

Disaster Preparedness Lessons Learned from Katrina

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- Our Performance Review and Report Card
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Goal

Learn from Katrina: Prepare for Disasters

Part 1: The story ... Inside Katrina at Tulane University Hospital

Feel what it was like to be there.

Sensitize physician executives and
front line physicians to

- a. Lack of preparedness
- b. Need for preparedness

Part 2: Nuts and Bolts of Building a Realistic Disaster

Preparedness Plan for
Your Healthcare Institution

- a. Comprehensive
- b. Integrated
- c. Continuous
- d. Systematic
- e. Coordinated

For further information, comments, or questions, contact Dr. Mascia

Overview

Part 1: Inside Katrina

- General Comments on Disaster Preparedness
- On the ground experience with photos and notes written during and after the event & daily reviews of our performance at Tulane University Hospital
- Summary review of our performance

Part 2: Nuts and Bolts of Disaster Preparedness *Before, During, and After* the Disaster

Format note: For those who want the “feel” of what it was like to be on the ground at Tulane, read the small print. If you want key points only, focus upon the large text.

Introduction

What have you done to prepare your healthcare organization for future disasters?

Physicians and Physician Executives are key to facilitating disaster preparedness for—
Individuals, Family, and Institution

Problems:

- **Too Busy:** Most Physicians and Healthcare Organizations are too busy with day to day stuff to take disaster planning seriously.
- **Invalid Assumption** in Disaster Plan that Health Facility will be operational during the disaster.

Why Physicians Should Lead The Way

Front line physicians from many specialties

- **KNOW** what it takes
- **UNDERSTAND** patient care needs and are *prepared to*
- **ACT** accordingly in the face of disaster

*Keys to Success: Planning and Practice,
Knowledge, Understanding, and Action*

Problem With Usual Disaster Preparedness: Assume healthcare facilities will be operational*

- US Government

<http://www.ready.gov/>

- American Red Cross

<http://www.redcross.org>

- World Health Organization

<http://www.who.int/topics/disasters/en/>

- American Hospital Association

<http://www.hospitalconnect.com/>

*Visit these sites and our “Links and References” for basic information

Links and References

- CDC: Emergency Preparedness and Response
<http://www.bt.cdc.gov/>
- CDC: Hurricanes: Health and Safety
<http://www.bt.cdc.gov/disasters/hurricanes/index.asp>
- NOAA Hurricane Preparedness and Links
<http://www.srh.noaa.gov/lix/html/hurricaneprep.htm>
- CDC: Health-Related Needs After Katrina and Rita
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5502a5.htm>
- CDC: Disaster Mental Health Resources
<http://www.bt.cdc.gov/mentalhealth/>
- Stress Management Workbook: IHS
<http://www.ihealsolutions.com/stress.cfm>

Forget about business as usual. It is probably more complicated than you think.

Mission Shift: from Operations to Survival, or a combination of the two.

- What are your primary missions (operations)?
- How have you prepared to preserve and salvage operations in the face of a disaster?
- Are you prepared to shift from operations to survival?

Mission Survival-Minimize Casualties

Fundamental Disaster Preparedness Considerations

Mission: Survival, Patient Care, or Both?

What about Research? Teaching?

Goals and Objectives: Minimize Casualties

- Minimize Morbidity and Mortality:

 - Patients, Providers, Support Staff, and Families

- Survival Strategy

- Operational Strategy: Patient Care

 - Maintain Optimal Patient Care

 - Support Disaster Management Team

- Exit Strategy: Unable to continue Survival and Operations
Strategies? Switch to Survival and Exit Strategy

Mission Survival-Minimize Casualties

Fundamental Requirements: Preparation, Training and Practice for *Worst Case Scenario*

- Selection of Disaster Team
- Minimize At-Risk Population (Streamline)
 - Patients - Families - Provider team - Support team
- Selection of Disaster Team
- Training of Disaster Team
- Selection and Training of Support Team
- Evacuation Strategy and Testing
- Realistic Drills: Survival, Service, Evacuation
- Communication and testing
- Resources: Equipment and Supplies to Meet Objectives
- Relationships (Cooperation and Coordination): Transport and Alternative Locations

Mission Survival: Fundamental Disaster Preparedness Checklist

Anticipation, Preparation, Training, and Practice

1. ■ Select Provider and Command Teams (Training and Health)
2. ■ Verify Training and Ability of Each Provider Team Member
3. ■ Verify Preparation of Provider Team Families
4. ■ Verify Preparation of Each Provider Team Member
5. ■ Select Support Team (Knowledge, Skills and Health)
6. ■ Verify Preparation of Support Team Families
7. ■ Verify Preparation of Each Support Team Member
8. ■ Select Proper Equipment and Supplies to Meet Objectives
9. ■ Purchase Equipment and Supplies
10. ■ Verify Receipt, Adequacy and Functionality of Equipment and Supplies
11. ■ Practice, Drill, Practice, Drill, Practice Till You Get It Right
12. ■ Verify Adequacy of Preparedness Plan and Adjust Accordingly
(Include Evacuation Contacts, Methods, Routes And Destinations)

Mission Survival and Service

Key to Success: People (Trained Professionals)

Knowledge, Understanding, and Action

Know and Understand that

All systems will fail some of the time and some systems will fail all of the time, so

Act (prepare) accordingly

Involve ALL players (who should be excluded?)

Develop a Disaster Management Team

Design Equipment, Supplies and Support Systems:

Simple, Redundant, Reflex

**“There is nothing new under the sun
but there are lots of old things we don't
know.”**

--Ambrose Bierce

U.S. author & satirist (1842 - 1914)

The Devil's Dictionary

**Katrina, great equalizer and teacher,
you have given us a Grand Lesson.**

**One can only hope that we have learned from you,
and that we never forget what you have taught.**

“Inside Katrina,” MFMascia, ©2005

My View from “Inside Katrina”

Success and Failure on the Ground

Tulane University Hospital

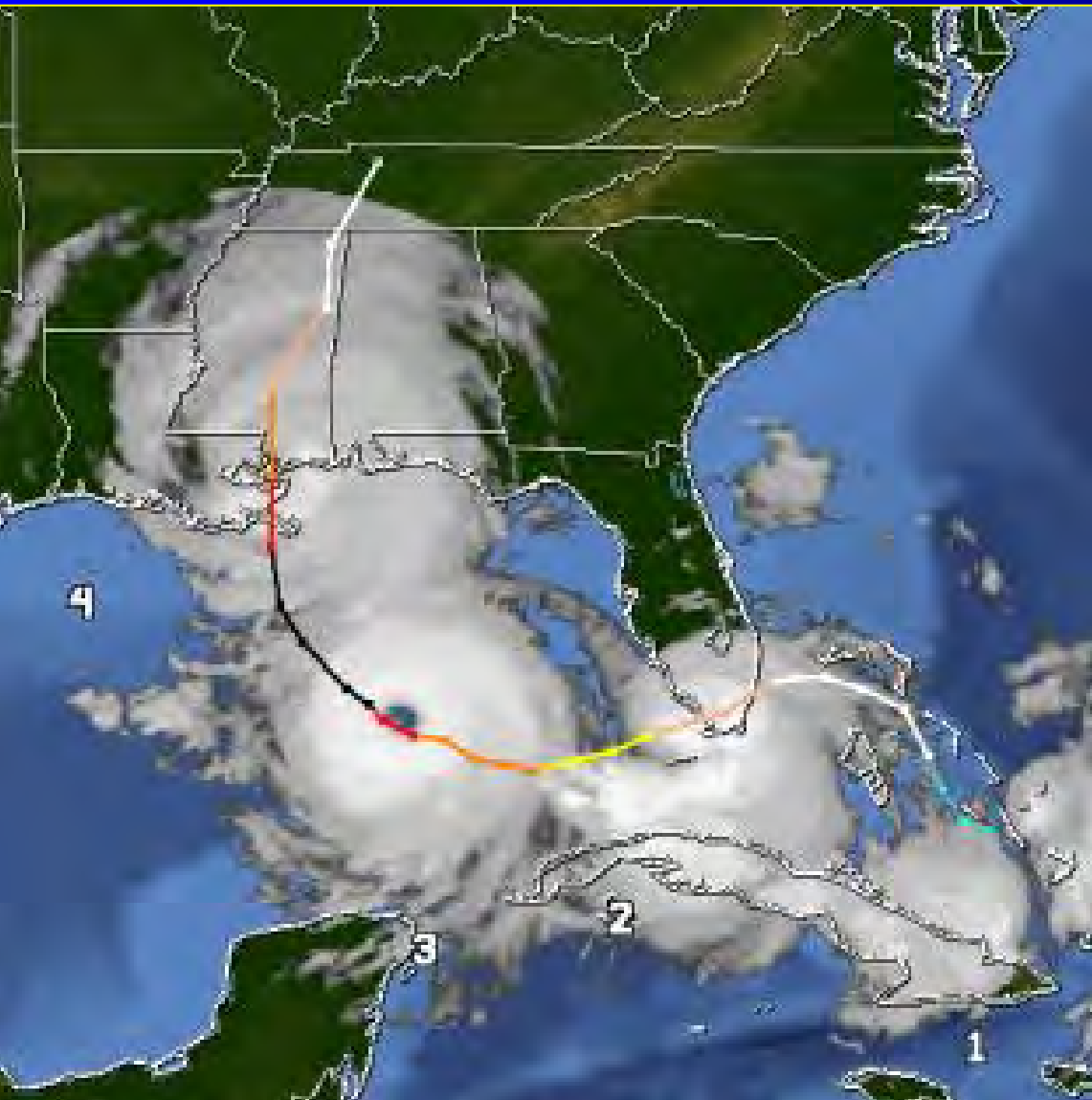
August 28, 2005 – September 2, 2005

Michael F. Mascia, MD, MPH

Inside Katrina and Her Lessons

- Before Katrina
- Day Zero & Report Card
- Day 1 & Report Card
- Day 2 & Report Card
- Day 3 & Report Card
- Day 4 & Report Card
- Day 5 & Report Card
- Post Katrina & Report Card

On the ground, New Orleans Watches Katrina



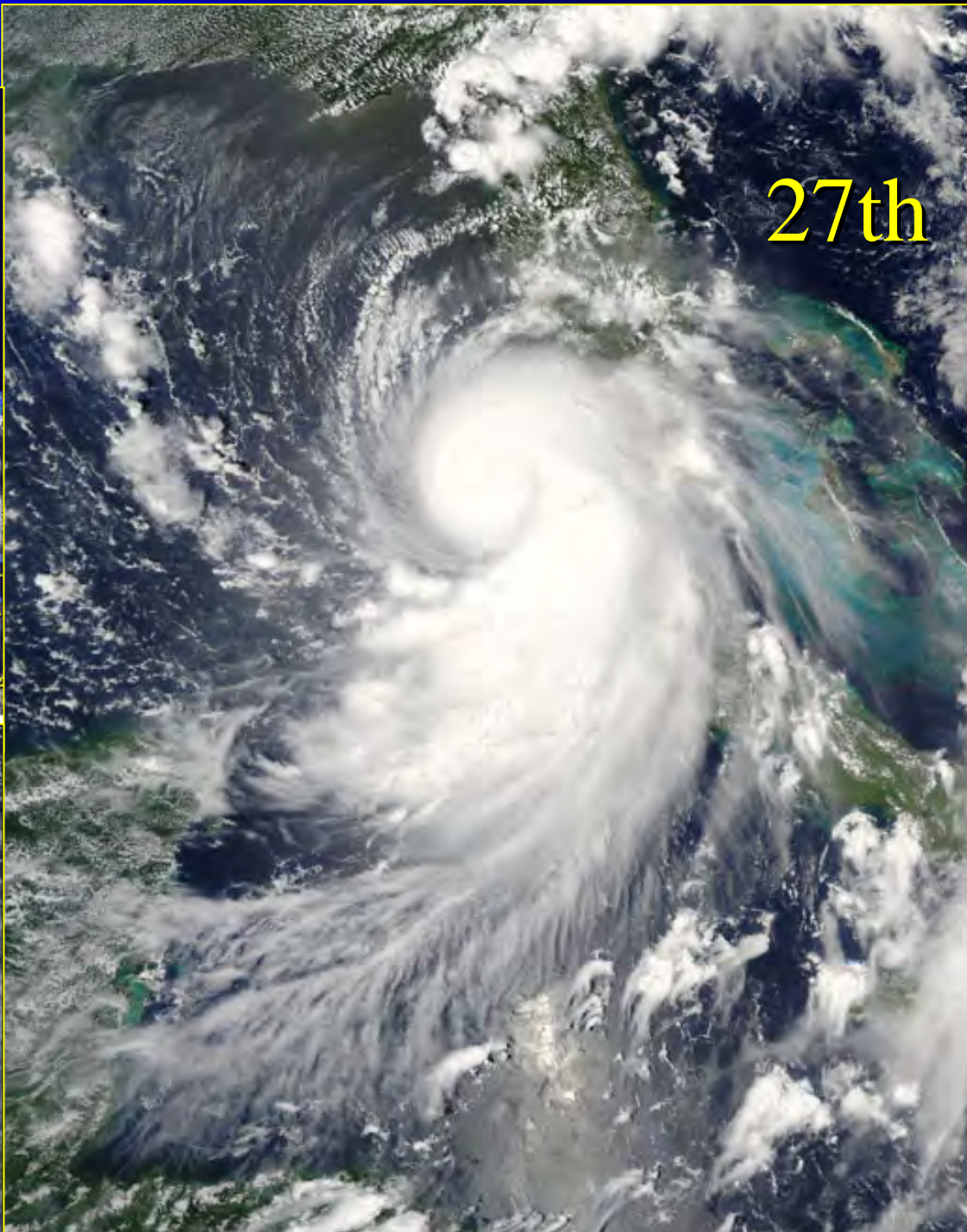
August 25 – 28, 2005

Watching Katrina

August 25th



27th



26th



Note: Friday, August 26, 2005

Moss Street, New Orleans, Louisiana

“She is not yet sure where she is going ... not sure if she will visit New Orleans, yet. We have been watching her for a while, and she was quite weak when she cut across Florida, not doing much damage there. But, while dancing and playing over the hot waters of the Gulf of Mexico ... while taunting us with her lack of direction, she grew in size and strength. I don’t like the looks of this Katrina ... appears very dangerous to me.” ...

“Inside Katrina,” MFMascia, ©2005

Note: Saturday, August 27, 2005

“Can’t worry about her, at least not yet. I sleep late, go see my patients and rollerblade at the lakefront under the assumption that Lakeshore Drive will be destroyed, and I will not get out there on rollerblades again for a very long time. Then, shopping to get stuff for the hurricane, planning to cook in the afternoon, and get place ready for flood and rain damage in the evening and all day Sunday.”

...

Inside Katrina, MF Mascia, ©2005

Note: Sunday, August 28, 2005

Day Zero

“Busy sorting and securing things inside and out, filling water bottles, bringing assorted stuff inside, helping cover the front windows and door with pieces of plywood, old doors and other scraps of wood taken from about the yard, while picking survival gear, packing and loading the truck. This time, I take the kayak. Thought about it for Ivan, but for Katrina, after seeing the storm on the NOAA website, and declaring to myself, ‘This is a monster,’ the kayak goes on the truck.” ...

Inside Katrina, MFMascia, ©2005

Sunday, August 28, 2005 (cont.)

“Figuring that if I have to use the kayak to get out of there, the guns, yes ... the handguns, 9mm Beretta and 22 magnum Ruger revolver ... they go too and the ammo, because self defense will be necessary under such circumstances. So, everything remotely connected to survival is packed into my bags and truck: compass, knives, rope, and life jacket, along with essential papers, laptop, and a few things of sentimental value.”...

Inside Katrina, MFMascia, ©2005

Sunday, August 28, 2005 (cont.)

“Bit of a rush at the end ... sky is dark and winds are picking up, some rain falling as I lash the kayak to the back of the truck. Fortunately, the truck bed is covered ... metal, locking cover, so two full 5 gallon gas cans, fishing gear, portable gas grill, cooler full of food and drinks, as well as other assorted items will be protected, at least from the rain. Lots of extra clean clothes are loaded into the big duffle that I throw in the back of my cab....”

Inside Katrina, MFMascia, ©2005

Sunday, August 28, 2005 (cont.)

“Back inside for a final look about, shower, shave and jump into clean scrubs. Shower feels good after this long, hot and sweaty day of preparation ... unable to imagine what is to come for the next several days, but knowing it will be bad and prepared for the worst.”

Inside Katrina, MFMascia, ©2005

Sunday, August 28, 2005 (cont.)

“Sweat again drips off me, as I lock the front door and rope the make shift barriers to the door on the way out. Relieved to have this job done, heading to the truck, hot winds and rain falling ... wet again. In the final frenzy to beat the rain and get to the hospital ... realizing ... “(Bleep), I forgot the red wine and my survival manual ... especially unhappy about red wine, but I don’t go back to get it....”

“Inside Katrina,” MFMAscia, ©2005

Day Zero: 10:11 AM NOAA Predictions

NOAA Bulletin Issued 28
August 2005 at 10.11 AM
CDT

**URGENT - WEATHER
MESSAGE
NATIONAL WEATHER
SERVICE NEW ORLEANS LA
1011 AM CDT SUN AUG 28
2005**

**DEVASTATING DAMAGE
EXPECTED
HURRICANE KATRINA... A
MOST POWERFUL
HURRICANE WITH
UNPRECEDENTED
STRENGTH... RIVALING THE
INTENSITY OF HURRICANE
CAMILLE OF 1969....**

For Katrina—

- **Devastating
Damage
Expected**
- **Unprecedented
Strength**

Day Zero: 10:11 AM NOAA Predictions

**NOAA Bulletin Issued 28
August 2005 at 10.11 AM CDT
(cont.)**

**MOST OF THE AREA WILL BE
UNINHABITABLE FOR
WEEKS...PERHAPS LONGER.
AT LEAST ONE HALF OF WELL
CONSTRUCTED HOMES WILL
HAVE ROOF AND WALL
FAILURE. ALL GABLED ROOFS
WILL FAIL...LEAVING THOSE
HOMES SEVERELY DAMAGED
OR DESTROYED. ...**

- Area Uninhabitable
for Weeks**
- Roof and Wall
Failure**
- Homes Severely
Damaged or
Destroyed**

Day Zero:10:11 AM NOAA Predictions

NOAA Bulletin Issued 28 August 2005
at 10.11 AM CDT (cont.)

THE MAJORITY OF INDUSTRIAL BUILDINGS WILL **BECOME NON FUNCTIONAL**. PARTIAL TO COMPLETE WALL AND ROOF FAILURE IS EXPECTED. ALL WOOD FRAMED LOW RISING APARTMENT BUILDINGS WILL BE DESTROYED. CONCRETE BLOCK LOW RISE APARTMENTS WILL SUSTAIN MAJOR DAMAGE...INCLUDING SOME WALL AND ROOF FAILURE. **HIGH RISE OFFICE AND APARTMENT BUILDINGS WILL SWAY DANGEROUSLY...A FEW TO THE POINT OF TOTAL COLLAPSE. ALL WINDOWS WILL BLOW OUT. ...**

- **Industrial Buildings**
Nonfunctional
- **Apartment Buildings**
Sway
Dangerously
- **High Rise Buildings**
Possible Total
Collapse
- **Windows Blow Out**

Day Zero:10:11 AM NOAA Predictions

**NOAA Bulletin Issued 28
August 2005 at 10.11 AM
CDT (cont.)**

**AIRBORNE DEBRIS WILL BE
WIDESPREAD...AND MAY
INCLUDE HEAVY ITEMS
SUCH AS HOUSEHOLD
APPLIANCES AND EVEN
LIGHT VEHICLES. SPORT
UTILITY VEHICLES AND
LIGHT TRUCKS WILL BE
MOVED. THE BLOWN
DEBRIS WILL CREATE
ADDITIONAL
DESTRUCTION.
PERSONS...PETS...AND
LIVESTOCK EXPOSED TO
THE WINDS WILL FACE
CERTAIN DEATH IF
STRUCK.**

- **Blown Debris Will
Create Additional
Destruction**
- **Persons...Pets...And
Livestock Exposed
Certain Death**

Day Zero: 10:11 AM NOAA Predictions

NOAA Bulletin Issued 28
August 2005 at 10.11 AM
CDT (cont.)

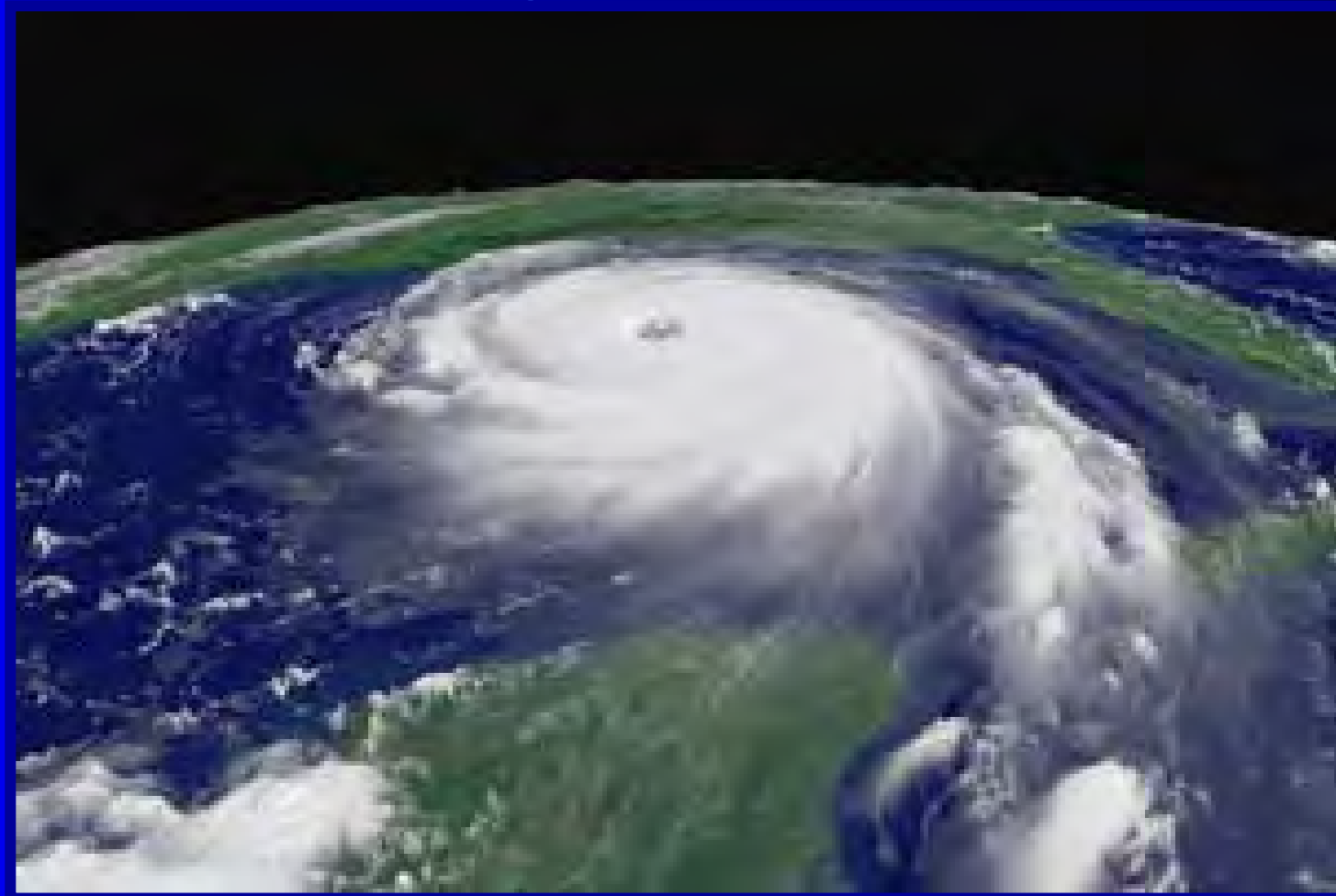
POWER OUTAGES WILL
LAST FOR WEEKS...AS
MOST POWER POLES
WILL BE DOWN AND
TRANSFORMERS
DESTROYED. WATER
SHORTAGES WILL MAKE
HUMAN SUFFERING
INCREDIBLE BY MODERN
STANDARDS

• **Power Outages
for Weeks**

Day Zero

**Katrina, Category 5 on Sunday, Aug. 28, 2005,
at 11:45 a.m. EDT
“NOAA” Satellite Photo**

“Yesterday’s
calm is over,
as is the
uncertainty.
She is now
headed our
way. ...



Day Zero

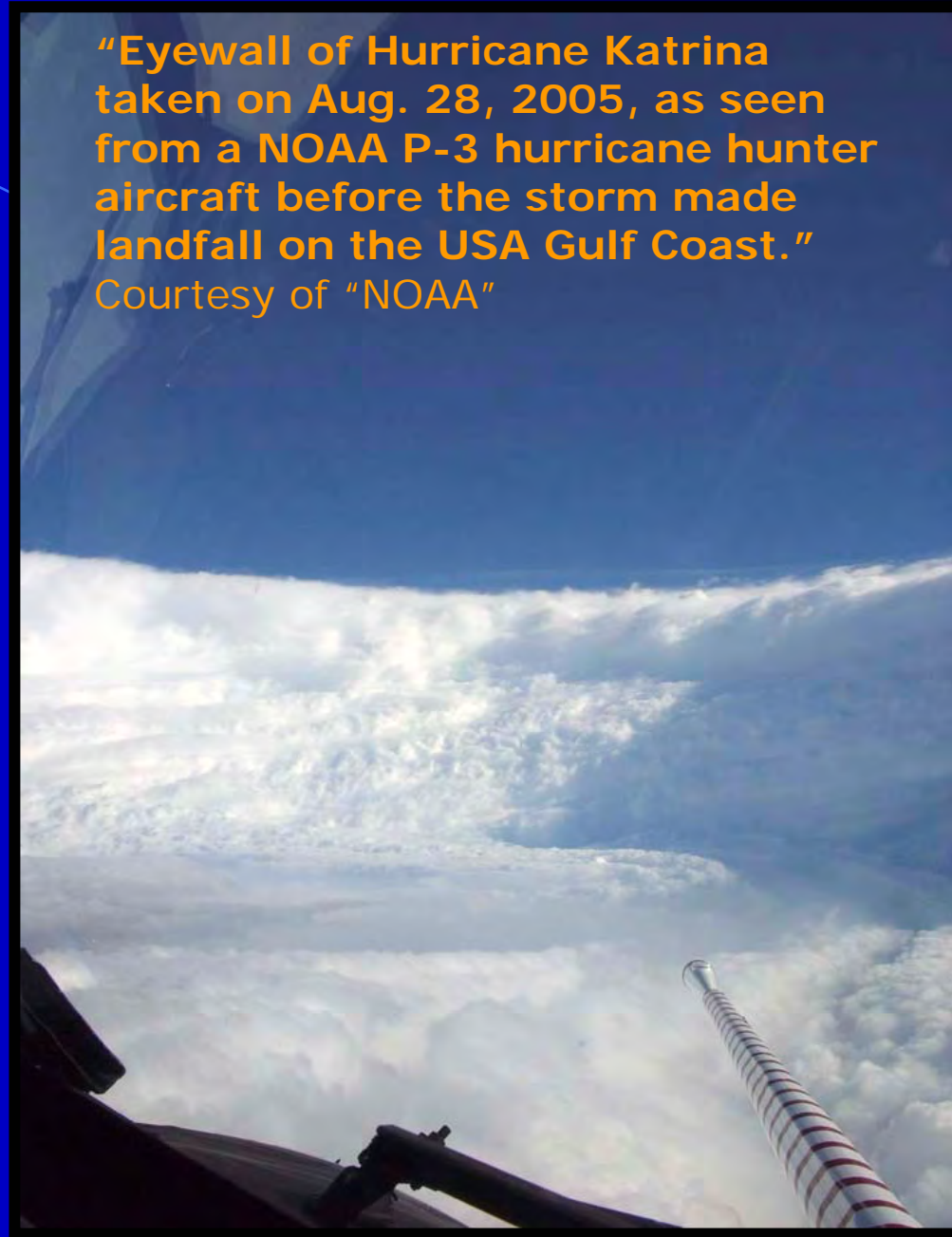
We had been watching the movement of Katrina for several days.

What had we done to prepare for her arrival?

Were we ready for the storm?

A day by day examination

...



"Eyewall of Hurricane Katrina taken on Aug. 28, 2005, as seen from a NOAA P-3 hurricane hunter aircraft before the storm made landfall on the USA Gulf Coast."
Courtesy of "NOAA"

Day Zero, Sunday, August 28, 2005

... Anticipating floods, limited food, no power, no water, and a few morons in the community ... drug addicts, dealers, other assorted thugs and lawlessness, I was prepared with food, water, kayak, life jacket and protection ... yes, I mean guns. I was not afraid for my family, because they are all safe up north ... but the idea of these few morons without their drugs, food, or water ... that was the uncertainty for which preparation was most difficult. Unfortunately, I was correct in anticipating the worst ... almost ... case scenario.” ...



Day Zero: Sunday

Arrival 8/28/05

4:08 PM

Tulane University Hospital

I am ready.

Are WE ready?

Ready for EVERYTHING?

Nagin Orders Evacuation

CNN

“New Orleans Mayor Ray Nagin declared a state of emergency Sunday and ordered a mandatory evacuation of the city.”

Disaster Preparedness

©MFM106IHS

Day Zero: August 28, 2005

Sunday

Arrival

4:08 PM

**•Who is “in charge”
at the hospital?**

“He (Nagin) exempted essential federal, state, and local personnel; emergency and utility workers; transit workers; media; hotel workers; and patrons from the evacuation order.”



Day Zero: Sunday

Calm before the storm?

- What to expect?
- On call for Critical Care
- No contact prior to arrival
- What's the plan?
- No discussion before event

“The hospital scene, different from anything I had experienced before, is full of anxiety and fear ... so thick you can cut it with a knife ... not yet transferred to me.

At the information desk, crowded with people, one of the folks from admitting greets me with a smile, then signs me in, writes my name on a wristband and secures it to my wrist. I think, “They will use these for ID of dead bodies.”

“Inside Katrina”, ©MFMascia 2005

Day Zero: Arrival

4:08 PM

- Crowding
- Anxiety
- Fear
- Registration
- Wristbands

Sunday, August 28, 2005

Day Zero

- Are there too many people here?
- Should anybody be here?
- Should we have closed the hospital?
- Should we have moved the patients?
- Do we have an exit strategy?
- Do we have any strategy?

Key Concerns

- **Who is in charge?**
- **Is there a plan?**
- **What is the plan?**
- **Fear?**

“Upon arrival Sunday, physical conditions are quite luxurious. Aside from “banding,” confusion and intense fear, everything is working. Food, water, shelter, air conditioning, lights, telephone, elevators, Internet, cable ... all equipment is operational as usual, including the Operating Room. Things are so normal that one of the surgeons wants to start a major case on Sunday night ... he is not kidding.”

“Inside Katrina”, ©MFMascia 2005

Day Zero: Sunday Late afternoon

- **Who is in charge?**
- **All systems work**
- **Surgeon wants to start elective case!**

(Pre-Katrina Madness?)

Day Zero

“Rolling to the elevators on level 2 then up to three, down the hall, around the corner, enter the pass code to the Anesthesiology office suite and into the office area.

Welcome faces of my colleagues ... the best of them ... CF, TW and his wife (both physicians) are there outside their offices and we exchange pleasantries.”

“Inside Katrina”, ©MFMascia 2005



Day Zero

Security

After meeting with

Anesthesiology

Group ...

“We talk and decide to stay
in the Anesthesiology
Department offices for
‘security’ reasons.” ...



Big Charity:
Across the street from TUMC

... Each of us gets settled (?) in our respective offices ... three of us from the Anesthesiology Department and T's wife from the Medicine Department. We get sheets, blankets, and pads from the OR and the stretchers. Once set, we then move out to do our respective work. Actually, I am the only one from the department who has patients to see. The Operating Rooms are quiet.

“Everything works in the hospital at this time and we go around to visit patients and socialize a bit with other workers before eating. Then, (we go down to the first floor and grab) a hot meal from the cafeteria ... we eat together up on the 3rd floor.”

“Inside Katrina”, ©MFMascia 2005

Day Zero Midnight Everything Works

Sunday 8/28/05 DAY Zero
First notes: Email after visiting the
garage late on Sunday

Subj:	Report at 11:50 PM
Date:	8/29/2005 12:03:26 AM Central Daylight Time
From:	Masciam

“The rain is steady now, but still mostly vertical. ...

Message out from office computer noted:

- Stranded man in bus stop
- National Guard: no communication devices

First Notes: Day Zero Midnight email (continued)

... The air is so thick with moisture that my glasses started to fog up even though they were the same temperature as the air. An ambulance drove over to the corner of Tulane and ... one block up from LaSalle. They stopped at the covered bus stop at the corner and talked to someone who was parked in there. Then, they drove off, only to come back a few minutes later to pick up a man (I think) who was in a wheelchair. Presume that they coaxed him to go with them, and when they placed him in the stretcher, I caught a glimpse of him ... frail and a double amputee. They tucked him in ... oops beep ... ya ... they quickly tucked him in, and drove off, making a U turn on Tulane and a right on LaSalle, probably on the way to the superdome.

Three heavy trucks from the national guard pulled in from the south ... then made a U turn on Tulane to park in front of the Medical School (across the street from the hospital) the troops unloaded, secured the trucks and walked into the school with gear bags and cots. Did not see any weapons. Figure they will spend the night with us ... or at the med school.

Now back in my office and ready to sleep.

More later.”

Grade, Questions, and Commentary: “A” for water ... we had lots of water, but that was more of an accident than a plan.

▶ **Main Point: Big storm with several days warning!**

- Were we ready? I don't think so.
- What would you have done in preparation for this storm?
- What would you do if your healthcare organization was struck by a natural disaster today without warning?
- Would you and your healthcare organization be prepared?

Key Points Summary

Day Zero Issues and Questions

- Planning?
- Practice?
- Chain of command?
- Command structure?
- Roles and responsibilities?
- Selection process for disaster call team?
- Unnecessary people in the hospital?
- Unknown supply and equipment situation?
- No practice prior to arrival?
- Safety and security?
- Sleeping quarters?
- Mission?
 - Service vs Survival
- Performance Measure?
- Constraints?
- Resources?
- Component Goals?
- Activities?
- Performance?
- Management?
- Command?

Mission Survival: Fundamental Disaster Preparedness Check List

Day Zero Report Card (my view) Total Score 2/12?

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 1?
9. Purchase Equipment and Supplies 1?
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

MONDAY AUGUST 29, 2005

3:22 AM (Note)

“New Orleans, Tulane University Hospital
Now August 29, 2005 at 3:22AM New
Orleans Time

Awakened @ about 2:30 AM.

Tough to sleep on a two inch foam cushion
(on the floor of a small and crowded office),
but could be worse. Rain now comes in
every direction but vertical, and the winds
are howling through the city
streets. Generator kicked on about 20
minutes ago. Lost Internet service. Will
check cell phone.”

“Inside Katrina”, ©MFMascia 2005

Trusted Emergency Radio

Disaster Prepared
©MFM106IH

Day 1

02:10AM

- Power Out
- Locks Out
- WWW Out

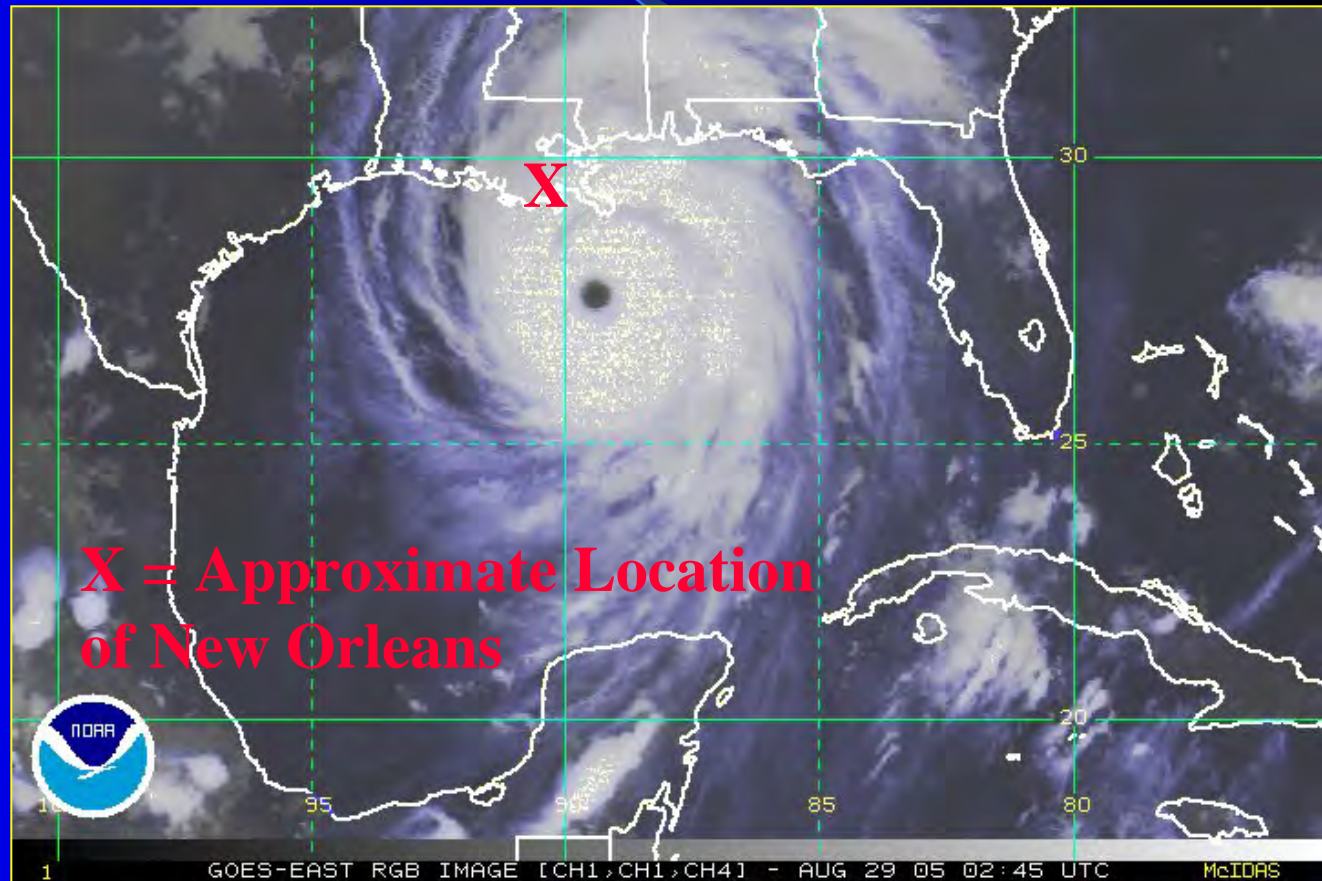


Day 1
Monday
August 29, 2005

Note Size and Location:
Eye Still Off Shore

02:45 AM

By this time, many faculty, residents, staff, patients and families are fast asleep at Tulane University Hospital, or the Medical School ... Should they be here? Should any of us be here?



... a significant number of them (not on duty and non-essential personnel and families) should have evacuated the city, but chose to stay at the TUMC for convenience. Many of their relatives are located in a nearby hotel.

Day 1

02:45 AM

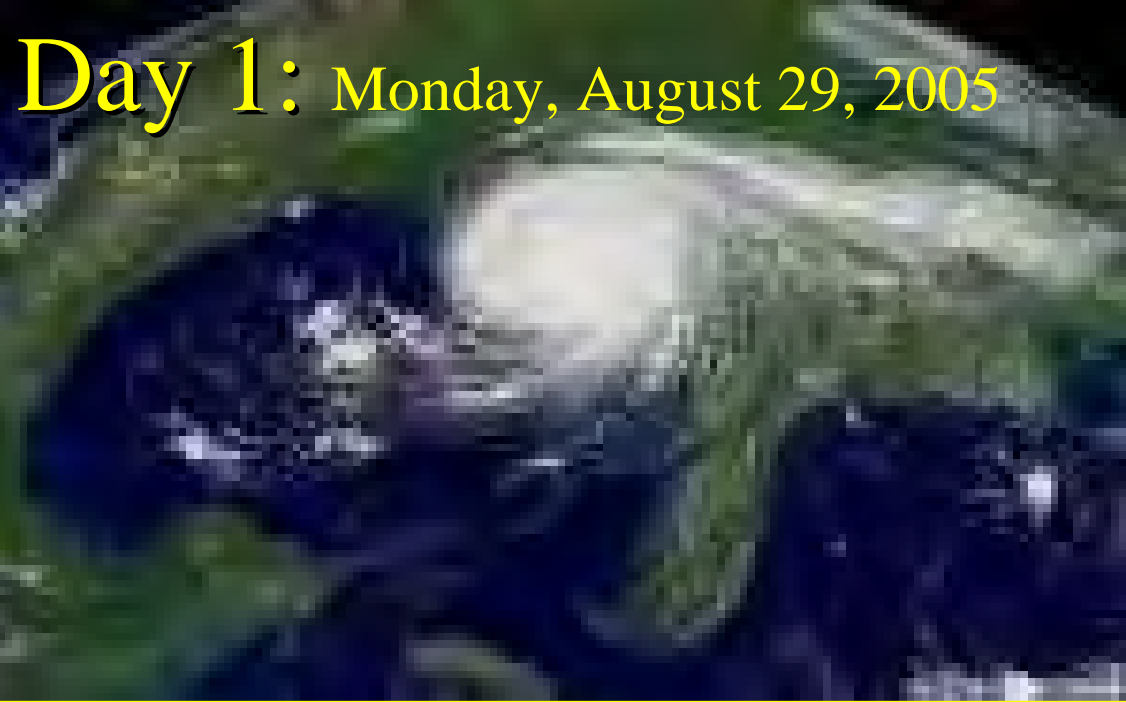
Several hours before landfall

- **Heavy rain**
- **Strong winds**
- **Power out**
- **Internet out**
- **What else?**

CNN

“Hurricane-force winds extend 105 miles from the center of the mammoth storm and tropical storm-force winds extend outward up to 230 miles.”

Day 1: Monday, August 29, 2005



“Katrina made landfall on Aug. 29, 2005, at approximately 7:10 a.m.”

NOAA

“Plunge From Pinnacle to Primitive

In less than 48 hours we have lost every bit of technology that we have relied on to deliver highest technical level of medical care. From Robotics to light bulbs ... it's all worthless now. We are left to fend for ourselves ...”

“Inside Katrina”, ©MFMascia 2005

Day 1 Monday, August 29, 2005, Dawn

- Power out and generator: short term? Why?
- No air conditioning
- No ventilation
- No lights or electric locks,
- No Internet?
- Telephone? Till generator quits. Cell phones?? Bell South phone?
- Battery and generator dependent equipment for patient care
- Water damage

Day 1, Dawn: Generator Power Saratoga

By dawn, the eye of hurricane has not yet reached New Orleans, but strong winds and heavy rain have left their mark.



Day 1: Rain Water in the Streets



Day 1: Walk through during the Storm

Dry
Hall
Outside
OR



Day 1: Main Lobby is Intact but a Few of the Glass Panels Are Cracked.



Day 1: Water Inside OR Light Fixture ...



Day 1

Buckets
Collect
Dripping
Water in
OR
Corridor



Day 1: Early Morning

“The storm has not hit yet, that is the eye of the storm. But we have the rain and the wind ... no power, no Internet. The phones still work, because we have the generator, but they are not sure how long it will run. We are told at a morning meeting for all physicians, that phones go out when the generator fails. Meal cards are distributed at the end of the meeting ... we eat together ... announcements are made over the PA system. Pagers are not working ... Some cell phones work. Lots of confusion ... I make rounds in the ICU and verify that the patients are OK. At this point, there is no talk of evacuation and we go about our business ... waiting.”

“Inside Katrina” ©MF Mascia, 2005

- Morning meeting
- Generator
- No power
- No Internet
- Phones till generator fails
- Meal cards
- Food in cafeteria
- Eat together
- PA system
- No pagers
- Cell Phones: Sometimes

Cell phone: Text Message System Working
10:08AM
Text Message out: (to friend)
You ... are too much.
going to make rounds.

Day 1: After Breakfast



Faculty and Residents:
Weary, but still
in good spirits ...



Day 1: Keeping It Light

While Watching the Storm

“If they can’t get it right when things are calm, why would they get it right in the middle of a disaster?” MFM

Still laughing and joking.

Day 1

Early

Morning:

- Rainwater behind Hospital
- None on Tulane Avenue



Rainwater (note the clarity) fills the street behind the office. At this time, there is no flooding on Tulane Avenue.

Monday: Day 1 Briefing

Storm has passed. Thinking we have dodged a bullet.

“Meeting after the storm passes through: Status of the building/situation report to medical staff after storm. Generator power, some OR capability, land lines will work till generator fails, so laptop will allow me to connect to Internet. Some are thinking we have been through the worst of it.”

“Inside Katrina” ©MFMascia, 2005

One surgeon asks,
“Can we accept referrals from outside hospitals now?”
(Katrina Madness?)

“We keep it light ... mocking them and laughing at the absurdity of it after the meeting ... still feeling fairly safe and comfortable.

Return to our area after breakfast. Secure the water and other stuff in one of the locked offices and string an extension cord from the OR to the refrigerator. Assume generator will go out, so freeze as much of the water as we can while we wait. Transfer some of the frozen water to my cooler.

Without power, the magnetic locks on the doors do not work. Security is a real issue ... a real concern. Rumors of looting and shooting travel fast. Pulse of fear now quickening.”

“Inside Katrina” ©MFMascia, 2005

Day 1: Morning

- Security
- Refrigeration
- Fear
- Power in OR
- Cooler
- Rumors travel fast
- Limited facts
 - ✓ Looting
 - ✓ Shooting

Day 1: Monday, August 29, 2005, 12:48 PM After the Eye of the Storm Passes Through

Surveying
the damage
to my
vehicle(s)—
none.



Day 1: Survey After the Storm

Walking is an option on Tulane Avenue ... but, not on the streets behind Tulane University Hospital.



Flooding on LaSalle Street, looking toward Canal Street—
This is rainwater, and it is quite normal to see just about this
much water after a very heavy rain.

Day 1
12:53 PM
August 29



Tulane Avenue



I-10 RAMP



Police Car

Monday, August 29, 2005, P.M.
Katrina has passed.
Tulane Avenue in front of Charity Hospital and Tulane University Hospital is dry.
Access to I-10 is just up the street. The ramp to the highway is dry and open. Note police car driving up east bound ramp.

Access to I-10: Land Evacuation Opportunity



Day 1

Dry Streets

Monday after the Storm

Military vehicles have no problems negotiating the city streets as they make their way delivering folks to the “Superdome.”





Charity
Hospital

Day 1: Surveying the Damage ...

Monday
12:56 PM

Tulane
Medical
School



Day 1

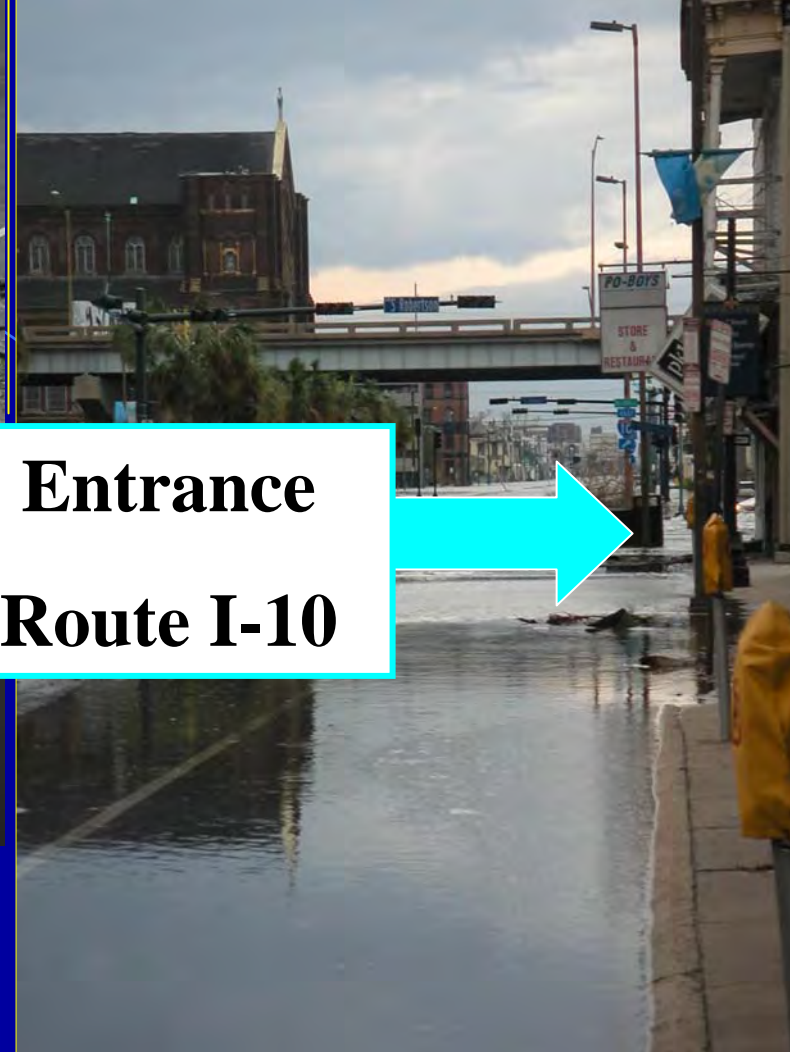
Monday afternoon

August 29, 2005

17:38 Hours

View of
Charity
Hospital
from the
ground





**Entrance
Route I-10**

Monday afternoon traffic on Tulane Avenue. Green arrow on right shows entrance to Route I-10, which is accessible.

Day 1: Late Afternoon—Ground Evacuation Still an Option

Day 1

Tulane Avenue

What a difference a
block makes ...



LaSalle Street Biker

Day 1: 17:52 Hours: Streets Still Dry

Monday,
August 29,
2005 17:52
Hours

Calm after the storm? Minimal flooding on Tulane Avenue, immediately after the storm, allowed ample opportunity to evacuate by land. This flooding was caused by rain.



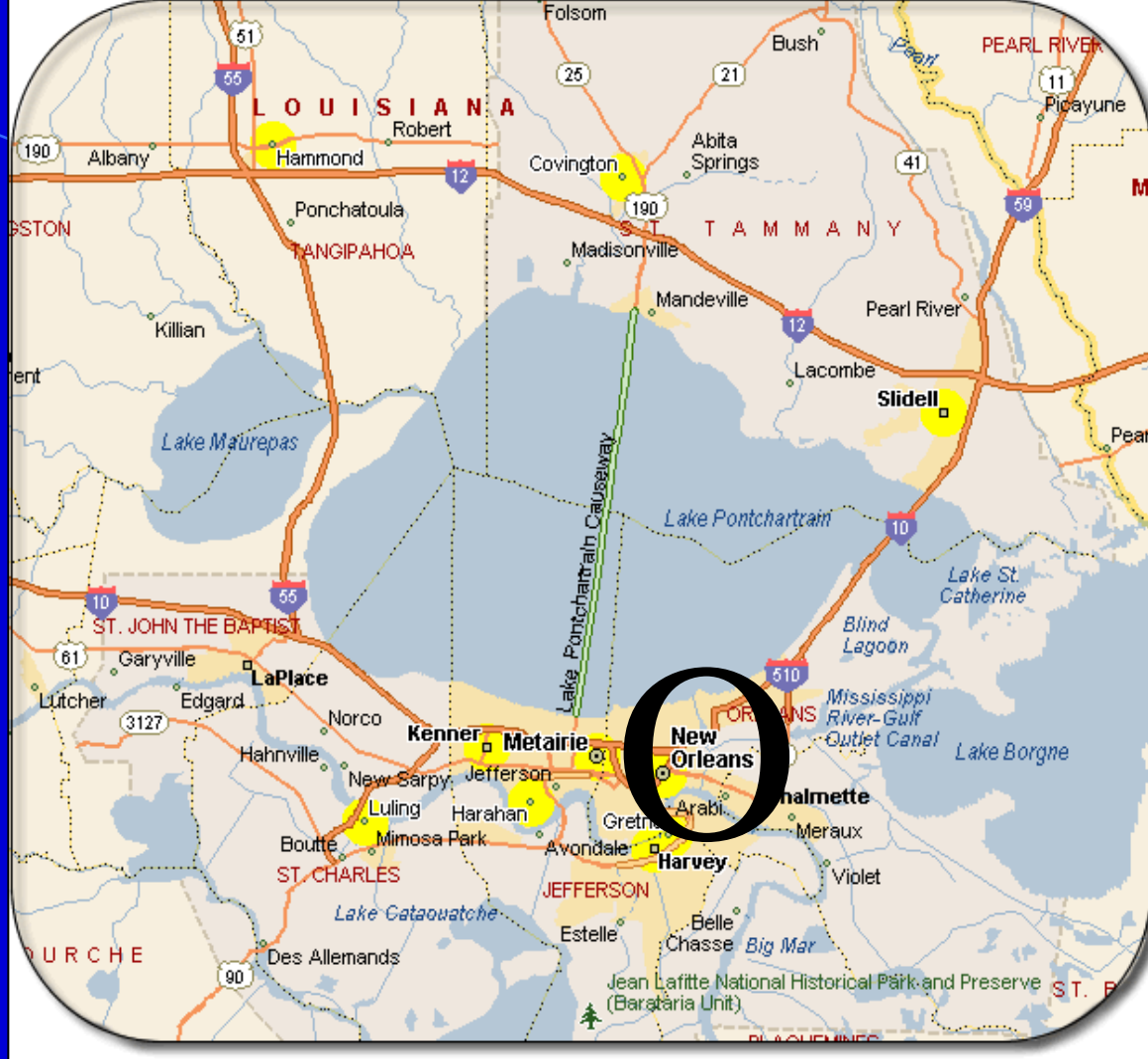


Day 1: 17:52 hours

- Time to eat
- Opportunity to evacuate
- Tulane Avenue (top left)
- Streets behind TUMC
(right)

Monday, August 29,
2005

Bridge on Route I-10
East was destroyed, but
land evacuation could
have been facilitated by
driving West on the East
bound lane. Entrance
ramp is a few hundred
feet north of the hospital
on Tulane Avenue.
After listening to the
radio and talking among
ourselves, we came up
with a land route for
evacuation.



Day: 1 FRUSTRATION
Nothing is happening!

What would you do?

Monday,
August 29, 2005

text message
out at 8:20 PM

“will call
from land in a
few
Why no
mosquitoes?”

Inside Katrina”
©MFMascia, 2005

Day 1, Monday

August 29

8:20 PM

Note:

- Land Line
- Text Message
- Lack of mosquitoes

Mission Survival: Fundamental Disaster Preparedness Checklist

Day 1 Report Card (my view) Total Score = 1.5/12

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 1.0
9. Purchase Equipment and Supplies (shelter, food and water) 0.5
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

Day 1 Report Card

- **Survival Strategy— Who knows?**
- **Service Strategy—None**
- **Exit Strategy—None**
 - ✓ **Missed chance for ground evacuation!**

Tuesday: Day 2, August 30, 2005

Early wake up ...Flooding

Tuesday

August 30, 2005

12:32 AM

Awakened by TW tapping on my door and saying, “The water is rising. They say there is a breach in the levee.”

“Day 2, Flooding
Tuesday, August 30,
2005

Flood waters appear
with the dawn.

Meeting all medical
staff. Decision to
evacuate made early
in the day. Who
makes the decisions
and how? When will
we evacuate and how?
Meeting before
breakfast, lots of fear
and confusion. The
pulse is rapid and the
place now throbs with
fear. ...

Day 2: Morning August 30, 2005

- Flood
- Meeting
- Evacuate ... How?
- Who makes decisions?
- Leadership?
- Fear
- Confusion



... No working systems?
Generator and Phone still working? Can't run generator if water gets too high ... water intake will destroy generator.
Decision to evacuate made at some level. Plan has not been devised.
Meeting ends with distribution of meal tickets.

Move ER to 3rd floor, food to 4th floor, Pharmacy out of 1st floor. Walk down stairs to breakfast, the last meal on the first floor ...

Day 2, Morning

- Generator on street level
- High water will destroy generator
- No evacuation plan
- First floor operations out of commission

... large crowd of people ...
who are they? ...

... Walk through sewer water to
get breakfast ...just a little bit ...
feet get a bit wet. Make sure to
clean feet with alcohol when I
get back upstairs. Wish I had
bleach. Couple of the guys try
the elevator on the way back
upstairs ... I walk. They meet
up with me later. Elevator door
closed, went up a few feet and
back down. Luckily, just a few
feet and the door did open when
they got down again. Cable
slipping because of the water.

...

Day 2, Morning

- Crowd control
- Flood water on first floor of hospital
- Sanitation
- Elevator failure

... Water rising ...
[radio] talk of
plugging the leak in
the levee, dropping
huge sand bags from
helicopters ... all
attempts fail. All
systems failing.
Poor communication.
Rumors of killing,
and looting in the
streets.

**Still no mosquitoes
and no red ants?"**

"Inside Katrina"
©MFMascia,2005

Day 2: Morning Concerns

- **Emergency Radio**
Importance
- **Security**
- **Safety**
- **Infectious Disease (ID)**
spread risk?
- **Rumors**
- **Communication failures**

Day 2

Tuesday Morning:
Remains of
breakfast (pancakes)
reflect in the glass.
Watching flood
waters ... man, head
covered with wet
towel for cooling,
stumbles along on
sunken debris.



- Last hot meal
- Stumbling on flooded sidewalk

Day 2: Tuesday

August 30, 2005

05:52 AM

- Missed evacuation opportunity
- Emergency radio

>> We get together for “meals” and hover around the radio for news ...

local folks calling in for rescue and to provide information.

Have emergency radio ... am, fm, sw, battery and crank operated.<<

“Inside Katrina” © MFMascia, 2005

Disaster Preparedness
©MFM106IHS



The difference a day makes ...

Day 2, Tuesday, AM

Summary/Problem List

- Power limitations/generator
- Ventilation/air conditioning limitations
- Communication failures
- Lack of evacuation plan
- Rumors
- Security and Safety
- Elevator failure
- Emergency radio importance

Day 2

Panic, fear, and other forms of dysfunction. Workers become a liability.

Avoidable problem!

- Faculty member
- Recent MI and angioplasty
- Panicking
- Distorted thinking (the flood waters will continue to rise without limit)
- Inconsolable: cannot be convinced that we are safe.
- We get him on the list for evacuation ASAP. ...



Tuesday Morning Looting

Day 2

Faculty/Staff

- Panic
- Other Dysfunctions

A few others are **starting to fall apart** for various reasons, and there appears to be no reason why the staff, residents and faculty should not get out once we have evacuated all of our patients. We have never been contacted about accepting any additional responsibilities ... voluntary, or otherwise. We make no effort to convince anyone to stay, but most of us agree to stay until all the patients, staff, and residents are out. Many are **repeatedly disappointed** by the lack of communication and slow progress toward evacuation.



Tuesday Morning Looting

Day 2, Tuesday



August 30, 2005, 06:50 AM
The first helicopter, street walker ...
Flood waters now preclude land vehicle
evacuation. Evacuation restricted
to boats, amphibious vehicles
and air. Elevators do not work with
wet cables so we have to carry patients
down the stairs for evacuation.





- Elevator Failure
- Carrying Patients
Down the Stairs
for Evacuation



Day 2
Tuesday
August 30,
2005
08:16 Hours



Tulane Avenue Entrance to Charity Hospital

Disaster Preparedness
©MFM106IHS

Day 2

Issues Raised: How will we provide service?

Failures and Problems Identified

Failures

- Ventilators
- Pagers
- Elevators
- Telephone
- Internet
- Electronic records
- Data access
- Patient care
- Evacuation

Problems

- Communication
- Control
 - Security/Safety
- Coordination
- Machinery
- Manpower/Personnel
- Money



Day 2
09:37 Hours

“Still, brown waters from Lake Ponchartrain ... slowly fill this basin called New Orleans ... surrounding and filling ground floors of the buildings reflected ... buildings rendered useless in the wake of Katrina.”



Mission Survival: Fundamental Disaster Preparedness Checklist

DAY TWO REPORT CARD (my view) Total Score = 1/12

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 0.5
9. Purchase Equipment and Supplies (shelter, food and water) 0.5
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

Day 2 Report Card

- **Survival Strategy**— Who knows?
- **Service Strategy**—None
- **Exit Strategy**—To be determined

Wednesday, 2:04 AM, First note

>>August 31, 2005, 2:04AM

New Orleans, Tulane University
Hospital

Awakened @ about 1:30 AM. Don't know why except went to bed early, between 8-9 PM. No power, no generator, no lights.

>>Reflections ... Not much to stay up for. No computer, no Internet, no phones, no air conditioning, nothing works ... went to sleep with headache, with nausea and indigestion. Probably caffeine withdrawal or red beans from dinner (cold ... from a can). Now (headache) gone. <<

Day 3

- Headache
- Nausea
- Cold food
- Hot & humid air
- No ventilation
- No lights
- Generator out
- Primitive conditions

... Confined to quarters, that is my office, voluntarily, in order to avoid disturbing everyone else.

No ventilation, hot.

Sweat drips off me.

Grateful she passed us a little to the east so flood waters came up slowly yesterday, not during the peak of the storm.

Fortunate to be with the best folks in these close quarters, to be dry, to have food and water, and to be in familiar territory.

Learning to live in hot, unventilated, building with locked windows and no air conditioning.

<<at this point I am learning how to stay cool with no air circulation, but conditions are not good. No more luxury ... none.>> ...

Day 3: Security and Self Defense?

Security: The guards let me go out to the garage, but they want me to stay in their sight ... they are concerned about my safety, but not worried at this time. We all believe that people are walking into the hospital from the streets through the garages, because the hospital is rapidly filling with people ... who claim to be a member of one family or another. We had previously secured our own area when the locks failed. This was done as a joint effort on Monday ... with few words, we took silent signals from each other. It was smooth, quick, effortless and necessary. **What about weapons?**

Day 3: 4:05AM Note

Wednesday, August 31, 2005 4:05 AM

Saratoga Street Garage (No ... I think it was LaSalle Street Garage, but I must have been confused at the time)

Could not get back to sleep so found my way to the BR then down to the 2nd floor after a stop in the ICU. It's all darkness there, as it is throughout the hospital – black, still air, thick with moisture and stench in some places. The unit flickers with occasional flashlight. I found a nurse, one of the old timers who is watching two patients ... the only two (CC patients) left ... one on a dopamine drip, the other stable but too big to carry down the stairs in the dark. They (patients and nurses) are OK. ...

Day 3: Security, Ventilation, Cooling, Sanitation, Infectious Diseases

Wednesday, August 31, 2005 4:05 AM (*cont.*)

Walking is cooler than staying still. Found the guards on the second floor outside the door where bridges connect to the medical school and LaSalle Street Garage. They, 3-4 are heavily laden with shotguns, pistols and rifles. Now at the garage side of the bridge. Has light from the generator that hums in the background. Hot, but occasional breeze feels cool compared to my room. Unusually clear star-filled sky, light in the med school lobby and a few of the med school windows reflecting on still waters – floodwaters. A parked car standing in window deep water lighted by the garage as is the Tulane Avenue sign on the corner. ...

Day 3: Concerns →

Wednesday, August 31, 2005 4:05
AM (cont.)

... Chopper flies overhead.
Streetlights dark.

Breeze picking up feels good against
skin covered with sweat.

These papers are full of moisture.

Survival conditions now – no luxury
on this Day 4 since my arrival
Sunday afternoon. Starting Day 3
after Katrina's arrival.

Behavior is interesting with fear
showing itself in many ways. (Facial
expressions close to tears and
irrational thoughts are more common
now.)

- Security
- Ventilation
- Cooling
- Sanitation
- Infectious diseases
- Fear
- Sleep deprivation

Day 3: Security, Ventilation, Cooling, Sanitation, Infectious Diseases, Fear, Sleep Deprivation, Communication Failures

Wednesday, August 31, 2005 4:05 AM (cont.)

... Sky over med school starting to lighten with dawn. Ants scurry about the light gray painted floor I stand on. Wondering if they are fire ants, checking my feet. Our meetings have been as expected – very odd ... especially the physician questions and expectations. More light in the sky. Time to stop ... paper getting soft and wrinkled.

Still no mosquitoes??? Why? And where are the red ants? ...”

“Inside Katrina” © MFMascia, 2005

I think to myself, “We are fortunate that the flood waters are salt. Otherwise we would be swarming with mosquitoes and that would add to the misery and risk of infectious disease spread. As for the red ants, again we are fortunate, because their bites would readily become infected in these unsanitary conditions.”

Can you believe this?

August 31, 2005 10:13 AM

Text message in

Message from:
900080003496
VZW FREE MSG.
Your VZW bill is
ready to view on-
line. Your current bal
is \$193.98.
For acct ending 6504.
Visit verizo
nwireless.co
m or dial
#PMT SEND to
pay.

Day 3: Communication Failures?

(First angry then laughing at the irony, and ignore it for now, thinking, “They can get a message to me about the bill, but I can’t use the ***** phone. *****. Something wrong with this picture.”)

“Inside Katrina” © MFMascia, 2005



Day 3: Wednesday, August 31, 2005, 13:10 Hours Elevators Out Lug Patients down Stairs

Not much going on ... waiting for evacuation ... watching ... listening.
Most of the Tulane University Hospital patients have been evacuated.

“The day is spent evacuating patients and all activity stops with darkness. Inner sections of the hospital are dark, even during the day. Using flashlights and ambient light from open doors to move patients down stairs.

These are the stable patients ... most of the other patients are out of there. Residents and faculty participate in the process ... difficult to take patients down dark tight staircases. All elevators out ...”

“Inside Katrina” © MFMascia, 2005



Day 3: Security

Makeshift heliport on roof of Saratoga Street Garage: Lights were taken down to accommodate the helicopters ... after the event. It was the only heliport available in the area ... crude but functional. There were reports that rescue helicopters were being shot at from the ground ... delaying evacuation efforts.

Day 3: Wednesday, August 31, 2005

13:11 Hours

Evacuation Logistics Problems:

Planning – Command - Communication
Coordination - Control/Security

Transportation and Safety:

- Up, down, and out of the hospital?
- Where and how to go?
- How to get patients down from beds to second floor for transport to the garage?
 - roof of garage
 - ramp of garage
- How get and coordinate transportation out?
- How to get beds at outside hospitals for patients?
- How to safely transport patients throughout?

Our Evacuation Plan

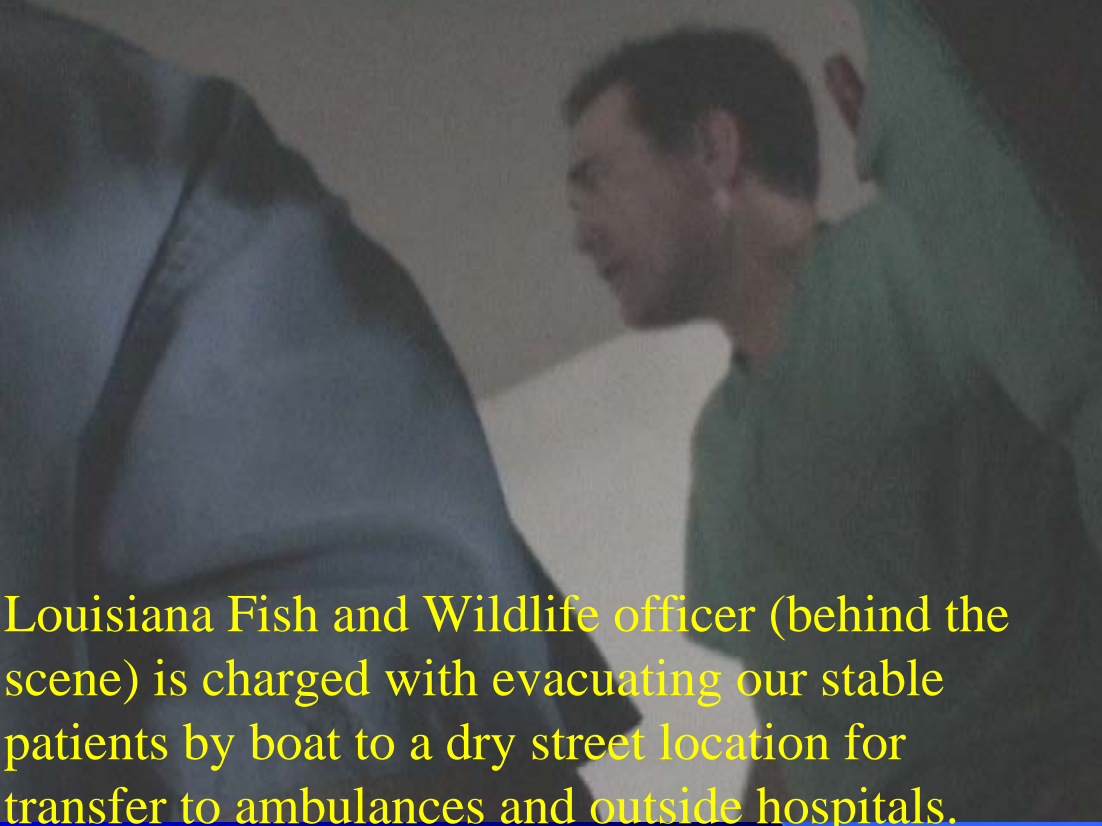
Day 3

Wednesday

August 31, 2005

16:26 Hours

- Security
- Exhaustion
- Heat
- Sleep deprivation
- Limited food
- Primitive conditions
- Concern and worry
- Confusion
- Orders?



Louisiana Fish and Wildlife officer (behind the scene) is charged with evacuating our stable patients by boat to a dry street location for transfer to ambulances and outside hospitals. Tulane patients are gone now. **This man** (wearing a bullet proof vest and handgun) was determined to get us out, but orders from “above” were inconsistent with his plan. He was obviously disturbed because he wanted to stay and get us out. We had no plans to leave until all the patients were evacuated.



Day 3

Wednesday

August 31, 2005

16:33 Hours

- No City Police
- No troops
- Disorder
- Chaos
- Violence?



Conditions Deteriorating Rapidly:

Where are all these people coming from? Crowding, lack of running water, no toilets, easy access to the hospital via garage ramps on both sides of the facility will allow thugs and other folks from the street to enter. Noise, sleep deprivation, disorder, lack of city police and troops on the ground, looting and rumors all contribute to the general sense of anxiety and fear. Rumors ... shootings on the streets, attempted helicopter hijacking, random violence ...



Day 3:

Wednesday

August 31, 2005

16:34 Hours

Security

We are happy to have Tulane police wearing the big guns.

“...Find a way to take a cold shower in the Doctors’ Locker Room despite the stench. Red bags and kitty litter are there for bowel and bladder management, because we can’t flush the toilets. Some light from the skylight is transmitted through open doors so we take turns with the one shower and get by.”

“Inside Katrina” © MFMascia, 2005

Day 3

- No Power
- No Lights
- No Elevators
- Cold Shower
- No Toilets
- Red bags & Kitty litter

“Wednesday Night

Searching for a cool and secure place to sleep ... finding relatively cool air in one of the other sections of the anesthesiology department, we make efforts to secure that location. Locked in ... including the corridors, I set up a stretcher in the hallway between the operating room and the large office where most of the others sleep. My guns are in my office, but we are quite secure in this area ... the operating room doors are locked and corridors on the other side of the operating room are closed and chained. Our corridor is also locked. Too much effort for someone to break in and for what purpose other than drug seeking? Soon after the move, we discover that the cool air has become just as warm as that in the area we used previously. Clearly, it is the body heat ... body heat and no ventilation warms the air.

Meetings are almost worthless ...

Rumors, it is all about rumors.

Still no mosquitoes?”

“Inside Katrina” © MFMascia, 2005

Day 3:

- Security
- Seeking cooler air
- Secure sleeping area
- Handguns
- Self defense
- No ventilation
- We secure our area
- Locked in
- Rumors

Mission Survival: Fundamental Disaster Preparedness Checklist

DAY THREE REPORT CARD (my view) Total Score = 1.5/12

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0.5
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 0.5
9. Purchase Equipment and Supplies (shelter, food and water) 0.5
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

Day 3 Report Card

● **Survival Strategy—Uncertain**

Work In Progress: We have water, food, shelter, limited communication devices, unknown command structure, limited security, and limited ability to meet sanitary needs

● **Service Strategy—Little to None**

● **Exit Strategy—Uncertain**

Work In Progress: Patient evacuation strategy seems to be uncertain, and provider/family evacuation will follow?

Day 4: Communication Failure

“Thursday, September 1, 2005,

Text message OUT

to Verizon

09/01/2005 10:53AM

I am in new

orleans

serving

casualties.

can't pay

now.”

“Inside Katrina” © MFMascia, 2005

My response to the earlier Verizon text message asking for money. Cell phone works sometimes, text messaging more often than voice.

Day 4: Security, Communications, Fear, Lack of Sanitation, Rumors, Limited Food, Bizarre Behavior, Hostage Situation?, Command Structure?

“Conditions Deteriorating Rapidly

Security concerns ... *fear* so thick you can cut it with a knife ... affecting decisions. In fact, it seems as if all decisions are fear based. Behavior of “leaders” is sometimes bizarre. During evacuation of patients yesterday, rumors circulated about a “hostage situation” on the roof. **Poor communication** ... at best ... lots of shouting, no bull horns, no megaphones, no two way radios, no walkie talkies, no cell phones, no land lines, no running water, no toilets, no showers ... we do have some “food” and plenty of water.

Rumors rampant ... about looting and thugs shooting people ...

Thugs looking for drugs, food, water might try to get into the hospital. We all know it, but we don't talk about it. Easy access via garage ramps and stairways, so we know that we are vulnerable to gangs, if they choose to seek goods here. ...

“Inside Katrina” © MFMascia, 2005

Day 4: Security, Communication, Fear, Lack of Sanitation, Rumors, Crowding, Stealing Food and Water?

... Hospital is too crowded. Families of workers and patients are now staying here. Conditions in the nearby hotel across LaSalle street are said to be very bad. Rumors of breaking doors down to take food have been circulating. Some of the folks there are families of hospital workers ... they are allowed into the hospital. Some question the “family” ties, but many are let in as family members. Too many people here from the medical school. They have nothing to contribute to patient care ... should never have been here, but they are here and now they consume essential resources and make security more difficult.”

Day 4

Time to go?
Not yet.



- Moved to Garage for Security
- Evacuating Critical Charity Patients

Day 4: Fear, Fatigue, Security, Hunger

Thursday

September 1, 2005

07:52 Hours:

Charity Evacuation Day?

Do we get out today?

Everybody is ready to go!



Hole in Roof: Medical Center Building

(as seen from Saratoga Street Garage)

Cause: brick wall falling from adjacent building

We (all of us) have been moved out of Tulane University Hospital in a panic, for “security” reasons.

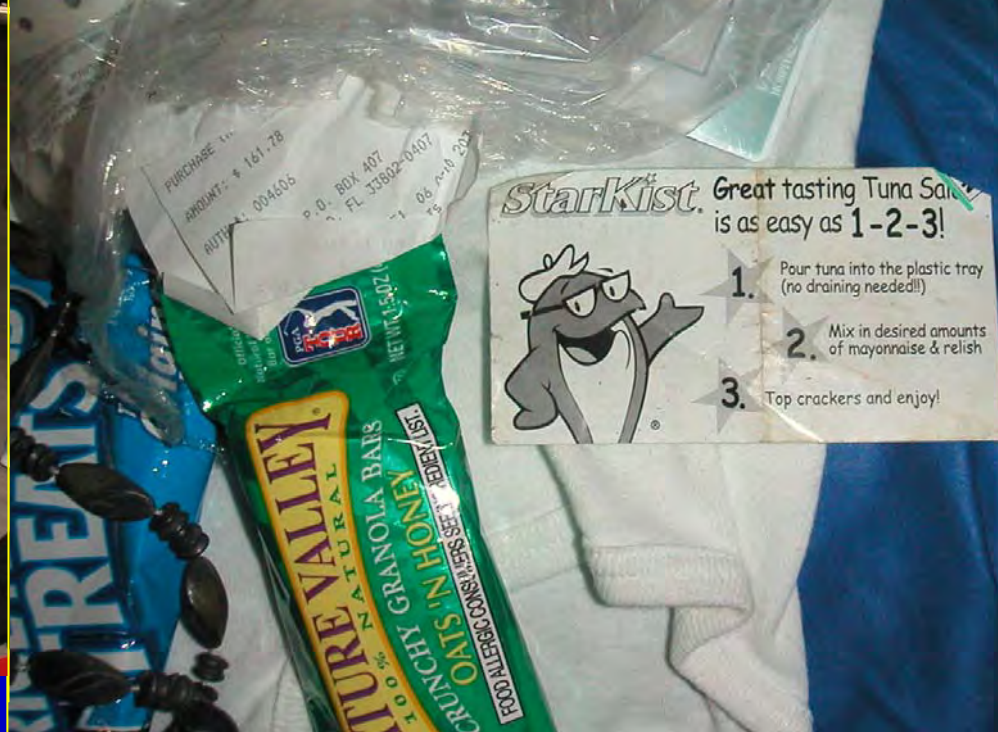


Day 4: Who to evacuate and when?

Once we had completed evacuating Tulane University Hospital patients, the Critical Care Patients from Charity Hospital started to show up. They were brought to the entrance ramp by boat and large land vehicles, up the ramps on trucks from inside the garage to be evacuated via our makeshift heliport on the garage roof.

Another decision was made (by whom?) ... that all patients would be evacuated before any family and staff evacuations. An effort was made to get our sick and troubled staff out earlier.

Day 4



- StarKist. Great tasting Tuna Salad is as easy as 1-2-3!
1. Pour tuna into the plastic tray (no draining needed!)
 2. Mix in desired amounts of mayonnaise & relish
 3. Top crackers and enjoy!

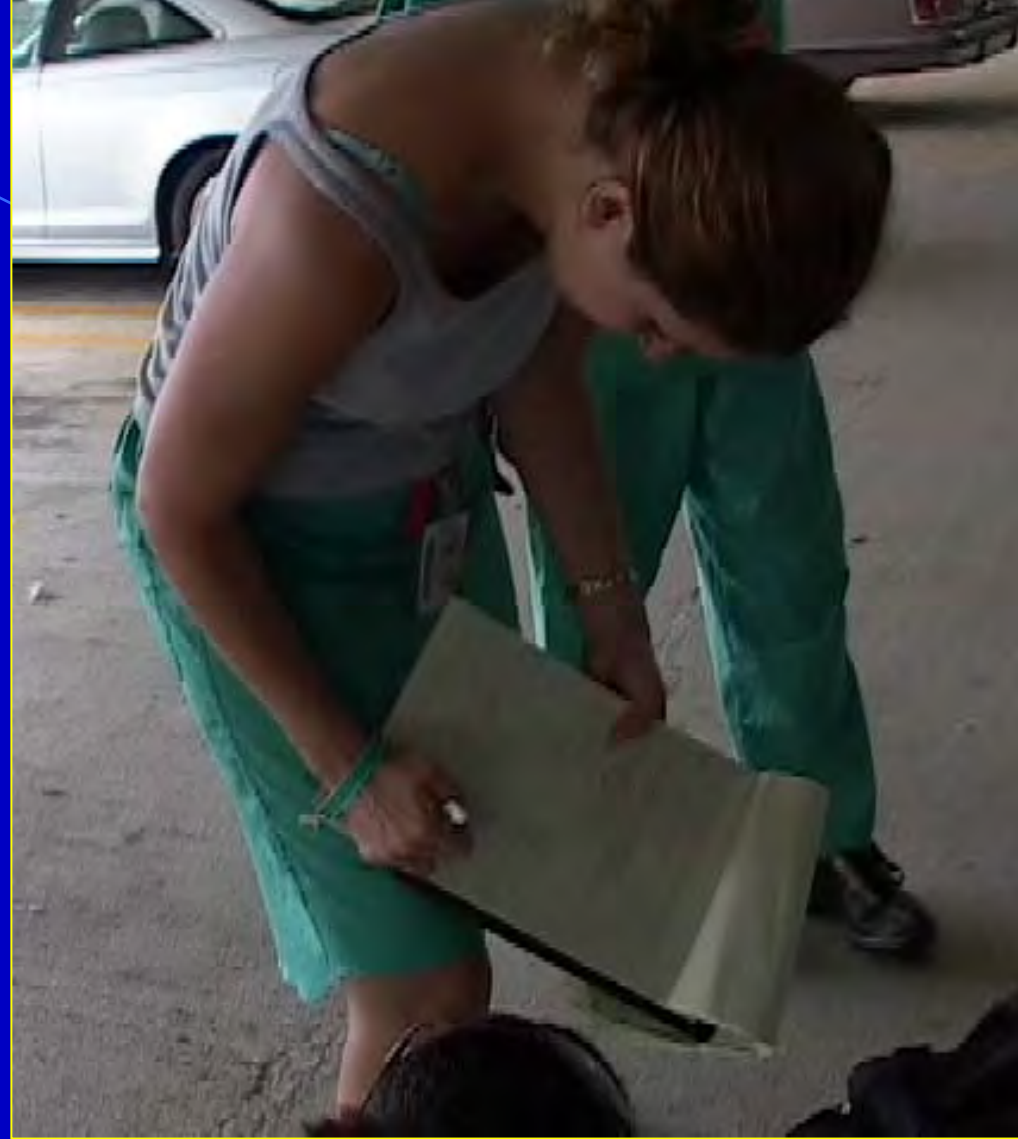
Rations and Survival Gear:
Granola bars and water are now the routine survival food. Water is most important and granola bars have somehow become remarkably delicious ... if you chew them very slowly. Tuna from StarKist has taken on a whole new meaning.



Day 4

08:14

Signing up to leave
while waiting for
Charity patients
and helicopters for
evacuation of the
patients.



Day 4
11:59



Critical Patients from Charity Hospital: Waiting for Helicopters

“Evacuating Charity
Hospital ICU patients
today ... why? Guess
Charity could not come up
with a better plan. We do
not know ... there is no
information ... no central
posting place for infor-
mation ... no communica-
tion devices ... lots of
fear. The whole thing
seems to be driven by
fear. ...

Day 4

- Fear driven?
- No Charity plan
- No information
- No reliable
communication
devices
- No central command
- No central
communication or
posting area

Day 4

11:59 Hours

- Records
- Equipment
- Pumps
- Suction



Minimal equipment to take care of these patients. We do the best we can under these *primitive conditions*.

Day 4

“One by one, they collect on the 6th floor ... a pathetic sight ... on stretchers, intubated, tracheostomies, hand ventilated, intravenous fluids hanging from beams and posts ... we have no technology ... none of the stuff needed to provide critical care. We are operating in *primitive conditions* ... less than primitive, sometimes.”

“Inside Katrina” © MFMascia, 2005



Primitive Conditions

Day 4: Noon

- Hand ventilation
- Laryngoscope?
- Endotracheal tube?
- Oxygen



All ventilation is done by hand with ambu bags.
We do have oxygen and drugs, but monitoring is strictly clinical.

“I see one man who is comatose and near death. One of the anesthesiology residents is bagging him ... a nor epinephrine bag is hanging nearby, but not running. We can't run it even if we want to ...”



Day 4

12:01

- No Infusion Pump

... He is a pale black man, but now gray from shock ... diaphoretic and gray with a very weak pulse. We talk, the resident and I ... shouting over the constant noise of the helicopters and generator used to power a pump for suction and clearing the patients' airways. I ask to take over the bag. I hear, "He is going to die." I respond, "Maybe you should pick up the rate on the bag. He is probably hypercarbic. We can only do what we can do. Is this levofed supposed to be running?" "I don't know.", he says. "Well, we can only do what we can do. I don't think he would make it under the best of circumstances." I take over the bag for a few minutes to give Rick a break. He comes back and picks it back up. I walk away to check on some of the other patients and returning later, find the sick man gone. He died and was moved back down to the first floor. They don't put him in a body bag till he gets to the lower levels where he will be out of sight of the patients, workers and families (including young children)."

"Inside Katrina" © MFMascia, 2005

Day 4

“Another resident calls to me while on the way up in a truck with another patient. “Dr. Mascia, this man needs to be intubated.” ...



... I walk over to check the man as a crowd of residents hovers around this guy ... an elderly man, struggling to breathe and blue from hypoxemia ... they are suctioning him with the makeshift suction working off the generator. Shouting over the noise of the thing, “Let’s watch him for a while”, and ask one of the other residents to get me a laryngoscope and endotracheal tube just in case. Eventually, they get me the stuff, and I go back to evaluate the poor man. He is still struggling, so I make a decision to intubate him. Kneeling at his head on the pavement he lies on, and telling him what I am doing, because he is awake, and we proceed. He opens his mouth to let me slip the cold metal blade over his tongue ... very gently ... he does not fight me, because he knows I will help him ... I see the vocal cords ... place the tip of the tube near it ... can hear the air exchange through the tube ... but it will not slip in ... I hear him breathing around the tube and take it out. Trying again ... this time more patient ... some moron shouting over me ... “Are you all right? Are you all right?” I ignore him and hear one of the surgeons say, “He is an attending anesthesiologist, he’s OK. ...”

“Inside Katrina” © MFMascia, 2005

... “Waiting, for inspiration (a breath, that is) ... gentle pressure, it slips in ... inflate the cuff and secure it, then say, while struggling up from that awkward place, “I hate doing it on the pavement.” The crowd that has gathered laughs, and one of the nurses says, “Maybe you will learn to like it.” Later, I see the screamer who was yelling over me, now supervising the adjustment of the tape on the tube. He could not leave well enough alone. Checking again later, now hand ventilated with oxygen, the old man is more bright, pink and stable ... waiting, like all the others for his helicopter to come in.”
“Inside Katrina” © MFMascia, 2005

Day 4:

Intubation

2:39 P.M.

We eventually find the equipment I need for the only technical intervention I make during the entire disaster.



“Finally we get them all out. A Chinook comes in and everyone cheers its arrival, but ... it is not our time to go.”

“Inside Katrina” © MFMascia, 2005

Day 4

3:32 PM

Disappointment



Day 4: Disappointment and Acceptance: Like rats in a cage

“So, we find ways to settle in for the night. No bathrooms ... like rats in a small cage. No cannibalism yet ... we will sleep in close proximity to our own excrement.



Text message outbox
09/01/2005 8::45PM
Air hot and thick,
still and full of the
stench of sick patients.
We are starting to smell
the same way. ...

Still trying to keep up the laughter,
“This is great if you like camping in a
sewer.” MFM

... We stink, at least I do ... I am certain of it ... starting to smell like the patients ... I think, “Is it pseudomonas, proteus vulgaris, or a combination of the two.” Careful to use the water free hand cleaner as frequently as possible ... have chlorhexidine scrub and the alcohol based stuff on the wet “rag” I have tied around my neck for cooling purposes. Been using lots of alcohol pads for keeping hands clean. No Clorox ... we should have some that we can dilute and clean ourselves with ... especially our feet, if and when we get them wet with the flood water. We have no soap and water to wash hands, or any other parts. My legs are sore ... thighs rubbing together ... sweat and all ... running around to take care of these folks.”

“Inside Katrina” © MFMascia, 2005

Mission Survival: Fundamental Disaster Preparedness Checklist

DAY FOUR REPORT CARD (my view) Total Score = 1.5/12

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0.5
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 0.5
9. Purchase Equipment and Supplies (shelter, food and water) 0.5
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

Day 4 Report Card

● **Survival Strategy—Uncertain**

Work In Progress: We have water, food, shelter, limited communication devices, unknown command structure, limited security, and limited ability to meet sanitary needs

● **Service Strategy—None**

● **Exit Strategy—Uncertain**

Work In Progress: Patients all evacuated and evacuation strategy more certain. Workers, families then docs will follow. Those with animals will go last.

Day 5

03:02 AM

- Explosion
- Fire

“Friday

Text Message Outbox

09/02/05 5:14AM

All ok. cool night under clear skies. awakened by explosion miles away. some say it is chalmette refinery.”

“Inside Katrina” © MFMascia, 2005



Day 5: •Explosion

03:02 AM •Fire

•Increased Fear

•Will fire spread over the water?

“Tight quarters in the garage ... all on the level below the roof ... very crowded and unsanitary. Light sleep on the ramp in the open air is cool and refreshing on a clear night with star-filled skies. Rudely awakened by explosions ... some thing that sounded like rocket fire and bombs. People now fear a fire will spread over the oil and gas covered waters. I don't know what to think.”

“Inside Katrina” © MFMaschia, 2005

Day 5: Evacuation Day 06:54 A:M

- All Patients out
- Energized by our prospects for evacuation
- Hopeful

“Friday
Text Message Outbox
09/02/05 5:50AM
Waiting for
dawn. all
pts out we
should be
out today” ...



Day 5: 06:54 AM Communication – Sending Signals by Example (Doing)

Sending Signals

“At dawn, we get the word that choppers are on the way, so one of the other docs and I start to pick up the loose trash that has accumulated over the days of chaos that had preceded. We have learned that the big choppers blow that stuff around even though the deck is clear above, the flying trash on the level below is dangerous. Piece by piece, we sort through the stuff and fill our bags with trash. *(continued next slide)*

“Inside Katrina” © MFMascia, 2005

Day 5: 06:54 AM Communication – Sending Signals by Example (Doing) (cont.)

Before we know it, everyone in the place is doing the same thing in the area surrounding their waiting place. Astonishing ... the signal was sent, the mission was accomplished in less than 15 minutes and everything was neat including all the empty wheelchairs, stretchers and hospital equipment ... and in order sans loose trash. It dawned on me at that moment ... the importance of leadership sending signals by **DOING**. All non verbal communication.”

Day 5

07:02 AM

Make more room ...



Smoke, no fire ...



Day 5
07:06 AM
Friday
September 2, 2005



Waiting ...



Going ...

Day 5
07:11 AM



Going ...

Day 5

08:14 AM



Going ...



Day 5

08:18 A.M.

September 2, 2005

Gone ...

Day 5: 10:31 AM

September 2, 2005

- Waiting for busses to shelters



Waiting, but exhausted and able to sleep anywhere ... even on the HOT pavement.

“Great sensitivity training for homelessness.”

MFM

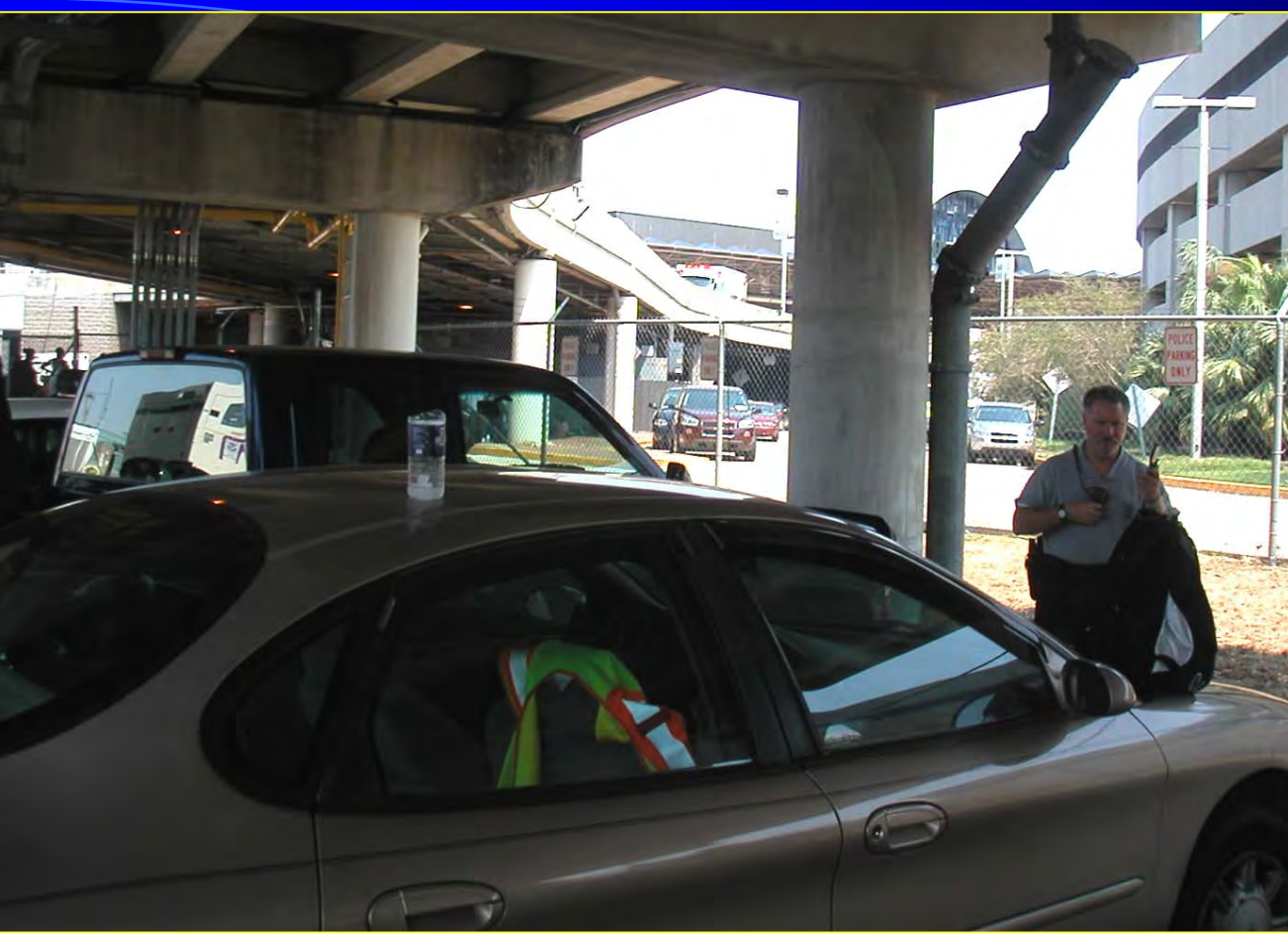
New Orleans

Armstrong International Airport

Day 5

Seeking shade
under the bridge





Day 5

Why Family
Is So
Important

Families? This police officer was very disturbed throughout the ordeal because he did not know the whereabouts or fate of his family.

Day 5



Note on Friday,
September 2, 2005

“Friday 11:49 AM

Now at the
airport (NOLA)

after our
evacuation via

Chinook
helicopter

with most of
the animals.

Helicopters and
people pouring
in here.”



Helicopters and people pour
into New Orleans Airport



Happy faces
reflect on the
glass while on the
bus to Lafayette
... refugees, but
OUT of New
Orleans ... Out of
Katrina's Sewer

Mission Survival: Fundamental Disaster Preparedness Checklist

DAY FIVE REPORT CARD (my view) Total Score = 1.5/12

1. Select Provider Team and Command (Proper Training and Health) 0
2. Verify Training and Ability of Each Provider Team Member 0
3. Verify Preparation of Provider Team Families 0
4. Verify Preparation of Each Provider Team Member 0
5. Select Support Team (Knowledge, Skills and Health) 0.5
6. Verify Preparation of Support Team Families 0
7. Verify Preparation of Each Support Team Member 0
8. Select Proper Equipment and Supplies to meet objectives 0.5
9. Purchase Equipment and Supplies (shelter, food and water) 0.5
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies 0
11. Practice, Drill, Practice, Drill, Practice till you get it right 0
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly 0

Day 5 Report Card

- **Survival Strategy**—Accomplished
Work In Progress: Evacuated
- **Service Strategy**—None
- **Exit Strategy**—Evacuation to Shelter –
Mission Accomplished: No known casualties attributable to Katrina among our population at risk. This despite primitive conditions, lack of planning, large crowds, and equipment failures.

After Evacuation: Remember

- Shelter and Support
- Decontamination
- Decompression
- Debriefing
- R & R

“Notes from Saturday,
September 3, 2005
10:09AM
Lafayette Airport
***** Morons

That is my bottom line assessment after the last few days we have been through. I thought of Dante’s *Inferno* but don’t know the book well enough to quote it, but levels of hell from bad to worse continued day after day. ...

This is Day 6, Day 5 after Katrina ... what a bitch she was.

Yesterday, I don’t really know what time it was, we were evacuated after all the patients, then patient families, staff and staff families. We went out on a Chinook with some of the animal people and the last few came shortly thereafter. So, chopper to NOLA airport then bus to Lafayette (SW Hospital) after a fairly long delay for decontamination, that is throw away shoes (damn it, my good sandals from Key West) before we get on the bus.”

“Inside Katrina” © MFMascia, 2005

A few thoughts After Evacuation

- More Layers of Hell?

NO!

- Heroes?

No! Just doing our job!

“As I get on the bus ... while waiting around under bridges, lying on pavement ... napping on pavement ... I try to keep it light and say, “This is good training to be a street person, eh?”, but I have a nightmare thought, that I share with Angela as soon as we get on the bus. My nightmare thought ... the shelter will be the superdome ... deeper into hell ... No, that did not happen. We were out of hell.

We get to the hospital, waiting our turn to get off the bus ... our turn to decontaminate. While waiting, a man gets on, brings us water and snacks, and later a woman ... they offer us drinks ... the man explains what is happening, asks us if we are the group from Tulane University Hospital, and he takes a sip of water ... gets choked up and tells us we are heroes. I think, “Hmmm ... we were just doing our job”. The happy, loving, smiling folks from Lafayette, return again and again with snacks, water, and good words.

“Inside Katrina” © MFMascia, 2005

After Evacuation

- Clean running water
- Hot shower
- Shave
- Clean clothes

“Finally, off the bus, bag all our stuff, go into the hospital, shower, shave, new underwear, scrubs, sandals (the cheap slip on foam ones), throw away deodorant and toothbrush ... ah shower ... soap, shave, brush teeth ... clean water ... **CLEAN RUNNING WATER**. They want us to move fast, but it is difficult to rush out of the water.

Anyway, on with the new scrubs, then off for a Tetanus booster (which I take) and antibiotics (which I do not take) and they send us to line us up again for busses to a shelter.”

“Inside Katrina” © MFMascia, 2005

After Evacuation and Before the Shelter

- Greeting by P.W. – Fine Leadership by Example
- I am speechless and dumbfounded by his presence

“On the way out of the hospital, I am greeted by a familiar man ... the voice in my head saying, “I know this man. Who is this guy?” Finally it dawns on me that it is PW, the big boss of the Tulane University Health Sciences Center. He shakes my hand and surrounds me with a hug ... he seems genuinely happy to see me and tells about all the efforts that have been made already to keep things going for the Medical Center. Almost brings a tear to my eye ... I am virtually speechless. He is the only person I have seen from top-level executive leadership of the University or Medical Center. I am pleasantly surprised to see him ... very much so. Off to the bus again on the way to the shelter, after a few seconds of listening ... dumbfounded.”

“Inside Katrina” © MFMascia, 2005

Gone fishin' ... my kind of debriefing.



Afterthought

I ask myself, “Has the disconnect between the government and the people ever been more readily apparent?” And ... it continues ... on every level as we speak today, June 11, 2006. This remains a broken city; broken people, broken families, broken communities and a broken government, with broken houses and trash at just about every turn. Yet, there is hope and even some optimism. Things are always better in springtime.

MFMM

Now, On to the Nuts & Bolts

In Part 1 of this presentation, you have seen and read "Inside Katrina" in an abbreviated format. The story illustrates Disaster Preparedness *failures* at every level: individual, family, community, business, local, state and federal government. Furthermore, it illustrates the need for Comprehensive Disaster Preparedness that does not rely upon a government bailout.

Preview of Part 2

In Part 2, Development of a Comprehensive Disaster Preparedness Plan, we will focus upon development of a disaster preparedness plan that is primarily designed for healthcare institutions, but readily applicable to individuals, families, and other businesses as well. Part 2 assumes that you will have seen Part 1, and that you will use available resources for background reading and preparation (See “Links and References”). Specifically, we assume that you will examine several sources and/or websites that provide specific information for individuals and families. Disaster preparedness for individuals and families will be the foundation upon which our Comprehensive Disaster Preparedness Planning Process for Healthcare Institutions is built. Preparation Saves Lives! Now to Part 2

Disaster Preparedness

Lessons Learned from Katrina, Part Two: Nuts, Bolts & Bolting the Pieces Together

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Infinity Health Solutions

www.ihealsolutions.com

Disaster Preparedness
©MFM106IHS



Comprehensive Disaster Preparedness Planning Process for Healthcare Institutions

Overview of Part 2: *In Part 2, Development of a Comprehensive Disaster Preparedness Plan, we will focus upon development of a disaster preparedness plan that is primarily designed for healthcare institutions, but readily applicable to individuals, families, and other businesses as well. Part 2 assumes that you have seen Part 1, and that you have used available resources for background reading and preparation. (See “Links and References” on the next slide). Specifically, we assume that you have examined several sources and/or websites that provide information for individuals and families. Disaster preparedness for individuals and families will be the foundation upon which our Comprehensive Disaster Preparedness Planning Process for Healthcare Institutions is built.*

Links and References

- CDC: Emergency Preparedness and Response
<http://www.bt.cdc.gov/>
- CDC: Hurricanes: Health and Safety
<http://www.bt.cdc.gov/disasters/hurricanes/index.asp>
- NOAA Hurricane Preparedness and Links
<http://www.srh.noaa.gov/lix/html/hurricaneprep.htm>
- CDC: Health-Related Needs After Katrina and Rita
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5502a5.htm>
- CDC: Disaster Mental Health Resources
<http://www.bt.cdc.gov/mentalhealth/>
- Stress Management Workbook: IHS
<http://www.ihealsolutions.com/stress.cfm>

Disaster Preparedness Part 2 Outline

We have gone “Inside Katrina.” Now it is time to

- ✓ Sum up &
- ✓ Develop Your Action Plan*

► Part 2: Nuts and Bolts of Disaster Preparedness

● Conceptual Framework and Checklists

– From Story to General & Specifics

● Disaster Preparedness Questions, Answers, Suggestions

● Final Preparedness Check

● Your Plan: Review and Report Card

*Remember to see <http://www.srh.noaa.gov/lix/html/hurricaneprep.htm>

Disaster Preparedness Overall Report Card:

Goal: Accomplish Mission Without Casualties

Mission	Survival	Service	Evacuation
Objectives Met	PASS	PASS?	PASS
Resources	PASS	PASS?	PASS
Constraints	UNK	UNK	UNK
Communication	FAIL	FAIL	FAIL?
Coordination	FAIL?	FAIL?	FAIL?
Control/Security	PASS	PASS	PASS
Money	UNK	UNK	UNK
Manpower	PASS	PASS	PASS
Machinery/Supplies	FAIL	FAIL	FAIL

Overall Report Card: My View

Mission Survival, Service, and Evacuation with
Minimal Morbidity and Mortality (M+M)

- Planning: Failure?
- Mission Survival: Accomplished ✓
- Mission Service: Accomplished ✓
- Mission Evacuation: Accomplished ✓
- No Known Casualties ✓

What about Research? and Teaching?

How was this possible given the circumstances?

- Professional integrity of providers ✓
- Bail out by Hospital Corporation of America
(HCA)? ✓

Mission Survival: Fundamental Disaster Preparedness Checklist

Your Report Card: What's your score? ?/12

1. Select Provider and Command Teams (Training and Health)?
2. Verify Training and Ability of Each Provider Team Member?
3. Verify Preparation of Provider Team Families?
4. Verify Preparation of Each Provider Team Member?
5. Select Support-Security Team (Knowledge, Skills and Health)?
6. Verify Preparation of Support Team Families?
7. Verify Preparation of Each Support Team Member?
8. Select Proper Equipment and Supplies to meet objectives?
9. Purchase Equipment and Supplies?
10. Verify Receipt, Adequacy and Functionality of Equipment and Supplies?
11. Practice, Drill, Practice, Drill, Practice till you get it right?
12. Verify Adequacy of Preparedness Plan and Adjust Accordingly?
(Include evacuation contacts, methods, routes, and destinations)

Your Mission(s) Report Card

- ✓ **Survival Strategy:** ?
- ✓ **Service Strategy:** ?
 - ✓ Teaching?
 - ✓ Research?
- ✓ **Exit Strategy:** ?
- ✓ **Backup Strategy:** ?
 - ✓ Operations? ✓ Records?
 - ✓ Data ✓ Specimens?

StepWisely™ Zero Casualties Checklist 3060

Master Conceptual Framework

1. ✓ Mission(s) and Operations Defined?

- ✓ Objectives Defined? ✓ Survival (Minimize M+M)
- ✓ Clinical Enterprise? ✓ Teaching Enterprise?
- ✓ Research? ✓ Administrative ✓ Other?

2. ✓ Resources Adequate? Constraints Defined?

- ✓ Money?
- ✓ Manpower?
- ✓ Machinery? ✓ Supplies

3. ✓ Cooperation Assured? Relationships Established?

- ✓ Communication
- ✓ Coordination
- ✓ Control-Security

4. ✓ Leadership-Command-Control- Security

- ✓ Structure Established ✓ Relationships Established

Administrative Responsibilities Conceptual Framework

StepWisely™ Zero Casualties Checklist 3061

- ▶ Verify All
- ▶ List All Inadequacies-Deficits-Problems
- ▶ Develop Remediation Strategy &
- ▶ Action and Correction Plans to Address Each Deficit-Problem

1. ✓ Mission(s) and Operations Defined?

- ✓ Objectives Defined? Survival (Minimize M+M)
Clinical Enterprise? Teaching Enterprise? Research?
Administrative & Other?

2. ✓ Resources Adequate? Constraints Defined?

- ✓ Money? ✓ Manpower? ✓ Machinery? ✓ Supplies

3. ✓ Cooperation Assured? Relationships Established?

- ✓ Communication ✓ Coordination ✓ Control-Security

4. ✓ Leadership-Command-Control-Security

- ✓ Structure Established ✓ Relationships Established

Administrative Responsibilities: Mission-Operations-Objective StepWisely™ Zero Casualties Checklist 3062

- ▶ 1. ✓ Mission(s) ✓ Operations ✓ Objectives-Defined?
- ▶ Defined Conditions for Mission Shift from
 - ▶ Operations to Survival-Evacuation?
 - ✓ Survival (Minimize M+M)
 - ✓ Clinical Enterprise?
 - ✓ Teaching Enterprise?
 - ✓ Research Enterprise?
 - ✓ Administrative & Other?
- ▶ Verify All
- ▶ List All Inadequacies-Deficits-Problems
- ▶ Develop Remediation Strategy &
- ▶ Action & Correction Plans to Address Each Deficit-Problem

Administrative Responsibilities: Objective-Admin-Other StepWisely™ Zero Casualties Checklist 3063

1. ✓Mission(s) – ✓Operations – ✓Objectives Defined?

▶ Administrative/Other?

- ✓ Insurance ✓ Backup ✓ Redundancy ✓ Simplicity
- ✓ Preservation Strategies: ✓ Income ✓ Data ✓ Records
- ✓ Specimens ✓ Billing
- ✓ Alternatives ✓ Back up Sites ✓ Operation ✓ Storage
- ✓ Recovery ✓ Clean Up ✓ Reconstruction Contacts-Plans
- ✓ Employee Contact Information & Contact Plans

▶ Verify All

▶ List All Inadequacies-Deficits-Problems

▶ Develop Remediation Strategy &

▶ Action & Correction Plans to Address Each Deficit-Problem

Administrative Responsibilities: Resources and Constraints

StepWisely™ Zero Casualties Checklist 3064

2. ✓ Resources adequate? ✓ Constraints Defined?

▶ Money-Manpower-Machinery

Verify ✓ Money? Do you have what it takes?

Verify ✓ Manpower? Are the People Ready?

Verify Disaster Team(s) Structure and Function

Verify Internal Command Structure and Function

Verify Internal Control-Security

Verify Chain of Command and Function

Verify ✓ Machinery-Equipment? ✓ Supplies?

▶ Verify All

▶ List All Inadequacies-Deficits-Problems

▶ Develop Remediation Strategy &

▶ Action & Correction Plans to Address Each Deficit-Problem

Administrative Responsibilities: Cooperation StepWisely™ Zero Casualties Checklist 3065

3. ✓ Cooperation Assured?

- ✓ Relationships Established
- ✓ Communication Systems
- ✓ Coordination Systems
- ✓ Control & Security Systems

- ▶ Verify All
- ▶ List All Inadequacies-Deficits-Problems
- ▶ Develop Remediation Strategy &
- ▶ Action and Correction Plans to Address Each Deficit-Problem

Administrative Responsibilities: Leadership StepWisely™ Zero Casualties Checklist 3066

4. ✓ Leadership-Command-Control-Security

- ✓ Demonstrate Leadership
- ✓ Structures Established
- ✓ Relationships Established
- ✓ Chain of Command Established

- ▶ Verify All
- ▶ List All Inadequacies-Deficits-Problems
- ▶ Develop Remediation Strategy &
- ▶ Action and Correction Plans to Address Each Deficit-Problem

Summary

Fundamentals of Disaster Preparedness
Mission Survival: Zero Casualties
Requirements

- Clear Mission, Goals, and Objectives
- Preparation: People-Equipment-Supplies
- Training
- Practice
- Drills

Mission Survival: Zero Casualties

Fundamental Disaster Preparedness Requirements:

Preparation, Training, Practice, Drill, Correct

- Select & Streamline Disaster Teams to
Minimize AT RISK Population

- Provider teams

- Support teams

- Preparation of Disaster Teams

- Training of Disaster Teams

- Selection and training of Support Teams

- Minimize risk to patients and providers

- Equipment and supplies to meet objectives

- Practice and drill till you get it right

Mission Survival: Zero Casualties

Keys to success: Trained People (Professionals)

Knowledge, Understanding, and Action

Know and Understand: All Human Systems Will

Fail Some of the Time and Some Human Systems Will Fail All of the Time, so Act (prepare) accordingly

- Involve ALL players in Team Development
(who should be excluded?)
- Design Plan With Team: Select Equipment and Support Systems *as a team*
- Keep It Simple, Redundant, Reflex

Mission Survival: Zero Casualties

Review, Plan, and Practice

WHY PHYSICIANS are your most valuable resource?

If PROPERLY SELECTED and PREPARED, they are least likely to fall apart in critical situations.

Keys to success:

Knowledge - Understanding - Action

Mission Survival: Zero Casualties Preparation

- Selection of Disaster Teams & Leaders

 - 24 X 7 Teams Readily Available

- Minimize at risk population:

 - ✓ Patients

 - ✓ Provider team

 - ✓ Support team

- Acquisition of equipment and supplies to Support Team and meet objectives

- Preparation of Disaster Team

Mission Survival: Zero Casualties

Who and What Will Dictate the Mission Shift from
Operations to Survival and Evacuation?

How will YOU Determine

- Circumstances & Conditions for Shut Down & Evacuation?
- Who Should be Evacuated?

GOALS/OBJECTIVES:

Minimize Morbidity
and Mortality

Mission Survival: Zero Casualties

How will YOU select and train essential staff for Disaster Teams?

- Volunteers?
- Call team?
- Random?
- Training?
- Experience?
- Knowledge?
- Skill?

GOALS/OBJECTIVES:
Minimize Morbidity and Mortality

▶ Manpower/Personnel

- Money
- Machinery
- Communication
- Coordination
- Control/Security

Mission Survival: Zero Casualties

STAFF SELECTION: Medical and Non-medical

● SELECT TO STAY

- Trained
- Healthy (PHYSICALLY AND MENTALLY)
- Volunteers with
- Families of Team Members: evacuated, safe, trained, and OUT OF HARM'S WAY

Mission Survival: Zero Casualties

STAFF SELECTION: Medical and Non-medical
SELECT TO STAY (cont.)

Training and Performance Expectations

- Verify Prior Training and Ability (Check credentials)
- **Eliminate Fear** as a First Response!
- Proper Reflex Responses &
- Think on Feet
- Raise Level of Team Performance
- Trained and Drilled with Documented & Acceptable Level Of Performance

Mission Survival: Zero Casualties

STAFF SELECTION: Medical and Non-medical

- **SELECT TO GO**

- Elderly and Sick

- **UNTRAINED - UNPREPARED - AFRAID**

(Untrained, and worried folks [about self, or family] will not be capable of proper performance during a crisis and will become a liability.

Involve staff in the selection and training process.

Start with physicians and work your way from there.)

Mission Survival: Zero Casualties

Training

- Training of Disaster Teams
- Training of Support Teams
- Leadership & Command
 - **Structure & Function** Clearly Established
 - **Drill** to Determine Effectiveness
 - **Modify** Structure and Function to **Assure** Effectiveness

Mission Survival: Zero Casualties

Practice

- Practice
- Define Corrective Action &
- Drill
 - ▶ *till you get it right*

Mission Survival: Zero Casualties Review

Mission Survival and Service

Minimize Morbidity and Mortality:

Patients, Families, Staff, Administration

- **Priorities for patient care and evacuation?**
 - People to do the job?
 - Dedicated and Trained Disaster Teams?
 - Equipment: Vents and Pumps?
 - Power and generators?
 - Lab, X ray, Imaging?
 - Records, Data?
 - Communication: staff, patients, families?
 - Who to evacuate and where do they go?
- **Priorities for staff & family care and evacuation?**
 - Shelter and safety?
 - Clothing and sleep accommodations?
 - Food and water?
 - Security and safety?
 - Communication: staff, families?
 - When, where and how to go?

Goals and Objectives:

- **Survival Strategy Vs**
- **Operational Strategy**
 - Maintain Optimal Patient Care
 - Disaster Management
- **Exit Strategy**
 - Get out at the right time
 - Consider:
 - Resources and Constraints
 - Money
 - Manpower/Personnel
 - Machinery
 - Communication
 - Coordination
 - Control/Security/Safety

How will you pay for it?

- Do you have the money to do the job?
- Business interruption insurance?
- Methods to continue billing for prior services?
- Collection of receivables?

▶ Money

- Manpower/Personnel
- Machinery
- Communication
- Coordination
- Control/Security/Safety

Mission Survival: Zero Casualties

Focus on care of sick and casualties.

You are not a shelter!

What will you do if you have no warning?

- How will you get people out without elevators?
- Cost is much lower to evacuate before rather than after the disaster.
- Community service provided with a skeleton crew will cost much less than full staffing at the highest technical level.

Mission Survival: Zero Casualties

Key Points Review

- Planning?
- Preparation?
- Practice? Drills?
- Evacuation connections made?
- Evacuation sites?
- Chain of command?
- Command structure?
- Roles and responsibilities?
- Selection of disaster call team?
- Unnecessary people in the hospital?
- Supplies?
- Equipment?
- Safety? Security? Self defense?
- Sleeping quarters?
- Building design and integrity?

- ▶ Mission: Service vs Survival
Performance Measure?
Constraints?
Resources?
Component Goals
Activities & Performance
Management

Mission Survival: Zero Casualties

- Resources
- Constraints
 - Manpower
 - Machinery
 - Money
- Cooperation
- Relationships
 - Communication
 - Coordination
 - Control
- CHECK BEFORE THE EVENT
 - People
 - Equipment
 - Supplies
 - Practice
 - Security
 - Safety
 - Simplicity & Redundancy
 - Relationships

Questions and Considerations For Your Own Institution, Have You determined . . .

- Mission? Goals and Objectives?
Survival, Service, or Both?
- Exit Strategies and Routes?
- When and How to Cut Back or Get Out?
- Operational Plans?
Can you Maintain Care Under All Circumstances?
& at All Times: Before, During and After?
- Practiced Enough?
- Care Systems and Equipment Simple and Redundant?
(E.g. Records, Emergency Equipment [ABCs], Ventilators, Pumps,
Two Way Radios, Speaker System, Etc.)
- Do You Have Backup Systems That Will Work Without Power?

Questions and Considerations (cont.)

- Simple and Redundant?

- Care Systems &
- Equipment?

(records, emergency equipment for ABCs, ventilators, pumps, two way radios, speaker system, Bull Horns, Megaphones, flashlights, radio: [sw, AM, FM, battery independent], etc.)

- Backup systems will work without power?

- Where are the generators? Do they work? Are they safe?



Bull Horn - 16 Watt

Designed to cover a distance of 600 yards!

\$185.94

Questions and Considerations

For your own institution,
have you determined . . .

Mission? Goals and Objectives?

Survival, Service, or Both?

▶ What about TEACHING and RESEARCH?

Are these Goals and Objectives a part of your mission?

- How will you preserve data and specimens?
- How will you preserve and continue your work during and after the disaster?
- How will you continue your work during reconstruction?

YOUR FRIENDS?

- PEOPLE & RELATIONSHIP
 - Internal and External
- TRAINING: Knowledge/Skill
- SELECTION
- PREPARATION
- PRACTICE
- DRILL

YOUR ENEMIES?

- FEAR
- LACK OF PREPARATION
- LACK OF PRACTICE

NOW: Suggested 3-Day Action Plan

Day #1-1: Machinery - Equipment

▶ Verify ◀ ▶ Order (Signatures, Date, Time)

▶ Survival Supplies and Equipment

Support Patients & Teams for at Least 5 Days

1. ▶ Bottled Water (1 Gallon/Person/Day)
2. ▶ Dry Food
3. ▶ Simple Water Purification Gear
4. ▶ Survival Meds for Patients and Staff
5. ▶ Simple Communication Devices
(Bull Horns-Megaphones-Two Way Radios with GPS?)
6. ▶ Simple Emergency Generators and Batteries to support equipment, including flashlights and radios
7. ▶ All of above in safe, secure, dated containers
8. ▶ Other?



NOW: Suggested 3-Day Action Plan

Day #1-2: Machinery - Equipment

- ▶ Verify ◀ ▶ Order (Signature, Date, Time)
 - A. ▶ Sanitation Equipment and Supplies for All
Dry Toilets, Wipes, Chlorine, Iodine, Alcohol
 - B. ▶ Clothing and Shelter for All
 - C. ▶ Patient Care Equipment to Support Patients for at least 5 Days
 - 1. ▶ Ventilators that will work without power
 - 2. ▶ Pumps that will work without power
 - 3. ▶ Generators that will support essential equipment
 - 4. ▶ Generators that are safe, working, and in the right places
 - 5. ▶ Other
 - D. ▶ Evacuation and Self Defense Equipment

NOW: 3-Day Action Plan

Day #1-3: Money

- ▶ Verify ◀ ▶ Order (Signature, Date, Time)
 - ▶ Disaster Preparedness Funds Appropriated to Support
 1. ▶ Purchase & Maintenance of Supplies & Equipment
 2. ▶ Salaries for Teams (Supplemental)
 3. ▶ Team Development
 4. ▶ Other Disaster Preparedness Related Activities

NOW: 3-Day Action Plan

Day #2-1: Manpower- Team Development

- ▶ Verify ◀ ▶ Order (Signature, Date, Time)
 - ▶ Begin Disaster Team Selection and Development Process
 1. ▶ *Announce the Team Development Process &*
 2. ▶ *Appoint* (with alternates)
 - Provisional Disaster Chief &
 - Provisional Disaster Tribunal Members
- Include *TWO* representatives from Each: Medical Staff-Administration-Board of Trustees (6 Members & Provisional Disaster Chief)
- ▶ **This Provisional Working Group will Drive Selection, Election, Preparation, Performance, and Oversight of the Disaster Chief, Disaster Tribunal, Disaster Plans, and Disaster Teams.**

NOW: 3-Day Action Plan

Day #2-2: Manpower-Team Development

▶ Verify ◀ ▶ Order (Signature, Date, Time)

▶ Continue Disaster Team Selection and Development

3. ▶ *Appoint Teams* (with alternates) & *Announce Process*

4. ▶ *Select or Elect* Disaster Teams with Tribunal at meetings with each Department/Division

Appoint Teams* for each Department or Division (each function?)

▶ Medical & Surgical ▶ Nursing ▶ Administrative

▶ Support Services: Security-Self Defense-Food-Housing-Casualty-Operations-Evacuation ▶ Other

*You will need 24 X 7 coverage. More than one team will be needed for each Department-Division-Function.

NOW: 3-Day Action Plan

Day #2-2: Manpower Selection

- ▶ Verify ◀ ▶ Order (Signature, Date, Time)
- ▶ Continue Disaster Team Selection and Development Process
- 5. ▶ *Elect* Disaster Team Captains (Elected by and for each Team)
 - ▶ *Elect 6 Captains* (with alternates)

Elected by the Group of Captains, these 6 Captains will combine with the Disaster Tribunal to Compose the Provisional Working Disaster Group (12 Members + Disaster Chief), which will then resume responsibility for all further Disaster Preparedness Efforts.

▶ Disaster Working Group will work with each Disaster Team to assign appropriate tasks. These will include, but not be limited to, initial inspection and verification of adequacy of supplies, equipment and plan for each Department, Division, or Function.

NOW: 3-Day Action Plan

Day #3 & Beyond: Manpower Selection

- ▶ Verify ◀ ▶ Order (Signature, Date, Time)
- ▶ Continue Disaster Team Selection and Development Process
- ▶ *Announce the Process & Appoint* (with alternates)
- 6. ▶ *Elect Permanent* Disaster Teams, Team Captains and Chief with Each Department, or Division, and the Provisional Working Group after initial plan has been established and verified.
- 7. ▶ Train Teams for Each Department, Division, or Function
 - ▶ Select and Elect new members regularly on basis of past performance, knowledge, skill, experience, and health.
 - ▶ Test all elected members and verify ability regularly.
 - ▶ Replace ineffective team members to guarantee proper team performance.
 - ▶ Test all Working Group Members and replace regularly to maintain proper Disaster Group function.

StepWisely™ Zero Casualties Checklist 3060R

Master Conceptual Framework Review

1. ✓ ► **Mission(s) and Operations Defined?** ◀
 - ✓ Objectives Defined? ✓ Survival (Minimize M+M)
 - ✓ Clinical Enterprise? ✓ Teaching Enterprise?
 - ✓ Research? ✓ Administrative ✓ Other?
2. ✓ ► **Resources Adequate? Constraints Defined?** ◀
 - ✓ Money?
 - ✓ Manpower?
 - ✓ Machinery? ✓ Supplies
3. ✓ ► **Cooperation Assured? Relationships Established** ◀
 - ✓ Communication
 - ✓ Coordination
 - ✓ Control-Security
4. ✓ ► **Leadership-Command-Control- Security** ◀
 - ✓ Structure Established ✓ Relationships Established

StepWisely™ = Effective Planning

Final Inspection: Administrative Check

The Bottom Line Question: What steps will it take to survive, provide service and safety, minimize morbidity and mortality, and evacuate, if necessary?

- ▶ **Steps to Take as Soon as Is Possible**
- ▶ Verify All: Verification Date and Signatures of Inspectors
- ▶ List All Deficits-Problems-Inadequacies
- ▶ Develop Remediation Strategy & Timetable
- ▶ Develop Action and Correction Plan for Each Deficit-Problem

StepWisely™ = Effective Planning

▶ **Step #1: Administrative Check**

➤ **Water-Food-Medicines**

➤ **Equipment**

➤ **People - Teams**

➤ **Relationships**

- ▶ Verify Adequacy: Date and Signatures of Inspectors
- ▶ List All Deficits-Problems-Inadequacies
- ▶ Develop Remediation Strategy & Timetable
- ▶ Develop Action and Correction Plan for Each Deficit-Problem-Inadequacy

StepWisely™ = Effective Planning

● Step #1-1: Administrative Check

▶ Water-Food-Medicines

➤ Fresh-Dated-Secure

- ▶ Verify All, Date, Signatures of Inspectors
- ▶ List All Deficits-Problems-Inadequacies
- ▶ Develop Remediation Strategy & Timetable
- ▶ Develop Action and Correction Plan for Each Deficit-Problem

StepWisely™ = Effective Planning

● Step #1-1: Administrative Check

- ▶ Water (5-day supply – bottled & purifiers)
 - ✓ Adequate volume? 1 gallon/person/day
 - ✓ Expiration dates OK & Synchronized?
 - ✓ Safe-Secure-Checked regularly?
- ▶ Food (5-day supply)
 - ✓ Simple dry and packaged food
 - ✓ Expiration dates OK?
 - ✓ Safe-Secure-Checked regularly?

StepWisely™ = Effective Planning

- **Step #1-1 Administrative Check**

- ✓ Water (5-day supply—bottled & purifiers)

- ✓ Adequate volume? 1 gallon/person/day

- ▶ **Focus Upon Water & Volume**

1 Cubic Foot = 7.5 Gallons* (approximate)

100 Cubic Feet = 750 Gallons*

1000 Cubic Feet = 7,500 Gallons* (10'x10'x10' container)

2000 Cubic Feet = 15,000 Gallons*

(one car garage/container = 10'x10'x20')

15,000 Gallons = 15-day supply for 1000 people

*Smaller bottles take up more space/gallon, but probably result in less waste.

StepWisely™ = Effective Planning

● Step #1-1: Administrative Check

- ▶ Medicines (survival meds): 5-Day Supply
 - Adequate supplies?
 - Expiration dates OK?
 - Safe-Secure-Checked regularly?
- ▶ Water-Food-Medicines
 - Combined in locked and dated containers?
 - More than one location?
 - Checked regularly?

StepWisely™ = Effective Planning

- ▶ **Step #2** Establish Disaster Working Group &
 - ✓ Chain of command and reporting system (**Provider and Command Teams**)
 - ✓ Mission statements (goals, objectives)
 - ✓ **Disaster Teams**, including leaders for all times of day
 - ✓ Backup Disaster Teams
 - ✓ Recovery-Reconstruction-Operations Teams

StepWisely™ = Effective Planning

- **Step #2-1 Disaster Working Group to Plan (cont.)**
 - ✓ Roles and responsibilities for all staff (from top to bottom)
 - ✓ Circumstances and conditions for evacuating facility
 - ✓ Ways to maintain care under all circumstances: *before, during, and after*

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- **Step #2-2** Disaster Working Group to Plan (cont.)
 - ✓ Ways to ensure that care systems and equipment (e.g. records, emergency equipment [ABCs], ventilators, pumps, two-way radios, speaker systems, bull horns, radios, flashlights, etc.) are in working order, effective, simple, and redundant

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- **Step #2-3** Disaster Working Group to Plan (cont.)
 - ✓ Ways to provide backup systems that will work without power
 - ✓ Assessment of building design and integrity
 - ✓ Site specific considerations

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- **Step #2-4** Disaster Working Group to Plan (cont.)
 - ✓ Communication system (central command, reporting system)
 - ✓ Selection of essential staff, including recruiting procedures (*doctors best resource*)
 - ✓ Means to keep everyone safe and secure

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- **Step #2-5 - Disaster Working Group to Plan (cont.)**
 - ✓ Needs and condition assessment of equipment and supplies (e.g. medicines, food, water, etc.)
 - ✓ Purchasing of and checking necessary equipment and supplies
 - ✓ Provisions for sleeping quarters for staff
 - ✓ Evacuation plan (contacts, methods, routes, and destinations)

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- **Step #2-6 Disaster Working Group to Plan (cont.)**
 - ✓ Procedural guide of who goes first, second, third, etc. in the event of evacuation
 - ✓ Assessment of costs/resources/constraints
 - ✓ Training procedure with constant review as new staff come on board
 - ✓ Practice/drill procedure

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Final Inspection

- ▶ **Step #3 Practice, Drill, Correct, Practice, Drill, Correct**
Check Procedures &
 - ✓ Verify Effectiveness of Disaster Preparedness Plan
 - ✓ Document All Deficiencies
 - ✓ Corrective Action Plan for Each Deficiency

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Final Inspection

▶ **Step #4 Relief Teams in Place @**

More Than One Location

▶ **Ongoing Communications Network** telephone-WWW-other

- ✓ **Maintain Contact with Staff, Patients, and Families**
- ✓ **Provide Support for Staff and Families**
- ✓ **Provide for Ongoing Operations**
- ✓ **Prevent and Treat of PTSD (Post Katrina Madness?)**
- ✓ **Facilitate Cleanup-Reconstruction-Recovery**

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Final Inspection

▶ **Step #5 Develop Special Teams**

Continued Operations Teams in Place to Facilitate

- ✓ Relief of Disaster Teams
- ✓ Cleanup
- ✓ Reconstruction
- ✓ Recovery
- ✓ Resumption of Operations
- ✓ Mission-Goals-Objectives

Learn the Lesson

Plan, Drill & Practice. Practice &
Practice Some More.

Did I say, “Practice”? Yes,
practice long before the event.

YOU may have no warning!

Learn the Lesson: Let's not be mushrooms!

... “You talk just like the grown-ups!”

That made me a little ashamed. But he went on, relentlessly:

“You mix everything up together . . . You confuse everything . . .”

He was really very angry. He tossed his golden curls in the breeze.

“I know a planet where there is a certain red-faced gentleman. He has never smelled a flower. He has never loved anyone. He has never done anything in his life but add up figures. And all day he says over and over, just like you: ‘I am busy with matters of consequence!’ And that makes him swell up with pride. But he is not a man – he is a mushroom!”

The Little Prince

Antoine de Saint-Exupéry

**“There is nothing new under the sun
but there are lots of old things we don't
know.”**

Ambrose Bierce

U.S. author & satirist (1842 - 1914)

The Devil's Dictionary

**Katrina, great equalizer and teacher,
you have given us a Grand Lesson.**

**One can only hope that we have learned from you,
and that we never forget what you have taught.**

M.F. Mascia

For information or questions contact Dr. Mascia @ www.ihealsolutions.com.

Take Katrina's Lesson and Run with It!

“Fortune, who wants to be the arbiter of all things human, did not give me enough judgment to have understood her early on, nor enough time to overcome her.”

from *The Life of Castruccio*

Niccolò Machiavelli

Buona Fortuna!



www.ihealsolutions.com

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