



Texas Health
Resources

We Save Lives: A Nursing
Informatics Perspective on
Patient Safety and Quality

Mary Beth Mitchell, MSN, RN, BC, CPHIMS

- Discuss the impact of the CNIO role in use of the EHR by Nursing.
- Explore how Nursing Informatics impacts patient safety and quality
- Explain construct of Unintended Consequences and impact on safety and quality
- Discuss how Texas Health Resources utilized the EHR to better manage detection of Ebola patients by redesigning their Emerging Disease Screening Tool.



Texas Health Mission

To improve the health of the people in the communities we serve



Texas Health Vision

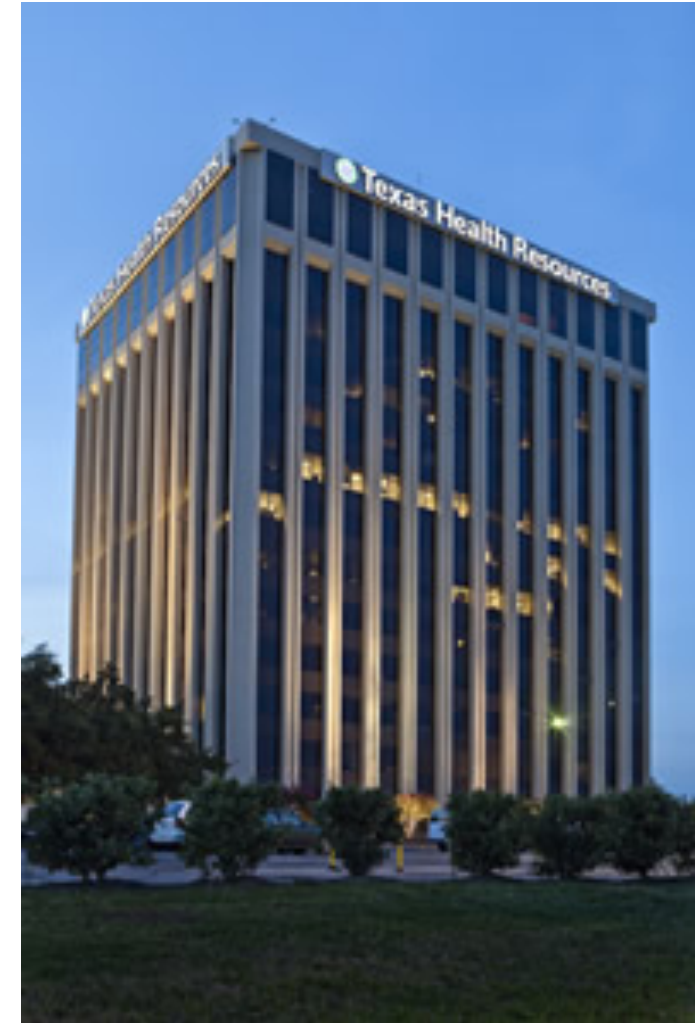
Texas Health Resources, a faith-based organization joining with physicians, will be the health care system of choice



Innovative Technology Solutions

Innovate, transform, and serve

- One of the largest faith-based, nonprofit health care delivery systems in the United States
- Facts and Figures
 - 14 Wholly owned hospitals (25 hospitals total)
 - 18 outpatient facilities and
 - 250 other community access points
 - 3,100 Operational beds
 - 4,100 licensed hospital beds
 - 22,500 staff
 - 7,500 RN's
 - 5,500 physicians
 - 557,785 annual emergency visits
 - 24,573 annual deliveries
 - More than 1.3 million inpatient & outpatient visits



Texas Health Resources in Dallas-Fort Worth Area



himss Davies Award
Excellence in improving patient care and outcomes
2013 Enterprise Award

2011 Healthcare IT News
**WHERE TO WORK:
BEST
HOSPITAL IT
DEPARTMENTS**

HealthCare's
**most
wired**TM
14 of the past 15 years

himssanalytics
**STAGE
6**

HIMSS EMRAM Stage 6
designation at all hospitals

COMPUTERWORLD
**100
BEST PLACES
TO WORK IN IT 2014**
Ranked 8
Large Company



InformationWeek 500
Resources
Top Technological Innovators across
America for the 15th consecutive year

himssanalytics
**STAGE
7
AWARD**

Health Care's
MOST WIRED
INNOVATOR AWARD
Finalist

Modern Healthcare HIMSS
**Achievement
CEO IT
AWARDS**
Doug Hawthorne – 2008

**CSO
40
AWARDS
HONOREE
2013**

InformationWeek
Elite 100 2014
Ranked 18

THA, THAL, THAZ, THC
THD, THDN, THFW, THSH,
THS, THSW, THK

**100
PREMIER
IT LEADERS 2010**

Edward Marx

2012
**THE COMPUTERWORLD
HONORS PROGRAM**
LAUREATE



PMI
Building professionalism in project management
Project Management Institute
Healthcare Specific Interest Group
2008 Healthcare SIG
Project of the Year

CIO 100

USNews MOST CONNECTED
HOSPITALS
THAM, THD, THFW
THP, & THSW

himss
Stories of Success!

Healthcare Informatics
**Innovators
2012**

Semi Finalist

CHIME
Innovator
State Advocacy Award

PINK
IT Excellence Awards
IT LEADER OF THE YEAR
Edward Marx

CHIME HIMSS
John E. Gall Jr. CIO of the Year Award
Edward Marx

**ALLIANCE
for
CME**
The International Association
of CME Professionals

THE ALLIANCE
Awards
2010 Recipient

HealthLeaders
**MARKETING
AWARDS**
2008
1st & 2nd place

**Ones
to Watch**
AWARDS

Nanda Lahoud – 2011
Debbie Jowers – 6

- CNIO Role is a relatively new, emerging role within organizations.
- Bridges Nursing and Information Technology together.
- The CNIO is a Nurse Leader with variety of key responsibilities
 - Strategic direction of nursing's use of technology
 - Operational oversight of clinical application implementations
 - Relationship building between key leaders and departments- i.e.: Nursing, IT, Medicine, Quality, Patient Safety
 - Professional Development of Nursing Informatics

Swindle & Bradley, 2010

CNIO Responsibilities

- EHR Implementation and adoption
- Regulatory requirements compliance
- Infrastructure/Integration
- Managing the Corporate Vision
- Emerging Technologies
- Analytics- “Answering the question.”
- Professional Development of staff in Nursing Informatics



- The role of the CNIO is both strategic and operational in developing programs to positively impact the adoption and use of the EMR for nursing and other clinical departments.
- Translator of the technology and understanding of risks and benefits
- Understanding of the organization and factors impacting nursing practice within the organization
- Understanding of regulatory requirements especially around HITECH Act and Meaningful Use
- CNO does not have to “worry” about technology impact on nursing
- Professional development of Nursing Informatics

Key Relationships

- Chief Nursing Officer
- Chief Information Officer
- Chief Medical Informatics Officer

**All 3 reporting lines are optimal
For CNIO effectiveness.**



Why is This Role So Critical Now?

- EHR Use and Adoption
- Increasing Regulatory Requirements
- Focus on Outcomes and Analytics
- Emerging Mobile Technology
- Focus on Patient Safety

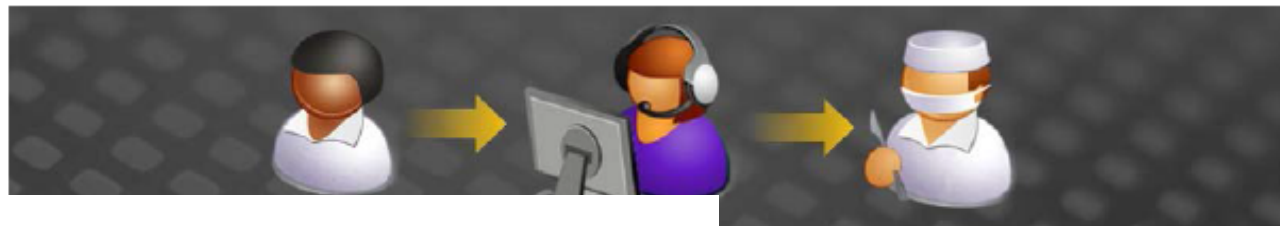


My Life as a CNIO



Islands of Communication

Yesterday: Life Was Simple



Today: Islands of Information





HITECH Act of 2009

**Better
Communication and
care coordination**

**Safer
Treatment via
e-Prescribing**

**Faster
Delivery of
information and
results**

**More efficient
Coding and
billing**

- Well documented benefits of Electronic Health Record (EHR)
 - Legibility
 - Increased access to patient record
 - CPOE/Order Sets- evidenced based
 - ePrescribing
 - Data Analysis
- Clinical decision support delivered electronically within the medical record will provide decision makers with tools for best practice and safety improvements.

Hospital Information Technology Systems' Impact on Nurses and Nursing Care

Waneka and Spetz, **JONA**, December 2010

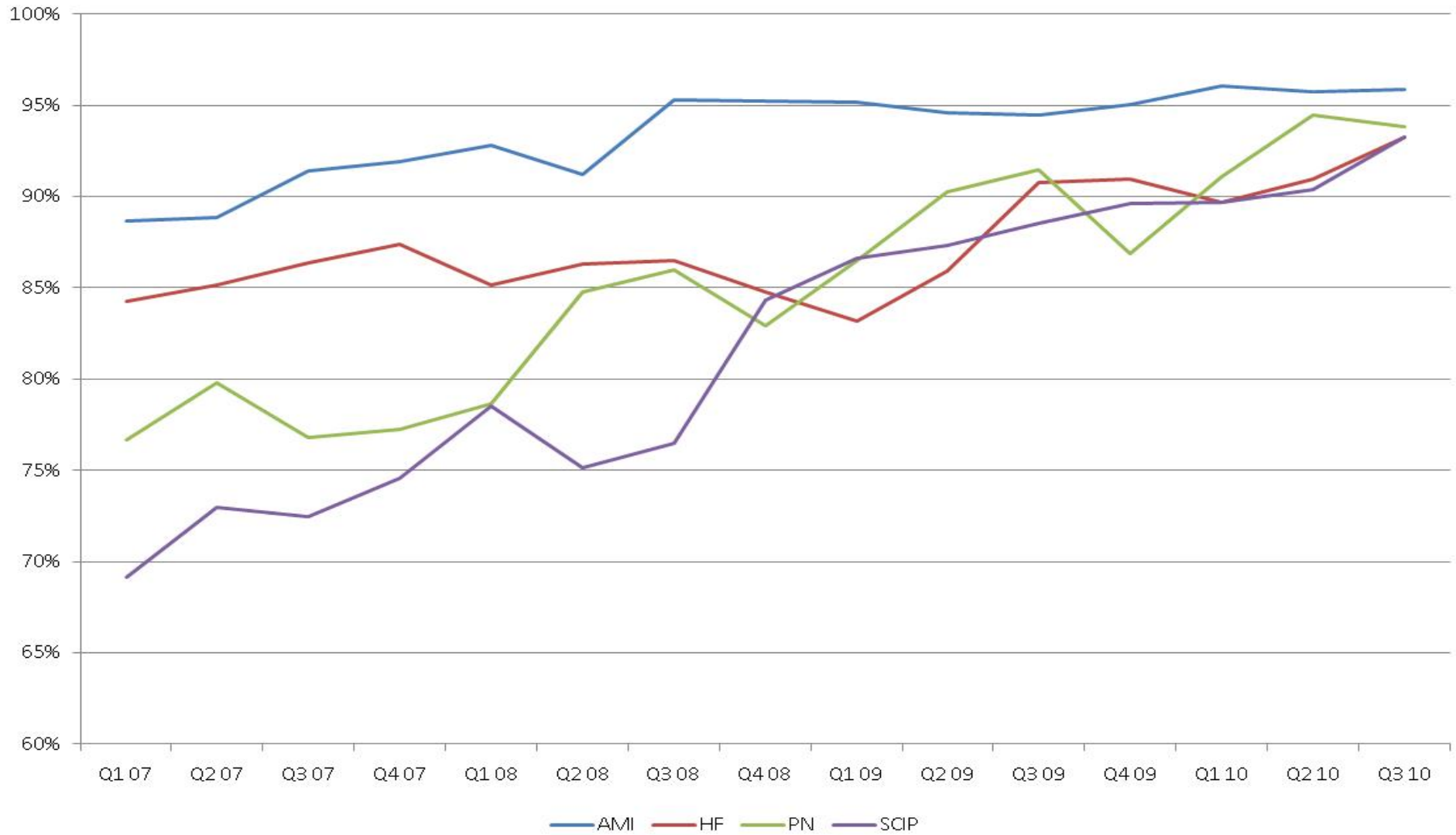
- **Background:** review of the literature to determine the impact of health information technologies (HITs) on nurses and nursing care
- **Study:** Review of literature produced 564 references, of which 74 were selected for review to determine impact of HIT on nurses and Nursing Care
- **Results:** Findings suggest that
 - HIT improves the quality of nursing documentation;
 - HIT reduces medication administration errors;
 - Nurses are generally satisfied with HIT and have positive attitudes
 - Nurse involvement in all stages of HIT design and implementation, and effective leadership throughout these processes, can improve HIT.
- **Conclusion:** HIT has had positive influences on nurse satisfaction and patient care. Effective nursing leadership can positively influence the effective development, dissemination, and use of HIT.

Radice, Barbara, (February, 2011). Informatics and Quality Outcomes.

HIMSS Presentation, Orlando Florida.

Patient Safety at THR

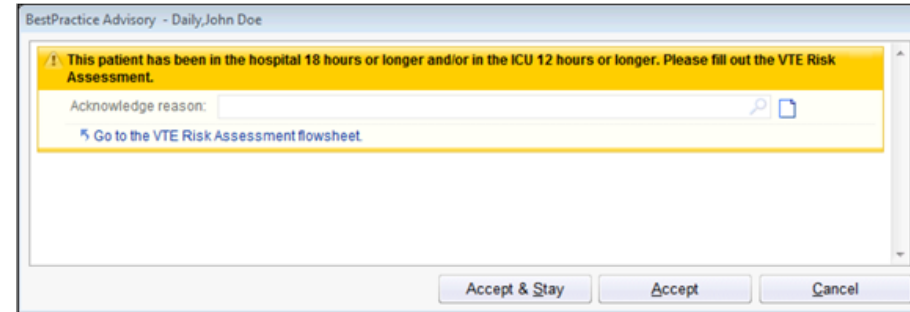
THR Core Measures ACS Scores Q1 2007 - Q3 2010



THR Approach to Medication Safety



CPOE



CDS



BMV

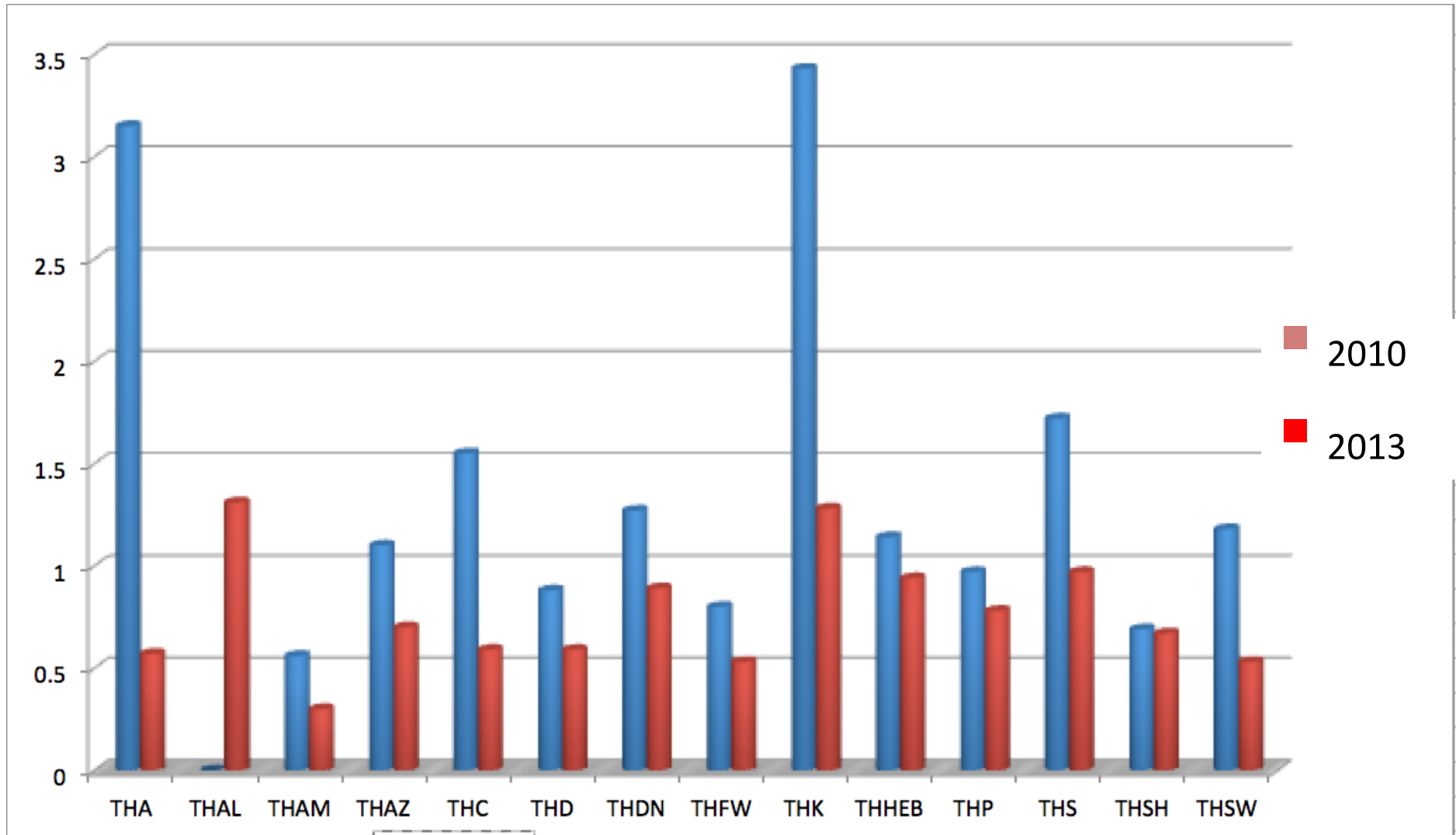


IV Pump Integration



- Reduction in ADE's as result of:
 - 36% decrease in adverse drug events through universal use of CPOE by physicians, resulting in \$1.8 million in cost avoidance.
 - 42% reduction in medication errors through closed-loop medication administration process.
 - The use of smart pumps with “guardrail” software to alert the nurse when dosage parameters are exceeded.
 - Expecting another 30% decrease in medication errors with Smart Pump Integration

Medication Errors 2010-2013



Standardization through also decreased variability among hospitals

Modified Early Warning System





Modified Early Warning System- MEWS

- Evidenced-based predictive tool that indicates patients at risk of cardiac arrest.
- Proactive management of patients before they experience significant clinical events that negatively impact their recovery.
- EHR facilitates clinician's ability to aggregate patient information to make care decisions sooner.
- MEWS project designed to bring relevant information to the registered nurse with which to make immediate care decisions in critical situations.
- The success of this project has been beyond expectations.

- Cardiac arrest decreased by 38% in the first six months of use.
- Cardiac arrest decreased 65% within 1 year (represents 22 at-risk patients)
- Represents cost avoidance \$640,000* per year from increased MEWS surveillance

So how does it work?

*based on the Centers for Medicare and Medicaid Services average of ICU bed cost of \$4,850, and an average ICU stay of three days).

VS Early Warning	Bed	Patient Name					Patient Location	SIRS Score
3	NONE	[REDACTED]					2BES	2
3	NONE	[REDACTED]					2BES	2
3	NONE	[REDACTED]					2BES	2
3	NONE	[REDACTED]					2BES	0

Report: VS Early Warning

Articfox, David W. - MR#: <E6112577> (52 y.o. M) (Adm: 09/09/13) Inpatient B2ES

Patient Scoring

MEWS EARLY WARNING SCORE:

Heart Rate:	0
Systolic Blood Pressure:	1
Respiratory Rate:	2
Temperature:	0
Level of Consciousness:	0

VS EARLY WARNING SCORING TOOL

Score:	3	2	1	0	1	2	3
Heart Rate		≤ 40	41-50	51-100	101-110	111-129	≥ 130
Systolic Blood Pressure	≤ 70	71-80	81-100	101-199		≥ 200	
Respiratory Rate		≤ 9		10-16	17-20	21-29	≥ 30
Temperature (°F)		< 95		95-101.2		≥ 101.3	
CNS - Level of Consciousness				Alert	Confusion/Restlessness	Responds to Pain	Unresponsive

Flowsheet Rows

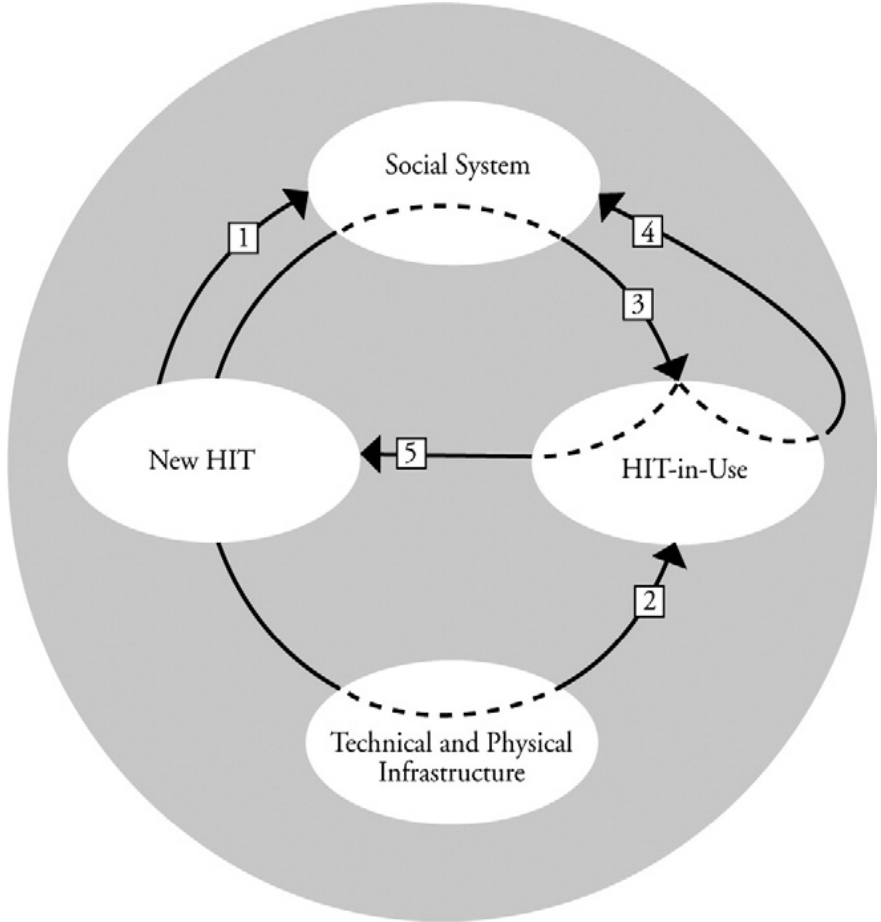
	Most Recent Value
Pulse	89 filed at 09/09/2013 10:21
BP	100/60 mmHg filed at 09/09/2013 10:21
Resp	22 filed at 09/09/2013 10:21
Temp	99 °F (37.2 °C) filed at 09/09/2013 10:21
Level of Consciousness	
Arousal Level	

VITAL SIGN EARLY WARNING TRENDING

Safety Concerns with the EHR: Unintended Consequences of HIT

- Events that are neither anticipated nor the specific goals of the associated computer project implementation
- Includes both undesirable as well as desirable, positive, and beneficial consequences
- May undermine patient safety practices, and cause delays, miscommunication, and even errors or harm to patients.
- Often blamed on the performance of the “newly introduced technology.”
- Meaningful User impact of trying to get EHR’s in quickly to get incentives

A Construct for Quality and Safety in the EHR



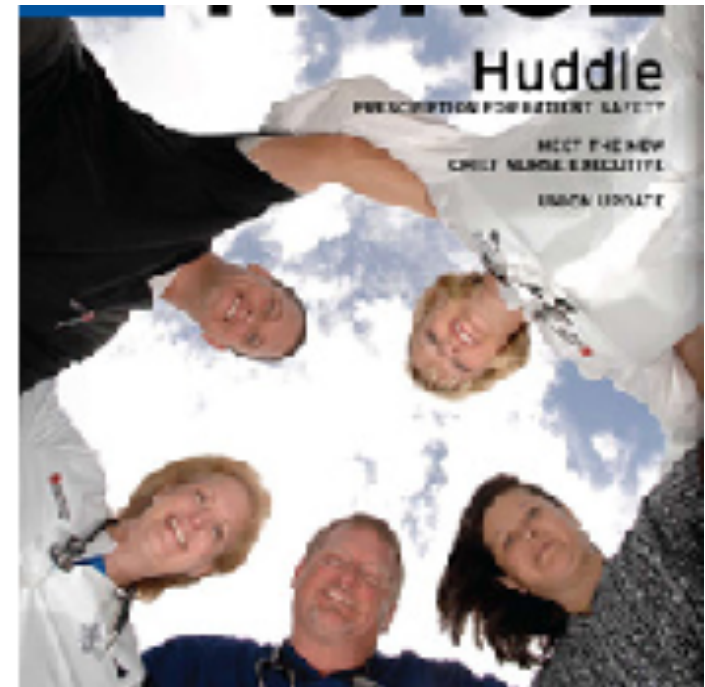
Several reasons identified for occurrence :

- Workflow
- Culture
- Technology
- Social Interactions

- Order Management-
 - Orders not always discontinued, or modified-
 - Difficult to understand med dose, and IV rates.
 - Bad practices in placing order sets
- Blood Administration
- Medication Reconciliation



- Ignoring Alerts
- Over-reliance on technology
- Verbal orders/Telephone orders
 - Increased volume
 - Error prone
 - Alerts for physicians do not fire for nursing?
 - Order modes- correct co-signatures
- Patient Hand-Offs/Communication



- CPOE
- BMV- Barcode Medication Verification
- Hard to Tell the Patient Story
 - Documentation in multiple places
- Integration- with other systems
 - Device Integration
 - Disparate Systems



- Lack of face-to-face communication
 - Physicians to nurses
 - Pharmacists to nurses
- Perceived decreased socialization
 - Access and location of computers
- Documenting at Nurses Stations



- Culture
- Workflows
- Technology
- Social Interactions



www.shutterstock.com · 210071419

- Faith based organization
- SSHH
- Special, Sacred, Humbling, Heroic
- “SSH! Listen. The work that we do is a very special, sacred, humbling and heroic ministry.”

Dr. Jeffrey Canose, COO

- Initiate CDC guideline
 - Paper-based immediately at all intake points
- Form a multi-disciplinary team to design Emerging Diseases screening tools
 - Nursing Informatics Specialist- Project Lead
- Subject Matter Experts
 - Infection Prevention, ED, Ambulatory, Inpatient clinicians
- EHR Design Team
 - CMIO, Builders from every application, Reporting, CDS

Plan

- Reach beyond Ebola for basic Emerging Disease evaluation (include MERS-CoV)
- Evaluate current tools and determine gaps between existing system and CDC recommendations
- Build the EHR screening tools to CDC algorithm
- Deliverables
 - Screening are done on all patients regardless of the point of entry
 - Questions should be required (hard-stopped)
 - All CDC/state guidelines must be addressed
 - Alerts/warnings must be prominent
 - Emphasize face to face communications in addition to EHR alerts and warnings

Do

- Project team multiple daily meetings to identify the build potential and design the EHR screens.
- Iterative process between Informatics, Builders, and Clinicians- validation and usability testing
- Supported by EHR vendor to assess, analyze and support
- System coordination (in addition to ITS meetings)
 - HIM paper processes
 - System leadership communications

Study

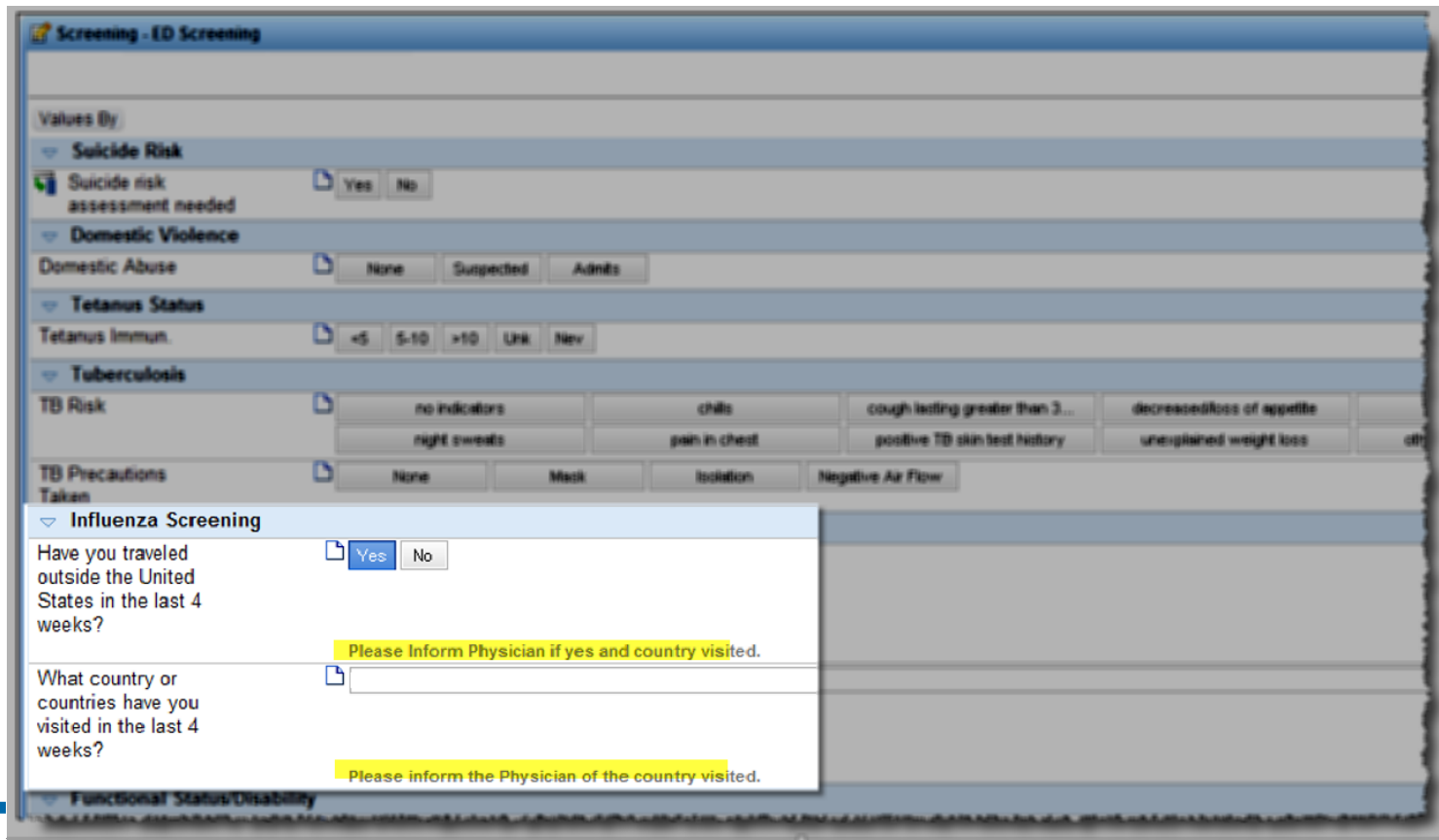
- Evaluation of build
- CDC and State of Texas guidelines changed resulting in significant rebuild before initial release.
- Usability testing
- Multi-disciplinary committee review and acceptance
- Monitoring and reporting

Act

- Required for all areas using the EHR, not just ED
- All patients, regardless of the point of entry, including Ambulatory clinics, procedural areas and general admissions, are screened
- Only clinicians assess patients in a confidential space
- Standardized paper-based form, for areas and clinics not using the THR EHR

Previous Screening

- Began asking travel questions in response to SARS and the Avian flu several years ago
- Asked in ED after patient rooming



Screening - ED Screening

Values By

Suicide Risk

Suicide risk assessment needed Yes No

Domestic Violence

Domestic Abuse None Suspected Admits

Tetanus Status

Tetanus Immun. <5 5-10 >10 Unknown New

Tuberculosis

TB Risk no indicators chills cough lasting greater than 3... decreased/loss of appetite
 night sweats pain in chest positive TB skin test history unexplained weight loss other

TB Precautions Taken None Mask Isolation Negative Air Flow

Influenza Screening

Have you traveled outside the United States in the last 4 weeks? Yes No

Please Inform Physician if yes and country visited.

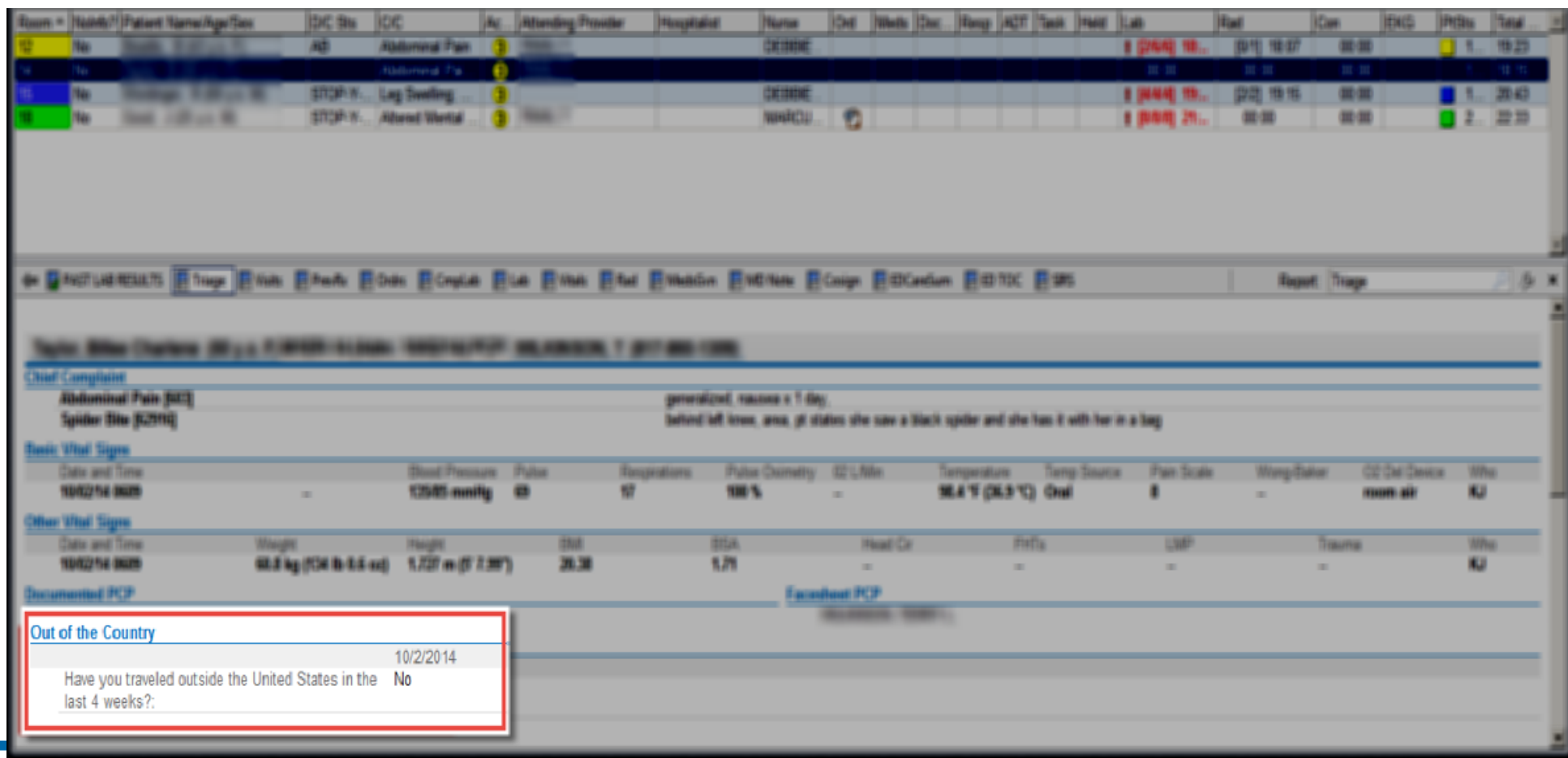
What country or countries have you visited in the last 4 weeks?

Please inform the Physician of the country visited.

Functional Status/Disability

Previous: ED Trackboard

- Travel screening answers viewable on the “Track Board” in the Triage Report



The screenshot displays the ED Trackboard interface. At the top, a table lists patient information including Room, Needs?, Patient Name, Age, Sex, ICD-9, ICD-10, Ac, Attending Provider, Hospitalist, Name, Chk, Wkts, Dec, Resp, APT, Test, Hist, Lab, Rat, Con, FKG, PFDs, and Test. Below this is a navigation bar with tabs for Triage, Vitals, Results, Data, CngLab, Lab, Wkts, Rat, Wkts/Gn, Hb/Hct, Cngn, ED Cardium, ED TOX, and SPS. The main content area shows a patient's triage report with sections for Chief Complaint, Basic Vital Signs, and Other Vital Signs. A red box highlights a travel screening question: "Out of the Country" with a date of 10/2/2014 and the answer "No".

Room	Needs?	Patient Name	Age	Sex	ICD-9	ICD-10	Ac	Attending Provider	Hospitalist	Name	Chk	Wkts	Dec	Resp	APT	Test	Hist	Lab	Rat	Con	FKG	PFDs	Test
10	No	...	...	...	...	Abdominal Pain	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	Abdominal Pa...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	STCP V... Leg Swelling	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	STCP V... Abdom Wental	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Chief Complaint

Abdominal Pain (R22) generalized, nausea x 1 day
Spider Bite (R231) behind left knee, area of stasis she saw a black spider and she has it with her in a bag

Basic Vital Signs

Date and Time	Blood Pressure	Pulse	Respirations	Pulse Oximetry	O2 L/min	Temperature	Temp Source	Pain Scale	Wing-Edler	O2 Sat Device	Who
10/2/14 0625	125/85 mmHg	82	17	100%	...	36.4 ° (97.5 °C)	Oral	0	...	room air	KJ

Other Vital Signs

Date and Time	Weight	Height	BMI	BSA	Head Cir	PFDs	USP	Trauma	Who
10/2/14 0625	68.8 kg (151 lb 8.8 oz)	1.727 m (5' 7.9")	23.38	1.71	...	...	...	...	KJ

Documented PCP

Out of the Country 10/2/2014
 Have you traveled outside the United States in the last 4 weeks?: No

- EHR can create illusion of communication
- Emphasize the importance of direct clinical communication for patient, staff, population health, and safety
- Ensure visibility of high value data in EHR
- Screening tools must be tied to discrete actions

Guiding Principles

- Care and safety of the patient come first, documentation comes second
- Care and safety of other patients and staff is equally as important
- Screening **MUST** be done on **ALL** patients to keep the population safe
- If there is a question, initiate precautions
- EHR documentation does **NOT** replace verbal communication

Screening

- Inpatient Admission section
- Triage & Assessment sections of ED workflow
- Physician Admission, Rounding, Transfer, and Discharge sections
- Radiology Tech sections at beginning and end of exam

Emerging Disease Screen

Time taken: 1314 11/17/2014 Values By Show: Row Info Last Filed Details

Add Row

Emerging Disease Screen

More information available on the [Ebola](#) [Middle Eastern Respiratory Syndrome Corona Virus \(MERS-CoV\)](#) [EDS Training](#) CDC website:

Have you been outside of the United States in the last 4 weeks? Yes No

Exposure to a person suspected of having or having Ebola No Needle stick Direct contact with skin, blood, vomit, feces, urine, saliva, sweat, breast milk, or semen

Household member or others who had brief direct contact

Attended funeral or had direct contact with a dead body of a person

Healthcare worker in patient area or processing lab samples

On any public health monitoring list for Ebola or asked to self monitor for fever or symptoms of Ebola

Exposure to a person suspected of having or having Middle Eastern Respiratory Syndrome Corona Virus (MERS-CoV) Yes No

Person providing information (if not patient)

Restore Close F9 Cancel Previous F7 Next F8

- Expanding questions based on answers
- If the patient has been outside of the U.S. in the last 4 weeks, a selection list opens to document the primary or highest risk country of travel (additional countries can be documented in comments)

Emerging Disease Screen

More information available on the CDC website:

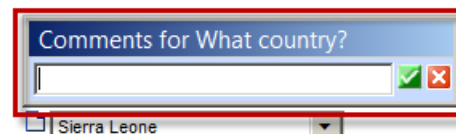
[Ebola](#)

[Middle Eastern Respiratory Syndrome Corona Virus \(MERS-CoV\)](#)

[EDS Training](#)

Have you been outside of the United States in the last 4 weeks?

What country?



Comments for What country?

Sierra Leone

Travel to Ebola-affected country in the past 21 days

No Guinea Sierra Leone Liberia Congo Mali

Travel to the Arabian Peninsula in the past 14 days

No Saudi Arabia Qatar Jordan Tunisia United Arab Emirates Bahrain Iraq Iran Israel Kuwait Lebanon
Oman Palestinian territories Syria Yemen

Exposure to a person suspected of having or having Ebola

No Needle stick Direct contact with skin, blood, vomit, feces, urine, saliva, sweat, breast milk, or semen
Household member or others who had brief direct contact
Attended funeral or had direct contact with a dead body of a person
Healthcare worker in patient area or processing lab samples
On any public health monitoring list for Ebola or asked to self monitor for fever or symptoms of Ebola

Exposure to a person suspected of having or having Middle Eastern Respiratory Syndrome Corona Virus (MERS-CoV)

Yes No

Fever (within the last 24 hours)

none / patient denies 100.4 °F (38 °C) or greater reports feeling feverish chills rigor
HAS taken fever reducing medications in last 24 hrs

By documenting a high risk country:

- Flags the high risk country on the disease-specific list
- Prompts additional required questions
 - Fever
 - Other symptoms
 - Interventions
- Cancel out to document later if needed

Emerging Disease Screen

More information available on the CDC website: [Ebola](#) [Middle Eastern Respiratory Syndrome Corona Virus \(MERS-CoV\)](#) [EDS Training](#)

Have you been outside of the United States in the last 4 weeks?

What country?

Travel to Ebola-affected country in the past 21 days

Travel to the Arabian Peninsula in the past 14 days

Exposure to a person suspected of having or having Ebola

Exposure to a person suspected of having or having Middle Eastern Respiratory Syndrome Corona Virus (MERS-CoV)

Fever (within the last 24 hours)

Symptoms

Person providing information (if not patient)

Interventions Completed

Travel or Exposure



With

Fever or Symptoms

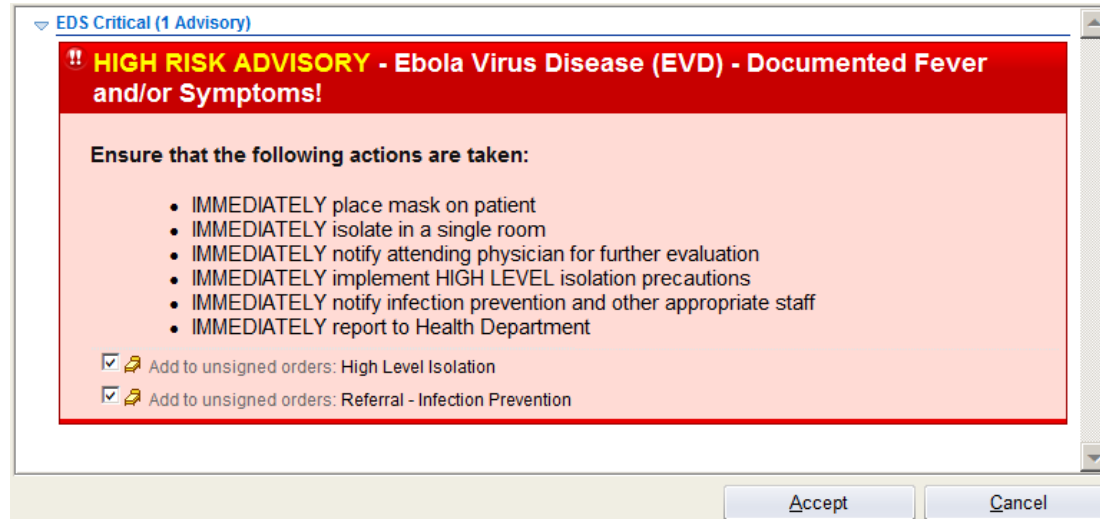


Without

Fever or Symptoms

Screening: Red

- Traveled or exposed WITH fever or symptoms- Best Practice Advisory



- Interventions documentation from guidance box

Interventions Completed



Physician informed

Infection Prevention notified

mask placed on patient

patient put in isolation room

order placed for Isolation/Implemented Isolation precautions

- Banners on all patient reports and handoff tools for all care team members

ALERT!.....EBOLA RISK FACTORS IDENTIFIED

- Traveled or exposed without fever or symptoms- BPA

EDS High (1 Advisory)

↑ HIGH RISK ADVISORY - Ebola Virus Disease (EVD) Travel/ Exposure - NO SYMPTOMS!

Ensure that the following actions are taken:

- IMMEDIATELY notify attending physician for further evaluation
- IMMEDIATELY notify Infection Preventionist of travel and/or exposure
- Provide patient with Ebola Virus Disease (EVD) fever/symptoms information with instruction for the patient to call the Health Department if fever/symptoms develop
- Report to Local Health Department in collaboration with Infection Prevention
- Monitor patient for development of symptoms and report to physician

Continue to monitor for development of symptoms

Add to unsigned orders: Referral - Infection Prevention

- Interventions documentation from guidance box

Interventions Completed



Physician informed

Infection Prevention notified

mask placed on patient

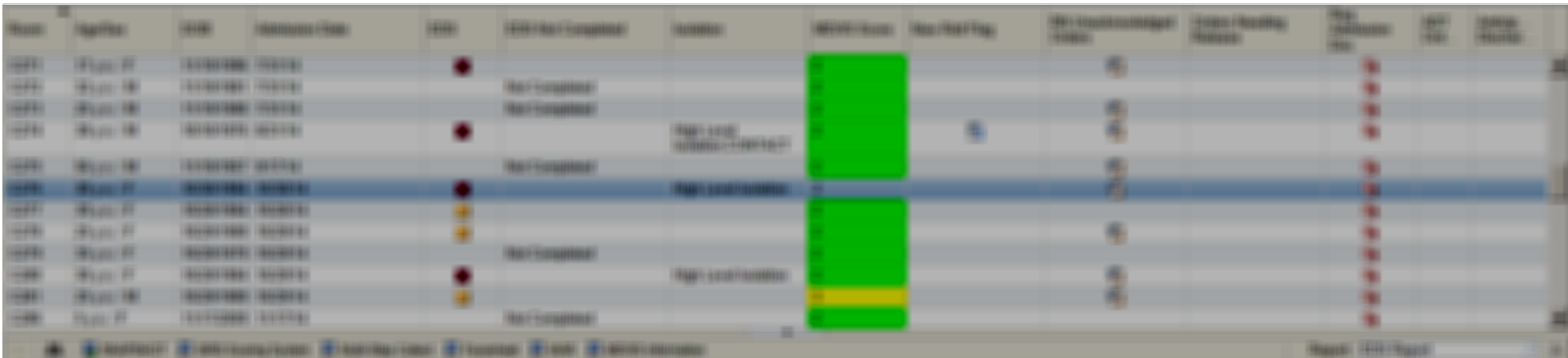
patient put in isolation room

order placed for Isolation/Implemented Isolation precautions

- Banners on all patient reports and handoff tools for all care team members

CAUTION! EBOLA Travel and/or Exposure Risk! Monitor for development of symptoms.

Patient lists and columns



Name	Age	Sex	Address	City	State	ZIP	Race	Ethnicity	Other
1346	25	M	1234 Main St	Houston	TX	77001	White	Other	
1347	25	M	1234 Main St	Houston	TX	77001	White	Other	
1348	25	M	1234 Main St	Houston	TX	77001	White	Other	
1349	25	M	1234 Main St	Houston	TX	77001	White	Other	
1350	25	M	1234 Main St	Houston	TX	77001	White	Other	
1351	25	M	1234 Main St	Houston	TX	77001	White	Other	
1352	25	M	1234 Main St	Houston	TX	77001	White	Other	
1353	25	M	1234 Main St	Houston	TX	77001	White	Other	
1354	25	M	1234 Main St	Houston	TX	77001	White	Other	
1355	25	M	1234 Main St	Houston	TX	77001	White	Other	
1356	25	M	1234 Main St	Houston	TX	77001	White	Other	

ALERT!.....EBOLA RISK FACTORS IDENTIFIED

[If you need to correct Emerging Disease Screen, click HERE](#)

Emerging Disease Screen	
	Most Recent Value
Have you been outside of the United States in the last 4 weeks?	Yes : 10/30/2014 1346
Country Traveled	Sierra Leone : 10/30/2014 1346
Travel to Ebola-affected country in the past 21 days	Sierra Leone : 10/30/2014 1346
Travel to the Arabian Peninsula in the past 2 weeks	No : 10/30/2014 1346
Exposure to a person suspected of having or having Middle Eastern Respiratory Syndrome Corona Virus (MERS-CoV)	No : 10/30/2014 1346
Exposure to a person suspected of having or has Ebola	No : 10/30/2014 1346
Fever (within last 24 hrs)	100.4 °F (38 °C) or greater : 10/30/2014 1346
Symptoms	none / patient denies : 10/30/2014 1346
Interventions	Physician informed, Infection Prevention notified, mask placed on patient, patient put in isolation room, order placed for Isolation/Implemented Isolation precautions : 10/30/2014 1346

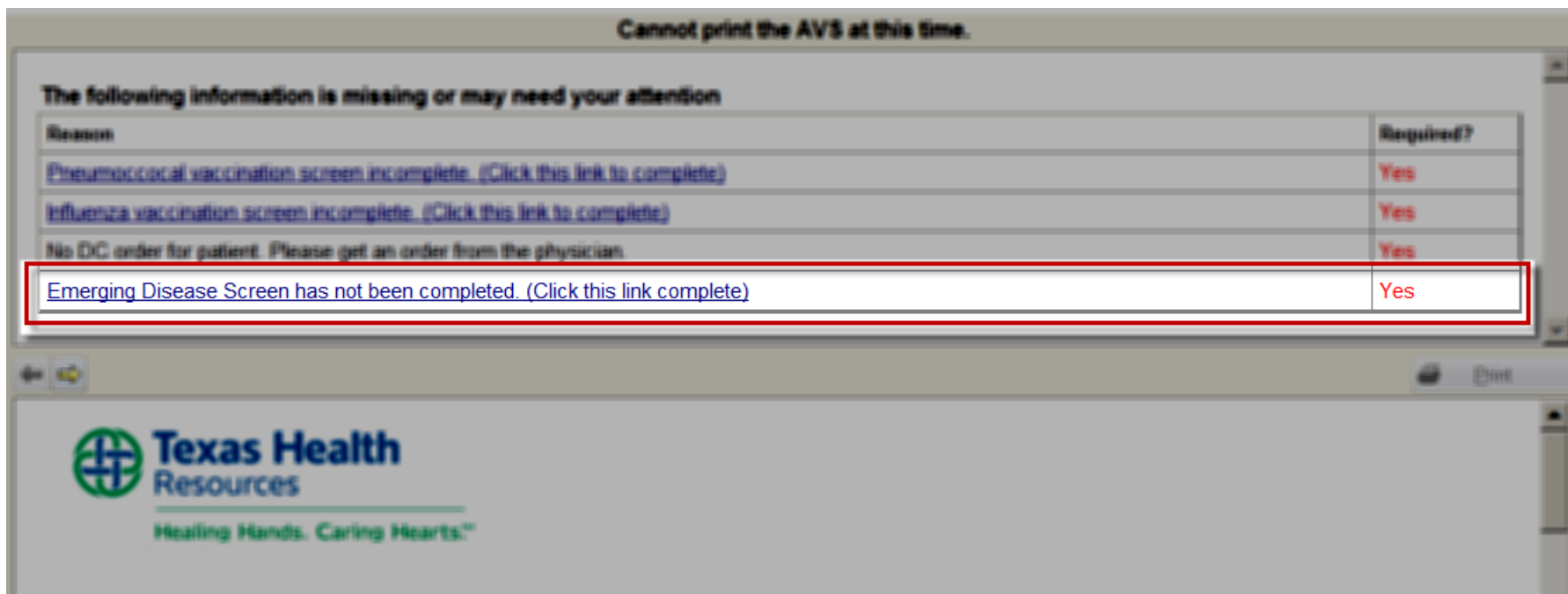
Discharge Instructions

- Safety net
- Emerging disease screen is required before discharge instructions can be printed

Cannot print the AVS at this time.

The following information is missing or may need your attention

Reason	Required?
Pneumococcal vaccination screen incomplete. (Click this link to complete)	Yes
Influenza vaccination screen incomplete. (Click this link to complete)	Yes
No DC order for patient. Please get an order from the physician.	Yes
Emerging Disease Screen has not been completed. (Click this link complete)	Yes



Texas Health
Resources
Healing Hands. Caring Hearts.™

Ebola Virus Disease (Ebola)

Algorithm for Evaluation of the Returned Traveler



FEVER (subjective or $\geq 100.4^{\circ}\text{F}$ or 38.0°C) or compatible Ebola symptoms* in a patient who has resided in or traveled to a country with wide-spread Ebola transmission** in the 21 days before illness onset

NO

Report asymptomatic patients with high- or low-risk exposures (see below) in the past 21 days to the health department

YES

1. Isolate patient in single room with a private bathroom and with the door to hallway closed
2. Implement standard, contact, and droplet precautions
3. Notify the hospital Infection Control Program and other appropriate staff
4. Evaluate for any risk exposures for Ebola
5. IMMEDIATELY report to the health department

HIGH-RISK EXPOSURE

Percutaneous (e.g., needle stick) or mucous membrane contact with blood or body fluids from an Ebola patient

OR
Direct skin contact with, or exposure to blood or body fluids of, an Ebola patient

OR
Processing blood or body fluids from an Ebola patient without appropriate personal protective equipment (PPE) or biosafety precautions

OR
Direct contact with a dead body (including during funeral rites) in a country with wide-spread Ebola transmission** without appropriate PPE

LOW-RISK EXPOSURE

Household members of an Ebola patient and others who had brief direct contact (e.g., shaking hands) with an Ebola patient without appropriate PPE

OR
Healthcare personnel in facilities with confirmed or probable Ebola patients who have been in the care area for a prolonged period of time while not wearing recommended PPE

NO KNOWN EXPOSURE

Residence in or travel to a country with wide-spread Ebola transmission** without HIGH- or LOW-risk exposure

Review Case with Health Department Including:

- Severity of illness
- Laboratory findings (e.g., platelet counts)
- Alternative diagnoses

Ebola suspected

Ebola not suspected

TESTING IS INDICATED

The health department will arrange specimen transport and testing at a Public Health Laboratory and CDC

The health department, in consultation with CDC, will provide guidance to the hospital on all aspects of patient care and management



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

** CDC Website to check current countries with wide-spread transmission:
<http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html>

This algorithm is a tool to assist healthcare providers identify and triage patients who may have Ebola. The clinical criteria used in this algorithm consistent with Ebola) differ from the CDC case definition of a Person Under Investigation (PUI) for Ebola, which is more specific. Public health not imply that Ebola testing is necessary. More information on the PUI case definition: <http://www.cdc.gov/vhf/ebola/hcp/case-definition.html>

Hospital and Emergency Triage Assessment for Ebola

(last updated October 23, 2014)

Ask Patient in Triage Area

In the last 21 days:
Have you been in the countries of Guinea, Liberia, or Sierra Leone?
OR
meet any of the criteria in the Risk Assessment below?

NO to BOTH →
YES to EITHER →

Continue with normal triage and assessment

Patient Assessment

1. Fever $\geq 100.4^{\circ}\text{F}$ or 38.0°C now?
2. Is patient taking acetaminophen, ibuprofen or other antipyretics?
3. History of fever $\geq 100.4^{\circ}\text{F}$ or 38.0°C or a subjective fever in the last 24 hours?
4. Severe headache, vomiting, diarrhea, abdominal pain, muscle pain, or bleeding?

NO to ALL

1. Unlikely Ebola
2. Continue routine assessment
3. Provide Ebola information and who to call if fever or symptoms develop
4. Provide patient name and contact to Local Health Department

YES to ANY

RISK ASSESSMENT

1. Direct contact with blood, vomit, feces, urine, saliva, sweat, breast milk or semen of a person with or suspected to have Ebola
2. Household member or others who had brief direct contact of a person with or suspected to have Ebola
3. Attended funeral or had direct contact with a dead body in Guinea, Liberia, or Sierra Leone
4. Health care worker in the patient care area or processing laboratory samples for an Ebola patient in the United States or elsewhere
5. On any public health monitoring list for Ebola or asked to self-monitor for fever or symptoms of Ebola

ISOLATE PATIENT IN SEPARATE ROOM (WITH BATHROOM or COVERED COMMODE)

1. Medical providers to wear double gloves, impermeable gowns, face mask and face shield. Consider placing surgical mask on the patient
2. In the presence of significant body fluids (diarrhea, vomiting, bleeding) OR Aerosol generating procedures (e.g., intubation) Add respiratory protection (N95 or greater), shoe covers, and PPE to cover all exposed skin
3. Notify Hospital Infection Control and start written log of exposed personnel
4. Further evaluation and management with dedicated equipment.

Immediately Call

Local Health Department
OR
Department of State Health Services
Information and Referral
at
(512) 776-7111 or
1-888-963-7111

Prepared by the Texas Task Force on Infectious Disease Preparedness and Response and the Texas Department of State Health Services

- Enhanced screening tool that incorporates the CDC and State of Texas guidelines.
- Addresses other emerging diseases – not just Ebola.
- Multidisciplinary iterative approach, following our Quality PDSA process, that can be monitored in an ongoing manner.

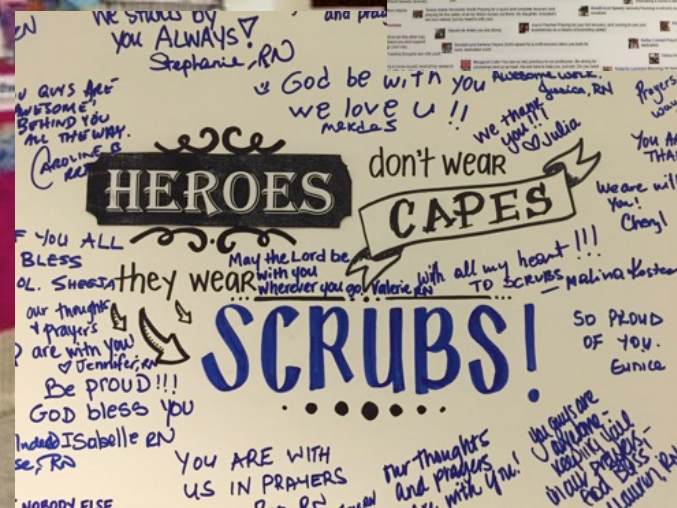
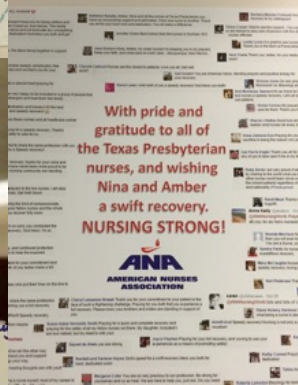
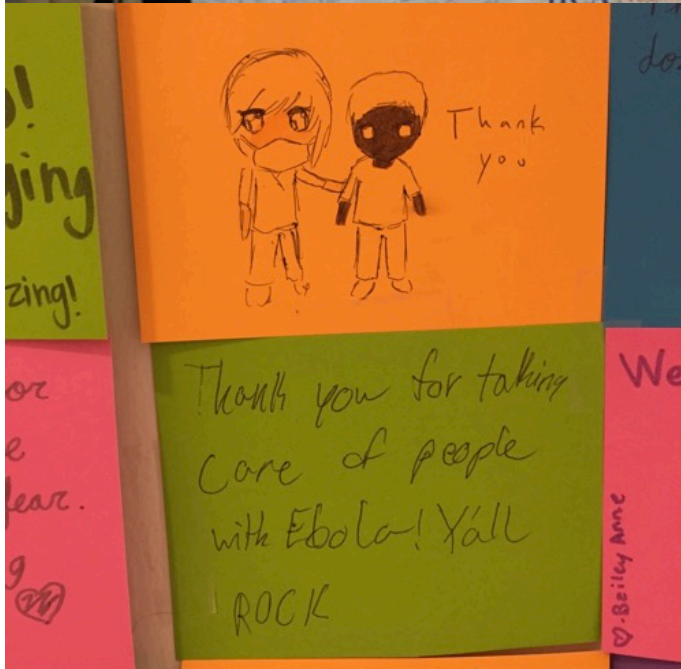


Texas Health
Resources

Community Support / Paying it Forward!

If you want to go fast, go alone.

If you want to go far, go with others.





Thank you for standing strong with us.

Our community has faced some challenging and emotional circumstances recently. Yet all of us at Texas Health Presbyterian Hospital Dallas are thankful for so much, especially for you, the people of North Texas. You have stood with us by coming in for regular care and appointments. And trusting us to treat you safely and compassionately, as we have for nearly 50 years. Through it all, the physicians on the medical staff, nurses, clinical and support staff, administrators and volunteers have stood fast in their commitment to patients – and each other. As we move forward, we look to you for continued support. Thank you.

1-877-THR-WELL | TexasHealth.org/Dallas

