GWTG-CAD: Not Just a Registry

August 10, 2017
Today’s Speakers

• **Dr. Gregg Fonarow** –
  – Chair of the GWTG Quality Improvement Subcommittee
  – Eliot Corday Professor of Cardiovascular Medicine and Science at UCLA

• **Dr. Harper Stone**
  – Chair of the Mission: Lifeline Steering Committee
  – Cardiologist at the Jackson Heart Clinic in Jackson, MS

• **Christin Rutan**
  – AHA Director Of Quality Health IT
GWTG-CAD was the AHA's premier AMI registry from 2001-2010.

The nearly 600 hospitals who used GWTG-CAD found great value in the real-time reports, comparative regional benchmarks and analytic features the Patient Management Tool Provided.

In 2008 GWTG-CAD and ACTION Registry announced their intention to join together as the largest single registry for improving outcomes in AMI and ACS patients.

By 2010, GWTG-CAD sites were transitioned to ACTION Registry-GWTG supported on NCDR platform.

In 2007, the AHA launched Mission: Lifeline to improve heart attack systems of care.

In 2011 AHA announced ACTION Registry-GWTG as the data source for Mission: Lifeline Reports.

Hospital recognition was offered in 2010 and EMS recognition in 2014.

On April 7, 2017 the AHA announced the relaunch of GWTG-CAD.

GWTG-CAD is the primary data source for Mission: Lifeline participation.

Future iterations will offer additional data collection and reporting options.

AHA could not be happier to bring this valuable tool back to sites and know the real time nature of the reports coupled with our field team will serve our hospitals and their patients well.
GWTG 10 Year Program Growth
GWTG-CAD is part of a robust quality improvement family.

GWTG Hospital Participation by Module
2007-2016

<table>
<thead>
<tr>
<th></th>
<th>FY07</th>
<th>FY08</th>
<th>FY09</th>
<th>FY10</th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
<th>FY14</th>
<th>FY15</th>
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<tr>
<td>HF</td>
<td>385</td>
<td>425</td>
<td>431</td>
<td>514</td>
<td>568</td>
<td>555</td>
<td>543</td>
<td>532</td>
<td>535</td>
<td>634</td>
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<tr>
<td>Stroke</td>
<td>1015</td>
<td>1190</td>
<td>1290</td>
<td>1428</td>
<td>1588</td>
<td>1656</td>
<td>1686</td>
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<td>1919</td>
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<tr>
<td>ARG (CAD)</td>
<td>598</td>
<td>603</td>
<td>453</td>
<td>603</td>
<td>690</td>
<td>722</td>
<td>896</td>
<td>972</td>
<td>990</td>
<td>1080</td>
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<td>268</td>
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<td>328</td>
<td>317</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>17</td>
<td>68</td>
<td>93</td>
</tr>
</tbody>
</table>
GWTG PROGRAM HIGHLIGHTS

2,364 Hospitals Participating

156 International Hospitals

2,901 Achievement Awards

Over 25,000 Participants

Over 451 Publications
Mission: Lifeline By The Numbers

- **296** Hospitals Achieved Mission: Lifeline NSTEMI recognition in 2017
- **497** Hospitals Achieved Mission: Lifeline STEMI Recognition in 2017
- **92** Regions participating in Mission: Lifeline Regional Reports
- **28** Metro Regions Participating in Mission: Lifeline Accelerator I and II Project
- **~1500** EMS Agencies participating in Mission: Lifeline EMS Recognition
- **~120** AHA Quality Field and National Center Staff located across the US
AHA Mission and 20/20 Goal

- Decreased Total Ischemic Time and Improved Outcomes for STEMI patients
- STEMI System Improvements – Regional and State Levels
- DATA – M:L Hospital Level and Regional Reports focusing on STEMI Systems of Care
- AHA Quality and Systems Improvement Staff, Volunteers and Participants

1. AHA staff work to bring together hospitals, EMS and system stakeholders
2. New processes are adopted to improve care
3. Success is measured with data via M:L Reports.
First Medical Contact-to-Device times (FMC) According to Hospital Implementation of Key Interventions

A  Catheterization lab preactivation  

B  ED bypass: Direct presenters  

P<0.001 for both group comparisons
Systems of Care for ST-Segment–Elevation Myocardial Infarction: A Report From the American Heart Association’s Mission: Lifeline

James G. Jollis, MD; Christopher B. Granger, MD; Timothy D. Henry, MD; Elliott M. Antman, MD; Peter B. Berger, MD; Peter H. Moyer, MD, MPH; Franklin D. Pratt, MD; Ivan C. Rokos, MD; Anna R. Acuña; Mayme Lou Roettig, RN, MSN; Alice K. Jacobs, MD

- Coronary reperfusion can be greatly accelerated by coordinated care between hospitals and EMS
- When a prehospital ECG revealed a STEMI, the cath lab was activated through ED notification without the involvement of cardiology 78% of the time.
AHA STAFF IS Mission: Lifeline’s #1 Resource
Guidelines Supporting M:L Measures

Development of Systems of Care for ST-Elevation Myocardial Infarction Patients

Executive Summary
Endorsed by Aetna, the American Ambulance Association, the American Association of Critical-Care Nurses, the American College of Emergency Physicians, the Emergency Nurses Association, the National Association of Emergency Medical Technicians, the National Association of EMS Physicians, the National Association of State EMS Officials, the National EMS Information System Project, the National Rural Health Association, the Society for Cardiovascular Angiography and Interventions, the Society of Chest Pain Centers, and UnitedHealth Networks

Alice K. Jacobs, MD, FAHA, Chair; Elliott M. Antman, MD, FAHA; David P. Faxon, MD, FAHA; Tammy Gregory; Penelope Solis, JD

AHA/ACC Guideline

2014 AHA/ACC Guideline for the Management of Patients With Non–ST-Elevation Acute Coronary Syndromes
A Report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines

Developed in Collaboration With the Society for Cardiovascular Angiography and Interventions and Society of Thoracic Surgeons

Endorsed by the American Association for Clinical Chemistry

WRITING COMMITTEE MEMBERS*

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Eric D. Peterson, MD, MPH, FACC, FAHA*‡; Marc S. Sabatine, MD, MPH, FACC, FAHA*†;

Richard W. Smalling, MD, PhD, FACC, FSCAI***; Susan J. Zieman, MD, PhD, FACC†
All communities should create and maintain a regional system of STEMI care that includes assessment and continuous quality improvement of EMS and hospital-based activities. Performance can be facilitated by participating in programs such as Mission: Lifeline and the D2B Alliance.

EMS transport directly to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI with an ideal FMC-to-device time system goal of 90 minutes or less.*
Regional Systems of STEMI Care, Reperfusion Therapy, and Time-to-Treatment Goals

Immediate transfer to a PCI-capable hospital for primary PCI is the recommended triage strategy for patients with STEMI who initially arrive at or are transported to a non–PCI-capable hospital, with an FMC-to-device time system goal of 120 minutes or less.*

In the absence of contraindications, fibrinolytic therapy should be administered to patients with STEMI at non–PCI-capable hospitals when the anticipated FMC-to-device time at a PCI-capable hospital exceeds 120 minutes because of unavoidable delays.
Between 2010 and 2016

- 988 Hospitals participated in Mission: Lifeline and received Mission: Lifeline reports
- 92 Regions received Mission: Lifeline Regional Reports which were used for STEMI Systems of Care
  - Implementation
  - Regionalization
  - Optimization
Mission: Lifeline 2010 - 2016

Door In-Door Out (Referral) Median Times

By Year – Using Mission: Lifeline Q1 Reports
Mission: Lifeline 10th Anniversary

CELEBRATING

MISSION: LIFELINE®

10 YEARS
Real Time Reports for M:L Measures Available Now!

Receiving Center
- Primary PCI ≤ 90 minutes
- EMS First Medical Contact to Primary PCI ≤ 90 minutes
- Aspirin at Arrival
- Aspirin at Discharge
- Beta-Blocker at Discharge
- Statin at Discharge
- Adult Smoking Cessation Advice
- Arrival at First Facility to Primary PCI ≤ 120 minutes

Referral Center
- ECG within 10 minutes of Arrival
- Arrival to Thrombolytics in 30 minutes
- Arrival to PCI Transfer within 45 minutes
- Aspirin at Arrival
- Aspirin at Discharge
- Beta-Blocker at Discharge
- Statin at Discharge
- Adult Smoking Cessation Advice

NSTEIM-ACS Measures
- Cardiac Rehabilitation Patient Referral from an Inpatient Setting
- ACE-Inhibitor or Angiotensin Receptor Blocker (ARB) for LVSD at Discharge
- Dual Antiplatelet Therapy Prescribed at Discharge
- Evaluation of LV Systolic Function
- Adult Smoking Cessation Advice
M: L Engagement Profiles

**ACTION Registry-GWTG**
- Third Party Vendor
- Regulatory Mandate for ARG
- Direct entry into ARG

**Non-ACTION Registry-GWTG**
- Competing State Registry
- Cath PCI no ACTION
- Data burden

**Mission: Lifeline**
- EMS
Regardless data submission method, CAD was built to be the M:L Report Engine.
Vendor Updates

The following vendors are actively working with GWTG-CAD to become approved vendors:

<table>
<thead>
<tr>
<th>Vendor</th>
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<tbody>
<tr>
<td>ARMUS</td>
</tr>
<tr>
<td>Axis Clinical Software, Inc.</td>
</tr>
<tr>
<td>Cedaron</td>
</tr>
<tr>
<td>heartbase</td>
</tr>
<tr>
<td>LUMEDX</td>
</tr>
<tr>
<td>Q-Centrix</td>
</tr>
</tbody>
</table>
Streamlined form to ease data entry burden

Auto-set dates for easy entry

Time tracker to assess system components

The Patient Management Tool™ system and all materials within are confidential and are the property of QuintilesIMS or the American Heart Association/American Stroke Association, as separately agreed between them.
### Calculate Measures at the Time of Data Entry

<table>
<thead>
<tr>
<th>Measure Name</th>
<th>Population</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary PCI ≤ 90 minutes</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>Mission: Lifeline First Medical Contact to Primary PCI ≤ 90 minutes</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>ECG within 10 minutes of Arrival</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>Arrival to Thrombolytics within 30 minutes</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>Arrival to Transfer to PCI Center within 45 minutes (Door In Door Out)</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>Aspirin at Arrival</td>
<td>Excluded</td>
<td>Patient is excluded from the measure based on the data provided.</td>
</tr>
<tr>
<td>Aspirin at Discharge</td>
<td>Numerator</td>
<td>Patient is compliant with the measure.</td>
</tr>
<tr>
<td>Beta-Blocker at Discharge</td>
<td>Numerator</td>
<td>Patient is compliant with the measure.</td>
</tr>
<tr>
<td>Statin at Discharge</td>
<td>Numerator</td>
<td>Patient is compliant with the measure.</td>
</tr>
<tr>
<td>ACE-Inhibitor or Angiotensin Receptor Blocker (ARB) for LVSD at Discharge</td>
<td>Numerator</td>
<td>Patient is compliant with the measure.</td>
</tr>
<tr>
<td>Adult Smoking Cessation Advice</td>
<td>Numerator</td>
<td>Patient is compliant with the measure.</td>
</tr>
<tr>
<td>Arrival at First Facility to Primary PCI ≤ 120 minutes (Plus Measure)</td>
<td>Denominator</td>
<td>Patient is not compliant with the measure. Please see the Measure Logic and Rationale for recommended guidelines.</td>
</tr>
</tbody>
</table>
Reports Live July 1st!

Rate Measures

Q2 2017

Primary PCI <= 90 minutes: My Hospital
Aspirin at Arrival: My Hospital
Aspirin at Discharge: My Hospital
Beta-Blocker at Discharge: My Hospital
Statin at Discharge: My Hospital
ACE-Inhibitor or Angiotensin Receptor Blocker (ARB) for LVSD at Discharge: My Hospital
Adult Smoking Cessation Advice: My Hospital
Arrival at First Facility to Primary PCI <= 120 minutes (Plus Measure): My Hospital

Arrival at First Facility to Primary PCI <= 120 minutes (Plus Measure)

Percentage of STEMI patients transferred from a STEMI Referring Center who received primary PCI within <= 120 minutes of arrival at the first facility (Referral Center door-to-device time). For admissions with STEMI diagnosis on subsequent ECG, arrival date/time is set to 0 and Arrival at First Facility to Primary PCI is set to Subsequent ECG time to Primary PCI.

Time periods: Q2 2017 - Q2 2017
Sites: AHA Staff UAT Site (85607)

<table>
<thead>
<tr>
<th>Benchmark Group</th>
<th>Time Period</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Exception</th>
<th>% of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>My Hospital</td>
<td>Q2 2017</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>50.0%</td>
</tr>
</tbody>
</table>
Drill Down for Outliers

Patient Records Report for measure Arrival at First Facility to Primary PCI <= 120 minutes (Plus Measure)
Percentage of STEMI patients transferred from a STEMI Referring Center who received primary PCI within <= 120 minutes of arrival at the first facility (Referral Center door-to-device Time). For admissions with STEMI diagnosed on subsequent ECG, arrival date/time is set to 0 and Arrival at First Facility to Primary PCI is set to Subsequent ECG Time to Primary PCI.
Time Periods: Q1 2017 - Q2 2017. Site: AHA Staff UAT Site (85607)
Patients Included: 0; Patients Excluded: 0
Patients in Numerator: 0; % in Numerator: 0.0%; Patients in Exclusions: 0

Current Study: CAD Current User: Joseph Williams Site: AHA Staff UAT Site Site ID: 85607

Contact:
EMS Non-System Reason for Delay
EMS Dispatch: 06/11/2017 10:20
EMS depart scene: 06/11/2017 11:05
Destination Pre-arrival alert or notification:
Method of 1st notification:

Transfers
Transferred from other facility?

Transfer Time Tracker
Set all active Date/Time fields
Arrival at First hospital:
Transport Arrived Date/Time:
Mode of transport from outside facility

ECG
1st ECG Date/Time:
1st ECG Non-System Reason for Delay:
### Filters for comparison

<table>
<thead>
<tr>
<th>Filters</th>
<th>Options</th>
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</thead>
<tbody>
<tr>
<td><strong>Arrival Day</strong></td>
<td>Monday, Tuesday, Wednesday, Thursday, Friday, Saturday</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>&lt; 18, 18-45, 46-65, 66-85, &gt; 85</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Male, Female, Unknown</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>American, Indian or Alaska Native, Black or African American, White, Asian, Native Hawaiian or Pacific Islander, UTD</td>
</tr>
<tr>
<td><strong>Hispanic Ethnicity</strong></td>
<td>Yes, No, UTD</td>
</tr>
<tr>
<td><strong>Arrival Mode</strong></td>
<td>Air, Ambulance, Walk-in</td>
</tr>
<tr>
<td><strong>Discharge Status</strong></td>
<td>1 - Home, 2 - Hospice-Home, 3 - Hospice-Healthcare Facility, 4 - Acute Care Facility, 5 - Other Health Care Facility, 6 - Expired, 7 - Left Against Medical Advice/AMA, 8 - Not Documented or Unable to Determine (UTD)</td>
</tr>
<tr>
<td><strong>Physician</strong></td>
<td>BATES, ERIC - 1619055266, KHANDELVAL, AKSHAY - 1053513986, O’NEIL, BRIAN - 1710948914</td>
</tr>
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</table>
July 1, 2017 – LIVE

- MLL Receiving
- MLL Referring
- MLL ACS
- Benchmarks for regional comparison reports
- Filters for analysis by patient groups
- Patient record drill down to flag outliers
- CSV upload for ease of data transfer

Winter 2017-18

- Full data and reports for Chest Pain Accreditation
- Additional elements for CAD and ACS tracking
- Optional fields for site specific tracking
- Transferring facility picker
- EMS Agency picker
- EMS Feedback Form
Real-Time Regional Reporting in GWTG-CAD

- Real-time regional benchmarks are live NOW.
- We will work with your region to create static blinded regional reports NOW!
- Real-time blinded hospital reports go live in January 2018.
Reporting Options

Aggregate Reporting

Individual Hospital Reporting
Opportunities – Super User Account

- Reports
  - State-wide
  - Regional
    - Aggregated
    - Individual Hospital Comparison

- Exports
  - GWTG-CAD can be used in other analysis applications or systems
  - Surveillance Tool
  - Specialty Designation

- Custom Data
  - Supports local/state initiatives
## GWTG-CAD 2018 Hospital Pricing Options

Flexible options to meet your hospital’s unique needs

<table>
<thead>
<tr>
<th>Select ONE Option for Hospital Participation</th>
<th>Early Adopter Discount! Enroll by November 1st</th>
<th>Enroll after November 1st</th>
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</thead>
<tbody>
<tr>
<td>1. <strong>GWTG-CAD – Direct Data entry into GWTG</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Data entry using streamlined GWG-CAD form.</td>
<td>$2,750</td>
<td>$3,250</td>
</tr>
<tr>
<td>• Real-time hospital and regional Mission: Lifeline® Reports via GWTG.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Chest Pain Accreditation data and reports.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. <strong>GWTG-CAD - Approved Vendor data submission</strong>*</td>
<td></td>
<td>$2,500</td>
</tr>
<tr>
<td>• Data entry via Approved Vendor. Data entered into 3rd party vendor tool and then transmitted to GWTG.</td>
<td></td>
<td>$3,000</td>
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<tr>
<td>• Real-time hospital and regional Mission: Lifeline® Reports via GWTG.</td>
<td></td>
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</tr>
<tr>
<td>• Chest Pain Accreditation data and reports (additional data entry directly in GWTG-CAD may be required if data not captured by your vendor).</td>
<td></td>
<td></td>
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<tr>
<td>3. <strong>Static Quarterly Reports</strong></td>
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<td>$0</td>
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<tr>
<td>• Data submitted via upload by hospital or Approved Vendor.</td>
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<td>$500</td>
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<tr>
<td>• Static PDF Mission: Lifeline® regional reports provided 3 months after the close of the quarter.</td>
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</tbody>
</table>

*Reduced price to reflect costs your vendor may charge for third party data submission. Vendor must be on the approved vendor list for you to receive this discount. Contact your AHA representative to see if your vendor has applied to become an approved Vendor. We will honor this discount if your vendor is in the process of becoming approved.
• Piloting with several sites and will conclude this week.
• You will receive an email in the coming weeks announcing the details of this offer.
• You will work with your QSI Director who will have detailed instructions on how to prepare the file.
• What to expect…
  – Sites just have to sign by November 1\textsuperscript{st} in order to be eligible.
  – Sites can submit files between now and December 1\textsuperscript{st}. The sooner the better to ‘test drive’ GWTG-CAD for free in 2017!
  – Once contracted, you will receive a dedicated email to send your file to for upload.
  – Some vendors will offer transmission of historic data for sites. Check with your QSI Director for more detail.
Questions
For questions or additional information about GWTG-CAD and Mission: Lifeline:

Contact your local American Heart Association Quality and Systems Improvement professional

Or email us at missionlifeline@heart.org.