












Commitment to Zero Harm: Memorial Hermann Health System's Journey to High Reliability

MHA Patient Safety & Quality Symposium

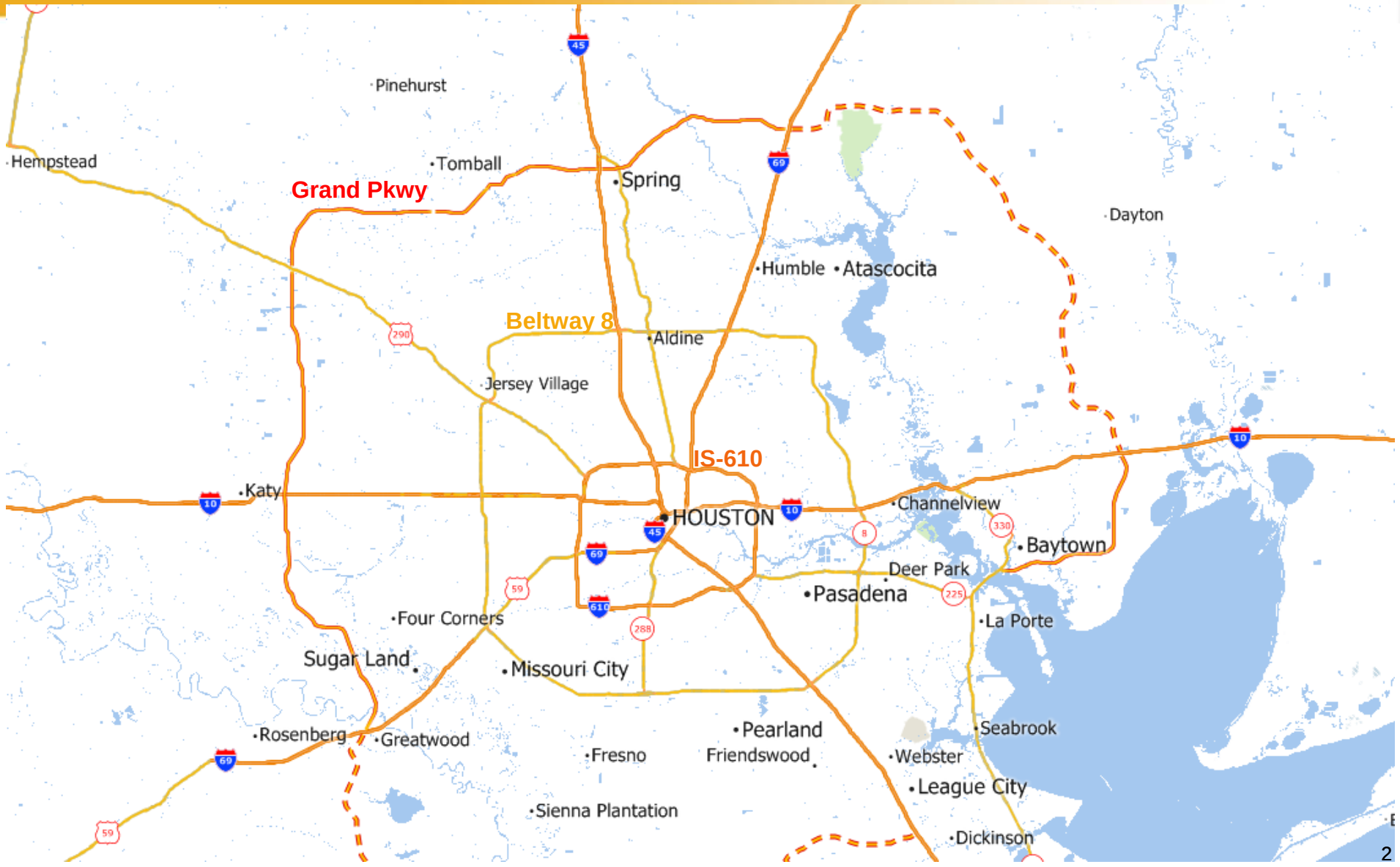
March 8, 2017

M. Michael Shabot, MD, FACS, FCCM, FACMI
Executive Vice President
System Chief Clinical Officer
Memorial Hermann Health System

MEMORIAL HERMANN

V9

Memorial Hermann Health System (02/17)



Memorial Hermann Health System (02/17)

MEMORIAL HERMANN

Hospital Patient Harm

MEMORIAL HERMANN

Question: How many avoidable deaths occur in U.S. hospitals each year?

BMJ 2016

ANALYSIS

Medical error—the third leading cause of death in the US

Medical error is not included on death certificates or in rankings of cause of death. **Martin Makary** and **Michael Daniel** assess its contribution to mortality and call for better reporting

Martin A Makary *professor*, Michael Daniel *research fellow*

Department of Surgery, Johns Hopkins University School of Medicine, Baltimore, MD 21287, USA

251,454

Source: James JT. A New, Evidence-based Estimate of Patient Harms Associated with Hospital Care. *Jol Patient Safety* 2013;9:122-128.

737 crash every 5.5 hours

Hospital Patient Harm

MEMORIAL HERMANN

Question: How many avoidable deaths occur in US hospitals each year?

Memorial Hermann's Goal

BMJ 2016

ANALYSIS

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How Can Memorial Hermann Get to Zero?

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New Nursing Staff?

New Doctors?

All New Execs?

How Can Memorial Hermann Get to Zero?

All New Execs?

Robust Process Improvement:
Path to Quality Outcomes

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Joint Commission Center for Transforming Healthcare

US Safety Board Determines D Crash Was Failure of Both Trac and Safety Culture

By Robert Charette
Posted 29 Jul 2010 | 16:07 GMT

Share

IEEE SPECTRUM

VITERBI JOINS WITH METROLINK TO CREATE SAFETY CULTURE

USC professors help 50 high-level Southern California commuter rail leaders study the histories of past rail disasters to prevent future ones

ERIC MANKIN
September 02, 2011 —

Tweet 0 Like Share 3 ShareThis

Asiana Airlines seeks cockpit culture changer after U.S. crash

SEOUL Mon Feb 10, 2014 2:48am EST

0 COMMENTS Tweet 23 Share 2 Share this g+1 0

The New York Times

Culture Change Key

...ed the loss

Veterans Affairs Chief Calls Health Care

By JADA F. SMITH NOV. 6, 2014

GM Takes Blame

WALL STREET JOURNAL.

FRIDAY, JUN...

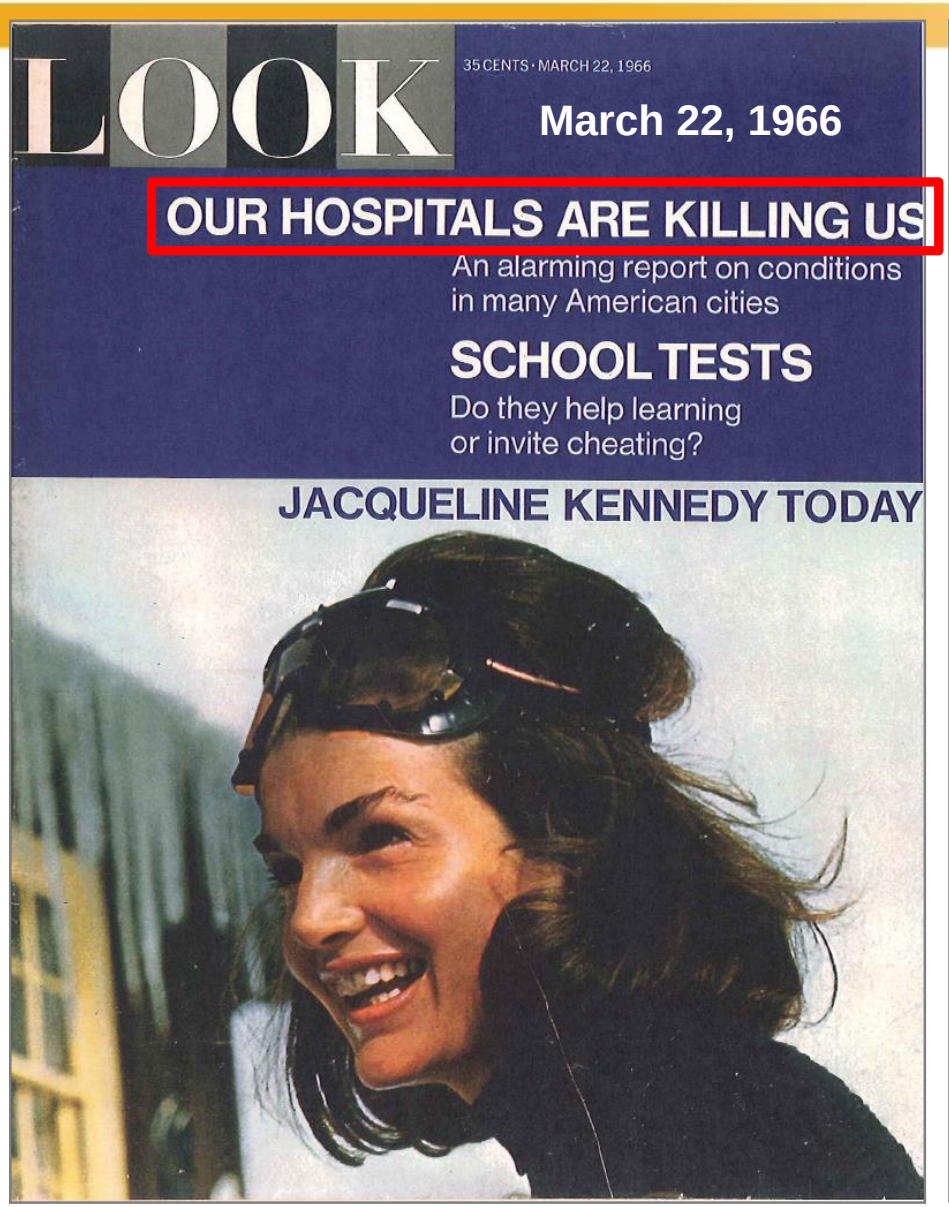
Vows Culture Shift

BP Oil Spill: Engineering Experts Attack Industry Safety Culture

By SETH BORENSTEIN | 12/14/11 01:35 PM ET | AP

Hospital Safety 1966

MEMORIAL HERMANN



LOOK ■ MARCH 22, 1966 Volume 30, No. 6

DIRT, INFECTION, ERROR AND NEGLIGENCE:

The hidden death threats in our HOSPITALS

BY MARTIN L. GROSS

THE CHIEF OF SURGERY shook his head. Appointed to improve surgery in a large Eastern hospital, he had replaced the local physicians, many of whom had been general practitioners, with highly qualified members of the American College of Surgeons.

"We had one case recently in which a skilled team of surgeons operated for hours to save a critical case," he said. "After the operation, the patient was put back in the ward and placed on a Bird respirator. At five in the afternoon, we went to look at him, and we were proud because he was alive and doing well. When I came in to see the patient the next morning, he was dead. The nurse had forgotten to replace the oxygen tank for the respirator. Nursing care in this hospital is abysmal."

Patients daily learn, through hazardous experiences, what veteran physicians are well aware of: that the hospital is a complex entity with failings that threaten quality medical care. The dangerous deficiencies include medication errors, anesthesia incompetence, hospital-bred infection, faulty diagnostic work-up, blood-transfusion errors, unnecessary or poor surgery, inadequate nursing care, inappropriate therapy and negligence.

This tarnished side of the medical caduceus is apparently well-known to knowledgeable medical critics, but has been hidden from public view. Medical critiques that reveal the disturbing weaknesses of American hospitals are found in medical journals; in hospital-quality surveys conducted by university, public and private agencies; in hospital-accreditation reports; in hospital tissue-committee findings. To a nation concerned with the best possible hospital care, it is essential that this raging private medical dialogue about the state of our hospitals be made considerably more public.

The unprecedented "Trussell Reports," two penetrating studies conducted by the Columbia University School of Public Health and Administrative Medicine under the direction of Drs. Ray E. Trussell and M. A. Morehead, are forceful rebuttals of the mythology of the uniformly competent American hospital. The studies weighed two samples of medical and surgical care provided by approximately 100 cooperating hospitals in the New York area—from giant medical-center complexes to doctor-owned, profit-making proprietary hospitals.

"Appalling," "shocking case," "medical ignorance," "gross violation of medical ethics," "completely unjustified surgery," "sloppy performance, diagnostically and therapeutically" are just a sampling of the glossary of these hospital-quality studies, the results of which were both surprising and upsetting. In one of the Trussell studies, 43 percent of the care given patients was rated less than "good" by a group of outstanding doctor-surveyors. Almost a fourth of the patients (23 percent) received care of such low quality that it could only be described by the report as "poor."

"I had the opportunity of sitting in on a preview of what the report reveals," Dr. Martin Cherkasky of New York told the American Public Health Association, "and some of the findings were shocking to me, even though I have spent my professional life in medical care and know some of its shortcomings. For example, Cesarean sections where there was no need; out of 60 hysterectomies, in more than 20 there could not be any possible cause for doing them—and so on—errors of omission and commission, almost beyond belief. . . . Of course, the complications, the misery, the pain, unhappiness and the disability which followed upon this unnecessarily poor care will go on long after our discussions are over. If this was shocking to me, just imagine what it was to those lay people who place their lives in our hands."

One Trussell report states that more than 40 percent of the surgery under study was less than "good." Some observers believe that this percentage of failure caused by lack of uniform competence might be more awesomely applied to surgical *deaths*. Dr. Arthur James Mannix, Jr., a Fellow of the American College of Surgeons, says in the *New York State Journal of Medicine:* "Errors in judgment or technic concerning either the anesthesia or the surgery, or a combination of the two, contribute close to 50 percent of the mortality in the operating room."

Writing in *Surgery, Gynecology & Obstetrics*, Dr. Edward G. Stanley-Brown, a New York pediatric surgeon, reports that of 21 surgical deaths of infants and children that he and his colleagues examined, 90 percent were the result of doctor error. Dr. Leroy H. Stahlgren of the Philadelphia General Hospital reports that of 17 geriatric patients who died, "errors were committed in the surgical care of seven of the 17."

In many studies by doctors, emphasis is given to the dangers of dirt and infection in our hospitals. This comes as a surprise to the casual visitor, who often sees the American hospital as the quintessence of cleanliness, with its white-robed nurses and pungent purifying smell of antiseptic cleansers.

Actually, the ostensibly aseptic halls, wards, operating room and even the permanent personnel provide a convivial environment for the bacteria that inhabit every recess. The hospital patient is exposed to a massive attack from bacteria that each

continued

“If healthcare was an airline…”

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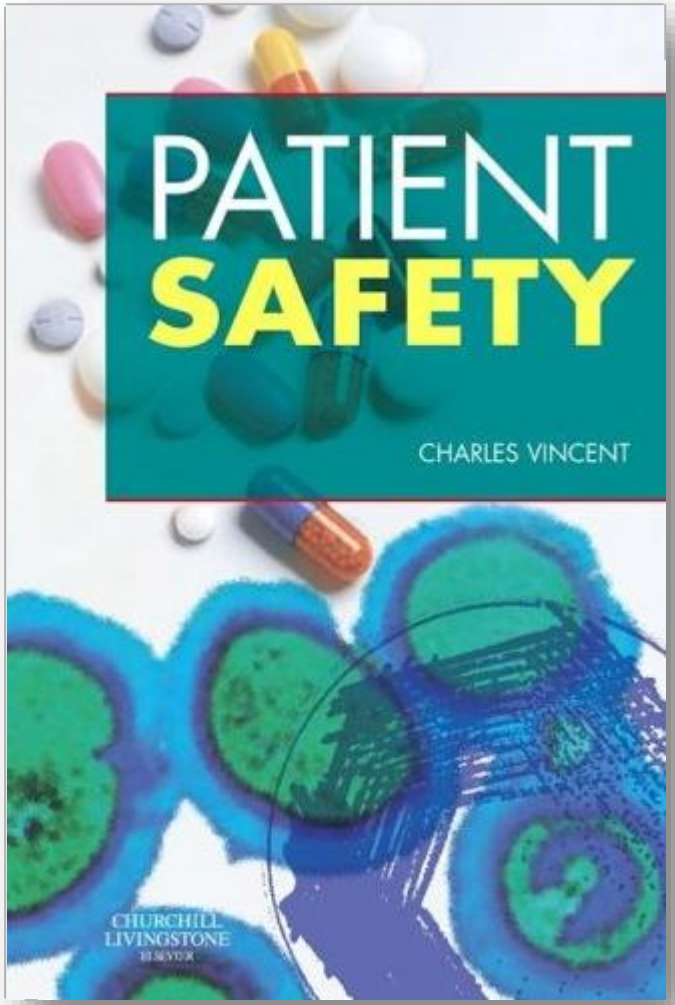

“If healthcare was an airline, only dedicated risk takers, thrill seekers and those tired of living would fly on it.”

***Patient Safety* (2005)**
by Charles Vincent

What if These Kinds of Risks Weren't an Option?

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High Reliability Organizations

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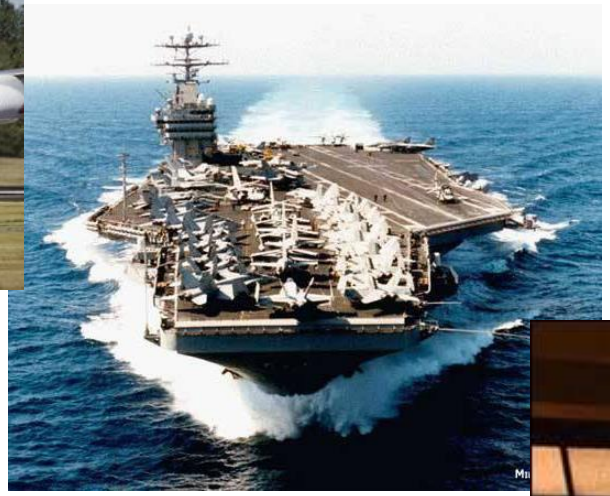
Commercial Aviation



Nuclear Aircraft Carriers

Air Traffic Control

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

United Airlines

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Customer Service: Worst US Airline x5+ yr

Bankruptcies: Too Many to Count (TMTC)

Employee Unions: In Disarray x5+ Years

CEOs: TMTC, Smisek Possible Indictment

Last Fatal Crash? 1992

Memorial Hermann's Journey to High Reliability

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August 14, 2006

A Call to Action on Patient Safety

Transfusion Errors
Serious Safety Events

Burning Platform

Board Commitment

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Safety as the Core Value

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Moving the Memorial Hermann Healthcare System from Safety as a Priority to

Safety is our Core Value

….

Leadership behavioral expectations change when safety is the core value

Role of the Board

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- **Leadership for high reliability, safety & quality initiatives**
- **Ensuring the Board receives quality & safety results information it needs**
- **Providing guidance for the System Quality Committee**
- **Providing support for safety & quality initiatives, including financial support**

IHI "From the Top"

The Role of the Board in Quality & Safety

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FACULTY

James E. (Jamie) Orlikoff, President, Orlikoff & Associates, Inc.

James L. Reinertsen, MD, President, The Reinertsen Group, is also Senior Fellow at IHI.

2015 MH "From the Top"

The Role of the Board and Medical Staff in Quality & Safety

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James E. (Jamie) Orlikoff James L. Reinertsen, MD

February 20, 2015 - 7:30am-5:00pm
Houston, Texas

55 Memorial Hermann Board members and 100 MEC members & hospital execs trained

Total Transparency with the Board

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Serious Safety Event Summary – (Month Year)

Erin W. 52 yrs
Delay in treatment of hematomas after hysterectomy

Mike S. 1 wk
Rectal biopsy resulting in small bowel perforation

Harry D. 76 yrs
DVT with no risk assessment

Alice C. 44 yrs
DVT with no prophylaxis

John R. 64 yrs
Failure to implement ordered respiratory treatment

Tom L. 22 yrs
Contraindicated anticoagulant given resulting in bleeding and death

Sue B. 80 yrs
Fall with cerebral bleed

Nickole C. 87 yrs
DVT with no risk assessment

Sam M. 78 yrs
Medication error resulting in arrest

Mary S. 95 yrs
Missed fracture resulting in renal failure

Paul J. 89 yrs
Delay in diagnosis and treatment of chest pain

Rick L. 71 yrs
Wrong procedure performed

Eunice S. 99 yrs
Fall with cerebral bleed

Ben S. 87 yrs
Overdose of heparin with cerebral bleed

Justin G. 49 yrs
Missed dose of TPA, failure to treat stroke

Ellie R. 26 yrs
Failure to treat post-partum hemorrhage

Cade O. 12 yrs
Urethral trauma secondary to Foley placement

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

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MHHS Safety Culture Training
Completed in 2007

Hospital Training Complete

>20,000 Employees Trained

>4,000 Physicians Trained

>540 Safety Coaches Trained

>$18M Expense

Breakthroughs in Patient Safety Training

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

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OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

Safety Culture Training

- Step 1: **Set Behavior Expectations**

  Define Safety Behaviors & Error Prevention Tools proven to help reduce human error

- Step 2: **Educate**

  Educate our staff and medical staff about the Safety Behaviors and Error Prevention Tools

- Step 3: **Reinforce & Build Accountability**

  Practice the Safety Behaviors and make them our personal work habits

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BREAKTHROUGHS IN PATIENT SAFETY
BEST OF THE BEST

Make Every Day a Safe Day.
Patient Safety Is Our Core Value.

1. Attention to Detail

Self-Check with STAR

Stop	Pause for one to two seconds
Think	Focus on the act
Act	Perform the act
Review	Check for desired results

2. Communicate Clearly

Assure Accurate and Complete Communication and Handoff

Three-way Repeat Back and Read Back

- Sender initiates communication (In Read Back: receiver writes it down)
- Receiver repeats/reads back
- Sender acknowledges accuracy by saying, "That's correct" or "NOT correct...(state error correction)"

Ask one or two clarifying questions when in high-risk situations or when information is incomplete and/or ambiguous.

Phonetic & Numeric Clarifications

Say the letters and say the numbers.

SBAR (Quick, To the Point)

Situation	What is problem, patient, or project?
Background	What is important to know?
Assessment	What is your thought?
Request/ Recommend	What action do you need?

3. Questioning Attitude

Qualify	Is the source reliable?
Validate	Consistent with my knowledge?

1. What is typical or expected?
2. What is outside of the norm?
3. How do I know this is correct?

Verify Check with a reliable source

4. Best Practice

Intelligent Compliance

- Comply with policy, procedures and protocol
- Use checklists and flow sheets

Protect Patients from Harm

- Absolute compliance with Red Rules
- Perform hand hygiene
- Prevent falls
- Activate Rapid Response

5. Support Each Other

Be a Safety Partner

- Look out for each other
- Positively reinforce safe and productive behaviors (X5)
- Correct unsafe behaviors in a helpful manner

Speak Up: Use ARCC and CUSS Words

Ask a question
Request a change
Concern, state your concern using the safe word
Chain of command

CUSS Words

I am ***concerned***
I am ***uncomfortable***
This is for ***safety***
S**tand* up and ***stand together

Self-Checking With STAR*
(Stop, Think, Act, & Review)

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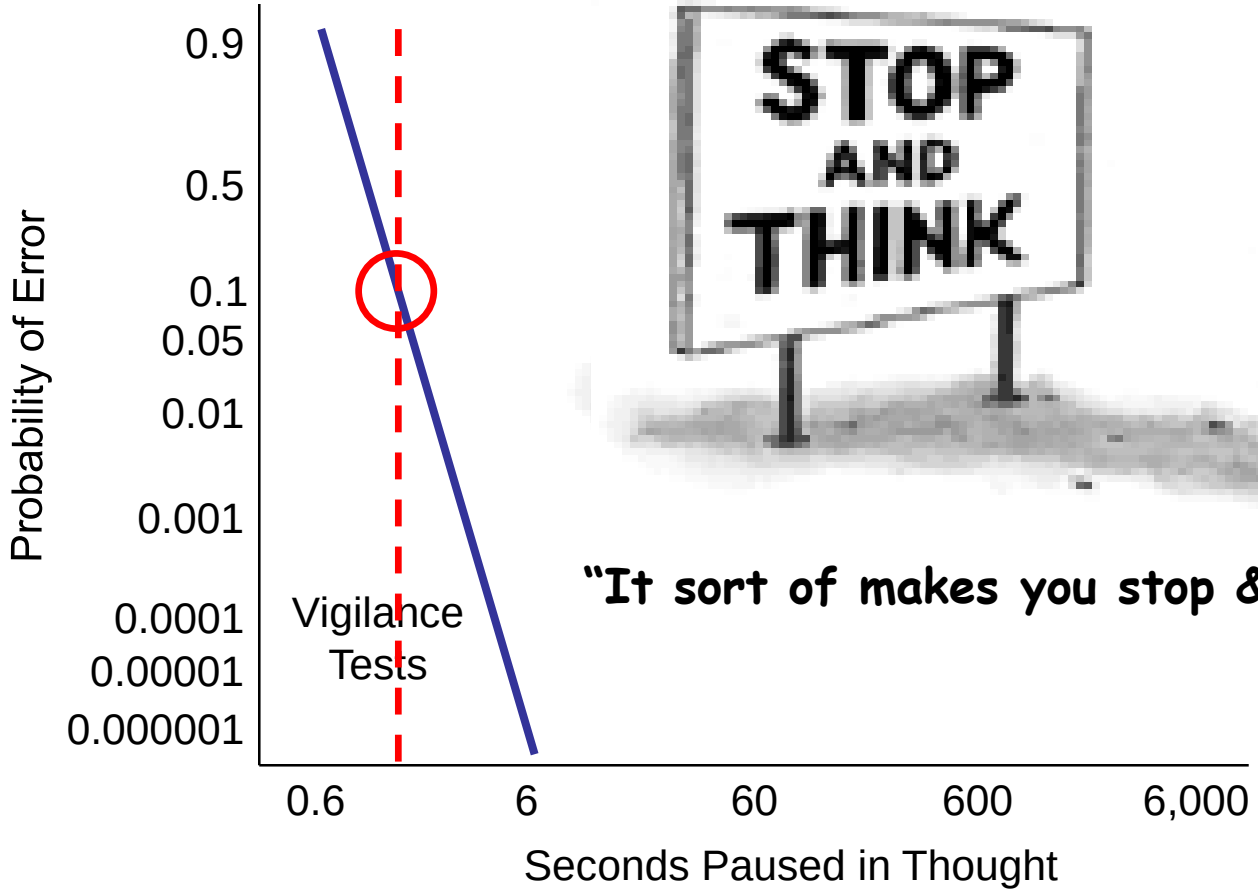

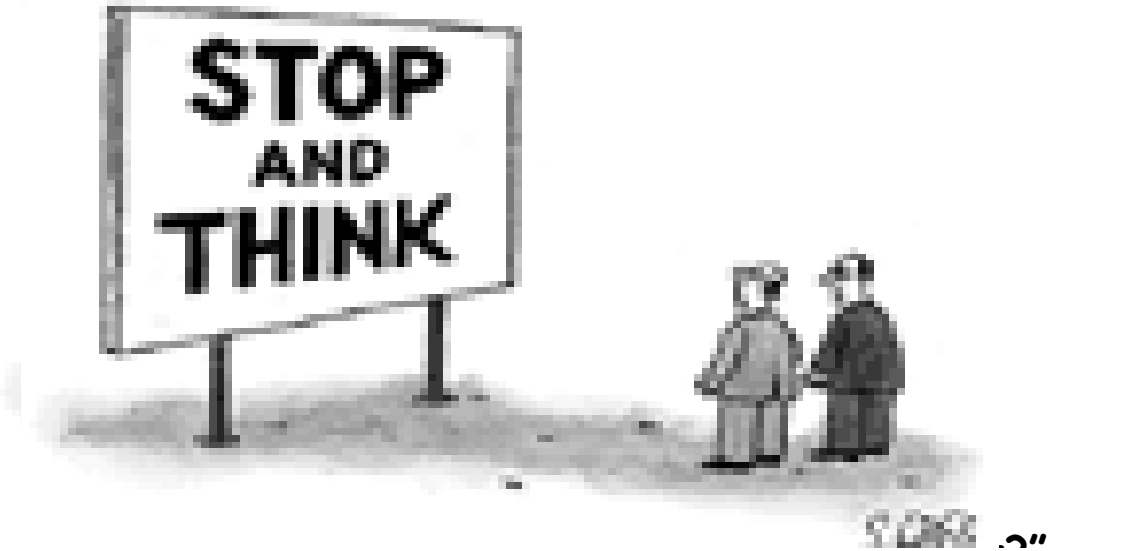

"It sort of makes you stop & think, doesn't it?"

* Jefferson Center for Character Education

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

Safety Success Stories

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Self-Check
with **STAR**
(Stop, Think, Act, & Review)

"Good for Her"

OPERATION BREAKTHROUGH
PATIENT SAFETY
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Edna Coutts, RN
Sugar Land Hospital Safety Champion of the Month
2007

Support Each Other: CUSS Words

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- I am *Concerned*
- I am *Uncomfortable*
- This is for *Safety*
- *Stand* up and *Stand* Together

MH Southwest Hospital
Central Line Standoff

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

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Red Rules:
Absolute Compliance

1. **Patient Identification** – Verify with two patient identifiers before acting
2. **'Time Out'** before invasive and high-risk procedures
3. **'Two-Provider Check'** before administration of blood, blood products and high-risk medication

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Red Rules
Absolute Compliance

1. Patient Identification
2. Time Out
3. Two Provider Check

Robust Process Improvement:
Path to Quality Outcomes

Joint Commission Center for Transforming Healthcare

Robust Process Improvement:
Path to Quality Outcomes

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Lean

Six Sigma

Change Management

Joint Commission Center for Transforming Healthcare

Effectiveness of solutions

Effectiveness = Q x A_1 x A_2

Quality of solution (Q) x

Acceptance (A_1) x

Accountability (A_2)

Robust Process Improvement:
Changing Standard Work

Standard Work =

What we do every day

What we do every day =

CULTURE!

Joint Commission Center for Transforming Healthcare

Robust Process Improvement:
High Reliability Standard Work

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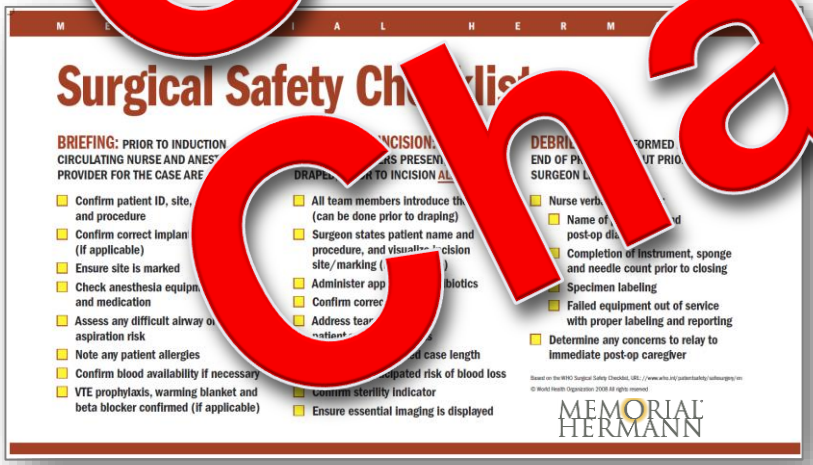
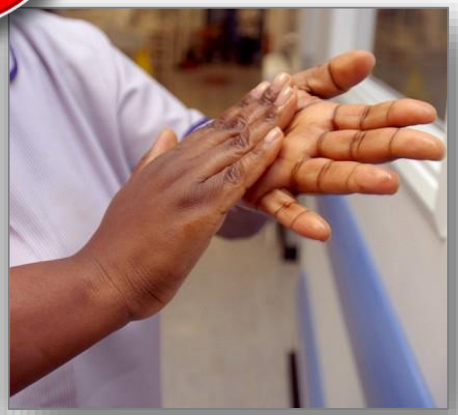
	15-Jan	14-Dec	14-Nov	14-Oct	14-Sep	14-Aug	14-Jul	14-Jun	14-May	14-Apr	14-Mar	14-Feb
Blood Stream Infection Prevention Bundle												
Central Line Insertion												
MD Hand Hygiene	97.83%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00	
Chlorhexadine	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	10	00.00%	
MD gown, gloves, hat & mask	100.00%	97.37%	100.00%	100.00%	100.00%	100.00%	00.00%	97.14%	00.00%	95.	00%	10
Drape patient head to toe	100.00%	97.37%	100.00%	100.00%	96.43%	100.0	00%	100.0	0%	100.00	%	100.
Sterile field maintained during procedure	100.00%	100.00%	100.00%	100.00%		100.00		0.00%	%	100.00%		100.00
Assistant Hand Hygiene	100.00%	100.00%	100.00%	97.50%	1	00.0		100.00%		100.00%		00.00%
Assistant gown, gloves, hat & mask	97.83%	100.00%	96.88%	97.50%	100	0.00%		00.00%	10	0.00		96.88%
Insertion Bundle Compliance	95.65%	94.74%	96.88%	97 %	96.4	0%	96.	14%	100.0		95.24%	96.88%
% Femoral Lines	8.70%	0.00%	0.00%		0.00%	%	0.00		2.78%	0.00%	0.00%	0.00%
% Femoral Lines justified by careful site	00.00%			10					0.00%			
Ultrasound Guidance												
% Ultrasound Guided CVC Inse	100.00%	100.0	1%	100.00	%	100.0	00.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Cen l Line Ste insertion Bundle

ltra und Guidance for Line Punctures



OR Surgical Safety Checklist



High Reliability Hand Hygiene

Culture Change

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

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High Reliability Transformation

2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

5th Annual Robust Process Improvement Expo Feb 17, 2017

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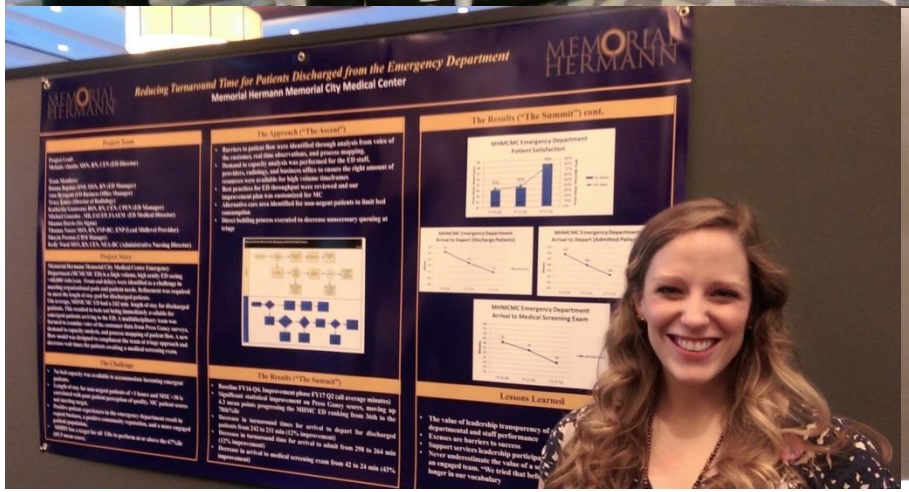
Over 150 Attendees - 63 RPI Projects



2nd Annual High Reliability Sharing Days Feb 15-17, 2017

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- Mem City Hospital Tours
- End to End Care Vision
- High Reliability Journey Milestones
- CEO/CMO Collaboration
- Individuals and Teams
- CMO Perspective
- Physician Engagement in RPI
- Structure of Safety
- Robust Process Improvement: Role in High Reliability
- Ambulatory Quality: Early Work
- Panel Discussion: Quality and Performance Improvement Governance Structure

2nd Annual High Reliability Sharing Days Attendees (41)

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- Ben Taub/BCM
- Dignity Health
- Flagler Hospital
- Harris Health
- Henry Ford
- Hoag Hospital
- IHI
- Intermountain
- MedStar
- Michigan Hospital Association
- Mount Sinai
- Navigant
- Orlando Health
- Sentara
- St. Joseph Mercy
- Swedish Health System
- Tampa General
- University Health Network, Toronto
- UT Southwestern
- VCU Medical Center

MEC Approvals for Quality & Safety Guidelines Across a Health Care System

Issue:

Achieving uniform physician governance in multiple hospitals

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MHMD Clinical Programs Committee & Subcommittees

MHMD
Memorial Hermann Physician Network

MHMD Board of Directors

Clinical Programs Committee

H&V

Neu

ntract

Primary Care

P

MHMD
MEMORIAL HERMANN Physician Network

2015 SUMMARY OF ACTIONS

519 Evidence-Based Practice Recommendations made by CPCs in 2016

Inform

er Review

Acute S

Selected MEC-Approved CPC & SQC Safety & Quality Guidelines

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- Real-Time Ultrasound for Central Line Insertion
- Real-Time Ultrasound for Cath Lab Central Punctures
- OB Safety Training
- Prevention of Retained Foreign Bodies Policy
- DVT/PE Prophylaxis
- Bariatrics Privileging and Leveling
- Moderate and Deep Sedation Privileging
- Peer Review for Physician-Related SSEs
- Clinical Escalation Policy
- Postoperative Pulse Oximetry Monitoring

Obtaining MEC Approvals Across the System

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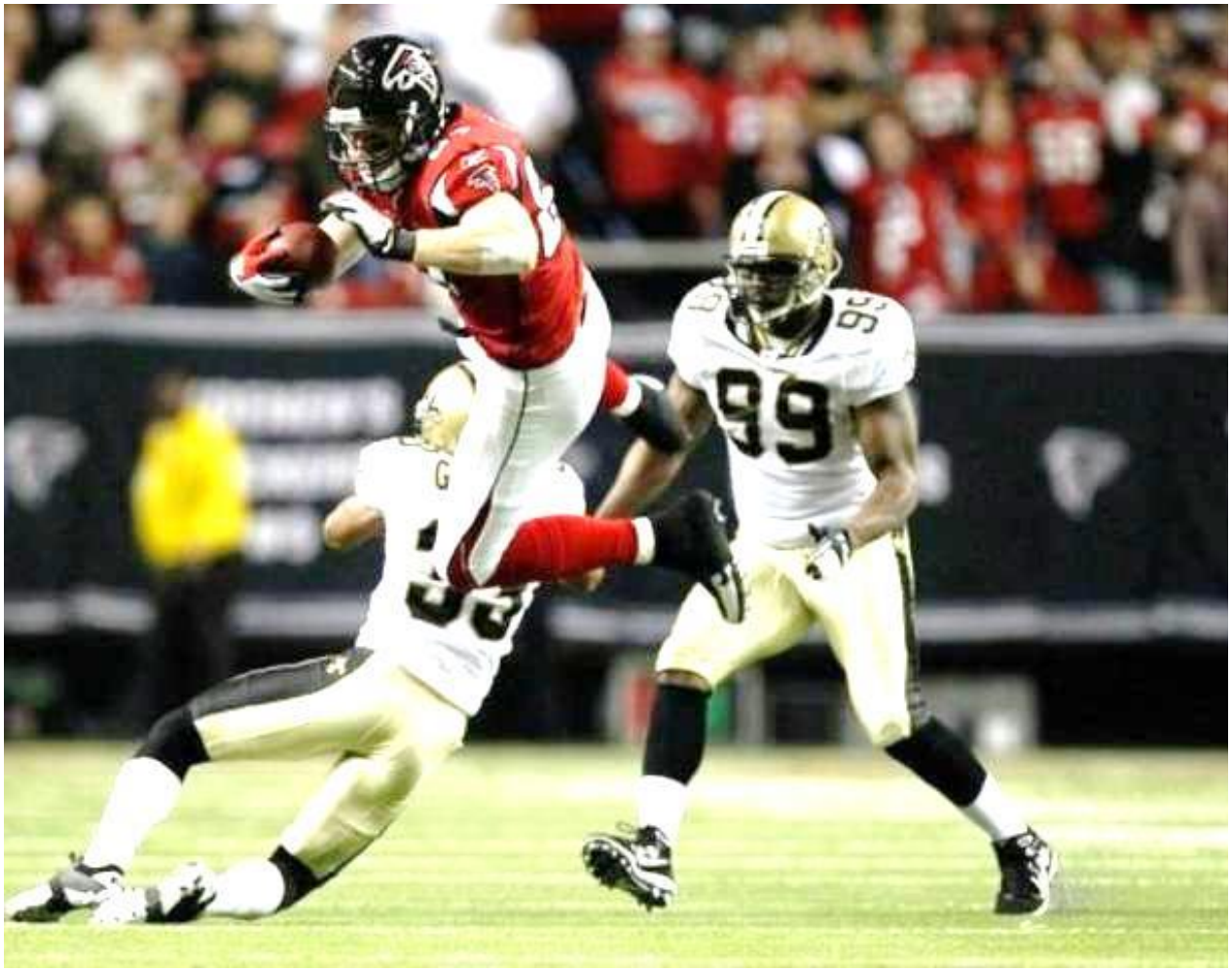
"Up and Over"



Safety & Quality Guideline MEC Approval

MEMORIAL HERMANN

"Up and Over"

BOARD SYSTEM QUALITY COMMITTEE

Hospital MECs (12)

MHMD Board of Directors

Clinical Programs Committee

CPC Subcommittee(s): Critical Care → Surgery → Medicine

ICU Safe Practice Guideline: To prevent injury to adjacent organs when central lines are inserted, the following practice guideline is recommended:

- Real-time ultrasound guidance will be used for placement of all central venous catheters, whenever possible.
- Physicians and other individuals placing central lines under real-time ultrasound guidance will receive appropriate training in the use of ultrasound for this purpose.

MEC Up or Down Vote

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MHMD
Memorial Hermann Physician Network

MEMORIAL HERMANN

TO: Chiefs of Staff
Chiefs of Staff-Elect
Chief Executive Officers
Chief Medical Officers
Chief Nursing Officers

FROM: Charlotte Alexander, MD
Chair, System Quality Committee

Keith Fernandez, MD
President, MHMD

DATE: January 17, 2013

SUBJECT: **SQC Approved Safety Standard for 24 Hours Continuous Pulse Oximetry Monitoring in Postoperative PCA Patients**

A series of adverse events and close calls due to respiratory depression have occurred across the system in early postoperative patients receiving PCA therapy. These patients are felt to be at increased risk due to the residual effects of anesthesia and narcotic medications received in the OR and PACU, when combined with postoperative PCA narcotics. In response to these events and after complete discussion with multiple CPC subcommittees, the Full CPC and the MHMD Board approved a new safety standard to monitor postoperative PCA patients with continuous pulse oximetry for 24 hours after surgery. This standard was approved by the System Quality Committee on November 15.

To facilitate electronic ordering, the CPC Editorial Board has changed the standard postoperative PCA PowerPlan to make 24 hours continuous pulse oximetry monitoring a default choice.

Hospital MECs and MEC committees should review this new safety standard carefully. It is our recommendation this standard be addressed by a formal vote of each MEC if it is applicable to your facility, unless already adopted. Individual hospital monitoring standards may be more stringent than this, but not less stringent. Please feel free to contact us for any questions.


Results

Hospital Acquired Conditions
"Never Events"

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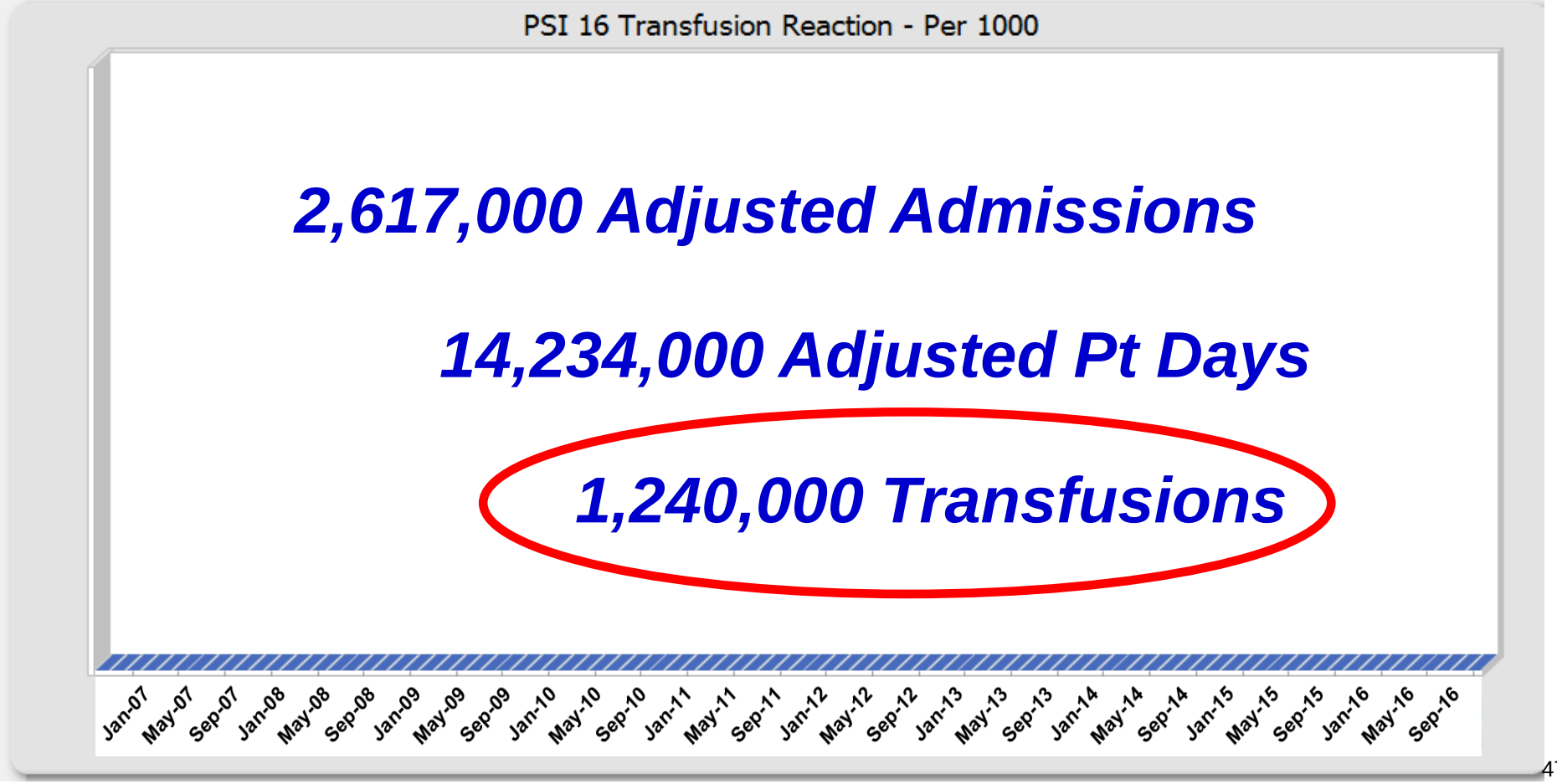
Acute Hemolytic Transfusion Reactions

Transfusion Events Jan 2007 - Dec 2016



Hospital Acquired Conditions
"Never Events"

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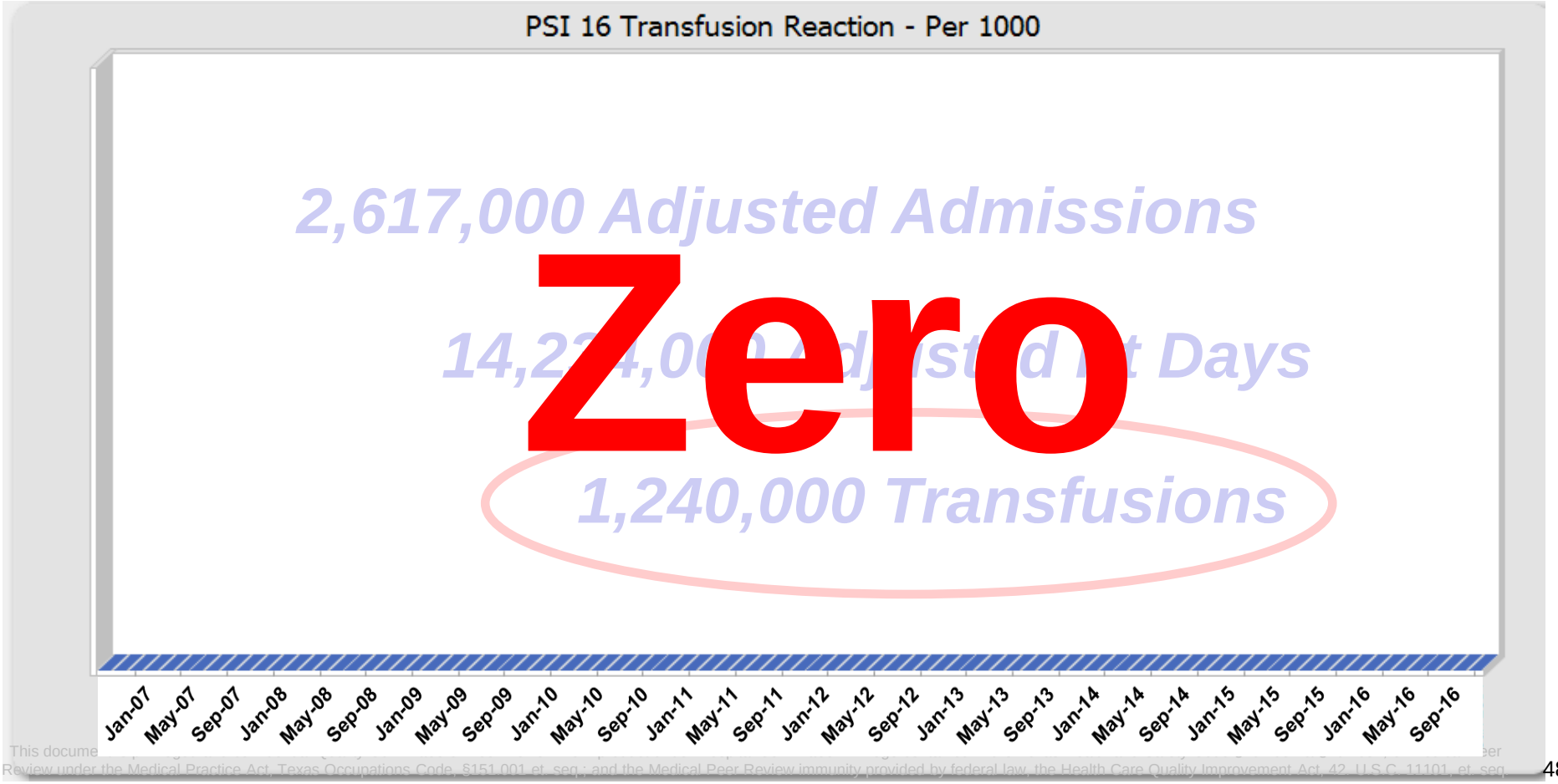
Acute Hemolytic Transfusion Reactions

Transfusion Events Jan 2007 - Dec 2016



Joint Commission Hand Hygiene
Center for Transforming Healthcare

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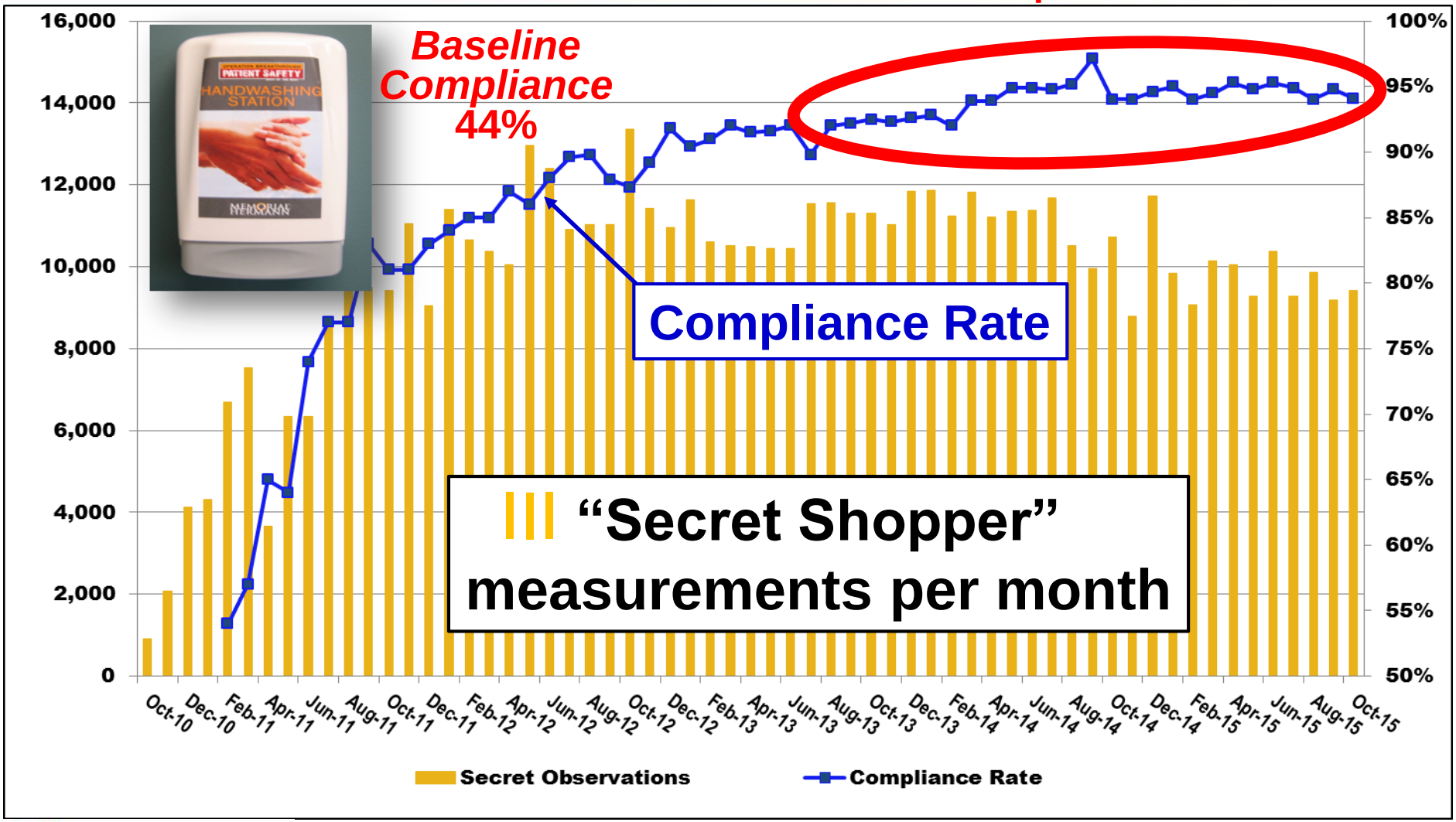
>90% compliance since Nov 2012



Joint Commission Center for Transforming Healthcare

Adult ICU Central Line Associated Blood Stream Infections (CLABSI)

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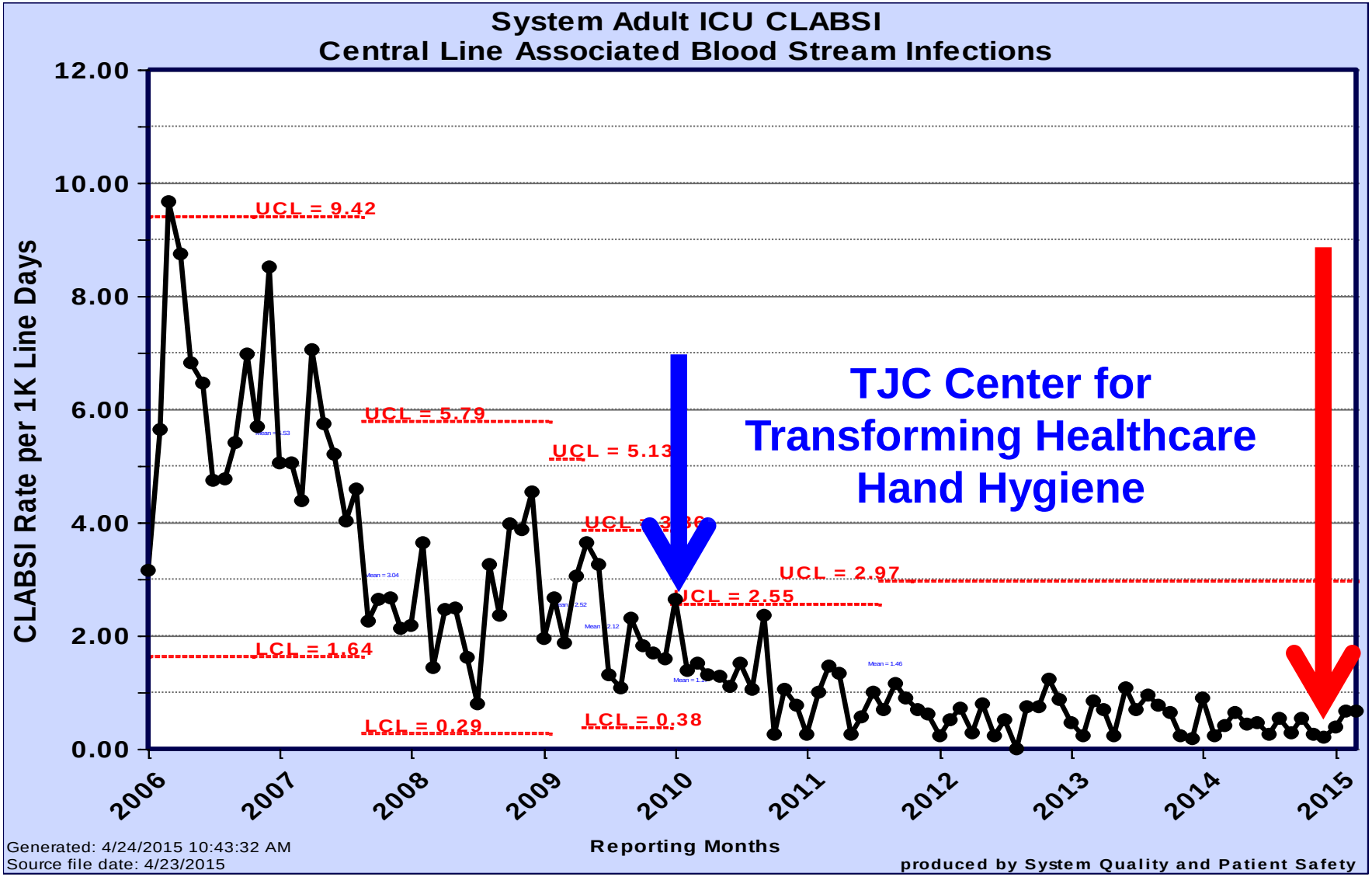
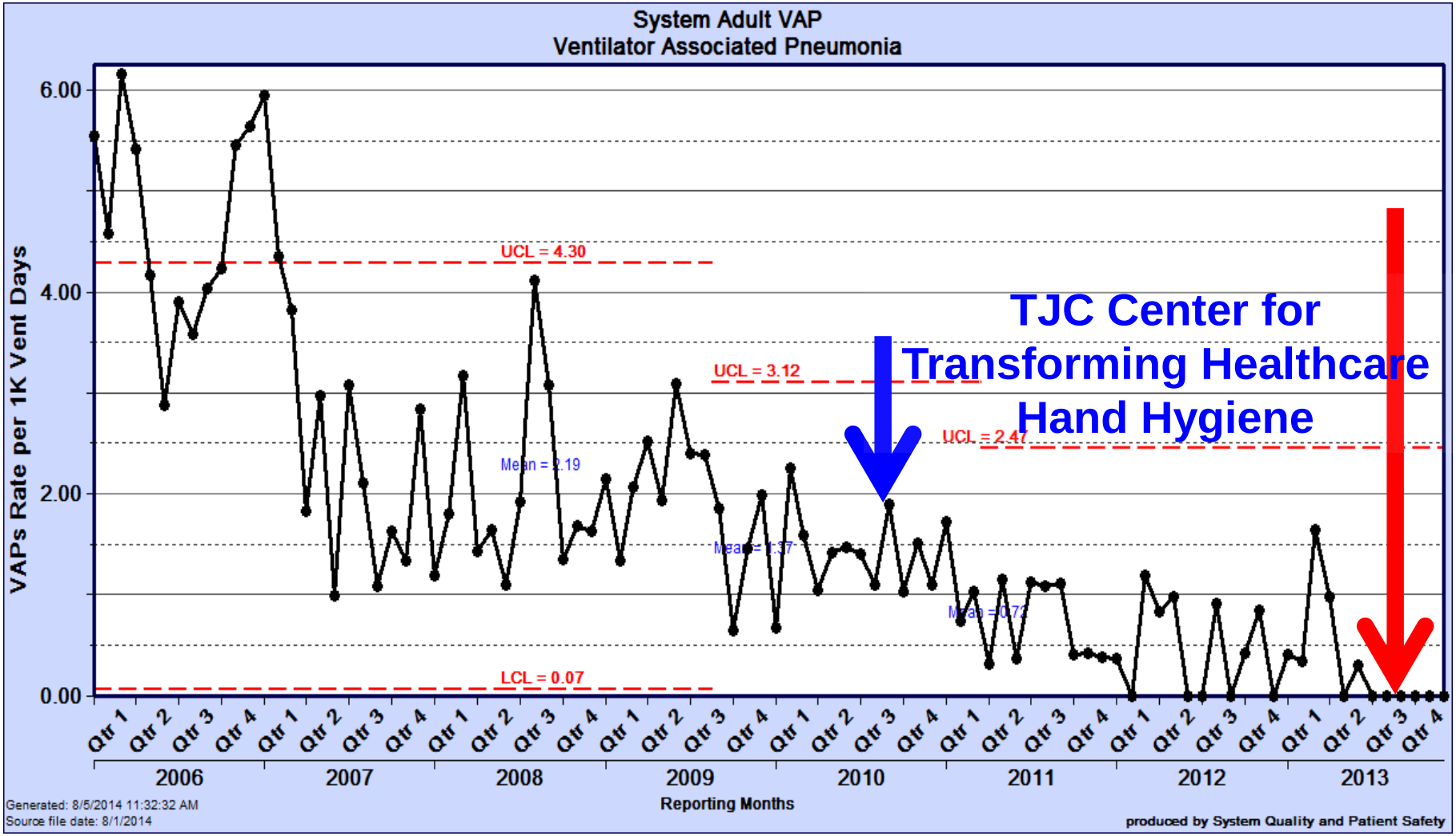


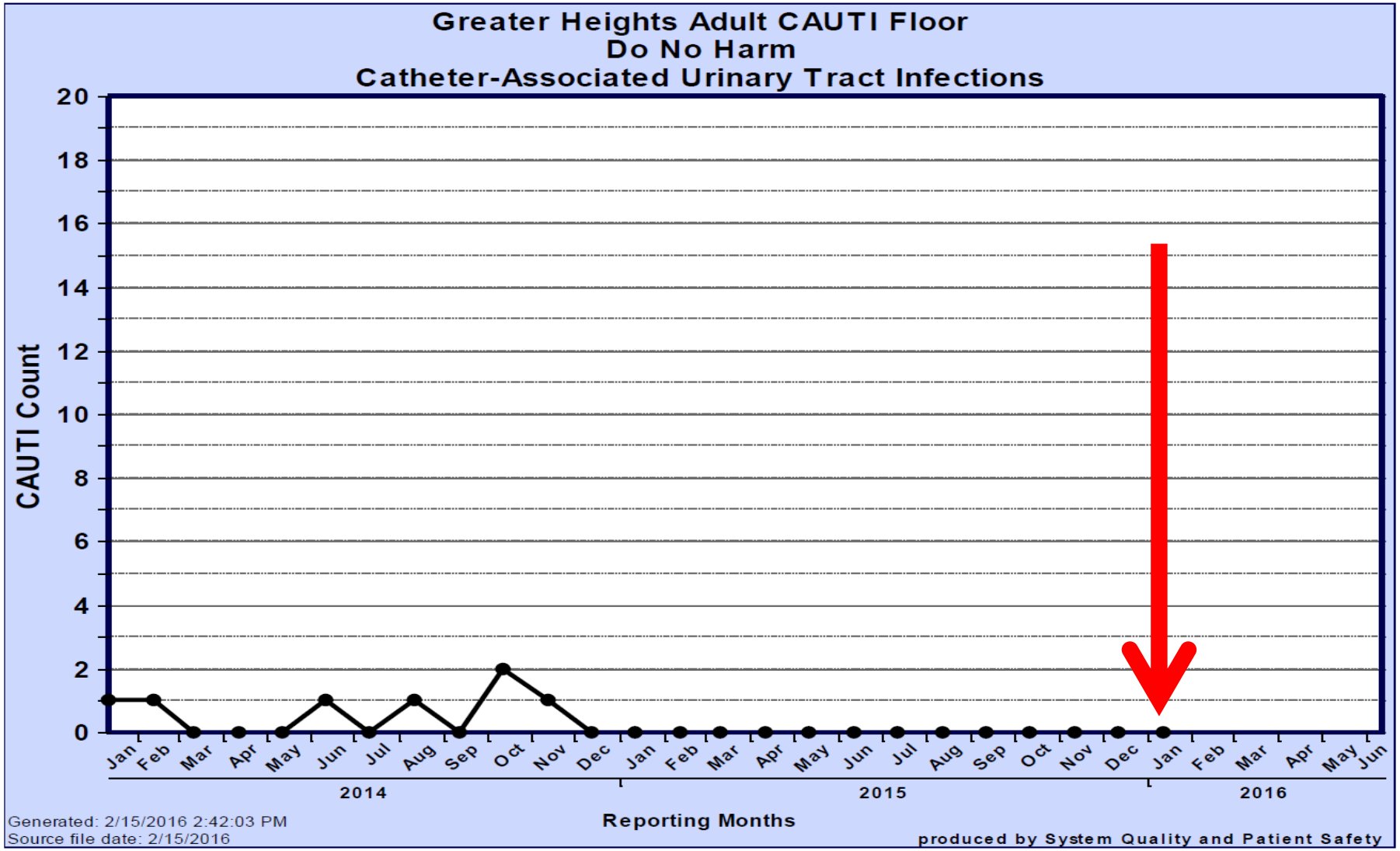
Ventilator Associated Pneumonias: All Adult ICUs



Catheter Associated Urinary Tract Infections (CAUTIs)

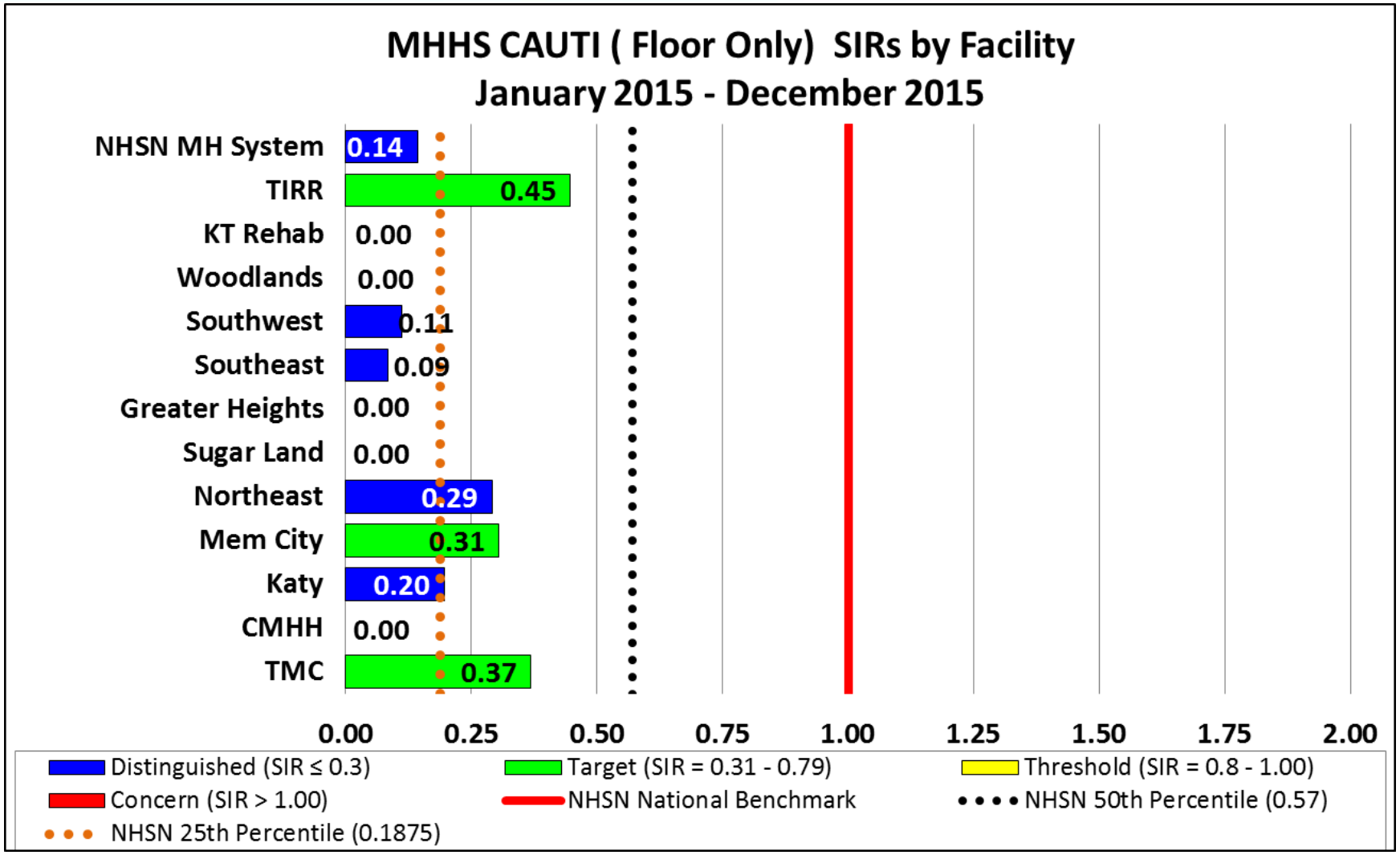
MEMORIAL HERMANN

Catheter-Associated UTIs Floor & ICU House-Wide



Do No Harm

Floor CAUTI NHSN SIR



HAI Hospital Scorecards

MEMORIAL HERMANN

Sugar Land Hospital HAI Scorecard

ICU CLABSI	Floor CLABSI	ICU CAUTI	Floor CAUTI	Total SSI	Perf Std SSI	NHSN SSI

Hip	Knee	ORIF	MRSA	Clostridium *difficile*

Number of HAIs in one month

HAI Hospital Scorecards

MEMORIAL HERMANN

Sugar Land Hospital HAI Scorecard

ICU CLABSI	Floor CLABSI	ICU CAUTI	Floor CAUTI	Total SSI	Perf Std SSI	NHSN SSI
0	0	0	0	0	0	0

Hip	Knee	ORIF	MRSA	Clostridium *difficile*
0	0	0	0	0

Number of HAIs in one month

Hospital Acquired Infections, Conditions and Patient Safety Indicators

MEMORIAL HERMANN

Central Line Associated Bloodstream Infections

Ventilator Associated Pneumonias

Surgical Site Infections

Retained Foreign Bodies

Iatrogenic Pneumothorax

[illegible] and [illegible]ions

[illegible] Stage [illegible] & IV

[illegible]sociated Injuries

[illegible]mbosis and/or Pulmonary Embolism

Deaths Among Surgical Inpatients with Serious Treatable Complications

Birth Traumas

Serious Safety Events

Hospital Acquired Infections, Conditions and Patient Safety Indicators

MEMORIAL HERMANN

Central Line Associated Bloodstream Infections

Ventilator Associated Pneumonias

Surgical Site Infections

Retained Foreign Bodies

Iatrogenic Pneumothorax

Accidental Punctures and Lacerations

Pressure Ulcers Stages III & IV

Hospital Associated Injuries

Deep Vein Thrombosis and/or Pulmonary Embolism

Deaths Among Surgical Inpatients with Serious Treatable Complications

Birth Traumas

Serious Safety Events

High Reliability
Certified Zero Award

MEMORIAL HERMANN


2011

MEMORIAL HERMANN

High Reliability
Certified Zero Award

To: Memorial Hermann Southeast Hospital

Zero Iatrogenic Pneumothorax for 12 Months

February 1, 2010 to January 31, 2011

Dan Wolterman
President & Chief Executive Officer

M. Michael Shabot, M.D.
System Chief Medical Officer

Robert G. Croyle
Chair, Health System Board

BREAKTHROUGHS IN PATIENT SAFETY

1. Zero Events

2. 12 Consecutive Months

3. Certified Zero Category

2011

MEMORIAL HERMANN

High Reliability Certified Zero Award

To: Memorial Hermann Southeast Hospital

Zero Iatrogenic Pneumothorax for 12 Months

February 1, 2010 to January 31, 2011

Dan Wolterman
President & Chief Executive Officer

M. Michael Shabot, M.D.
System Chief Medical Officer

Robert G. Croyle
Chair, Health System Board

2015

MEMORIAL HERMANN

High Reliability Certified Zero Award

To: Memorial Hermann Greater Heights Hospital

Zero Catheter-Associated Urinary Tract Infections

Hospital-wide for 12 months

December 2014 to November 2015

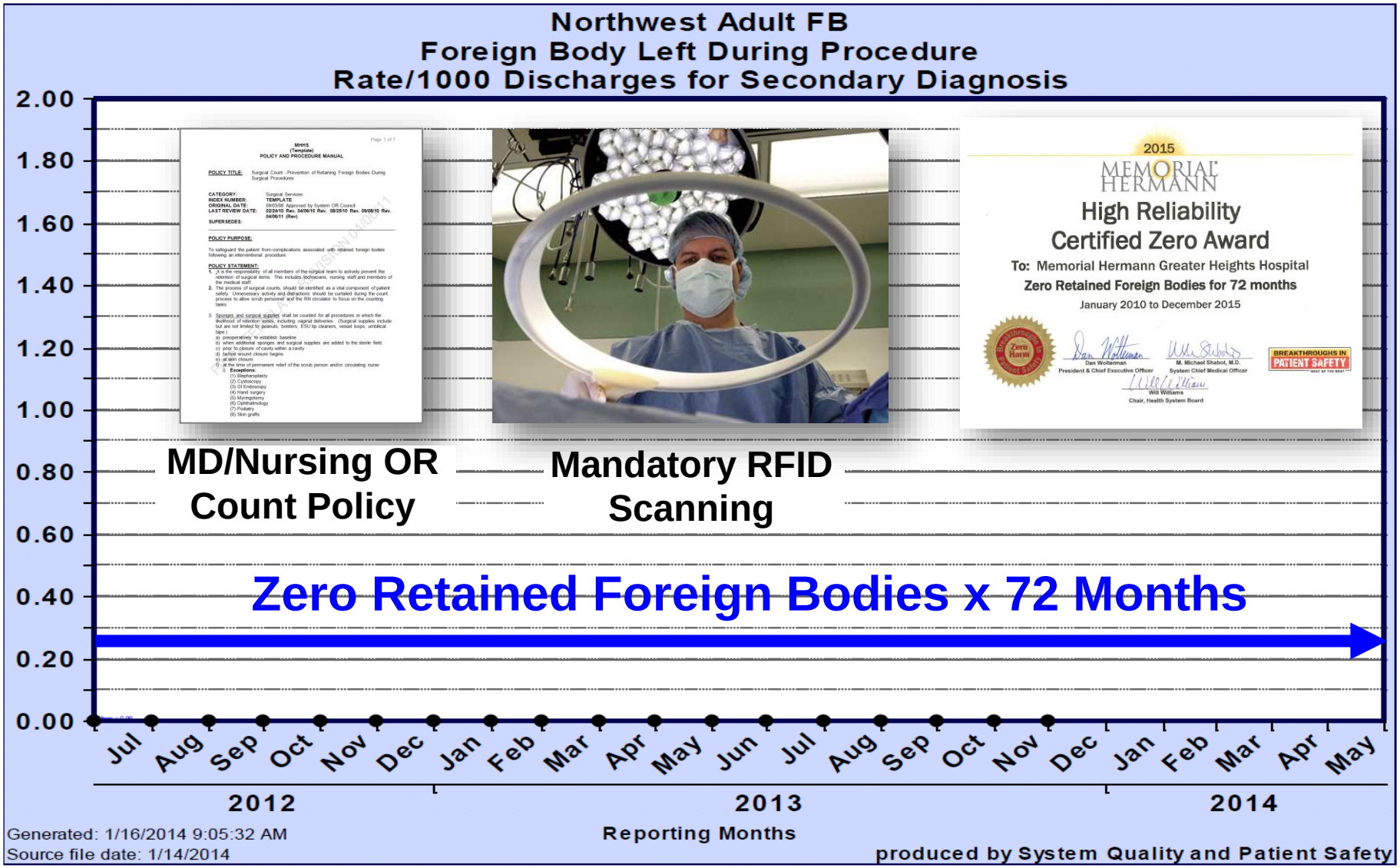
Dan Wolterman
President & Chief Executive Officer

M. Michael Shabot, M.D.
System Chief Medical Officer

Will Williams
Chair, Health System Board

MH Greater Heights: Zero Retained Foreign Bodies

MEMORIAL HERMANN



MH Children's: Zero Ventilator Associated Pneumonias

MEMORIAL HERMANN

CMHH PICU VAP
Do No Harm
Ventilator Associated Pneumonia

	15-Jan	14-Dec	14-Nov	14-Oct	14-Sep	14-Aug	14-Jul	14-Jun	14-May	14-Apr	14-Mar	14-Feb
Ventilator Associated Pneumonia Prevention Bundle												
Physician Care:												
HOB up 30 deg	100.00%	100.00%	100.00%	100.00%	91.67%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
SUD Prophylaxis	100.00%	95.83%	97.06%	100.00%	83.33%	100.00%	100.00%	100.00%	96.72%	88.89%	92.59%	100.00%
DVT Prophylaxis	100.00%	95.83%	100.00%	100.00%	100.00%	100.00%	98.04%	100.00%	98.36%	100.00%	100.00%	100.00%
Sedation weaning trial q24 hours	94.87%	95.83%	100.00%	91.18%	91.67%	100.00%	90.20%	90.00%	93.44%	88.89%	85.19%	100.00%
MD Bundle Compliance	94.87%	87.50%	97.06%	91.18%	75.00%	100.00%	88.24%	90.00%	88.52%	77.78%	77.78%	100.00%
Nursing Care:												
Suction q4 hrs	100.00%	100.00%	100.00%	100.00%	91.67%	100.00%	94.12%	100.00%	100.00%	100.00%	100.00%	100.00%
Oral hygiene q4 hrs	97.44%	100.00%	100.00%	100.00%	91.67%	100.00%	96.08%	96.67%	100.00%	100.00%	100.00%	100.00%
Nursing Bundle Compliance	97.44%	100.00%	100.00%	100.00%	91.67%	100.00%	94.12%	96.67%	100.00%	100.00%	100.00%	100.00%
# Audits completed	39	24	34	34	12	3	51	30	61	9	27	32

Ventilator Bundle Compliance

Zero Ventilator Associated Pneumonias x 48 Months

VAPs Rate per 1K Vent Days: 14.00, 12.00, 10.00, 8.00, 6.00, 4.00, 2.00, 0.00

Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb

2011 | 2012 | 2013

Reporting Months

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Source file date: 4/24/2013

produced by System Quality and Patient Safety

MH Katy: Zero Central Line Blood Stream Infections Hospital-Wide

MEMORIAL HERMANN

Katy Adult Hospital CLABSI
Do No Harm
Central Line Associated Blood Stream Infections

	15-Jan	14-Dec	14-Nov	14-Oct	14-Sep	14-Aug	14-Jul	14-Jun	14-May	14-Apr	14-Mar	14-Feb
Blood Stream Infection Prevention Bundle												
Central Line Insertion												
MD Hand Hygiene	97.83%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Chlorhexadine	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
MD gown, gloves, hat & mask	100.00%	97.37%	100.00%	100.00%	100.00%	100.00%	100.00%	97.14%	100.00%	95.24%	100.00%	100.00%
Drape patient head to toe	100.00%	97.37%	100.00%	100.00%	96.43%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Sterile field maintained during procedure	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Assistant Hand Hygiene	100.00%	100.00%	100.00%	97.50%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Assistant gown, gloves, hat & mask	97.83%	100.00%	96.88%	97.50%	100.00%	100.00%	96.00%	100.00%	100.00%	100.00%	95.24%	96.88%
Insertion Bundle Compliance	95.65%	94.74%	96.88%	97.50%	96.43%	100.00%	96.00%	97.14%	100.00%	95.24%	95.24%	96.88%
% Femoral Lines	8.70%	0.00%	0.00%	2.50%	0.00%	0.00%	0.00%	2.86%	2.78%	0.00%	0.00%	0.00%
% Femoral Lines justified by careful site selection	100.00%			100.00%				100.00%	100.00%			
Ultrasound Guidance												
% Ultrasound Guided CVC Insertions	100.00%	100.00%	92.31%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Central Line Bundle Compliance

Zero CLABSIs Hospital-Wide x 17 Months

CLABSI Rate per 1K Line Days

14.00 12.00 10.00 8.00 6.00 4.00 2.00 0.00

Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul

2011 2012

Reporting Months

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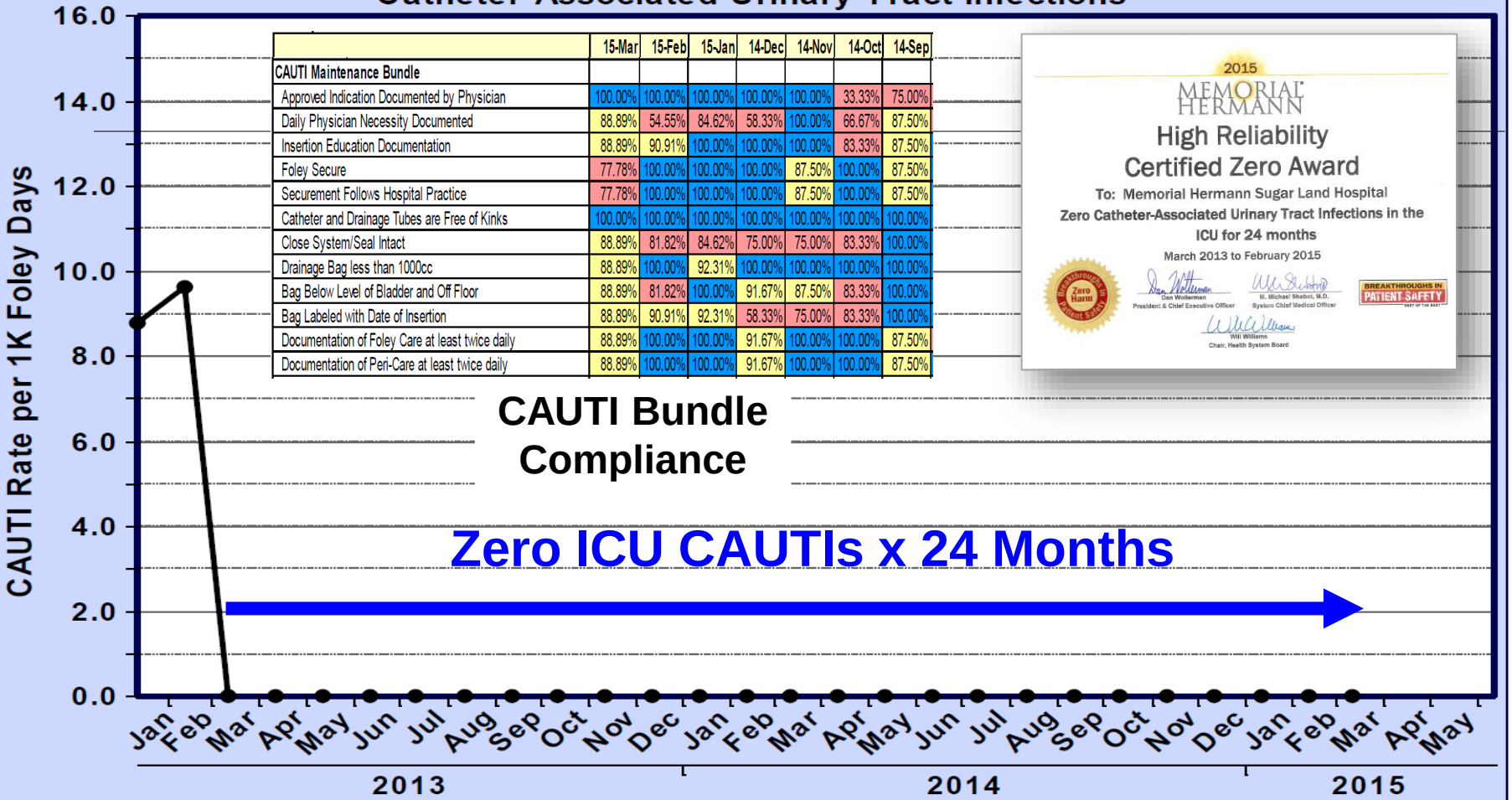
Source file date: 9/18/2012

produced by System Quality and Patient

MH Sugar Land: Zero ICU Catheter Associated UTIs

MEMORIAL HERMANN

Sugar Land Adult ICU CAUTI
Do No Harm
Catheter-Associated Urinary Tract Infections



	15-Mar	15-Feb	15-Jan	14-Dec	14-Nov	14-Oct	14-Sep
CAUTI Maintenance Bundle							
Approved Indication Documented by Physician	100.00%	100.00%	100.00%	100.00%	100.00%	33.33%	75.00%
Daily Physician Necessity Documented	88.89%	54.55%	84.62%	58.33%	100.00%	66.67%	87.50%
Insertion Education Documentation	88.89%	90.91%	100.00%	100.00%	100.00%	83.33%	87.50%
Foley Secure	77.78%	100.00%	100.00%	100.00%	87.50%	100.00%	87.50%
Securement Follows Hospital Practice	77.78%	100.00%	100.00%	100.00%	87.50%	100.00%	87.50%
Catheter and Drainage Tubes are Free of Kinks	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
Close System/Seal Intact	88.89%	81.82%	84.62%	75.00%	75.00%	83.33%	100.00%
Drainage Bag less than 1000cc	88.89%	100.00%	92.31%	100.00%	100.00%	100.00%	100.00%
Bag Below Level of Bladder and Off Floor	88.89%	81.82%	100.00%	91.67%	87.50%	83.33%	100.00%
Bag Labeled with Date of Insertion	88.89%	90.91%	92.31%	58.33%	75.00%	83.33%	100.00%
Documentation of Foley Care at least twice daily	88.89%	100.00%	100.00%	91.67%	100.00%	100.00%	87.50%
Documentation of Peri-Care at least twice daily	88.89%	100.00%	100.00%	91.67%	100.00%	100.00%	87.50%

CAUTI Bundle Compliance

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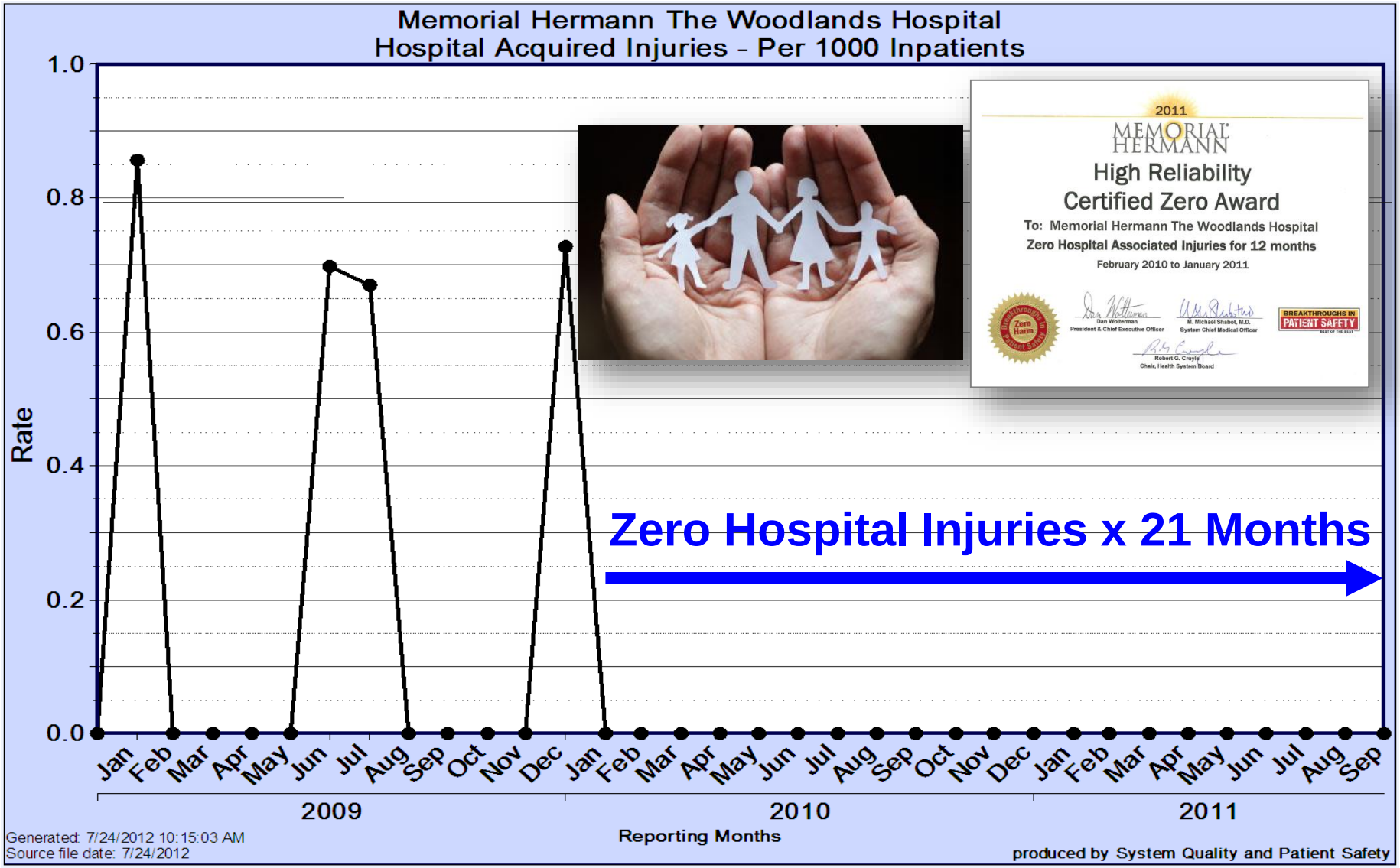
produced by System Quality and Patient Safety

MH Woodlands: Zero Hospital Acquired Injuries

MEMORIAL HERMANN



High Reliability 2011-16
Certified Zero Awards

MEMORIAL HERMANN

243

ICU Central Line Associated Bloodstream Infections (18)
ICU Catheter Associated Urinary Tract Infections (13)
Hospital-Wide Central Line Associated Bloodstream Infections (7)
Hospital-Wide Catheter Associated Urinary Tract Infections (4)
Ventilator Associated Pneumonias (23)
Surgical Site Infections (0)
Retained Foreign Bodies (44)
Iatrogenic Pneumothorax (23)
Accidental Punctures and Lacerations (3)
Pressure Ulcers Stages III & IV (34)
Hospital Associated Injuries (6)
Deep Vein Thrombosis and/or Pulmonary Embolism (2)
Deaths Among Surgical Inpatients with Serious Treatable Complications (1)
Birth Traumas (16)
Obstetric Trauma in Natural Deliveries with Instrumentation (4)
Serious Safety Events 1&2 (17)
Serious Safety Events 1 & 2 for 1000 Days (2)
All Serious Safety Events (1)
Early Elective Deliveries (7)
Manifestations of Poor Glycemic Control (18)


2014
MEMORIAL HERMANN
High Reliability
Certified Zero Award
To: Memorial Hermann Northeast Hospital
Zero Early Elective Deliveries for 12 months
January 2013 to December 2013
Zero Harm
Dan Wellerman
President & Chief Executive Officer
M. Michael Shabot, M.D.
System Chief Medical Officer
Will Williams
Chair, Health System Board
BREAKTHROUGHS IN PATIENT SAFETY

In 2013 the South Carolina Hospital Association established the Certified Zero Harm Award

www.SCZeroHarm.com

Zero Harm Awards were first presented in 2014

Results to date:

- **Two-thirds** of South Carolina's acute care hospitals have received at least one Zero Harm Award
- All together, South Carolina hospitals have earned **258 Zero Harm Awards**
- This year's award winners amassed **55,291** central line days without an infection
- They also performed **9,700** harm-free surgical procedures
- And twelve of this year's winners were recognized for ***42 consecutive months*** without harm

Serious Safety Events

MEMORIAL HERMANN


2015
MEMORIAL
ERMANN
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To: M al Hermann K
Zero Seriou ety Events or 24 hs
e 2013 to M 5
Breakthroughs in Zero Harm Patient Safety
man
Presiden cutive Officer
M. Mic
System Chief M
EAKTHROUGHS IN
PATIENT SAFETY
BEST OF THE BEST
Will Williams
Chair, Health System Board

September 6, 2015
MH Greater Heights Hospital
1000 Days Since Last SSE1-2

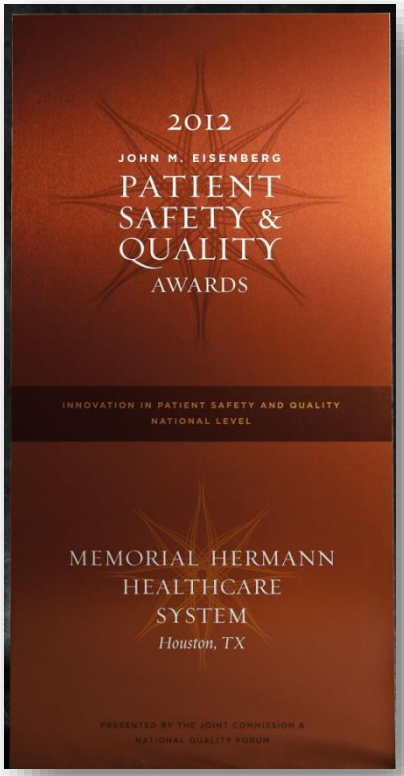
John M. Eisenberg Patient Safety and Quality Award

MEMORIAL HERMANN

March 8, 2013 | Washington, DC

The Joint Commission

NATIONAL QUALITY FORUM



Memorial Hermann Sugar Land Hospital

MEMORIAL HERMANN

MALCOLM BALDRIGE NATIONAL QUALITY AWARD
THE QUEST FOR EXCELLENCE

Malcolm Baldrige
National Quality Award

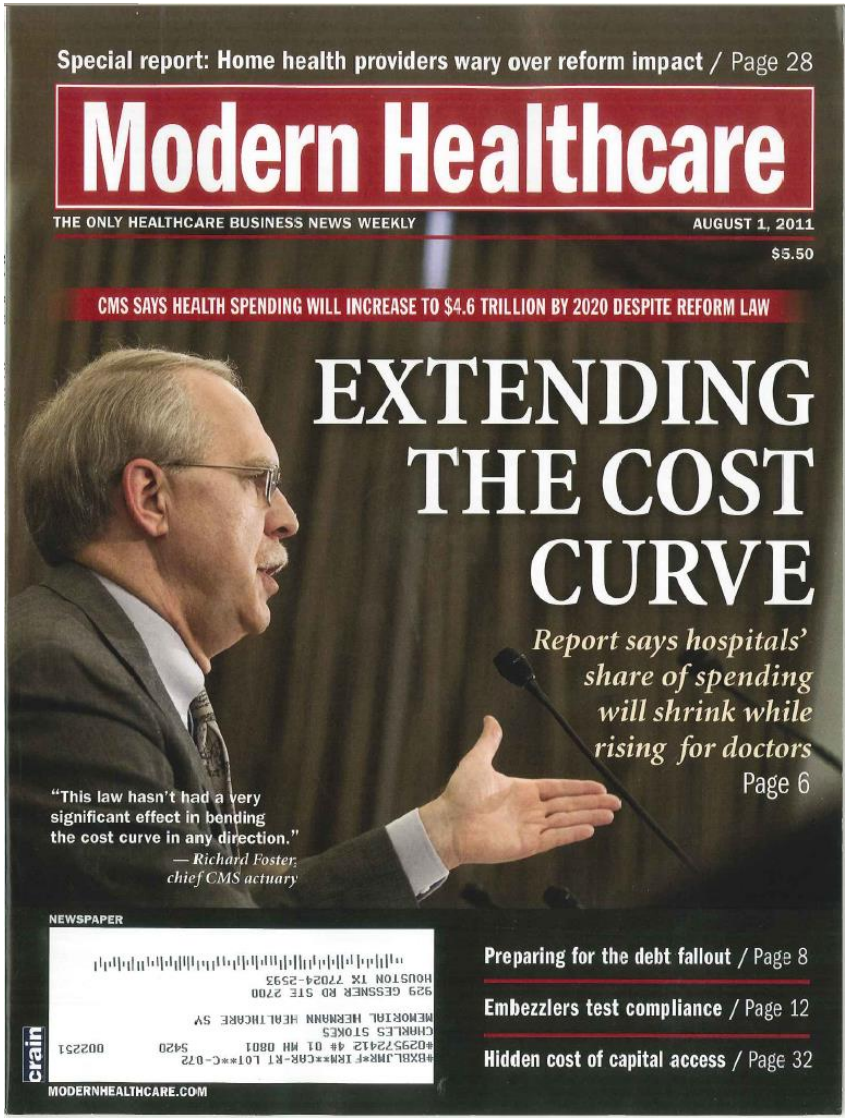
2016 Award Recipient

Next Generation Healthcare Quality Assurance

MEMORIAL HERMANN

Healthcare as a High Reliability Organization

MEMORIAL HERMANN



From the C-Suite » *Dan Wolterman and Dr. M. Michael Shabot*

2011

A new standard

Aim for safety of planes, nuclear plants

Everyone counts on high-reliability organizations to ensure their safety when flying on commercial airlines or traveling near nuclear power plants. Air traffic control, nuclear submarines, nuclear aircraft carriers and naval aviation all have well-deserved reputations for high-reliability operation.

But can hospitals be evaluated by HRO standards? In general, the answer seems to be no, beginning with the Institute of Medicine's 2000 publication of *To Err is Human* and continuing to the 2010 report by HHS' inspector general's office that 13.5% of Medicare beneficiaries suffer a preventable serious adverse event during hospital stays.


Wolterman


Shabot

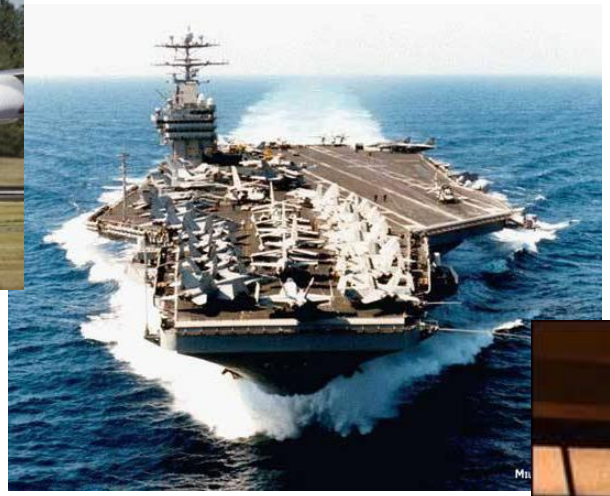
In 2006, the Memorial Hermann Healthcare System in Houston embarked on a quest to become an HRO. The high-reliability program is a key element of lists were implemented in all intensive-care units and operating rooms. Memorial Hermann worked with the Joint Commission's Center for Transforming Healthcare to radically improve hand hygiene.

In 2010-11, the results of these initiatives became apparent. Zero cases of blood incompatibility (transfusion reaction) occurred from January 2007 to present among a population of 867,000 adjusted admissions, 4.3 million days of care and nearly 500,000 transfusions. Several hospitals had gone for years without a ventilator-associated pneumonia or a central-line-associated blood-stream infection. Serious medication errors decreased to zero most months while nearly a million medications per month were being administered. Many of our hospitals had gone a full year without the occurrence of a particular HAI, PSI or HAC.

High Reliability Organizations

MEMORIAL HERMANN

Commercial Aviation



Nuclear Aircraft Carriers

Air Traffic Control

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

High Reliability Organizations

MEMORIAL HERMANN

Memorial Hermann Health System

Nuclear Aircraft Carriers

Commercial Aviation

Air Traffic Control

OPERATION BREAKTHROUGH
PATIENT SAFETY
BEST OF THE BEST

Thank you!

MEMORIAL HERMANN

"You must be the change you want to see in the world"

Mahatma Gandhi (1869-1948)