JOTFORM DATA SUBMISSION GUIDE

Standardized instructions for completing the VHAC JotForm:
https://form.jotform.com/223036474860153

PURPOSE

- This form collects standardized, statewide performance metrics for participating VHAC centers.
- The information supports statewide quality improvement, benchmarking, and tracking of shock care, reperfusion timeliness, and program engagement.

SECTION 1 – GENERAL SITE INFORMATION

1. Region

Question: "Please Select Your Region (Eastern, Central, Northern, Northwestern, Southern, Western)."

Instructions:

- Choose the VHAC region your facility belongs to.
- Purpose: allows aggregation of data by geographic area.

2. Date of Last Meeting

Instructions:

- Enter the most recent meeting date for your Regional meeting.
- Use format MM/DD/YYYY.

3. Date of Next Meeting

Instructions:

- Provide the scheduled date of the next meeting for your region.
- Helps VHAC track meeting cadence and engagement.

4. Number of Attendees

Instructions:

- Enter the total number of participants at your regional meeting.
- Include physicians, nurses, EMS, administrators, and other multidisciplinary members.

5. Additional Notes / Comments

Instructions:

- Optional free-text field for remarks, clarifications, or special notes.
- Examples:
  - "Data pending registry validation."
  - "Transfer delays noted this quarter."

SECTION 2 – FIRST MEDICAL CONTACT METRICS

This table captures site-level, de-identified First Medical Contact (FMC) to Device performance for participating programs. All data must reflect direct-presentation STEMI cases only (no transfers).

Site A–H Instructions (Anonymity Protection)

- Site A through Site H represent participating programs.
- Align reported values by Site.

COLUMN INSTRUCTIONS

1. First Medical Contact

Label in table: "First Medical Contact to Device Median Time"

Definition:
Median time (in minutes) from First Medical Contact (FMC) to device activation (first balloon inflation or equivalent PCI device) for acute STEMI or STEMI-equivalent patients receiving primary PCI, excluding transfer patients.

HOW TO DETERMINE:

Eligible Patients (Denominator)

Include:

- STEMI or STEMI-equivalent
- Primary PCI as initial reperfusion
- EMS arrivals
- Walk-in ED presentations
- Complete, valid timestamps

Exclude:

- Transferred patients
- Rescue PCI
- Thrombolytics prior to PCI
- Invalid or missing timestamps

How the Median is Determined
The median FMC-to-Device time is the middle value of all eligible FMC-to-Device times, as reported by the registry. No percentage calculation is required for this metric.

REGISTRY SPECIFIC DETERMATION:

NCDR CHEST PAIN–MI REGISTRY	AHA GWTG / MISSION: LIFELINE:
Utilize Metric 13443. Median time first medical contact to device (no exceptions) **Description:** Median time from ALL acute STEMI or equivalent patients, to receive primary PCI from first medical contact. **Numerator:** Median time from all patient calculated values* * Time from EMS first medical contact (12197) or arrival (3001) or first ECG positive for STEMI (12278) to first device activation (7845). **Denominator:** Patients with pre-admit STEMI (12447) who received immediate PCI for acute STEMI (12326). **Denominator Exclusions:** Patients with either of the following: • Transferred from outside facility (12421) • Received thrombolytics (12296) < device activation time (7845) **Denominator Exceptions:** None **Time Period:** Four consecutive quarters **Rationale / Recommendation:** N/A **Citations:** N/A	1. Use the FMC definition from **Measure AHACAD8**, which includes: 2. EMS-transported patients only (Does **not** include walk-ins or non-EMS arrivals) 3. If a median value is not directly available in Mission: Lifeline reports, sites may calculate the median internally using EMS FMC-to-Device timestamps consistent with AHACAD8 definitions. Do not exclude or adjust cases beyond standard AHACAD8 eligibility. *TIP: Locate line 40 in the Mission: Lifeline Advanced Analytics Report on the AHA GWTG-CAD website. Use the value labeled "EMS FMC to Primary PCI (median time)*

Device Time (all registries)
Time when the **first device** crosses the culprit lesion in the coronary artery (e.g., balloon inflation, stent deployment, thrombectomy catheter).

What to Enter on the VHAC Form

- Enter one number: the median FMC-to-Device time (in minutes)
- Report the number exactly as provided by your registry or internal validated report
- Do not recalculate the value to match another registry

Benchmark Targets:

- Direct EMS and walk-in cases: ≤ 90 minutes
- Transfer patients: Not included in this metric (reported separately under NCDR Metrics 13442 / 13444).

Entry Example:
Site A – 82 minutes Site B – 97 minutes

2. First Medical Contact to Device - Percent

Label in table: "First Medical Contact to Device Percent"

Definition:
Percentage of primary PCI STEMI patients who achieved FMC → Device time **≤ 90 minutes.**

Because VHAC members participate in two different national registries, the population included in this metric may differ based on which registry your site uses.

REGISTRY SPECIFIC DETERMATION:

NCDR CHEST PAIN–MI REGISTRY	AHA GWTG / MISSION: LIFELINE
Utilize Metric 13441. First medical contact to device time (no exceptions) **Description:** Percentage of ALL acute STEMI or equivalent patients, who received primary PCI during the hospital stay with a time from first medical contact (FMC)-to-device time ≤90 minutes. **Numerator:** Patients whose time from EMS first medical contact (12197) or arrival (3001) or first ECG positive for STEMI (12278) to first device activation (7845) was ≤90 minutes. **Denominator:** Patients with pre-admit STEMI (12447) who received immediate PCI for acute STEMI (12326). **Denominator Exclusions:** Patients with either of the following: • Transferred from outside facility (12421) • Received thrombolytics (12296) < device activation time (7845) **Denominator Exceptions:** None **Time Period:** Four consecutive quarters **Rationale / Recommendation:** Primary PCI has been shown to be superior to fibrinolytic therapy in recanalizing the infarct-related artery and imparts better clinical outcomes. In a meta-analysis of 23 trials randomizing a total of 7,739 patients with acute STEMI to primary angioplasty or fibrinolytic therapy, primary angioplasty was superior in reducing short-term mortality, nonfatal reinfarction, stroke, and the combined cardiovascular endpoint. Primary angioplasty also resulted in higher rates of infarct artery patency, TIMI flow, lower rates of recurrent ischemia, emergency repeat revascularization procedures, and intracranial hemorrhage. The benefits of primary angioplasty persisted during long-term follow-up and were independent of the type of fibrinolytic therapy used.	Mission: Lifeline does not have a registry metric equivalent to NCDR 13441 for all STEMI primary PCI patients. Instead, Mission: Lifeline reports EMS-only FMC-to-Device performance, using specifications such as: • EMS FMC-to-Primary PCI ≤ 90 minutes • EMS FMC-to-Primary PCI ≤ 120 minutes (when transport is prolonged) Your numerator and denominator should reflect only EMS-transported STEMI patients who underwent primary PCI, using your Mission: Lifeline timing report or validated internal STEMI data. Walk-ins should not be included because they are not part of the Mission: Lifeline measure set. **Formula for GWTG / Mission: Lifeline Sites** Percent ≤ 90 min = (EMS cases ≤ 90 min ÷ Total eligible EMS primary PCI cases) × 100 **Example:** 29 of 35 EMS STEMI primary PCI patients met ≤ 90 min → 83% *TIP: Use the value for AHACAD9 (“Primary PCI ≤ 90 minutes”) as provided in the AHA operational reports.*

Benchmark Targets:

- Goal: ≥ 85 % within 90 minutes (direct/EMS).
- Transfer cases use 120-minute benchmark but are excluded from this specific metric.

Entry Example:

Site A – 83 % Site B – 78 %

Tips:

- Exclude rescue or elective PCI.
- Exclude cases with invalid or missing time stamps.

3. Registry

Label in table: "Registry"

Sites are now asked to select the registry used to report FMC-to-Balloon (FMC→Device) metrics.

Available options include:

- NCDR Chest Pain–MI Registry
- AHA GWTG / Mission: Lifeline
- Validated internal data
- Other (please specify)

This addition allows VHAC to accurately interpret FMC-to-Balloon results across sites that use different national registries.

Why This Matters

VHAC members report FMC-to-Balloon metrics using different registries with different definitions. Identifying the registry source ensures submitted data remain comparable, interpretable, and actionable at the statewide level.

4. Notes

Label in table: "Notes"

Use this field sparingly to document context that explains the data without identifying the site.

Appropriate uses include:

- Data suppression due to low volume
- Registry reporting lag
- Partial quarter reporting
- Known data quality issues
- Methodological notes (e.g., EMS timestamp limitations)

Do not include:

- Hospital names
- City names
- Provider names
- Identifiable operational details

SECTION 3 – CARDIOGENIC SHOCK PERFORMANCE MEASURES

1. Number of Shock Patients per Last Quarter (NCDR)

Site A–H Instructions (Anonymity Protection)

- Site A through Site H represent participating programs.
- Align reported values by Site.

Instructions:

- Report the total number of AMI–Cardiogenic Shock (AMI-CS) patients who presented in shock at arrival during the reporting quarter.
- Do NOT include patients who developed cardiogenic shock later during hospitalization.

Acceptable data sources include:

- NCDR registry (Shock cohort)
- Internal cardiogenic shock logs
- CICU or Cath Lab quality dashboards

2. Number and % with Lactate Measured

Instructions (VHAC Standard):
Early and subsequent lactate measurement supports timely identification of tissue hypoperfusion and guides shock management.

- Early lactate measurement supports timely identification of tissue hypoperfusion and guides early shock management.
- Report the number of AMI-CS patients who had a lactate level drawn at presentation (ED, Cath Lab, ICU or first point-of-care laboratory).
- Calculate the percentage using:
- Percent with Lactate Measured = (Number with lactate drawn ÷ Total shock patients) × 100

3. Number and % with Cardiac Power Output (CPO) Calculated

Instructions (VHAC Standard):

- CPO is a strong predictor of clinical deterioration and mortality and is highly useful in goal-directed cardiogenic shock management.
- CPO= (Mean Arterial Pressure x Cardiac Output/451)
- Report the number and percentage of AMI-CS patients who had Cardiac Power Output (CPO) calculated during the PCI case and before leaving the Cath Lab.
- Cardiac Index/Cardiac Output or noninvasive assessments of cardiac function do not count.

Percentage Calculation:
Percent with CPO Calculated = (Number with CPO calculated ÷ Total shock patients) × 100

CPO Formula:
CPO = (MAP × CO) ÷ 451

- MAP = Mean Arterial Pressure
- CO = Cardiac Output (L/min)

This metric ensures that invasive hemodynamic assessment is performed at the point of highest clinical impact, enabling timely escalation decisions for patients with cardiogenic shock.

VHAC Benchmarks

- Lactate measured in AMI-CS: ≥ 90%
- CPO calculated in AMI-CS: ≥ 75%

"End of PCI case" refers to completion of the primary PCI procedure prior to leaving the Cath Lab.

SECTION 4 – SITE-SPECIFIC INFORMATION

1. Names of Hospitals Involved

Instructions:

- List every hospital included in your submission.
- If you're a multi-facility system, identify which each.

2. Name of Person Completing Form

Instructions:

- Enter your first and last name.
- Required for follow-up or data verification.

3. Email Address of Person Completing Form

Instructions:

- Provide a valid institutional email (no personal accounts).
- You'll receive an automatic submission confirmation.

4. Spam Filter

Instructions:

- This field is a spam filter; complete the puzzle/check box, if prompted.

Measure	Target / Benchmark	Source / Notes
FMC → Device Median Time(NCDR Metric 13443 or Mission: Lifeline EMS FMC→PCI Median)	≤ 90 minutes (direct EMS + walk-ins) Transfers: Not included in this metric	**ACC/AHA STEMI Guidelines** *(Mission: Lifeline applies EMS-only; NCDR includes EMS + walk-ins)*
FMC → Device ≤ 90 Minutes (%)(NCDR Metric 13441 or Mission: Lifeline EMS Timing %)	- **≥ 85%** achieving FMC→Device ≤ 90 minutes	**ACC/AHA STEMI Guidelines** *(Mission: Lifeline = EMS-only; NCDR = EMS + walk-ins)*
Lactate Measured in AMI-CS	**≥ 90%** of AMI-CS patients with lactate obtained at presentation	VHAC Goal
Cardiac Power Output (CPO) Calculated in AMI-CS	**≥ 75%** of AMI-CS patients with CPO calculated	VHAC Goal

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