Going for Gold: A Bundled Approach to Improve Resuscitation Performance

Presented by
Odette Comeau, MS, RN, CNS, CCRN
Keith Ozenberger, BS, LP
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.

utmb Health
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

World Health Organization, 2015
Cardiovascular Disease

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

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%

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%

September 2008: Hurricane Ike
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
Get With The Guidelines®-Resuscitation program

**CPA: Time to first shock <= 2 min for VF/pulseless VT first documented rhythm**

CPA: Percent of initially pulseless events with VF/pulseless VT first documented rhythm with time to first shock <= 2 minutes.

Because we do not measure seconds, this measure reflects output exactly according to the ACLS guidelines. It includes all times from 0 minutes to 2 minutes and 59 Seconds (one second short of 3 minutes). We do not use “3 minutes” in the measure description because if we used “3 minutes” then it would include 0 minutes to 3 minutes 59 seconds (one second short of 4 minutes). ECC (developers of the ACLS courses), our volunteers, and TJC in developing their CA proposed measures made the decision that <= 2 minutes was in compliance with the existing studies not the minute longer of <= 3 minutes.

Time Period: 01/2009 - 12/2009; Site: UTMB - Galveston (57082)
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
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
Strategy Overview

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

• **Code Review**
• Mock Codes
• Documentation Revision
• Feedback (formal, informal, classroom)
## Strategy: Code Review

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

• Code Review
• Mock Codes
• **Documentation Revision**
• Feedback (formal, informal, classroom)
Strategy: Documentation Revision

Challenges Identified:
--Code Flowsheets not capturing key data (example: time CPR started)
--Multiple (9) code note templates in EMR → consolidated to 1 and abbreviated
Strategy Overview

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

Health
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

**BRONZE:** One calendar quarter

**SILVER:** One calendar year

**GOLD:** Two consecutive calendar years
From 2007-2011  85% compliance in at least one (or more than one) measure
Device Confirmation

CPA: Device confirmation of correct endotracheal tube placement
CPA: Percent of events with an endotracheal tube placement which was confirmed to be correct.

Time Period: 01/2007 - 12/2014; Site: UTMB - Galveston (57082)

First year at > 85% = 2007
Percent Pulseless Events Monitored or Witnessed

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

CPA: Time to first chest compressions $\leq 1$ min in adult and pediatric patients, and newborn/neonates $\geq 10$ min old

Percent of events in newborn/neonates $\geq 10$ minutes old where time to first chest compressions $\leq 1$ minute.

Time Period: 01/2007 - 12/2014; Site: UTMB - Galveston (37082)

First year at $\geq 85\% = 2009$

January 2013: Revised Code Flowsheets and EMR Code Note Implemented
Time to First Shock

CPA: Time to first shock $\leq 2$ min for VF/pulseless VT first documented rhythm

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Time Period: 01/2007 - 12/2014; Site: UTMB - Galveston (57082)

First year at $\geq 85%$ = 2012
Time to First Shock

CPA: Time to first shock <= 2 min for VF/pulseless VT first documented rhythm

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Time Period: 01/2009 - 12/2014; Site: UTMB - Galveston (37082)
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 Brown
Chief Executive Officer,
American Heart Association

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

Mariell Jessup, MD
2013-2014 President,
American Heart Association
First in Texas
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
Cherie L. Brown, MD
American Heart Association

Deepak L. Bhatt, MD
Chair, Get With The Guidelines®-Resuscitation Steering Committee

Elliot M. Antman, MD, FAHA
Chair, American Heart Association/American Stroke Association

[Signatures]
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

Odette Comeau
(409) 772-1692
oycomeau@utmb.edu

Keith Ozenberger
(409) 747-2146
kaozenbe@utmb.edu

utmb Health
References


