Patient Evacuation and Tracking

“Where’s Mommy?”

Lori Upton RN BSN MS CEM
IOM Workshop – New Orleans
November 2014
First Challenge

- Tropical Storm Allison - June 2001
  - 30-40” rainfall over 5 days
  - All freeways underwater
Critical Infrastructure

- Texas Medical Center
  - Largest in Nation
  - 1000+ acres = Chicago inside “Loop”
  - 12th largest business district in US
  - 6800 patient beds
  - 93,500 employees
  - 6.0 Million patient visits
  - 160,000 visitors daily
  - 162 buildings
    - 21 academic buildings
    - 3 med schools
  - 14 hospitals
  - 6 nursing schools
Healthcare Impact

– Extensive flooding and subsequent evacuation
– TMC “off-line” with ripple effect throughout community
– Hospitals responding individually within systems
– Loss of 3000 acute care beds and 500 ICU beds overnight
– No formal coordinating entity*
– Reduced to one Level 1 Trauma Center for 3 months
2005 Hurricanes Katrina and Rita

• Regional coordinating entity for health and medical called into service for first time
  – Leap of Faith
    • No formal plan – concept
    • No formal structure
    • No recognized authority
  – Commitment
    • Commitment to succeed
    • Commitment to mission
    • Commitment to medical community
Rudimentary Tracking

- Katrina: 1100 patients
  - Excel Spreadsheet
- Rita: 2400 patients
  - Access Tables “Where’s Mommy”
- Transport Sheets and Phone Calls
# Katrina Patient Tracking

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>DOB</th>
<th>Hospital</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ba</td>
<td>Ro</td>
<td>11/17/56</td>
<td>Bellville General Hospital</td>
<td>Injury left foot</td>
</tr>
<tr>
<td>He</td>
<td>Lo</td>
<td>12/30/01</td>
<td>Bellville General Hospital</td>
<td>Laceration to forehead</td>
</tr>
<tr>
<td>ARN</td>
<td>WI</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>unknown</td>
</tr>
<tr>
<td>CA</td>
<td>LE</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>DEMENTIA / DECUB</td>
</tr>
<tr>
<td>CAR</td>
<td>LU</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>CANCER</td>
</tr>
<tr>
<td>CA</td>
<td>I</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>CLOSED HEAD INJURY</td>
</tr>
<tr>
<td>DJ</td>
<td>KI</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>VAGINAL BLEEDING</td>
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<tr>
<td>HO</td>
<td>DE</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>ASTHMA / EARACHE</td>
</tr>
<tr>
<td>L</td>
<td>CH</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>DIARRHEA</td>
</tr>
<tr>
<td>TA</td>
<td>C</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>SM BOWEL OBS</td>
</tr>
<tr>
<td>TA</td>
<td>D</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>S/P COLON RESECT</td>
</tr>
<tr>
<td>TH</td>
<td>LE</td>
<td>unknown</td>
<td>Bayshore Medical Center</td>
<td>BRAIN TUMOR / SEIZURE</td>
</tr>
</tbody>
</table>
Benefits

• No lost patients
  – 3400 transports into healthcare facilities
  – 0.08% error rate

• Epidemiological Benefit
  – Increase GI symptom clusters
  – Early identification and intervention
Katrina Lessons Learned

• Hidden surge capacity in healthcare community
  – Receiving facility
  – Support facility
  – Surge facility

• Fragile medical special needs patients

• Airlift considerations

• Impact of prolonged evacuation times

• Local, State and Federal coordination with the private sector
Rita Lessons Learned

• Not to evacuate to another coastal community
• Impacts of contra flow on healthcare assets
• Priority of medical evacuations
  – Homebound individuals
  – Coastal facilities
• Asset management
• Ambulance staging
• Unexpected numbers of homebound special needs
Biggest Lesson:
Howard Husband
The CMOC Response Region

25 Counties - 277 cities

7.3 Million* (36%)

877,000/disabilities* (24%)

167 hospitals

500+ nursing homes

13th Largest State

22nd Largest World Economy

Land mass could contain:

New Hampshire, New Jersey, Connecticut, Delaware, Rhode Island, and D.C.
Catastrophic Medical Operations Center (CMOC)

• Local, Regional, and State asset
• Co-located in the HEC
• Recognized for medical coordination
• NIMS Compliant
• Command authority
• Logistical and Operational Components
• Stand up when requested by EOC, EMC, State, or other jurisdictions of authority
Mission

• Identify and meet the healthcare needs of the region
• Protect and maintain medical infrastructure of all regional healthcare facilities
• Provide appropriate transfer to healthcare facilities based on capacity and capability
• Coordinate unique requirements of “special needs” population
• Maintain patient tracking records
• Procure and manage resources
Hurricane Ike September 2008
Hospital Evacuations/Closures

56 of 109 hospitals in affected zone
IKE

- Evacuation and repatriation of 56 hospitals
- Evacuation and repatriation of 220 nursing homes
- Transportation and transfer of 15,000+ individuals
- Oxygen Strike Teams
- Dialysis and Medical Special Needs Transport circuit
- 4 Forward Coordinating Units
Ike Lessons Learned

• Pre-stage assets closer to evacuating area
• State-wide tracking system
• Add home health and DME
• Staffing teams/Forward Coordinating Teams
• MSN Sheltering closer to evacuating areas
• Integrated technology
Technology Evolution

- Mission tasking tracked via WebEOC
- Patient Tracking via EMTrack
  - Field/Facility Input Capability
  - Integrated with state-wide system
### Daily or MCI Input

**Triage Tag ID**
- ID #: [Input Field]

**Age & Gender**
- Age: [Input Field]
- Age Units: [Input Field]
- Gender: [Dropdown]

**Chief Complaint**
- Complaint Category: [Dropdown]
- Description: [Input Field]

**Vital Signs**
- Acuity:
  - Immediate
  - Delayed
  - Minor
  - Deceased
  - Non-Patient
Dashboard

Dashboard

Summary of Incident Sites View - Triage Category

Patient Total: 394

- **3** Immediate
- **1** Deceased
- **1** Non-Patient
- **389** Unspecified

Last Updated: Fri, 14 Nov 2014 09:51:13 CST
Patient Specific
<table>
<thead>
<tr>
<th>Create Time</th>
<th>ID #</th>
<th>Name</th>
<th>Age</th>
<th>Gender</th>
<th>Acuity</th>
<th>Complaint</th>
<th>First Provider</th>
<th>Last Provider</th>
<th>Status</th>
<th>Elapsed</th>
<th>Last Updated</th>
</tr>
</thead>
</table>
### Transport Status

**Table: All Clients [Patient Total: 112]**

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Provider Evaluation</th>
<th>Tracking Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 39 YR</td>
<td>Male</td>
<td>Immediate - Cardiac Arrest, Shock</td>
<td>Holding for Transport Asset to Spring</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Female</td>
<td>Immediate - Overdose, Red paintet</td>
<td>Transporting to Carnival via 2</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Cardiac Symptoms</td>
<td>Transporting to Off Site via 1</td>
</tr>
<tr>
<td>13 - 19 YR</td>
<td>Male</td>
<td>Immediate - Open Wounds, post b...</td>
<td>Transporting to Texas Children's via 5</td>
</tr>
<tr>
<td>40 - 59 YR</td>
<td>Female</td>
<td>Immediate - Cardiac Symptoms, D...</td>
<td>Transporting to East Houston Regional</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Bleeding, c/o pain ble...</td>
<td>Transporting to Bayshore Medical via 3</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Female</td>
<td>Immediate - OB/GYN, Pt is 7 mont...</td>
<td>Transporting to Off Site via EMS 1</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Female</td>
<td>Immediate - GSW/Stabbing, ***DRI...</td>
<td>Holding for Transport Asset to Off Sc...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Female</td>
<td>Immediate - Blunt Trauma</td>
<td>Transporting to Memorial Hermann R...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Fall</td>
<td>Transporting to Memorial Hermann R...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Male</td>
<td>Immediate - Bleeding</td>
<td>Transporting to Memorial Hermann R...</td>
</tr>
<tr>
<td>40 - 59 YR</td>
<td>Male</td>
<td>Immediate - Cardiac Symptoms, A...</td>
<td>Transporting to Off Scene via unknown</td>
</tr>
<tr>
<td>40 - 59 YR</td>
<td>--</td>
<td>Immediate - Puncture Wound, Tree...</td>
<td>Holding for Transport Asset to Ben T...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Female</td>
<td>Immediate - Breathing Problems</td>
<td>Holding for Transport Asset to Off Sc...</td>
</tr>
<tr>
<td>4 - 12 YR</td>
<td>Male</td>
<td>Immediate - Combative</td>
<td>Holding for Transport Asset to Ben T...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Overdose</td>
<td>Transporting to Cypress Fairbanks M...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Female</td>
<td>Immediate - Bleeding</td>
<td>Transporting to Cypress Fairbanks M...</td>
</tr>
</tbody>
</table>
## Transportation Status by Agency

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Provider Evaluation</th>
<th>Tracking Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Cardiac Symptoms</td>
<td>Transporting to Off Site via 1</td>
</tr>
<tr>
<td>4 - 12 YR</td>
<td>Male</td>
<td>Minor - Anxiety/Behavioral Problems</td>
<td>Transporting to Memorial Hermann Re...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Male</td>
<td>Minor - Combative</td>
<td>Transporting to Memorial Hermann Re...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Female</td>
<td>Immediate - Blunt Trauma</td>
<td>Transporting to Memorial Hermann Re...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Immediate - Fall</td>
<td>Transporting to Memorial Hermann Re...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Male</td>
<td>Immediate - Bleeding</td>
<td>Transporting to Memorial Hermann Re...</td>
</tr>
<tr>
<td>40 - 59 YR</td>
<td>Male</td>
<td>Minor - Fall, possible FX of left arm</td>
<td>Transporting to Memorial Hermann - TI...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>--</td>
<td>Minor - Muscle Cramps/Soreness, L...</td>
<td>Transporting to Memorial Hermann - TI...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>--</td>
<td>Immediate - Puncture Wound, Punct...</td>
<td>Transporting to Memorial Hermann Kat...</td>
</tr>
<tr>
<td>60+ YR</td>
<td>Male</td>
<td>Minor - Cardiac Symptoms, Complai...</td>
<td>Transporting to Memorial Hermann Kat...</td>
</tr>
<tr>
<td>4 - 12 YR</td>
<td>Male</td>
<td>Minor - Fall</td>
<td>Transporting to Bellville General Hospital...</td>
</tr>
<tr>
<td>20 - 39 YR</td>
<td>Male</td>
<td>Immediate - Drug Reaction, DISORI...</td>
<td>Transporting to Ben Taub General via ...</td>
</tr>
</tbody>
</table>
Searchable Fields

Use this feature to locate a specific patient to determine where they are, both physically and within the tracking process. Add one or more search terms to locate the record. The more terms you include, the narrower your results. If your search retrieves more than 30 records, you must refine it to narrow your results.

Search

Add Search Term  Larry
Where’s Larry?
Use this feature to locate a specific patient to determine where they are, both physically and within the tracking process. Add one or more search terms to locate the record. The more terms you include, the narrower your results. If your search retrieves more than 30 records, you must refine it to narrow your results.
Drill down Capabilities

<table>
<thead>
<tr>
<th>Tracking Number</th>
<th>First Name</th>
<th>Last Name</th>
<th>Age</th>
<th>Gender</th>
<th>Last Updated</th>
<th>Tracking Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>12345</td>
<td>Tony</td>
<td>Stark</td>
<td>4 - 12 YR</td>
<td>Male</td>
<td>18 Sep 2014 16:1...</td>
<td>Transporting to M...</td>
</tr>
<tr>
<td>14141414</td>
<td>Harold</td>
<td>Harrison</td>
<td>4 - 12 YR</td>
<td>Male</td>
<td>14 Nov 2014 15:2...</td>
<td>Transporting to T...</td>
</tr>
<tr>
<td>0000-3</td>
<td>Jonathan</td>
<td></td>
<td>4 - 12 YR</td>
<td>Male</td>
<td>14 Nov 2014 14:3...</td>
<td>At Texas Children's</td>
</tr>
<tr>
<td>0000-4</td>
<td>Jax</td>
<td></td>
<td>4 - 12 YR</td>
<td>Male</td>
<td>14 Nov 2014 14:4...</td>
<td>At Texas Children's</td>
</tr>
</tbody>
</table>
Success Strategies

• Coordinating Entity
  – Shared goals and restrictions
  – Adaptation and innovation
  – Commitment to the cause

• Integrated Technology Adjuncts
  – Communication and situational awareness
  – Common operating picture/platform
Thank You

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