multi-Agency Coordination Center (MACC)

- ◎ ISSUE:
 - The state of Texas had been in “disaster mode” since H. Dolly (mid-July).
 - Disaster Fatigue (personnel and responders)

Just when do we evacuate?

- Most medical insurance plans won't pay for a patient evacuation until H-48.
- Air Ops are usually discontinued between H-36 and H-24 (depending on weather conditions).

Just when do we evacuate?

- ◎ Ground transportation issues
 - Contra-flow traffic
 - Buses (Gen Pop and Special needs)
 - POVs/ Ambulances
 - Fuel
 - TIME!!!!!!!!!!





**1500 buses x 40seats =
60, 000 seats**

**400 Ambulances
ALS/BLS unknown**



Air Operations

Issues:

- Fly Time
- Weather Conditions
- FXW versus Rotor
- Civilian versus Military
- State Asset Vs Federal



Civilian Rotor Operations

- ◎ Misused resource?
 - IFR vs VFR
 - Patient Transport Capabilities
 - Weight limitations
 - High Risk OB
 - Double Load Capable?
 - State Asset vs Federal Asset

Military Fixed Wing

- TX Air National Guard

- 5 C130s

- Transported at 1/3-1/2 Patient load.

 - Obese patients

 - Patient's "stuff"

 - Wheel chairs

 - Pets



And exactly who do we evacuate?



And the chase begins...

Chasing Our Tails



- Early on...heading to the Valley
- Later: heading to Corpus
- Just kidding..heading to the “bad lands” (very rural)
- No wait..Corpus
-Bad Lands...(sigh of relief)
- H-48 DEAD ON FOR HOUSTON**

370 miles of Coastline
NOT INCLUDING INLAND
DANGER ZONES

Lets talk numbers.....2006 data

FACILITY TYPE	NORTH	SOUTH	TOTAL
HOSPITALS	37	23	60
ICU	164	129	293
CCU	65	84	149
Peds & PICU	55	14	69
NICU	91	86	177
Total Vents (included in above)	157	153	310
General Med/Surg Wards	722	717	1439
Post Discharge Census	1097	1030	2217
Transportation of Hospitals			
Ground Ambulances	487	235	722
Air Ambulances	123	20	143
Buses	45	26	71

More numbers....

HOMEBOUND MSN			
Level 1-3 MSN	9544	4173	13717
Level 4-5 MSN	4260	2505	6765
Transportation of MSN			
Buses (All 1-3)	9544	4173	13717
Para Transit Vehicles (50% 4-5)	2130	1252	3382
Ambulances (50% 4-5)	2130	1253	3383

Shelter in Place!!!!!!

Remember those transportation issues we discussed...

Due to the limited time to evacuate
Evacuation of Houston determined
by zip code

Galveston Island expecting catastrophic damage. “Certain Death”

Task Force IKE

Situation

A catastrophic hurricane has made landfall on the Texas Coast resulting in substantial damage and service interruptions

Assumptions

Essential Services are disrupted in impact area

Communications in area are disrupted

Rotary wing aviation operations will be possible after passage of tropical storm force winds

There will be victims in the area requiring rescue and shelter

MISSION

Task Force IKE deploys as soon as conditions allow to:

- re-enter and secure the impact area
- provide emergency search and rescue
- assess damages
- synchronize local, state, and federal response
- aid in restoration of essential services
- support state and local continuity of government
- begin immediate mass care and recovery operations

Best Laid Plans

- ◎ Task Force Ike

- Planned Base of Operations

Ford Park

Beaumont, TX

OOOPS.....Completely Flooded

Plan B: Galveston ISLAND



**Only one road connects to
the mainland....**



Alternative: Ball High School Galveston, TX

Issues:

Shelter of last resort

Flooded during storm



Oops again?

Inside Ball High

Tables used to block flooding?

Sewage backflow because of flooding and low water table

Toilets out of order

Overwhelming odor of sewage and mold



Some were waiting



“I have
been trying
to keep it
clean.”



Others came later



Hospital discharges and more!

Just the facts:

- 300 people waiting upon arrival of TFI
- MSN patients mixed in with Gen Pop
- Timeline for transportation unknown
- Area wide communication issues

More facts:

- Over 1200 people triaged and evacuated less than an 8 hour period.
- This includes: Gen Pop, MSN and pets
- Trauma triage doesn't work with MSN patients!!

How do you triage/treat this?

Trauma

Medical

Altered Mental Status

Priority

Delayed

Dialysis

Delayed

Depends

Immuno-compromised

Delayed

Priority

“We can manage...”



BUT WHAT ABOUT

The ambient temperature is in the mid to high 90's

There has been wide spread flooding.

Electricity not expected for 6-8 *weeks*

Commercial *and* Personal medications are compromised.

The level one trauma facility is reduced to minimal operations

Civilian Air Ops not readily available

Military Air Ops mostly SAR— no medical personnel

Two to three hour trip via ambulance to closest Houston medical centers

(remember: Houston is a disaster zone also)

“Here is my medication list.”



Oh yes ...and the pets....



**Lions and tigers and bears...not quite, but
dogs, cats, rabbits parrots and ferrets.**

And death came knocking at my
window?



No!!! I'm not going!!



Questions

