HISTORY: BEST TOOL FOR DISASTER PLANNING

- 1920 BROAD STREET BOMBING (CULPRITS NEVER FOUND: ACCIDENT??)
- LED TO FOUNDING OF BEEKMAN HOSPITAL IN 1924

THE TWO GOALS OF DISASTER PLANNING:
1)EVACUATION
2) TREATING CASUALTIES

9/11

99% OF PEOPLE BELOW
IMPACT FLOORS SURVIVED

EVACUATION

EVACUATION

EVACUATION

EVACUATION 100:1

WHICH
REQUIRES:

COMMUNICATION

COMMUNICATION
COMMUNICATION

TREATING CASUALTIES:

ARE HOSPITALS ENOUGH?

1) WHAT ROLE FIELD TRIAGE?

2) WHAT ROLE OUTSIDE HELP?

TRIAGE: SPEED VS. ACCURACY

HOW FAST IS FIELD TRIAGE?

WASTING TIME

- “ The captain wanted us to take their names before we transported. A woman with 90% burns, screaming. How are you supposed to take names?”

TRIAGE DELAYS:

HISTORICAL PRECEDENTS

TOKYO, MARCH 1995: SARIN GAS ATTACK IN SUBWAY

- ST. LUKE'S HOSPITAL: 498 PTS.
- 99 TRANSPORTED BY AMBULANCE OR OFFICIAL CAR
- BY FOOT: 174
- TAXI: 120

TOKYO:
DANGERS OF DELAY

- PATIENTS DETERIORATED ENROUTE.
- GOOD THING THEY WEREN’T HELD AT THE SCENE

OKLAHOMA CITY APRIL 1995: ALFRED P. MURRAH FEDERAL BUILDING BOMBED

- 272 PATIENTS WITH KNOWN MODE OF TRANSPORTATION
- CAR: 152
- WALKING: 27
- EMS: 90

MEDIAN TRANSPORT TIME:

90 MINUTES

FIVE HOSPITALS WITHIN 1.5 MILE-RADIUS

WHAT DELAYS PATIENT TRANSPORT? EMS WANTS TO "CONTROL THE SCENE." TRIAGE CENTERS

WEST WARWICK, R.I. FEBRUARY 20, 2003: THE STATION NIGHTCLUB FIRE.

- 98 DEAD
- 186 TRANSPORTED IN ONE HOUR:
- 40 ALS RIGS, 26 ALS AND BLS PRIVATE AMBULANCES
- 40 CRITICAL

CAPT. PETER GINAITT

“WE HAD GREAT PROTOCOLS. EVERYTHING FAILED.”

“I TOOK MY TRAUMA TAGS AND PUT THEM ON A BENCH.
I ASSESSED AIRWAYS AND MOVED ON. IT WAS TOUGH KEEPING PEOPLE IN ONE PLACE

“I HAD TO SEND TWO WALKING WOUNDED WITH EVERY CRITICAL. I DIDN’T KNOW IF THEY WOULD DETERIORATE.”

HOW ACCURATE IS FIELD TRIAGE?

- FIELD TRIAGE MISSES 30% OF LIFE-THREATENING INJURIES

RULES TO LIVE BY:

1) SPEED BETTER THAN ACCURACY: CLEAR THE SCENE.

2) NO IDLING AMBULANCES

BUT CAN THE HOSPITAL HANDLE IT?

NYU DOWNTOWN HOSPITAL

- 170 BED, LEVEL-II TRAUMA CENTER
- 6 OPERATING ROOMS
- ED: 29,000 VISITS/YEAR
- 4 BLOCKS FROM WTC

1993: 250 patients.
NO SYSTEMS FAILURES

DISASTER DRILL
JULY 30, 2001

SEPTEMBER 11, 2001

THE FIRST HOUR: 9AM-10AM

CHRONOLOGY

- 8:46 AM: NORTH TOWER HIT

CHRONOLOGY

- 9:02 AM: SOUTH TOWER HIT

INITIAL SETUP

- 10 MINUTES TO PREPARE
- ASSEMBLE SUPPLIES/CENTRAL
- ED ATTENDING TO TRIAGE AREA
- NURSE MANAGER TO MAIN ED

RESOURCES IN ED

- **1 ED ATTENDING**
- **CHARGE NURSE (MARY LYKE, RN)**
- **6 ED RNs**
- **SURGERY: 8 SURGEONS/5 HOUSESTAFF**
- **MEDICINE: 14 ATTENDINGS/30 HOUSESTAFF**
- **OB/GYN: 4 ATTENDINGS/16 HOUSESTAFF**

CONSTRAINTS: 12 OVERNIGHT ADMISSION HOLDOVERS

HOW DID WE ORGANIZE?

1) INCIDENT COMMAND SYSTEM

2) STAGING AREAS

IMMEDIATE EFFECT ON STAFF

CRITICAL CASES

- 12 SEVERE MULTI-SYSTEM TRAUMAS/BURNS/CARDIAC ARRESTS.
- MANY LONG-BONES FRACTURES, VASCULAR INJURIES, DEEP LACERATIONS.

BY 10AM:
200 PATIENTS SEEN
3 CASES TO O.R.

HOSPITAL TRIAGE: MAXIMIZE “SURFACE AREA” OF PERSONNEL TO PATIENTS

LATER ORGANIZATION: CAFETERIA OPENED, SUCCESSIVE FLOORS STAGED. COMMUNICATION BY TWO-WAY RADIOS

LESSONS: THE FIRST HOUR

- ONE-TO-ONE ESCORTS/TRIAGE
- SUPPLY OFFICERS/RUNNERS
- CLEAR LINES OF AUTHORITY--AT LEAST TWO LEVELS OF TRAUMA DECISION-MAKING
- STAGING AREAS FOR STAFF (ESPECIALLY OUTSIDE DOCS)

ABOVE ALL:

1) FAMILIAR FACES IN CHARGE

2) TAKE YOUR TIME

3) NO DISASTER-MODE

THE SECOND HOUR: 10AM-11AM

CHRONOLOGY

- 10:00 AM SOUTH TOWER COLLAPSES

ADDITIONAL MECHANISMS: CRUSH, INHALATION, OPHTHO, TRAMPLING

CHRONOLOGY

- 10:28: NORTH TOWER COLLAPSES

SYSTEMS FAILURES

- **CON ED CUTS OFF STEAM AND GAS TO LOWER MANHATTAN**
- **CANNOT STERILIZE O.R. INSTRUMENTS**
- **HVAC SYSTEM SHUT DOWN DUE TO DUST CLOUD**
- **TELEPHONES ALMOST USELESS**
- **CITY'S OFFICE OF EMERGENCY MANAGEMENT ON FIRE**

BY 11AM:

350 PATIENTS

HIGH-VOLUME SOLUTION

- ONE-ON-ONE ASSIGNMENT: RECYCLE DOCS AS TRANSPORTERS: GET MORE HISTORY ON THE WAY, FIND APPROPRIATE CONSULT, NO ABANDONED PATIENTS

ADDITIONAL 450 BYPASS FORMAL TRIAGE AREAS

FALLBACK PHASE

WHAT'S GOING ON UPSTAIRS??

- STABILIZED, CRITICAL PATIENTS TO ICU. INITIALLY STAFFED BY 1 MEDICINE RESIDENT AND 2 INTERNS. ATTENDINGS EVENTUALLY MAKE THEIR WAY UPSTAIRS.
- OUTPATIENT CLINIC OPENED ON 4TH FLOOR: 150 PATIENTS SEEN

LESSON

- CLINICIANS WORK BEST IN THEIR OWN ENVIRONMENT
- GET DOCS (NOT NURSES) OUT OF THE ED

LESSONS: THE SECOND HOUR

- INTER-HOSPITAL COORDINATION
- HOSPITAL MUST BE SELF-SUFFICIENT: POWER, STEAM, WATER.
- NEED SINGLE, RELIABLE CHANNEL OF COMMUNICATION WITH CITY/FIRE/EMS

WHAT WORKED WELL?

- STAFF HAD LONG EXPERIENCE WITH EACH OTHER--LOTS OF TRUST
- HOUSEKEEPING VERY EFFICIENT
- DOCS AND NURSES SELF-ORGANIZED
- SUCCESSIVE AREAS OPENED UP SMOOTHLY
- RAPID DISCHARGE

SELF-ORGANIZTION

DOES OUTSIDE HELP WELL, HELP?

9/11, 1 PM
EMS SETS UP TRIAGE CENTERS AT PACE U., CHELSEA PIERS AND SOUTH FERRY

NEVER COORDINATED WITH NYUDH: ED CLEARED

LESSON:
COMMUNICATION
COMMUNICATION
COMMUNICATION

BY 2PM: ALL PATIENTS TREATED AND ED CLEARED

LESSON: YOU HAVE NO IDEA HOW FAST YOU CAN MOVE, OR HOW WELL PEOPLE WILL RISE TO THE OCCASION

OKLAHOMA CITY, 1995: 388 PATIENTS TO 13 HOSPITALS

NYU DOWNTOWN HOSPITAL ON 9/11

1)OVER 500 PATIENTS TREATED

2) SHELTERED ANOTHER 500

ONE OF MANHATTAN'S SMALLEST HOSPITALS

RAN THE LARGEST DISASTER RESPONSE IN CIVILIAN AMERICAN HISTORY

NO PATIENT MISSED

CONCLUSIONS:

1) EVACUATION ABOVE ALL

2) FIELD TRIAGE: GET THEE TO A HOSPITAL

3) TRUST SELF-ORGANIZATION

4) RELIABLE COMMUNICATION

FINAL LESSON:

HOSPITALS MAKE NATURAL COMMAND POSTS.

WHY?

YOU CAN’T ABANDON THEM

AFTERMATH

I WISH I'D SPENT MORE TIME WITH THEM"

THE
“I DIDN’T DO ANYTHING SYNDROME.”