Going for Gold: A Bundled Approach to Improve Resuscitation Performance

Presented by

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MAGNET RECOGNIZED
AMERICAN NURSES CREDENTIALING CENTER

Objectives and Conflict of Interest

Objectives:

1.) Describe the impact of a bundle approach on resuscitation performance in one academic medical center

2.) Identify strategies to improve outcomes of hospitalized cardiac arrest patients

Conflicts of Interest: Odette Comeau and Keith Ozenberger have no conflicts of interest; no sponsorship or commercial support has been provided.

This presentation will discuss the American Heart Association's Get With The Guidelines®-Resuscitation program.

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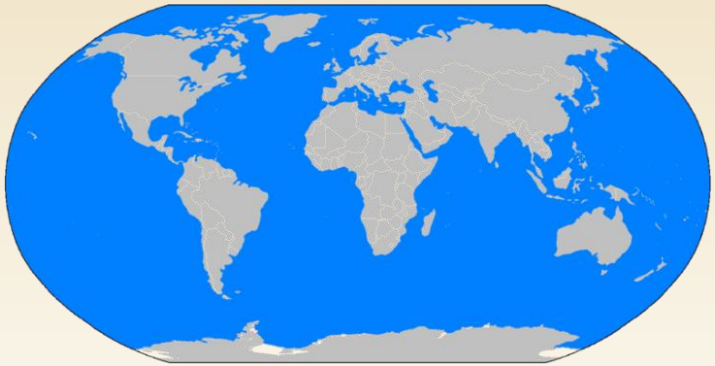
University of Texas Medical Branch
Galveston, Texas

Cardiovascular Disease: Global



- #1 cause of death
- 31% of global deaths in 2012
- > 75% of deaths occur in low-and-middle income countries

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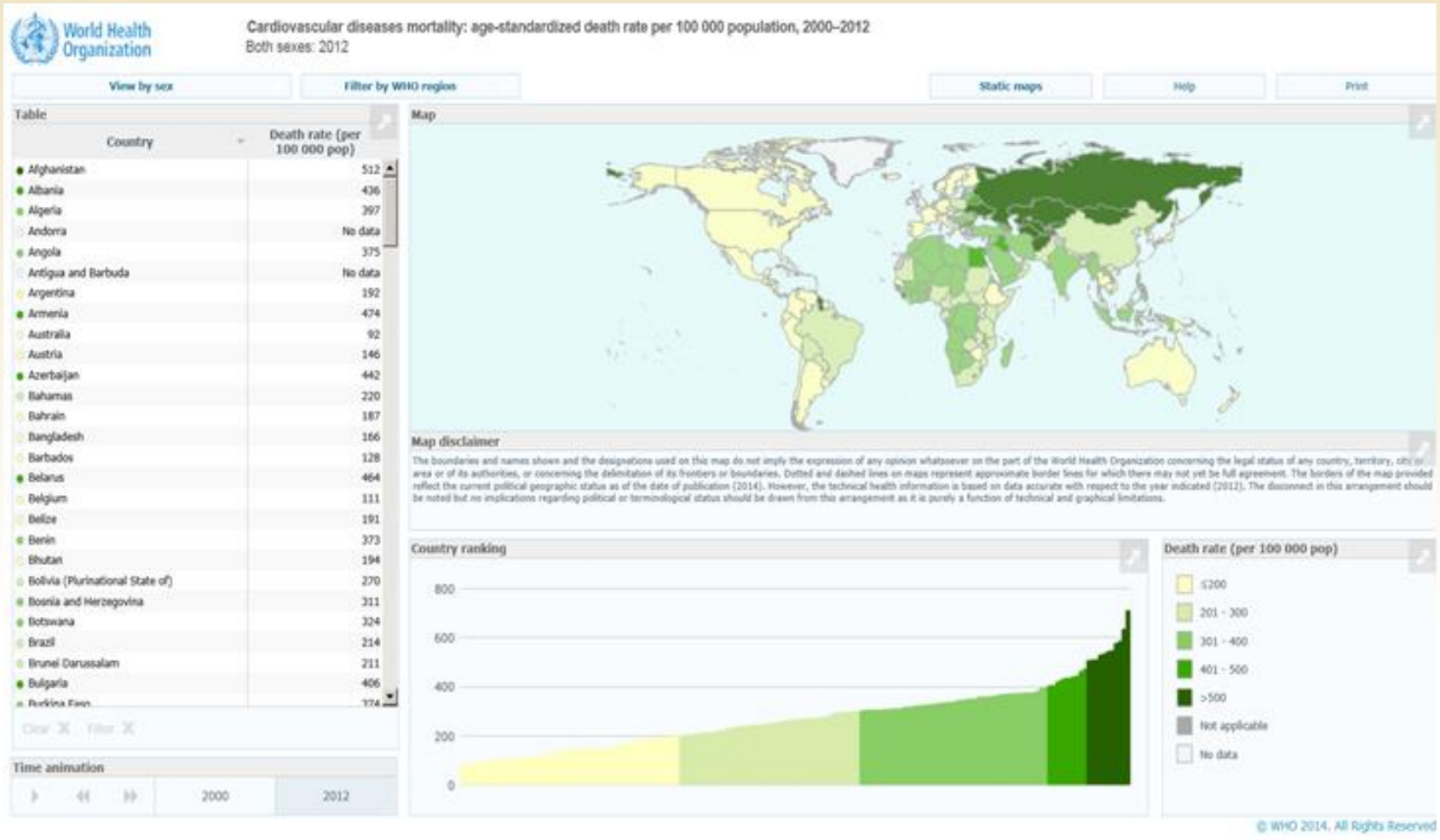
World Health Organization, 2015

Cardiovascular Disease



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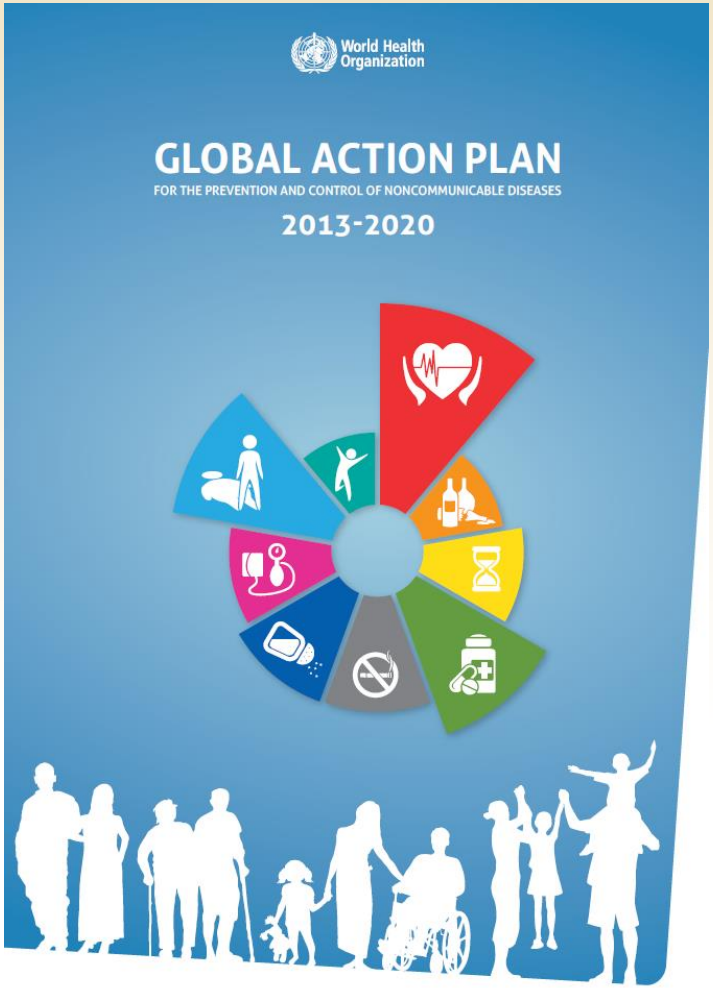
WHO. http://gamapserver.who.int/gho/interactive_charts/ncd/mortality/cvd/atlas.html

Cardiovascular Disease



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GLOBAL TARGETS

- A 25% relative reduction in risk of premature mortality from cardiovascular diseases, cancer, diabetes, or chronic respiratory diseases.
- At least 10% relative reduction in the harmful use of alcohol, as appropriate, within the national context.
- A 10% relative reduction in prevalence of insufficient physical activity.
- A 30% relative reduction in mean population intake of salt/sodium.
- A 30% relative reduction in prevalence of current tobacco use in persons aged 15+ years.
- A 25% relative reduction in the prevalence of raised blood pressure or contain the prevalence of raised blood pressure, according to national circumstances.
- Halt the rise in diabetes and obesity.
- At least 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes.
- An 80% availability of the affordable basic technologies and essential medicines, including generics, required to treat major noncommunicable diseases in both public and private facilities.

Cardiac Arrest

Global average incidence: 55 adults of presumed cardiac cause per 100,000 person-years

Survival rate: 7%

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Berdowski, Berg, Tijssen, & Koster. (2010). Global incidences of out-of-hospital cardiac arrest and survival rates: Systematic review of 67 prospective studies.

Cardiac Arrest: In-hospital

United States- 209,000 annually (adults)

Survive to Discharge: 25.5%

United Kingdom- 1.6 per 1000 hospital admissions

Survive to Discharge: 18.4%

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Mozaffarian et al. (2015). *Circulation*; Nolan et al. (2014). *Resuscitation*

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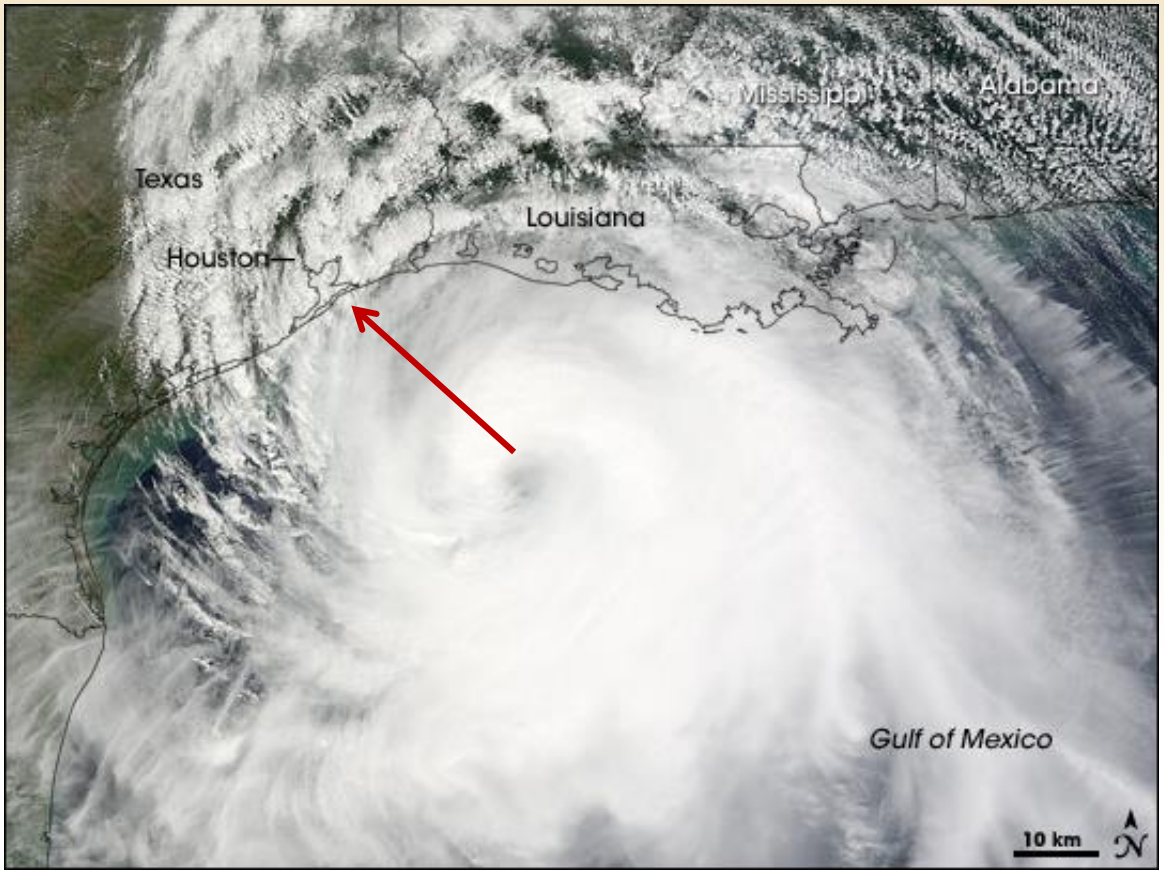
September 2008: Hurricane Ike



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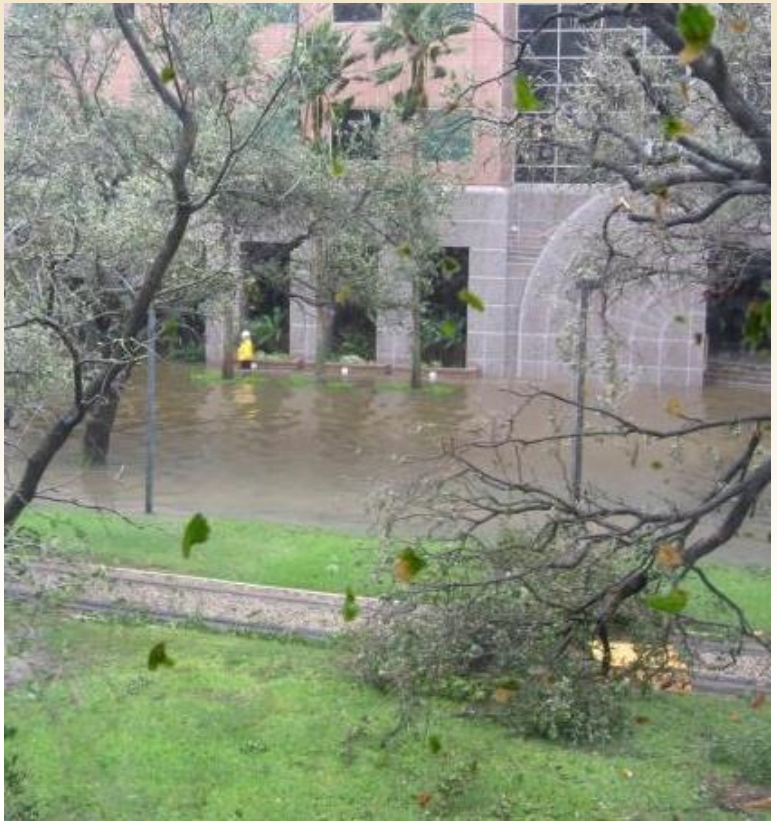

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Reopening of UTMB in Jan 2009

- Reopened without an Emergency Department initially (reopened Aug 2009)
- Reopened as a 200 bed hospital (from 550); resulted in layoffs
- Participants and leadership in resuscitation committee changed
- Data review – recommitment to process, education of staff, closer monitoring

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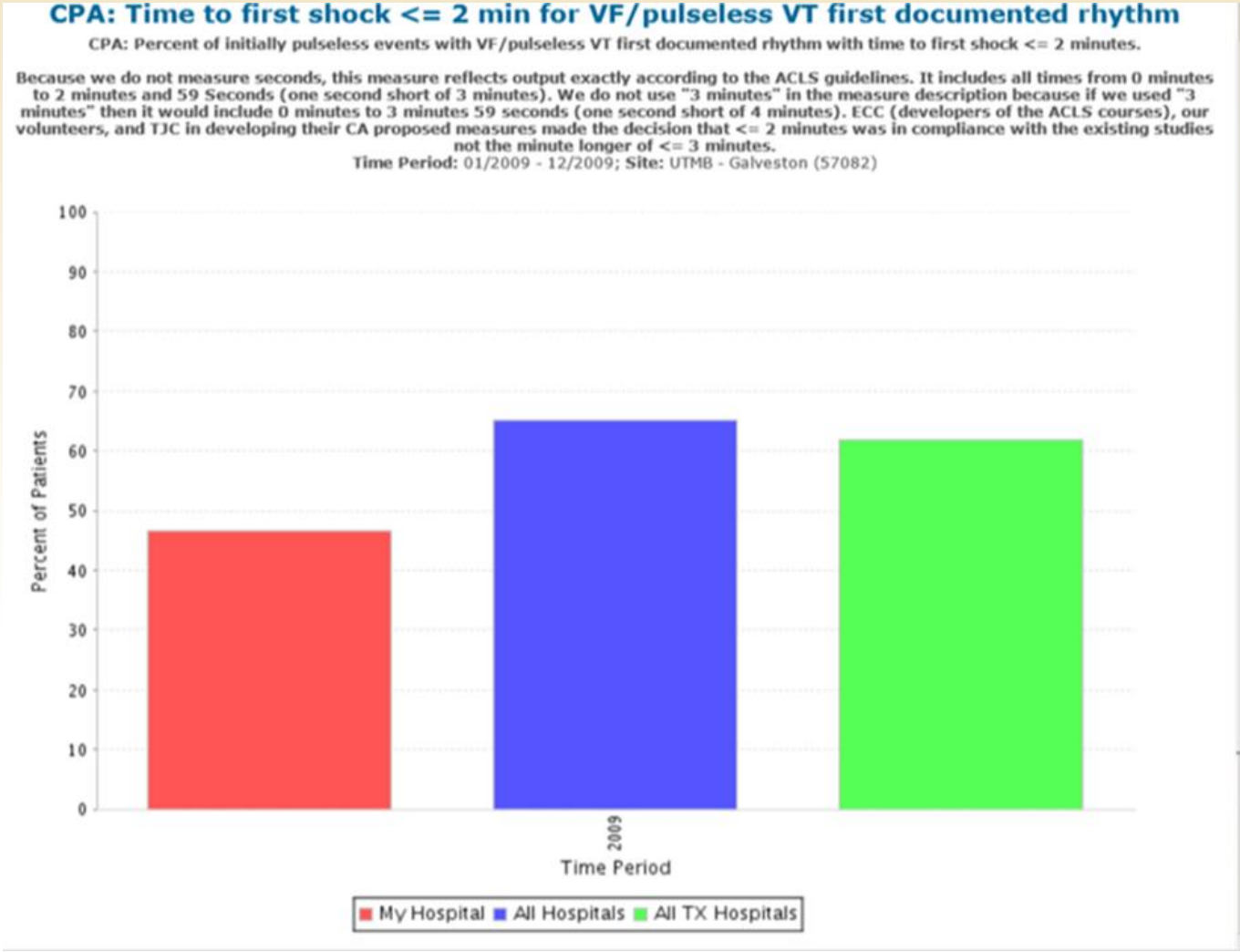
Get With The Guidelines®-Resuscitation program

American Heart Association | American Stroke Association.

GET WITH THE GUIDELINES. RESUSCITATION



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Get With The Guidelines®-Resuscitation program

- Quality improvement tool
- Evidence-based care for in-hospital resuscitation
- Data Trending
- State and National Benchmarking
- Access to tools and resources
- Recognition for resuscitation performance

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Resuscitation Committee

Meets once/month

Members (Disciplines / Services / Departments)

- Physicians (Internal Medicine, Pediatrics, Anesthesia)
- Nurses (Inpatient and Outpatient Director, Adult and Pediatric ICU Nurse Managers / ANM)
- Education Lab
- Quality and Healthcare Safety
- Respiratory Care Services
- Risk Management
- Operator Services
- Pharmacy
- Chaplain Services
- Emergency Department

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Strategy Overview

- Code Review
- Mock Codes
- Documentation Revision
- Feedback (formal informal, classroom)

Strategy Overview

- **Code Review**
- Mock Codes
- Documentation Revision
- Feedback (formal informal, classroom)

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Strategy: Code Review

Location:	**UH #**	**Code Within 24 hours of admission to Hospital:** **YES NO**
Admit Dx:		**Initial Rhythm:**
Age:		**AED Use: YES NO**
Code DATE & START time:		**Time of first defib:**
Code END time:		**Time of first compressions:**
Time of Responder arrival:		**Summary of Medications:**
ECG/Telemetry Monitoring prior to code: **YES NO**		
Final Disposition of Code:		**IV access:**
Cause of Arrest:		**Survived to Discharge:** **YES NO**
Prior Vital Signs- Time and Data		**Strengths:**
Prior Rapid Response Activation (Date/Time/Reason)		**Opportunities:**

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Strategy Overview

- Code Review
- **Mock Codes**
- Documentation Revision
- Feedback (formal informal, classroom)

Strategy: Mock Codes

- Life Support Education Lab
- Focus on non-ICU prior to Code Team arrival
- Equipment, BCLS skills, teamwork
- Surprise !

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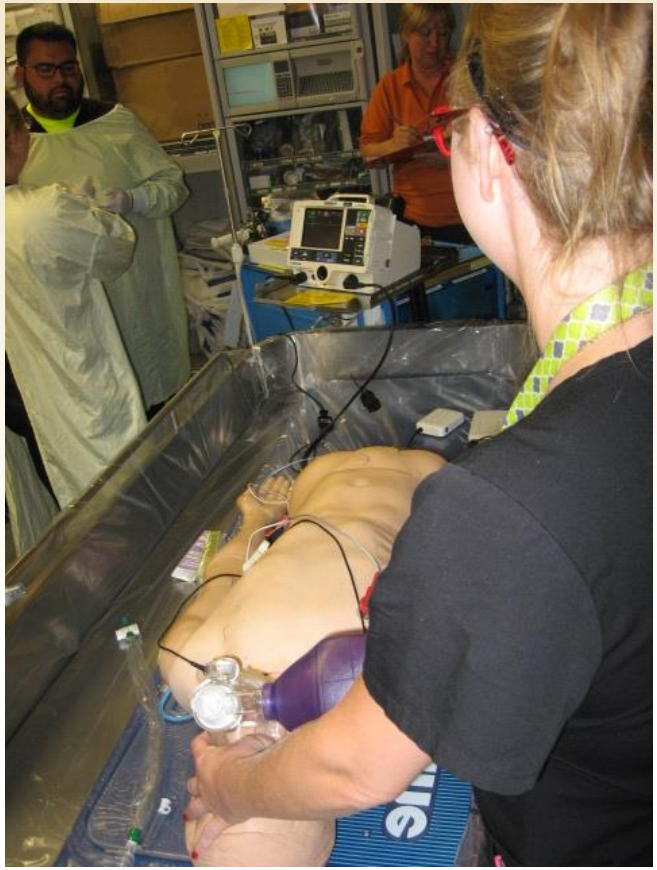

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Strategy Overview

- Code Review
- Mock Codes
- **Documentation Revision**
- Feedback (formal informal, classroom)

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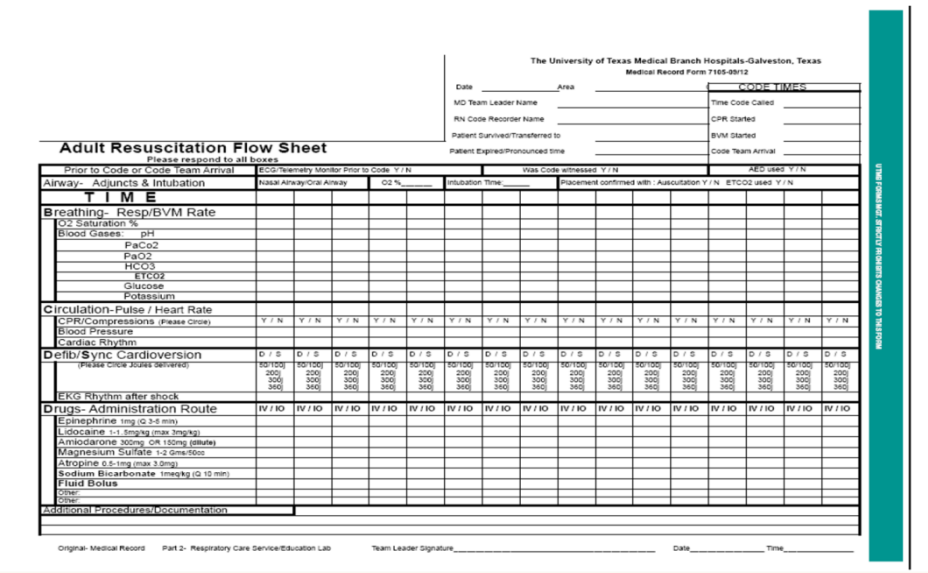
Strategy: Documentation Revision



The University of Texas Medical Branch Hospitals-Galveston, Texas
Medical Record Form 7105-08/12

Adult Resuscitation Flow Sheet
Please respond to all boxes

Date _____ Area _____
MD Team Leader Name _____
RN Code Recorder Name _____
Patient Survived/Transferred to _____
Patient Expired/Pronounced time _____

CODE TIMES
Time Code Called
CPR Started
BVM Started
Code Team Arrival

Prior to Code or Code Team Arrival | ECG/Telemetry Monitor Prior to Code Y / N | Was Code witnessed Y / N | AED used Y / N

Airway- Adjuncts & Intubation | Nasal Airway/Oral Airway | O2 %_____ | Intubation Time:_____ | Placement confirmed with : Auscultation Y / N ETCO2 used Y / N

T I M E

Breathing- Resp/BVM Rate
- O2 Saturation %
- Blood Gases: pH
- PaCo2
- PaO2
- HCO3
- ETCO2
- Glucose
- Potassium

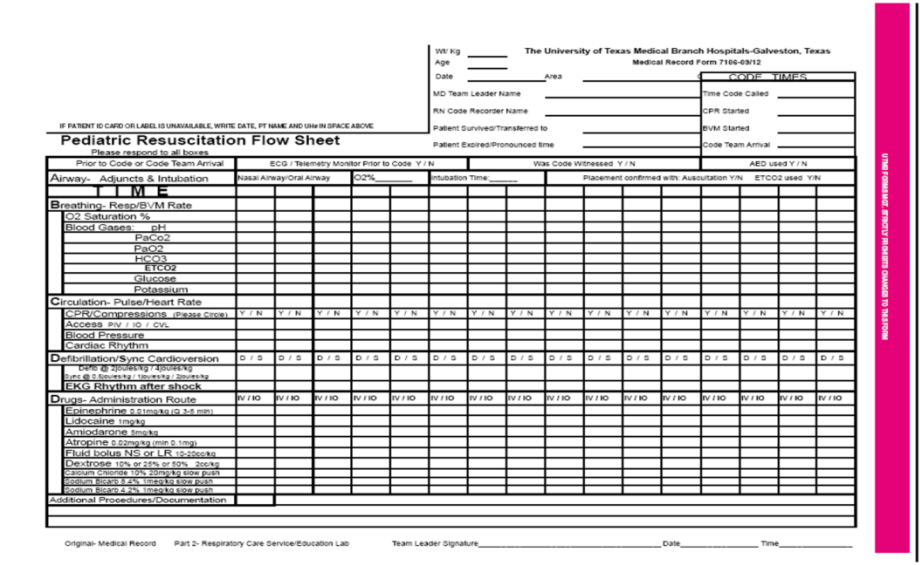
Circulation-Pulse / Heart Rate
- CPR/Compressions (Please Circle) Y / N
- Blood Pressure
- Cardiac Rhythm

Defib/Sync Cardioversion (Please Circle Joules Delivered): D / S | 50/100J | 200J | 300J | 360J
- EKG Rhythm after shock

Drugs- Administration Route: IV / IO
- Epinephrine 1mg (Q 3-5 min)
- Lidocaine 1-1.5mg/kg (max 3mg/kg)
- Amiodarone 300mg OR 150mg (dilute)
- Magnesium Sulfate 1-2 Gms/50cc
- Atropine 0.5-1mg (max 3.0mg)
- Sodium Bicarbonate 1meq/kg (Q 10 min)
- Fluid Bolus
- Other
- Other

Additional Procedures/Documentation

Original- Medical Record Part 2- Respiratory Care Service/Education Lab Team Leader Signature_____ Date_____ Time_____



The University of Texas Medical Branch Hospitals-Galveston, Texas
Medical Record Form 7106-08/12

Wt/ Kg _____
Age _____
Date _____ Area _____
MD Team Leader Name _____
RN Code Recorder Name _____
Patient Survived/Transferred to _____
Patient Expired/Pronounced time _____

CODE TIMES
Time Code Called
CPR Started
BVM Started
Code Team Arrival

IF PATIENT ID CARD OR LABEL IS UNAVAILABLE, WRITE DATE, PT NAME AND UMH IN SPACE ABOVE

Pediatric Resuscitation Flow Sheet
Please respond to all boxes

Prior to Code or Code Team Arrival | ECG / Telemetry Monitor Prior to Code Y / N | Was Code Witnessed Y / N | AED used Y / N

Airway- Adjuncts & Intubation | Nasal Airway/Oral Airway | O2%_____ | Intubation Time:_____ | Placement confirmed with: Auscultation Y/N | ETCO2 used Y/N

T I M E

Breathing- Resp/BVM Rate
- O2 Saturation %
- Blood Gases: pH
- PaCo2
- PaO2
- HCO3
- ETCO2
- Glucose
- Potassium

Circulation- Pulse/Heart Rate
- CPR/Compressions (Please Circle) Y / N
- Access P/V / IO / CVL
- Blood Pressure
- Cardiac Rhythm

Defibrillation/Sync Cardioversion D / S
- Defib @ 2joules/kg / 4joules/kg
- Sync @ 0.5joules/kg / 1joules/kg / 2joules/kg
- EKG Rhythm after shock

Drugs- Administration Route: IV / IO
- Epinephrine 0.01mg/kg (Q 3-5 min)
- Lidocaine 1mg/kg
- Amiodarone 5mg/kg
- Atropine 0.02mg/kg (min 0.1mg)
- Fluid bolus NS or LR 10-20cc/kg
- Dextrose 10% or 25% or 50% 2cc/kg
- Calcium Chloride 10% 20mg/kg slow push
- Sodium Bicarb 8.4% 1meq/kg slow push
- Sodium Bicarb 4.2% 1meq/kg slow push

Additional Procedures/Documentation

Original- Medical Record Part 2- Respiratory Care Service/Education Lab Team Leader Signature_____ Date_____ Time_____

Challenges Identified:

--Code Flowsheets not capturing key data (example: time CPR started)

--Multiple (9) code note templates in EMR→ consolidated to 1 and abbreviated

Date of Code: ***

Team Leader: ***

Reason for Code: {UTMB_IP_ICU_REASON_FOR_CODE:300000006}

Initial Rhythm: {UTMB_IP_ICU_INITIAL _RHYTHM:300000007}

Initial Respiratory Status: {UTMB_IP_ICU_RESPIRATORY_STATUS:300000008}

ROSC (Return of Spontaneous Circulation) Achieved: {YES/NO:300000011}

Please refer to the resuscitation flow sheet for further details.

Other notes: ***

Strategy Overview

- Code Review
- Mock Codes
- Documentation Revision
- **Feedback (formal informal, classroom)**

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Strategy: Feedback

Formal & Informal

- Referrals to Department Quality Committees
- Feedback to documenters (opportunities, strengths)
- Failure to rescue follow-up with respective nurse managers

Classroom

- AHA guidelines with institutional data
- Re-enforce opportunities

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Get With The Guidelines®-Resuscitation program

Recognition Program

85% Compliance : 4 measures

1. Time to first chest compressions ≤ 1 minute
2. Device confirmation of correct ETT placement
3. Time to first shock ≤ 2 minutes
4. % pulseless cardiac events monitored or witnessed

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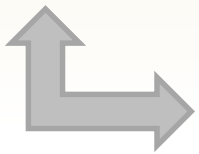
Get With The Guidelines®-Resuscitation program

Recognition Program

85% Compliance : 4 measures

1. Time to first chest compressions ≤ 1 minute
2. Device confirmation of correct ETT placement
3. Time to first shock < 2 minutes
4. % pulseless cardiac events monitored or witnessed



American Heart Association | American Stroke Association

GET WITH THE GUIDELINES RESUSCITATION

BRONZE: One calendar quarter

SILVER: One calendar year

GOLD: Two consecutive calendar years

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From 2007-2011 85% compliance in at least one (or more than one) measure

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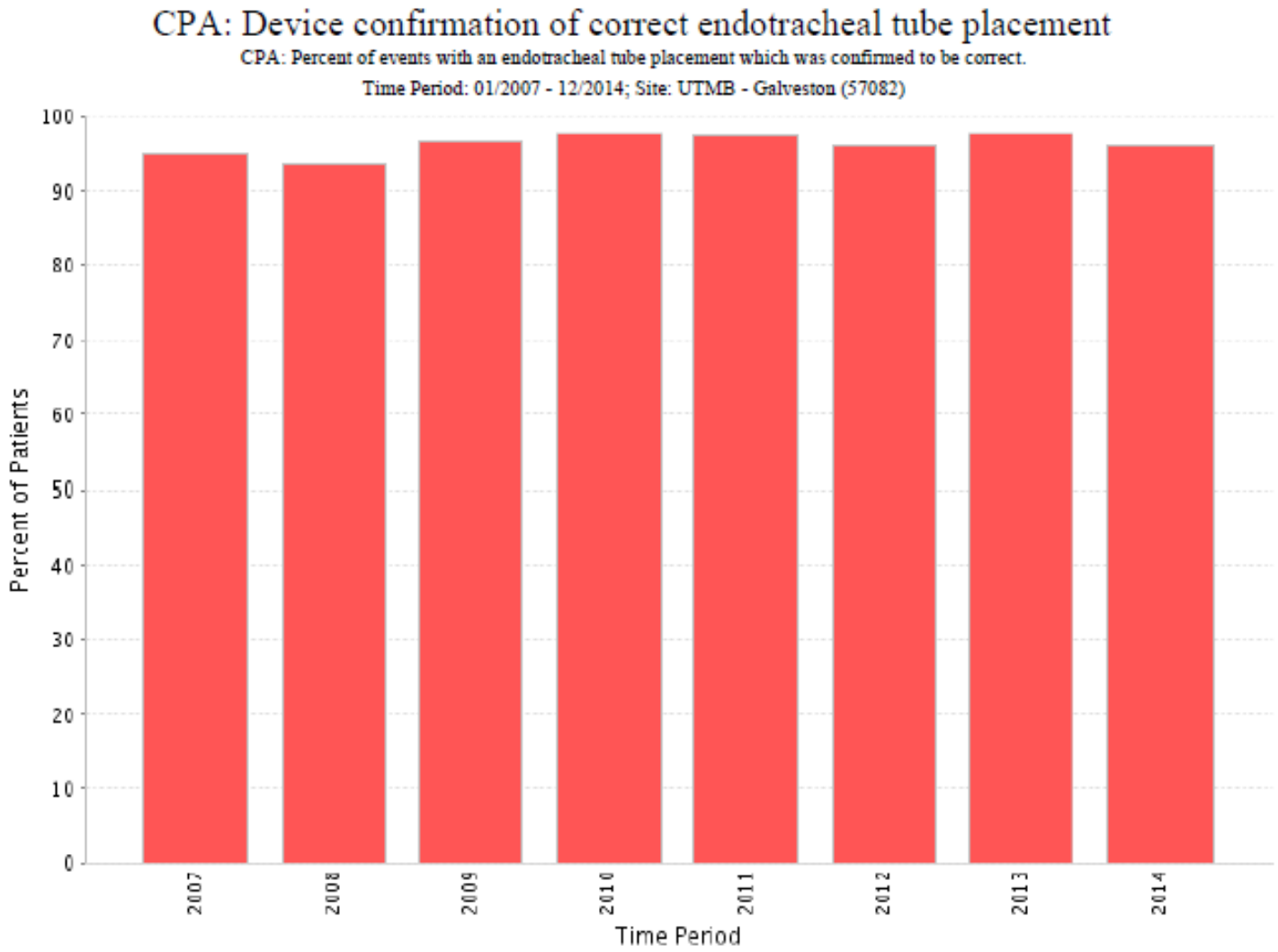
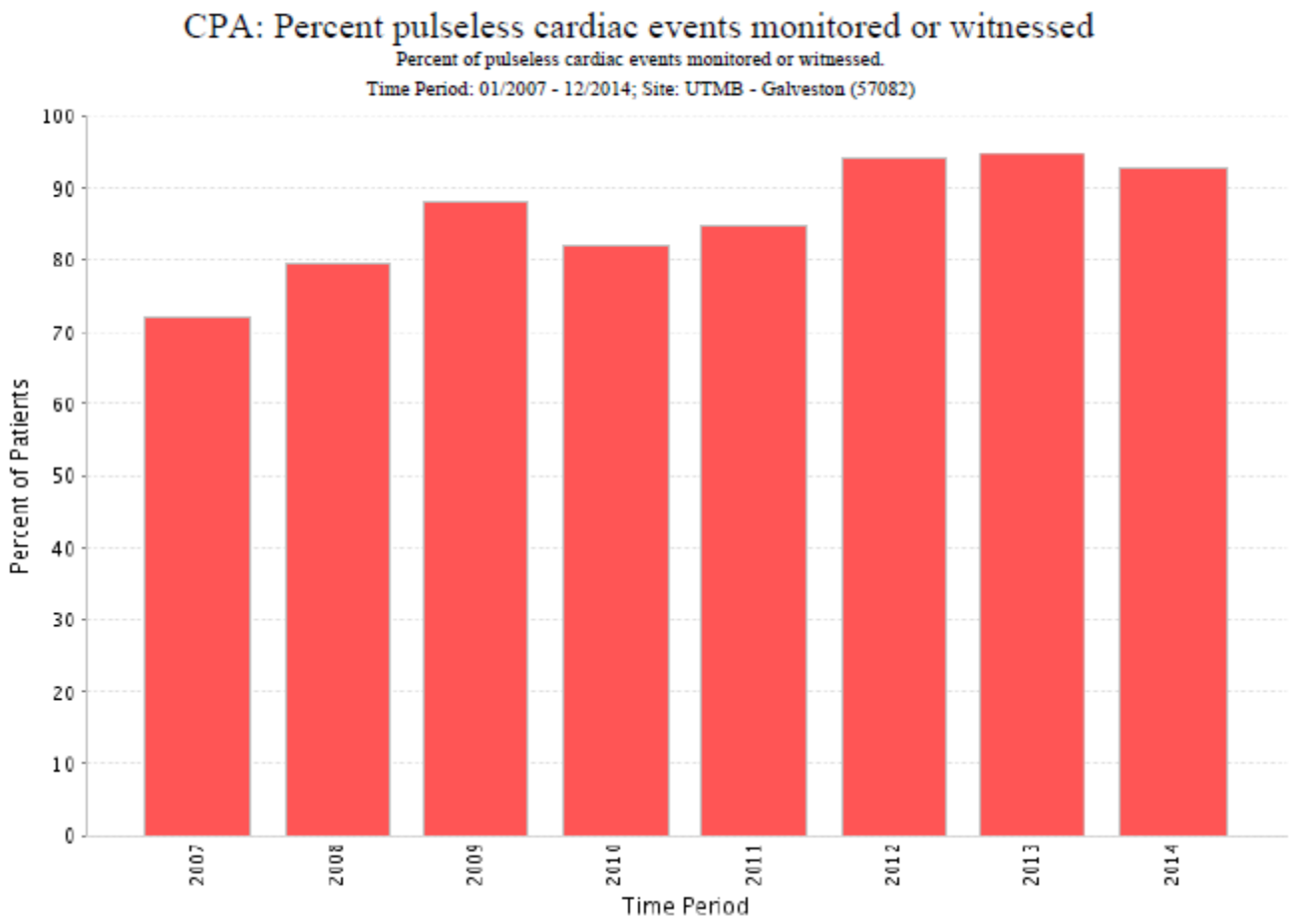
Device Confirmation



First year at ≥ 85% = 2007

Percent Pulseless Events Monitored or Witnessed



First year at ≥ 85% = 2009 and then again 2012

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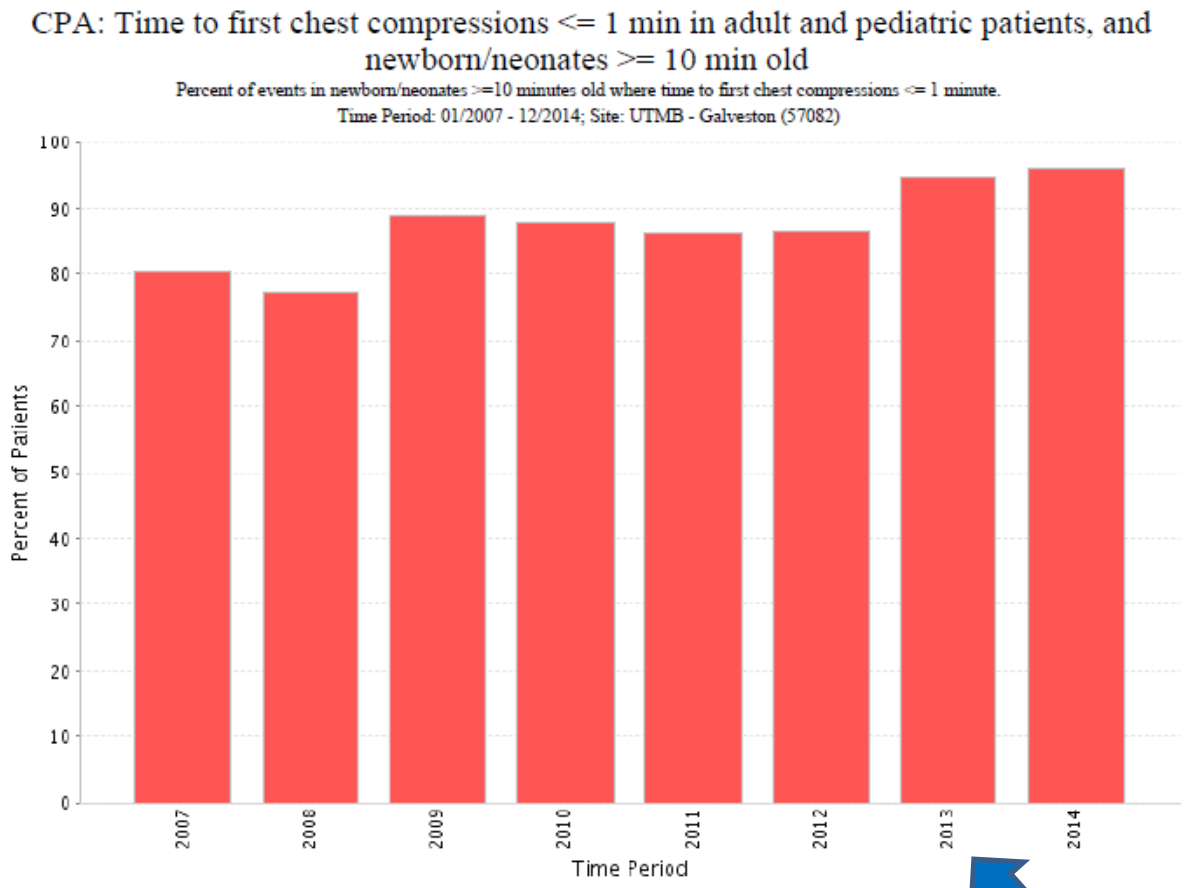
Time to First Compressions



First year at ≥ 85% = 2009

January 2013: Revised Code Flowsheets and EMR Code Note Implemented

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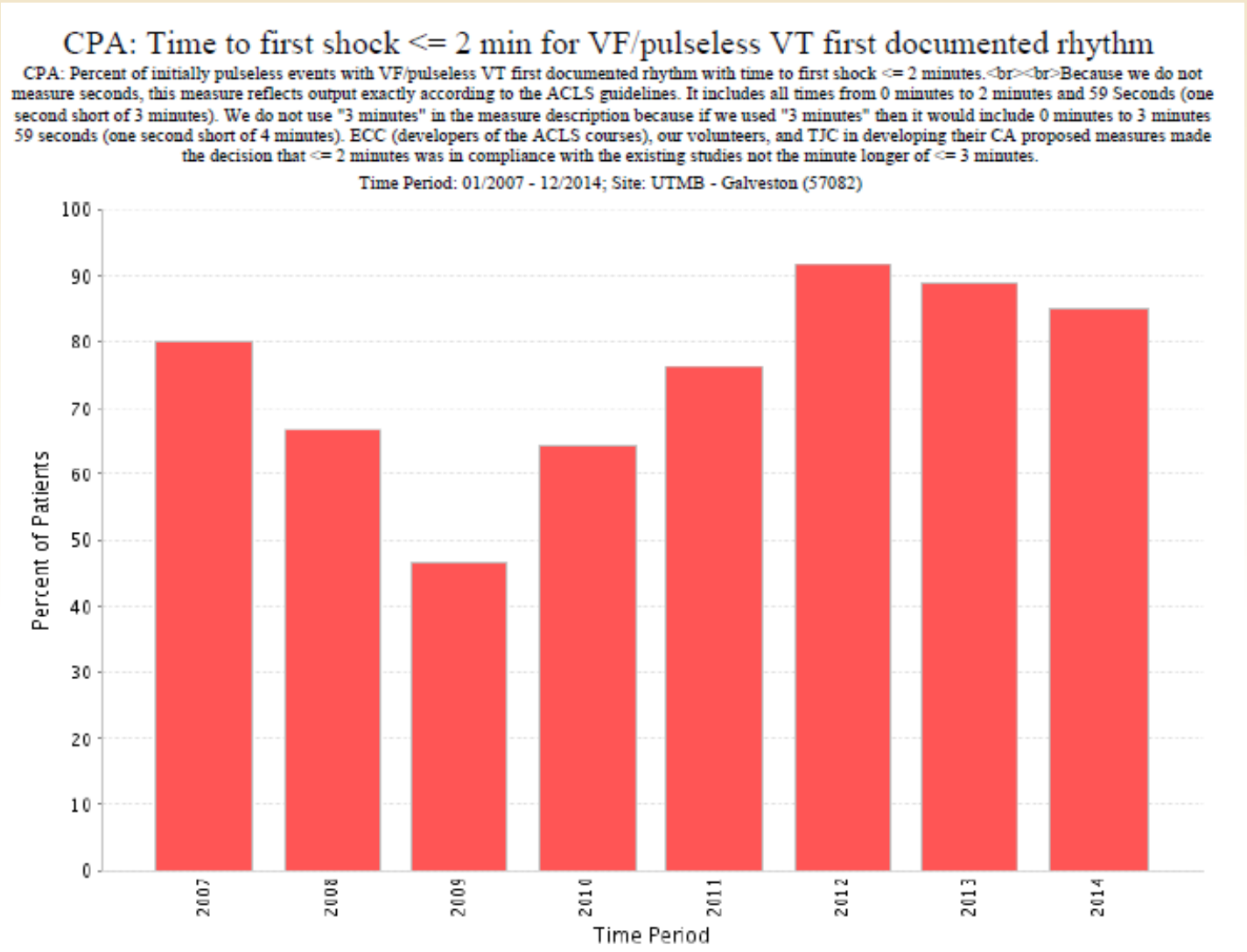
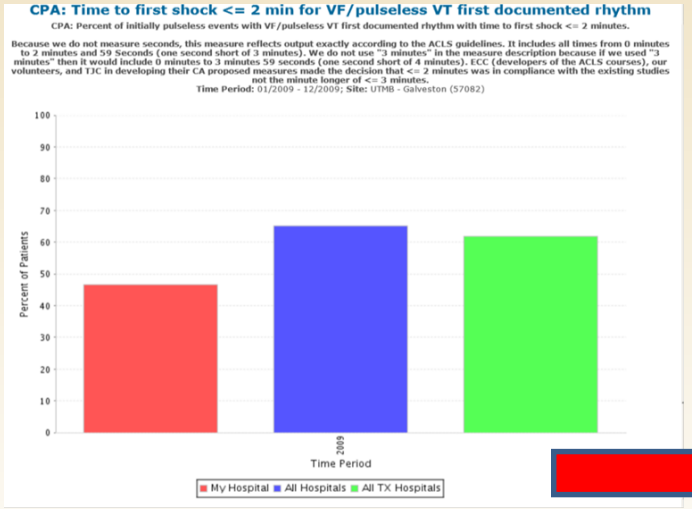
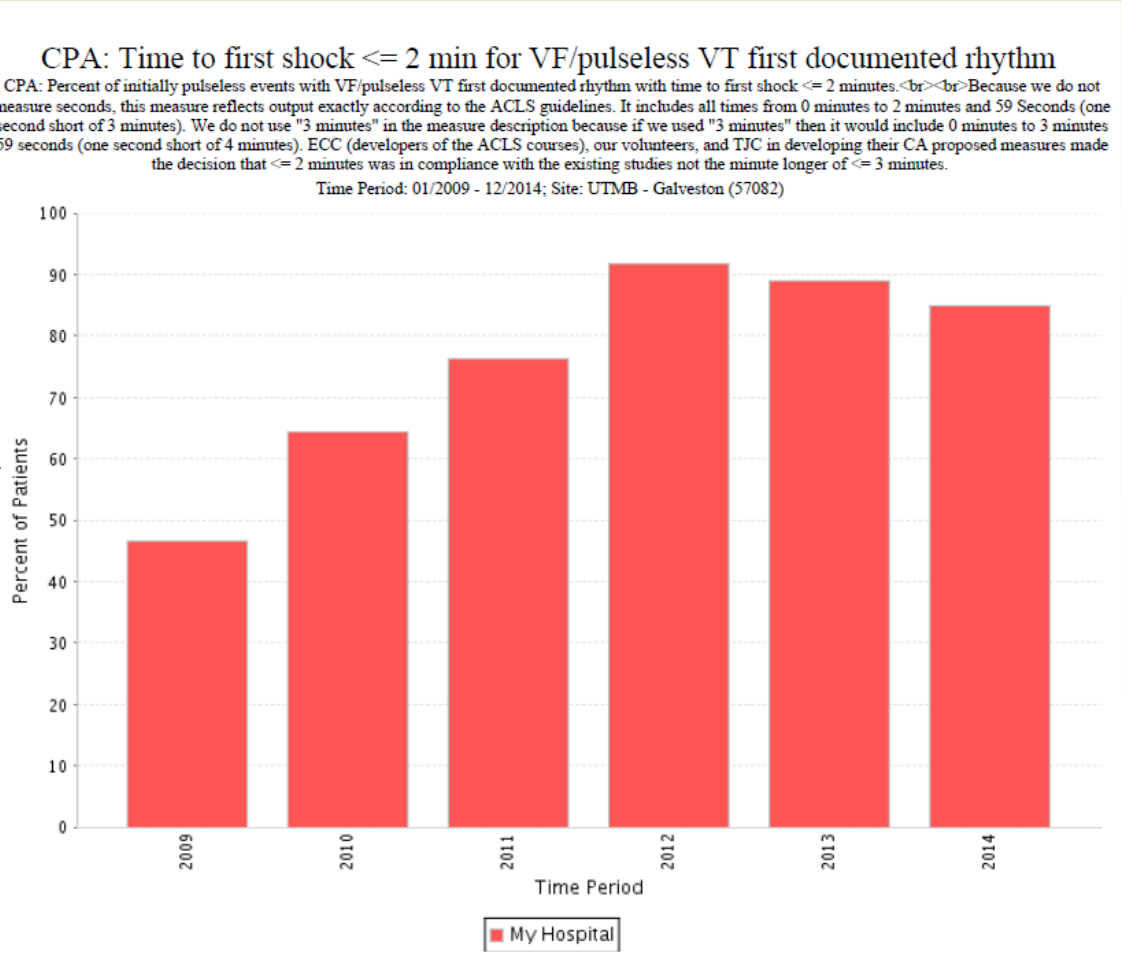
Time to First Shock



First year at ≥ 85% = 2012

Time to First Shock





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2014

R RESUSCITATION

ACHIEVEMENT

American Heart Association | American Stroke Association

GET WITH THE GUIDELINES. RESUSCITATION

The American Heart Association proudly recognizes

UNIVERSITY OF TEXAS MEDICAL BRANCH- GALVESTON

On this date, January 1, 2014 as a

Get With The Guidelines – Resuscitation

GOLD Achievement Award Hospital

Recognition valid from January 2014 to January 2015

Recognition Time of Compliance from January 2012 – December 2013

The American Heart Association and American Stroke Association recognize this hospital for achieving 85% or higher adherence to all Get With The Guidelines® Resuscitation Achievement indicators for two or more consecutive 12 month intervals to improve quality of patient care and outcomes.

Nancy A Brown

Nancy Brown
Chief Executive Officer,
American Heart Association

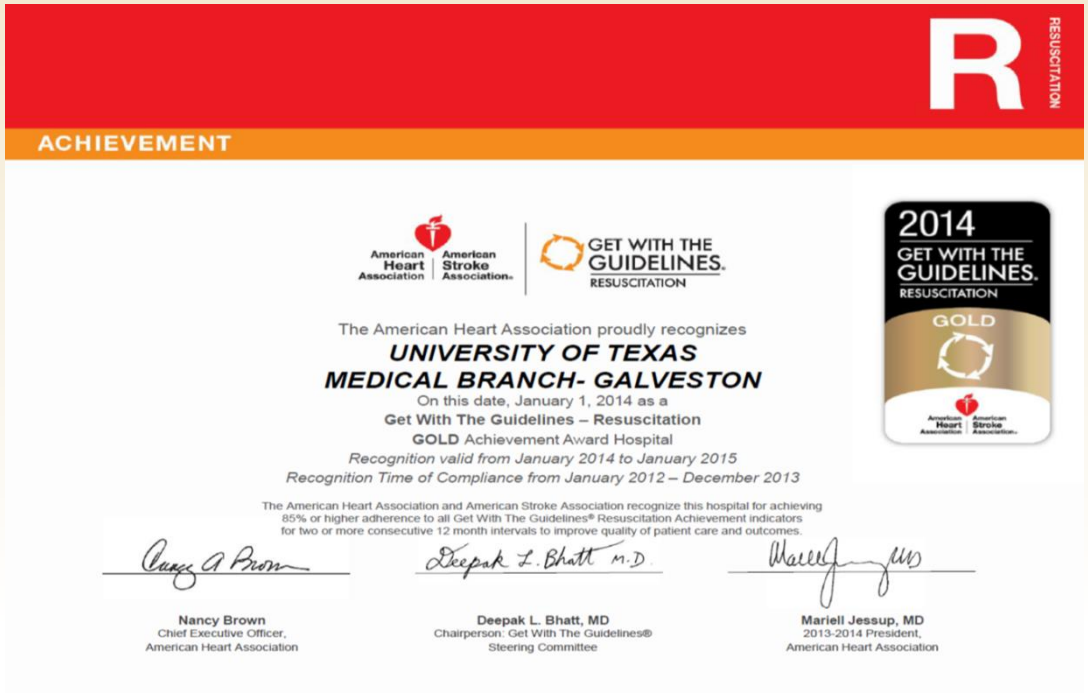
Deepak L. Bhatt M.D.

Deepak L. Bhatt, MD
Chairperson: Get With The Guidelines®
Steering Committee

Mariell Jessup MD

Mariell Jessup, MD
2013-2014 President,
American Heart Association

First in Texas



R RESUSCITATION

ACHIEVEMENT

American Heart Association | American Stroke Association

GET WITH THE GUIDELINES. RESUSCITATION

2014 GET WITH THE GUIDELINES. RESUSCITATION GOLD

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Chairperson: Get With The Guidelines®
Steering Committee

Mariell Jessup, MD
2013-2014 President,
American Heart Association

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2015

RESUSCITATION

R

American Heart Association | American Stroke Association
life is why

GET WITH THE GUIDELINES
RESUSCITATION

The American Heart Association proudly recognizes

University of Texas Medical Branch
Galveston, TX

Get With The Guidelines®-Resuscitation GOLD
Achievement Award Hospital
Adult Patient Population
Recognition valid from February 2015 to February 2016

The American Heart Association and American Stroke Association recognize this hospital for achieving 85% or higher compliance with all Get With The Guidelines®-Resuscitation Achievement Measures for two or more consecutive years to improve quality of patient care and outcomes.

Nancy Brown
Chief Executive Officer
American Heart Association

Deepak L. Bhatt, MD
Chairperson, Get With The Guidelines®
Steering Committee

Elliott M. Antman, MD, FAHA
2014-2015 American Heart Association
President

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Lessons Learned

- Low-hanging fruit and the “obvious”
- Even small changes count
- Hardwire……practice, practice, practice
- Consistency (example- template)
- Celebrate and acknowledge the wins!

Questions or more information

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