

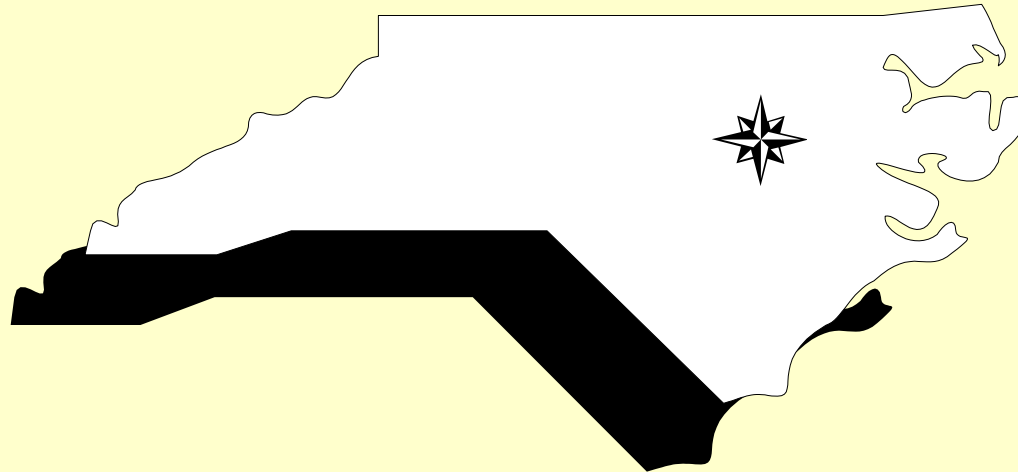
Use of Automated Systems for ED Patient Tracking and Documentation During Disasters

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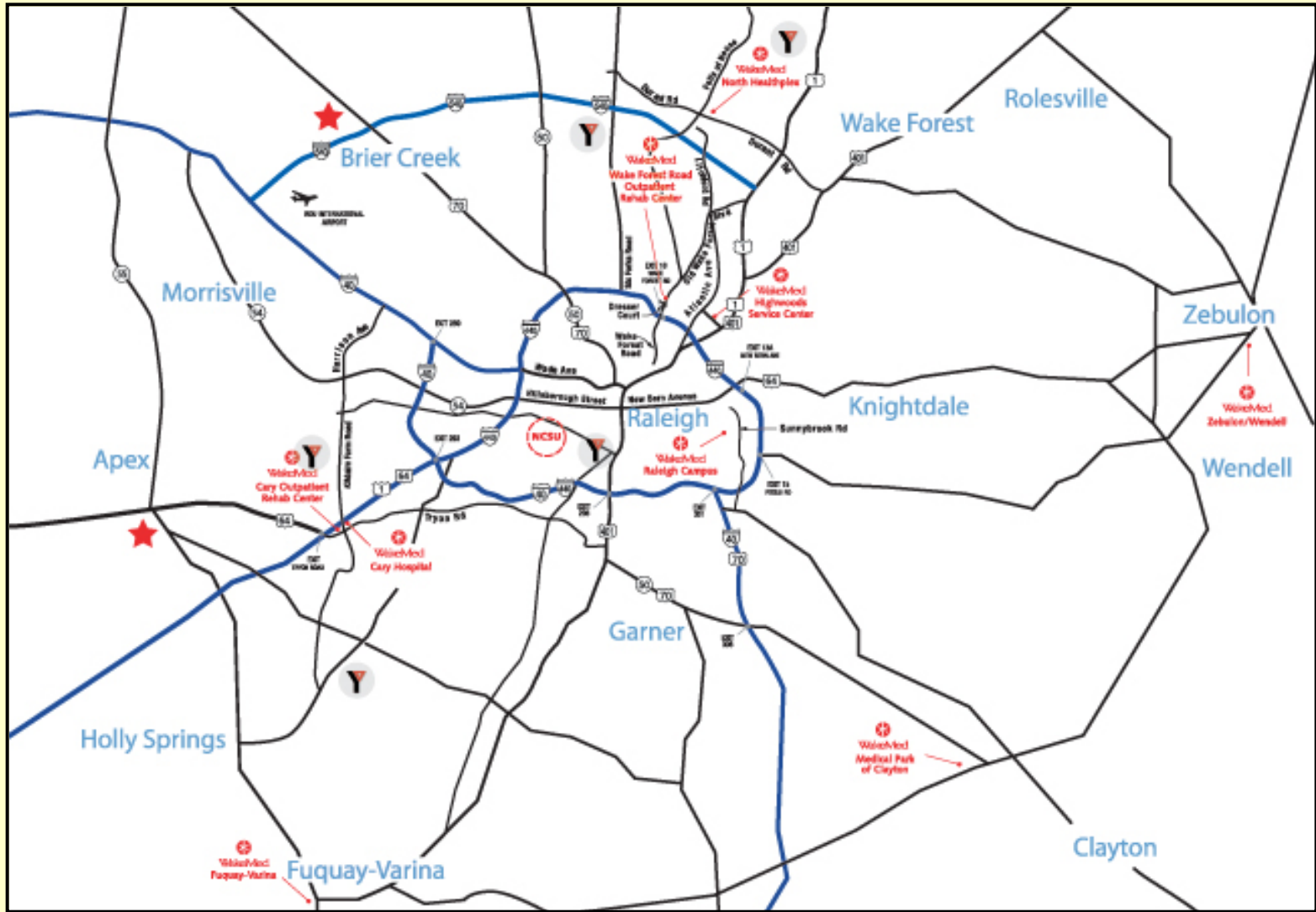
Disclosure

WakeMed Health and Hospitals is a beta partner with Allscripts and also hosts site visits for Allscripts' clients who have either purchased Healthmatics ED or who are considering purchasing Healthmatics ED.

WakeMed Health and Hospitals



Multi-facility healthcare organization in Wake and Johnston Counties of North Carolina



Emergency Services Include:

Adult ED and Children's ED at WakeMed Raleigh Campus

North ED at North Healthplex (Stand Alone ED)

Cary ED at WakeMed Cary

Apex ED, Stand Alone, Opening 1/08

Knightdale ED, Stand Alone, Opening late 08 or early 09



WakeMed Raleigh Campus

- 120,536 visits CY06
- 127,370 visits projected FY07
- Level I Trauma Center



Use Healthmatics ED from Allscripts for ED tracking/documentation/CPOE/reporting at all facilities with interfaces to and from HIS (Siemens Invision), LIS, RIS, and inpatient bed tracking software

Disaster-a natural or man-made hazard that has a negative impact on society or the environment



Examples: 911, Tokyo Sarin Gas Release, Oklahoma City Bombing, Hurricanes Katrina, Fran, or Floyd, London Subway Bombing

Is the hospital part of the disaster or not?

Surge Events

Immediate impact on hospitals:
Explosive or Chemical Events

Gradual impact on hospitals:
Infectious Disease Events

Oklahoma City Bombing: 13 hospitals

- 388 total patients received, 48 of whom were children
- First patients arrived within 15 minutes
- Peak at 60-90 minutes post blast
- Within 3 hours 227 patients at hospitals
- 33% arrived by EMS
- 63.6% of these patients went to 5 major hospitals within 1.5 miles of blast site
- Median ED Stay=55 minutes
- 72 patients were admitted
- **158 patients were seen by a private MD**

NYC 9/11

St. Vincent's Hospital

- First patient received 74 minutes after first plane hit
- Received around 300 patients in first 2 hours

NYU Downtown Hospital

- 350 patients received in the first 2 hours
- 448 patients received in the first 24 hours
- 24 admissions with 12 ICU beds required
- 5 patients sent to the OR

Surge Treatment Issues

- Need for laboratory services
- Need for intubations and/or surgical airway management
- Need for CT Scan
- Need for hemodialysis (29 of 95 crush injuries from a Taiwan earthquake required hemodialysis)
- 50% of patients from explosions or collapses will need X-ray

**Make sure to involve ancillary departments
in Disaster planning**

WakeMed Before

Paper based system prior to Spring 2005

Patients directed to ambulance entrance on arrival

Names (if available) written on a piece of paper

Rapid triage done by ED MD

Disaster envelope with disaster number, MD order sheet,
ID bracelet, manual lab and radiology forms given to
patient and/or nurse

Patient moved to treatment bay or surge area for care

Paper disaster log copied and distributed

Patients entered into HIS and EDIS at or after discharge

The High School Chemistry Lab Explosion

35 students arrived via school bus ~20 minutes post notification

Students rapidly triaged and dispersed across three separate areas of the ED

Parents began arriving almost simultaneously

Vice Presidents arrived next needing information for the media

NOBODY KNEW WHO ANY ONE WAS OR WHERE THEY WERE.....We walked from student to student asking their names!!



The High School Chemistry Lab Explosion

3-4 patients with underlying respiratory problems had some breathing issues

All were walkie-talkies so we could ask them their names and unite them with their parents

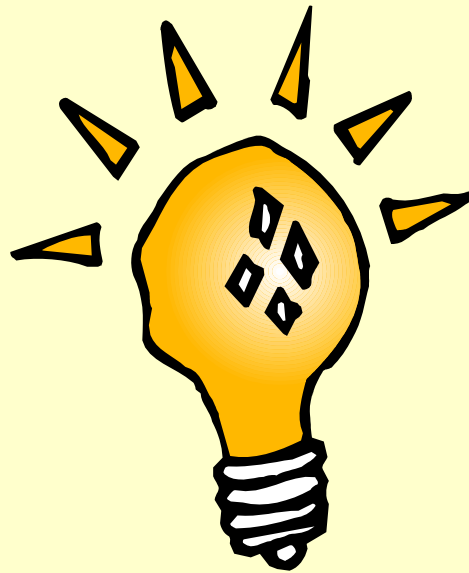
No patients required admission

BUT.....

There had to be a better way!!

WakeMed After

Why were we not using the existing electronic systems that we used every day?



And that we had spent millions of dollars and thousands of hours deploying?

WakeMed After

Basic Premise:

Unless the plane or bomb hits WakeMed we should use the existing electronic systems that we have.

WakeMed After

The ED Systems Analyst and the EMS Liaison RN reviewed the chemistry lab explosion and proposed changing the process

A basic plan was outlined

A multidisciplinary CQI team met to develop new plan

Necessary systems work was done

The clinics came on board

Healthmatics ED

Vendor: Allscripts

Used for ED tracking, documentation, CPOE, reporting

WakeMed Raleigh: Live since 12/1999

WakeMed Cary: Live since 1/2000

WakeMed North: Live since 7/2005

Room	Time	Initial	Age	Gender	Chief Complaint	Physician	Status	Time	Notes	Icons
A04	839:26	Initial	47y	M	Abdominal pain	TESTPATIENT, HMETHREE	Await Triage	839 Hrs 26 Min		
A05	2287:11	Initial	47y	M	Abdominal pain	ZOSUPGRADE, TEST SEVEN	Await Triage	2287 Hrs 11 Min		
A06	1488:27	U<12	16y	M	Abrasion	PHIPPS, TONY	Await Triage	1488 Hrs 27 Min		
A07	551:15	Initial	24y	F	Pain or pressure in chest	TEST, KARLA	Await Triage	551 Hrs 15 Min		
A08	820:46	U<12	18y	F	Abdominal pain	PHIPPS, ABBY	Await Triage	820 Hrs 46 Min		
A09	551:04	Initial	57y	F	*****56	test, laura b	Await Triage	551 Hrs 4 Min		
A10	510:36	Initial	16y	M	Abrasion	PHIPPS, MARSHAL	With Triage	174 Hrs 39 Min	KMH	
A11	509:15	Initial	51y	F	Weak and dizzy	TESTPATIENT, DIANE P	Await Triage	509 Hrs 15 Min		
AHST										
AHWC										
AHC1										
AHC2										
OFFUNIT										
RADHA1										

Patient List: Tracking Board
 Patient: B12 - TESTPATIENT, SANDRA J
 Chief Complaint: Chest pain MR#: 1266376
 Alternate Visit#: 000004874652 Acct#: 46707097 Acuity: ESI-2
 Weight: Age: 40y DOB: 1/18/1967 Sex: F



Filter by Templates

Triage Nursing Proc NursPeds Disposit
 Trauma PstHx AltCare

- Arrival by
- Wake EMS ID
- PCP/private physician Yes No
 - Local physician
 - Other PCP
- Patient Paging
- Pt. Pager Returned
- Scheduled Return--Rabies Vaccina...
- Scheduled Return--Suture/Staple R...
- Code STEMI Called YES NO
- Code STROKE Called
- Code STROKE Cancelled
- Pending Arrival Actual Arrive Time
- Special Needs/Accommodations
- Is the Patient's primary langua... Yes No
- Direct Admit
- Chief Complaint Subjective
- Adult Standing Orders
 - SO All ED Patients

Note U Undo Sketch Help

VITALS

Initials/Date/Time	Temp(F)	Rt. Pulse	Resp	Syst	Diast	Pos.	O2 Sat	FSBS	Pain	Sc
J8H 1/22/2007 17:23	97.9	O 61	18	117	65	S	98		8	
JMM1 1/22/2007 18:08		64	18	122	64	S	99%2LNC		0	
J3H 1/22/2007 19:25		62	18	108	57	L	98%2LNC		0	
J3H 1/22/2007 20:13									3	
J3H 1/22/2007 20:13		60	18	110	61	L	98%2LNC		3	
J3H 1/22/2007 20:27		64	18	109	64	S	98%2LNC		3	
J3H 1/22/2007 20:33		78	18	125	61	S	98%2LNC		0	
J3H 1/22/2007 21:30		63	18	110	63	S	99%2LNC		0	
J3H 1/22/2007 23:00	97.6	O 68	18	120	61	L	99%RA		0	

Notes:
 <JMM1 01-22-2007 18:08>Patient says her chest doesn't hurt anymore "it's just flutterin"
 <J3H 01-22-2007 19:50>pt denied any further Chest discomforts, no sob, clear breath sounds, NSR on the monitor.
 <J3H 01-22-2007 20:17>pt reports chest heaviness ant this time, no sob, denied nausea or vomiting, skin warm and dry, will do 2nd EKG as per MD, NSR on the monitor.
 <J3H 01-22-2007 20:35>pt reports relief from chest pressure, no other discomfort was voiced.

TRIAGE
 Arrival: Arrived to Adult ED, ambulatory walk-in following transport via private transportation from home accompanied by self
 Patient has a private physician.
 Local Physician: Bookert, Lisa M
 The following pager was activated and given to the Pt/Family: Pager # 13

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 Patient: B12 - TESTPATIENT, SANDRA J Weight: Age: 40y DOB: 1/18/1967 Sex: F

- Filter by Templates
- Order**
- Adult Top
 - Peds Top
 - Top Nursing Orders
 - Abd Pain w Quick Set - Female
 - Acute MI w Quick Set
 - Acute Stroke w Quick Set - Female
 - Allergic Reaction Order Set
 - Asthma/COPD w Quick Set
 - Atrial Fibrillation/SVT
 - Chest Pain
 - CHF
 - Conscious Sedation
 - Contrast Prophylaxis
 - Extremity Injury
 - Head Injury**
 - Headache
 - Hip Fracture in Non-Trauma Patie...
 - Hyperglycemia/Hypoglycemia
 - Intubation/Critical Care
 - MVC/TRAUMA
- Note U Undo Sketch Help

Item	Checked	Nursing Order
HEAD INJURY		
Cardiac Monitor	<input checked="" type="checkbox"/>	Nursing Order: Vitals/Monitoring ; Cardiac monitor
Pulse Oximetry	<input checked="" type="checkbox"/>	Nursing Order: Vitals/Monitoring ; Pulse oximetry continuous
O2 to keep Sat GT 94%	<input type="checkbox"/>	
Airway Bag to Bedside	<input type="checkbox"/>	
Elevate HOB 30 degree	<input checked="" type="checkbox"/>	Nursing Order: Miscellaneous ; Elevate HOB 30 degrees
Long Back Board/C Collar	<input checked="" type="checkbox"/>	Nursing Order: Splints ; Long back board and hard cervical collar.
Cervical Collar Hard	<input type="checkbox"/>	
May Remove Long Board	<input type="checkbox"/>	
May Remove C Collar	<input type="checkbox"/>	
Seizure Precautions	<input type="checkbox"/>	
NPO	<input checked="" type="checkbox"/>	Nursing Order: ED Diet Orders/AQ ; NPO
PO Fluids as Tolerated	<input type="checkbox"/>	
Saline Lock	<input type="checkbox"/>	
IV 0.9 NS @ TKO	<input type="checkbox"/>	
IV 0.9 NS @ 1 L Bolus	<input type="checkbox"/>	
IV 0.9 NS @ 500 ml Bolus	<input checked="" type="checkbox"/>	IV 0.9NS @ 500 ml bolus
IV 0.9 NS @ 100 ml/hr	<input type="checkbox"/>	
IV 0.9 NS @ 150 ml/hr	<input type="checkbox"/>	

Special Instructor Cancel Order Select All De-Select All Send

New Plan

- Disaster patients preloaded in both the EDIS and HIS
- Disaster packs included pre-printed armbands and labels
- Pre-arrival Disaster patients are placed on the tracking board
- Chief complaint is Disaster
- Additional complaints used to indicate patient injury/problem, i.e. lacerations

New Plan

- Quick Disaster registration completed to get account number
- As patients arrive their location is updated on the tracking board
- Names are updated ASAP to reunited patients and families
- Field triage colors/designations are used
- Orders/results are done electronically

Enter Search Criteria

Last Name: First Name: Middle Name: Acct #:

DOB (mm/dd/yyyy): SSN: MR Number:

Use Soundex Auto Triage EMS Only

List Of Patients

Name	Sex	DOB	SSN	Phone No.	MR #	Acct #	Dispo
Disaster,DDRFFORTYFOUR	F	01-Jan-1900			1555843		
Disaster,DDRFFORTYNINE	F	01-Jan-1900			1555848		
Disaster,DDRFFORTYONE	F	01-Jan-1900			1555840		
Disaster,DDRFFORTYSEVEN	F	01-Jan-1900			1555846		
Disaster,DDRFFORTYSIX	F	01-Jan-1900			1555845		
Disaster,DDRFFORTYTHREE	F	01-Jan-1900			1555842		
Disaster,DDRFFORTYTWO	F	01-Jan-1900			1555841		
Disaster,DDRFFOUR	F	01-Jan-1900			1555803		
Disaster,DDRFFOURTEEN	F	01-Jan-1900			1555813		
Disaster,DDRFNINE	F	01-Jan-1900			1555808		
Disaster,DDRFNINETEEN	F	01-Jan-1900			1555818		
DISASTER,DDRFONE	F	01-Jan-1900	999-99-9999		1555800		
Disaster,DDRFSEVEN	F	01-Jan-1900			1555806		
Disaster,DDRFSEVENTEEN	F	01-Jan-1900			1555816		
DISASTER,DDRFSEVENTY	F	01-Jan-1900	999-99-9999		1555869	37091576	
DISASTER,DDRFSEVENTYFIVE	F	01-Jan-1900	999-99-9999		1555874	37091581	

HMED Raleigh Test - MetaFrame Presentation Server Client

Disaster, DDRFFIFTYTHREE F Rm: [Visit Overview]

File View Tools GoTo Help

TB Tracking Board IB Incomplete Board Patient Lookup Summary Chart Review Physician Nursing Order Management Order Entry Log Off

Sets Lab Radiology EKG Resp DME Consultation Lab Radiology EKG

Patient List: Tracking Board Chief Complaint: MR#: 1555852 Alternate Visit#: Acct#: Acuity: Weight: Age: DOB: 1/1/1900 Sex: F
 Patient: - Disaster, DDRFFIFTYTHREE

About The Patient
 LName Disaster First DDRFFIFTYTHREE Mid Sfx
 SSN Sex Female Est. Age DOB (mm/dd/yyyy) 01-Jan-1900 MR # 1555852

Encounter Details
 EncounterType: Initial Account #:
 Acuity: ZDisaster Yellow Tag Bed: ZDISASAWAI - DADULTPEND

Reason for Visit / I
 Disaster
 ZDisaster Black Tag
 ZDisaster Green Tag
 ZDisaster Red Tag
 Locate: dis ZDisaster Yellow Tag

- Delivery, Mother
- Dental pain
- Depression
- Detox evaluation
- Dialysis
- Diarrhea
- Difficult swallowing
- Difficulty breathing
- Disaster
- Diving Injury

Set Chief Complaint

Help Cancel Save

Monday, June 11, 2007 19:38 Julie F. Phipps, SA # Patients 54

start Citri... Con... 2 M.. 2 M.. 4 I... HM... 7:38 PM

Using the New System

Tested during county-wide disaster drill May 2005 including use in the clinics for ambulatory patients and in the Emergency Operations Center so administrators could **see the ED without being in the ED**



Used in chemical explosion and fire, pepper spray release at a middle school, and a carbon monoxide exposure

Advantages

- No need for staff to learn/remember different systems
- Everyone knows patient location even if multiple locations are used
- Everyone knows number of disaster patients
- Allows for a view of the disaster in the context of the ED
- Ancillary departments receive orders electronically
- Results are available electronically

Advantages (continued)

- Keeps Vice Presidents out of the ED
- Provides a view of the ED including need for resources such as admission beds, OR rooms, medications, etc.
- Allows for rapid reporting on patients
- Allows for better post event critiques due to ease of data retrieval and accuracy of data

Caveats/Disadvantages

- We have not tested this with hundreds of arrivals!!
- ED MDs have HMED access and are familiar with HMED
What if multiple community MDs are called in?
- Hospital infrastructure damage could negate this entire plan
- Some Vice Presidents may still want to see the ED in person
- Some staff are more comfortable with paper
- Administrative staff need help with the tracking board

Take Aways

Review your disaster plan: Are you making use of your automated systems? If not, why not?
Could you?

Involve key departments in addition to the ED

Complete set up before the disaster strikes

Test your system

Adjust the plan and system as needed

Questions?

