

# The Hospital Laboratory Response to a Disaster:

Joplin May 22, 2011



**May 22**

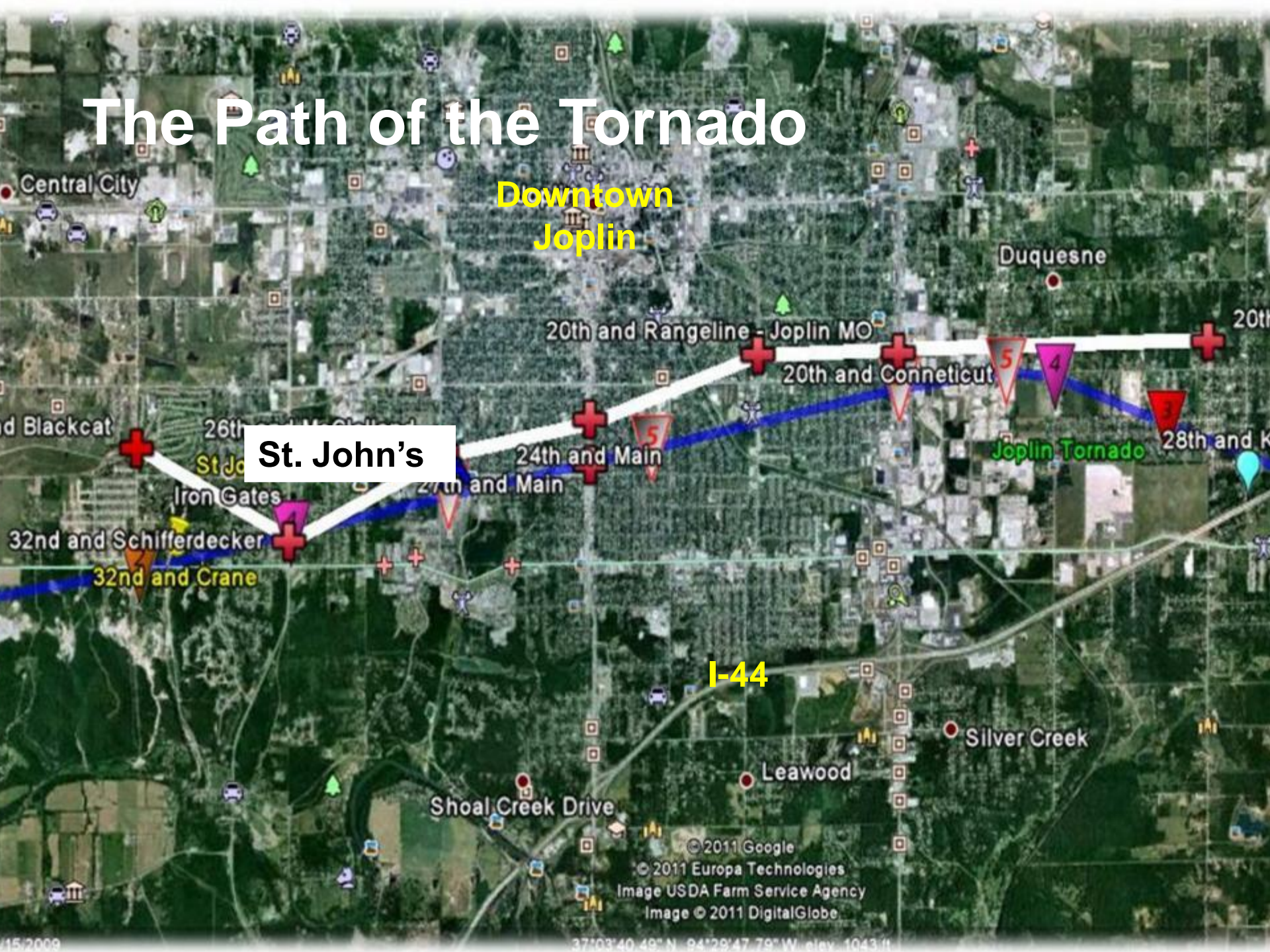


# The Disaster

- **TIME:** Sunday, May 22, 2011 @ 5:41 PM
- **HOSPITAL PATIENTS:** 183 inpatients including 25 ED patients
- **CO-WORKERS:** 117 working at the hospital
- **IMPACT:** EF5 tornado with 200 mph winds, 6 miles long, 1 mile wide band of complete destruction



# The Path of the Tornado



© 2011 Google  
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Image USDA Farm Service Agency  
Image © 2011 DigitalGlobe

# The Impact

- Direct hit to St. John's
- Windows and walls blown out
- Portions of roof pulled off
- Building infrastructure severely damaged
  - Generators destroyed
  - All communication lost
  - Water, sprinkler, gas and sewer pipes disrupted
  - Liquid O2 tanks damaged
- Massive debris throughout building
- 86 physicians' offices
  - Destroyed or severely damaged





# The Evacuation

## 183 patients in the hospital

- 1 surgery in progress
- 1 patient in PACU
- 24 ER patients
- 28 critical care patients

## Three Evacuation Points

- West side of building outside emergency department
- East side of building
- Conference Center – later to Rehab Building

Patients carried down dark stairways on doors, backboards, wheelchairs, wooden chairs and mattresses - 90 min

Medical records already printing

# Triage

- Ambulatory and wheel chairs to Rehab Building
- Critical to Freeman Health System emergency dept.
- Emergency tornado injuries treated at street outside St. John's







# FREEMAN

## HOSPITAL WEST

→ EMERGENCY

→ MAIN ENTRANCE

Smoke Free Campus

110





# Emergency Care

- Memorial Hall emergency - operational for 1 week
- McAuley High School – overflow operation for 48 hours
- Brady Rehabilitation Center
- Medications, medical supplies and personnel deployed

# Laboratory Response

- Testing Available
  - Where is it performed
- Staffing
  - Who is trained?
  - How are they trained
- Communication
- FDA
  - Where did all the blood go?
- EPA



# Incident Command Centers

- ICC and alternate ICC on campus both destroyed
- Temporary ICC at Rehab Building to complete patient evacuation
- Initial ICC at Clinic in Neosho, MO
- St. John's Operational Command Center  
Holiday Inn Convention Center

## **Additional Command Sites**

- Joplin City Command Center
- St. John's Mercy Springfield
- Freeman Health Systems



# May 23 THE AFTERMATH









Photo courtesy: AP/Tulsa World - Adam Wisneski

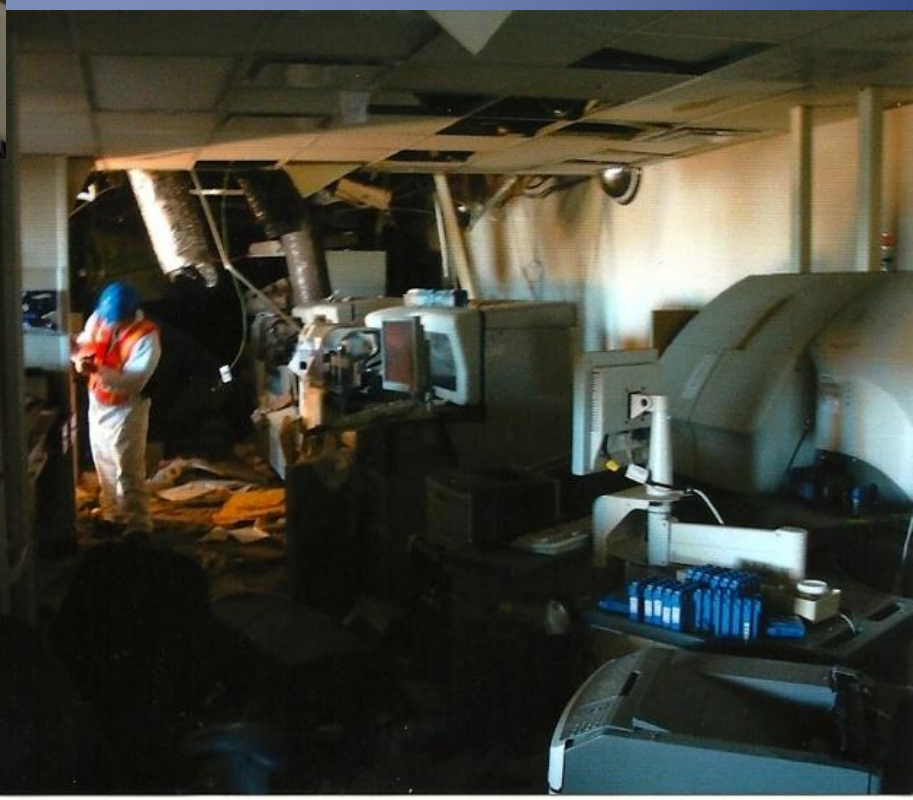
























heart is steadfast; he shall not fear  
 and he looks down upon his foes.

Blessed the man who fears the  
 Lord.

the man who is to the poor,  
 shall endure forever;  
 he shall be exalted in glory.

Blessed the man who fears the  
 Lord.

his posterity shall be blessed  
 the earth shall be blessed  
 the Lord shall be blessed

Letter of Saint  
 3:14-18

now that we have passed  
 death to life  
 love our brothers,  
 not love remains in  
 his brother in  
 anyone who  
 life

This is my commandment: love one  
 another as I love you.

No one has greater love than this,  
 to lay down one's life for one's  
 friends.

You are my friends if you do what I  
 command you.

I no longer call you slaves,  
 because a slave does not know what  
 his master is doing.

I have called you friends,  
 because I have told you everything I  
 have heard from my Father.

It was not you who chose me, but I who  
 chose you

and appointed you to go and bear  
 fruit that will remain,

so that whatever you ask the Father  
 in my name he may give you.

This I command you: love one an-  
 other."

The Gospel of the Lord.

# **May 24**

## **Lynn Britton challenged the team:**

- 1) We will have a hospital back in operation in a week.**
- 2) Locate all co-workers and attend to their needs.**
- 3) All co-workers will remain employed indefinitely. Begin now to find placement for them and design a talent sharing process that keeps medical expertise in southwest Missouri.**
- 4) Follow up on all 183 patients.**



# Mercy Rebounds



# Within the Week



# Stage One Hospital Rebuild

- 60-bed tent-based hospital at the St. John's campus
- Full imaging capabilities
- Operating Room
- Intensive Care
- Emergency Room
- High Complexity Laboratory



40x8ft

# Laboratory

in tent next to trailer

6ft

STAGO  
115 outlet  
310 lbs  
6ft x 25 inches

2- <sup>below</sup> STAT  
x Centrifuge  
x Printer

8ft  
comes with own cart  
maybe option  
2nd?

Hematology  
System  
2 outlets damp  
8ft x 3ft  
x

~~Printer~~

4ft

Computer  
Stainer x  
Microscope

small  
Reagent x  
refrigerator  
x

sink

6ft

urine  
chemistry machine x  
microscope x

2- <sup>below</sup>  
Centrifuge x

5ft

Blood Bank  
Incubator x  
computer x

Centrifuge x  
plasma thawer x  
platelet x  
rotator

Dedicated  
30  
10ft

Blood Bank  
Refrig x

Blood Bank  
Freezer x

What's left

Serology work bench  
x 1-computer/STAT  
x 1-printer  
x 2-card profile  
STORAGE

Same tent

large reagent refrig + 22c  
Freezer

I need more outlets than first thought - looks like 25 minimum





# Laboratory Services

- EMR
  - Preference list
- Testing In-House
- Express Care
  - Staffing
  - Training
  - Competency
- Communication
- Mayo Interface



# Laboratory Compliance

- CLIA
- Joint Commission
- State Surveyor



# Laboratory Services in a 8 x 40 Trailer

- Hematology
  - Differentials
- Urinalysis
- Coagulation
- Serology
- Blood Bank





# Laboratory Tent

- Blood Bank Refrigerator
- Blood Bank Freezer
- Reagent Freezer
- Reagent refrigerator
- Histologists and Transcriptionist



# Chemistry Van

- Chemistry
- Immunoassay
- Esoteric Testing



# Constant Change and Challenges

- Generators
- Space for Staff
- Morale of Staff
- Back up for Instruments
- Temperature







# Laboratory Moves Again



# Compliance with each Move

- Method Validation
  - Precision Verifications
  - Correlation
  - Reportable
- Interfaces
- Documentation



# Co-workers

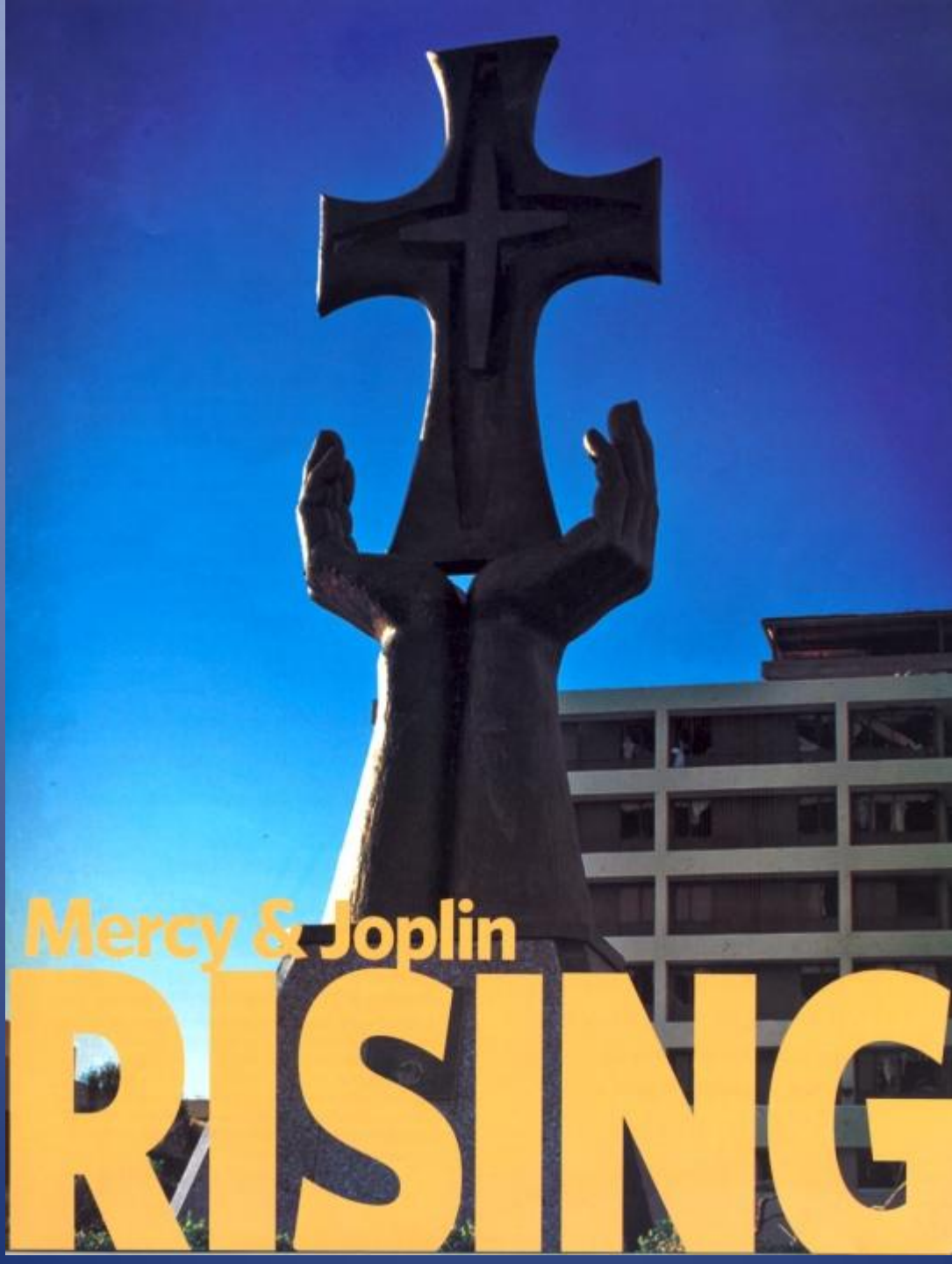


# **Mercy's Commitment to Co-workers**

**\$1.3 m unsolicited donations to the co-worker fund**

- **Co-workers will remain on payroll indefinitely**
- **Extraordinary effort was made to contact all 2,200 co-workers and volunteers**
- **Immediate relief – 190 co-workers received \$500**
- **Transportation assistance – rental cars provided to many co-workers for 30 days**
- **Significant need – 257 co-workers received \$490,000**

**Of 2,200 co-workers, only 100 not back at work today.**



Mercy & Joplin

**RISING**

# Mercy Rebuilds



# Steps in Mercy's Rebuilding Process



**One week after tornado:** 60-bed field hospital, a tent-like structure, is up and running.

**August:** Modular sectionals arrive on campus and are assembled into hard-sided hospital to replace field hospital.



**Spring 2012:** Mercy opens component hospital with 120 beds and additional services.

**2014:** New 327-bed hospital at I-44 and Main opens!

MAY 2011

AUGUST 2011

SPRING 2012

2014



# Designing the Component Hospital



**Built spring 2012;  
in service until 2014**

# We Move again:



# The New Medical Campus



**The story continues...**

