heart.org/missionlifeline

Acute Coronary Syndrome Summit October 24, 2017

MISSION: LIFELINE®

Mission:Lifeline NSTEMI

Olathe Medical Center - Bronze Receiving

Menorah Medical Center – Bronze Receiving

St. Mary's Medical Center – Bronze Receiving

Stormont Vail Health – Silver Receiving

The University of Kansas Health System - Silver Receiving

St Francis Health Center - Silver Receiving

Saint Luke's Hospital of Kansas City – Silver Receiving

Saint Luke's North Hospital – Silver

Mission:Lifeline STEMI Awards

Wesley Medical Center – Bronze Plus

Providence Medical Center – Bronze Plus

St Francis Health Center – Silver

St. Joseph Medical Center – Silver Plus Receiving

Truman Medical Center – Silver Plus Receiving

Research Medical Center – Silver Plus Receiving

Overland Park Regional Medical Center – Gold Receiving

The University of Kansas Health System – Gold Receiving

Saint Luke's Hospital of Kansas City – Gold Receiving

Saint Luke's North Hospital – Gold Receiving

Stormont Vail Health – Gold Receiving

Shawnee Mission Medical Center – Gold Plus Receiving

American Heart Association | American Stroke Association®

life is why™

CARDIOVASCULAR DISEASE

Burden Report

www.heart.org/burden

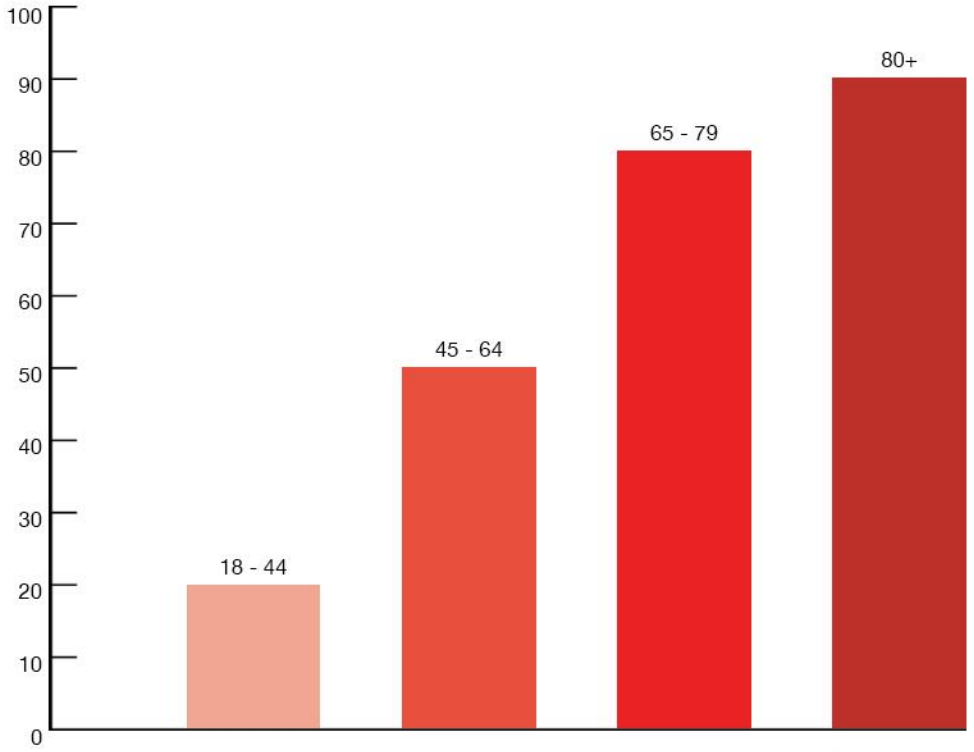
CURRENT PREVALENCE

PREVALENCE OF CVD

Cardiovascular disease has been the No. 1 killer of Americans since 1920. Your great-grandparents or another member of your family tree probably died from it. What's more disturbing, however, is your great-grandchildren could die from CVD, too, if we don't take deliberate and focused action now.

"Men are projected to suffer from cardiovascular disease at a greater rate than women between now and 2035, but women appear to be catching up."

Percent of U.S. Population with CVD 2015



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MEDICAL COSTS BREAKDOWN

CVD DIRECT COSTS THROUGH 2035

In 2015, 41.5 percent (102.7 million) of the U.S. population had at least one CVD condition:

Atrial Fibrillation

5.2 Million

"By 2035, nearly half of the U.S. population will have some form of cardiovascular disease."

	Current (In Billions)	2035 (In Billions)
High Blood Pressure	$68	$154
Coronary Heart Disease	$89	$215
Congestive Heart Failure	$18	$45
Stroke	$37	$94
Atrial Fibrillation	$24	$55
Other	$83	$187
Total Medical Costs	$318	$749

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PROJECTIONS

CVD INDIRECT COSTS THROUGH 2035

Cardiovascular disease not only exacts a heavy toll on the health of Americans, its economic burden is enormous. Right now it is America's costliest disease, and this price tag will soar in the coming decades.

$ ***"In 2016, CVD cost America $555 billion. By 2035, the cost will skyrocket to $1.1 trillion."***

	Current (In Billions)	2035 (In Billions)
High Blood Pressure	$42	$67
Coronary Heart Disease	$99	$151
Congestive Heart Failure	$11	$19
Stroke	$30	$49
Atrial Fibrillation	$7	$11
Other	$48	$71
Total Medical Costs	$237	$368

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es por la vida
全为生命

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Know the Quality of our Care at Every Step

Kansas City ACS Summit
BI-State Cardiovascular Education Consortium

MISSION: LIFELINE®

Welcome to the Kansas City ACS Summit

Objectives:

- Follow the flow and care of an ACS patient from Pre hospital all the way to discharge
- Recognize inclusion and exclusion criteria and intended outcomes for advanced treatments such as ECMO, Target Temperature Management, and Impella
- ECG diagnosis of STEMI
- Identify trends and tragedy's for in-hospital cardiac arrest
- Review data collection, and how it can be used to drive process improvement

Welcome to the Kansas City ACS Summit

- This offering was organized by the Bi State Cardiovascular Education Consortium.
- If you or your organization is interested in participating please contact us through the day.
- We have a full day of education with lunch and snack provided!
- Thank you for getting your education!

American Heart Association | MISSION: LIFELINE

What is a quality work?

What is Quality Work

Is it how quickly you do something?

Is it how often you catch something?

Is it how much something cost?

"Well, Bob, it looks like a paper cut, but just to be sure let's do lots of tests."

What is quality AMI care?

- How quick did I get that EKG?
- Did she get an Aspirin?
- You have not seen Cardiac Rehab yet, but your ride is here.
- Does he really need a Beta Blocker?
- Door to balloon was 93 min. Is that good?
- I forgot to chart a care plan. Will that hurt our numbers?

Know the Quality of your care at Every Step!

- The flow of this day is intended to follow how our patients present to our hospitals.
- Take you through the care they receive.
- We have nine speakers that will discuss AMI care through the continuum.

Know the Quality of your care at Every Step!

- At times in the day members of the CVEC will follow speakers and discuss how the subject matter is measured.
- We will introduce you to the measures of our AMI programs.
- We will introduce you to how we compare your programs to other hospitals nationally.

Benchmarking

- Comparing your performance to performance of other hospitals.
- Instead of revealing any one hospitals data we will look at National data as our own.
- For example how quickly do EKGs get done in Kansas City compared to the rest of the nation?

Welcome, and thank you for attending

- Doug Shelton
  - Saint Luke's Health System

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Arrival Metrics

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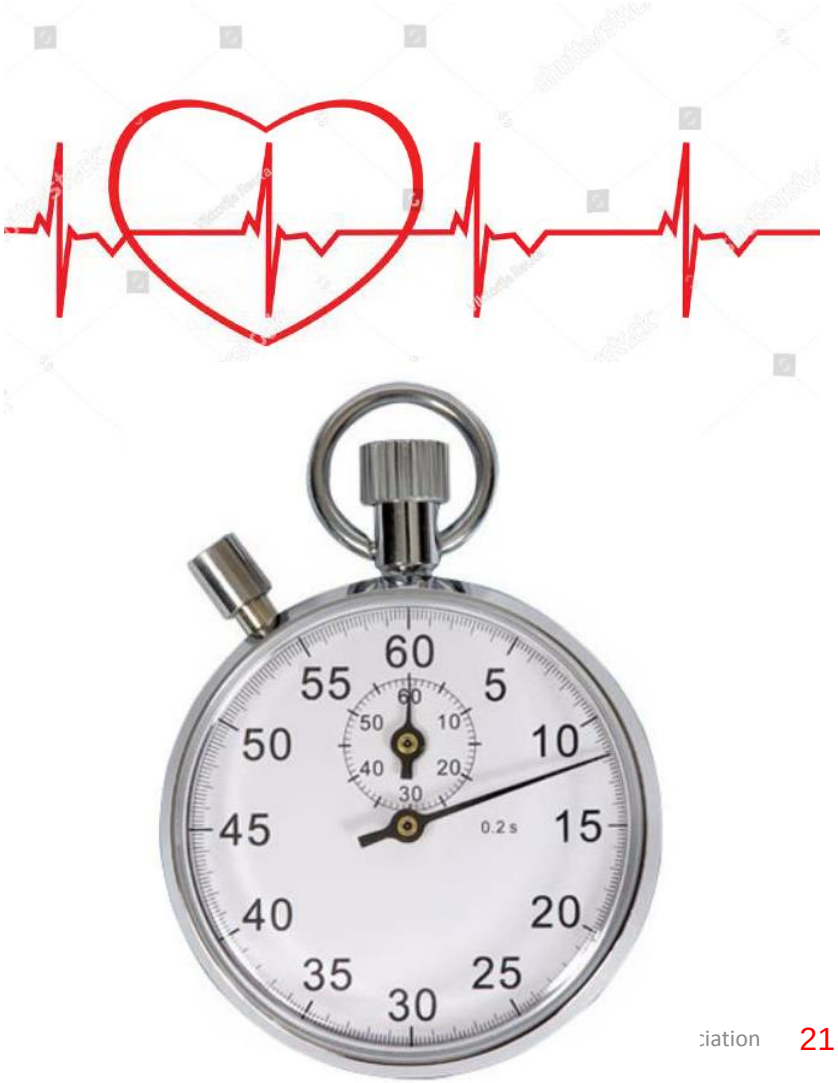
Doug Shelton RN BSN CCRN
STEMI Program Coordinator

DOOR TO ECG

Metric: Proportion of AMI patients that received an ECG within 10 minutes of arrival at participating hospital.

Goal: The 12 lead ECG is central to the triage of patients with chest discomfort and should be performed and shown to an emergency physician within 10 minutes of ED arrival for all patients with chest discomfort.



National Outcome Data

ECG within 10 minutes: walk-in patients

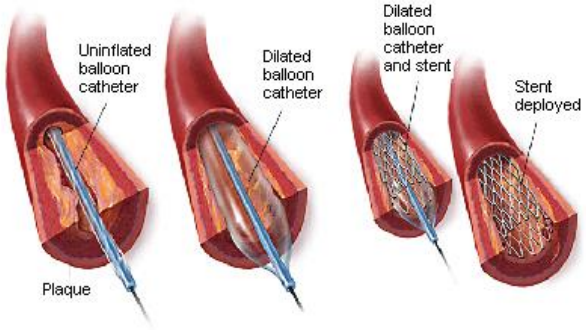
The Median Hospital complete EKGs in less than 10 minutes **71%** of the time.

The Top Ten percent of Hospitals complete EKGs in less than 10 minutes **88.1%** of the time.

Reperfusion Therapy

- reduce the risk of death
- prevent or minimize myocardial damage (infarct size)

Primary PCI



Fibrinolytics

2013 STEMI Guidelines

Class I Recommendations:

Reperfusion therapy should be administered to all eligible patients with STEMI with symptom onset within the prior 12 hours

Primary PCI is the recommended method of reperfusion when it can be performed in a timely fashion by experienced operators

Reperfusion Therapy:

Class I Recommendations continued:

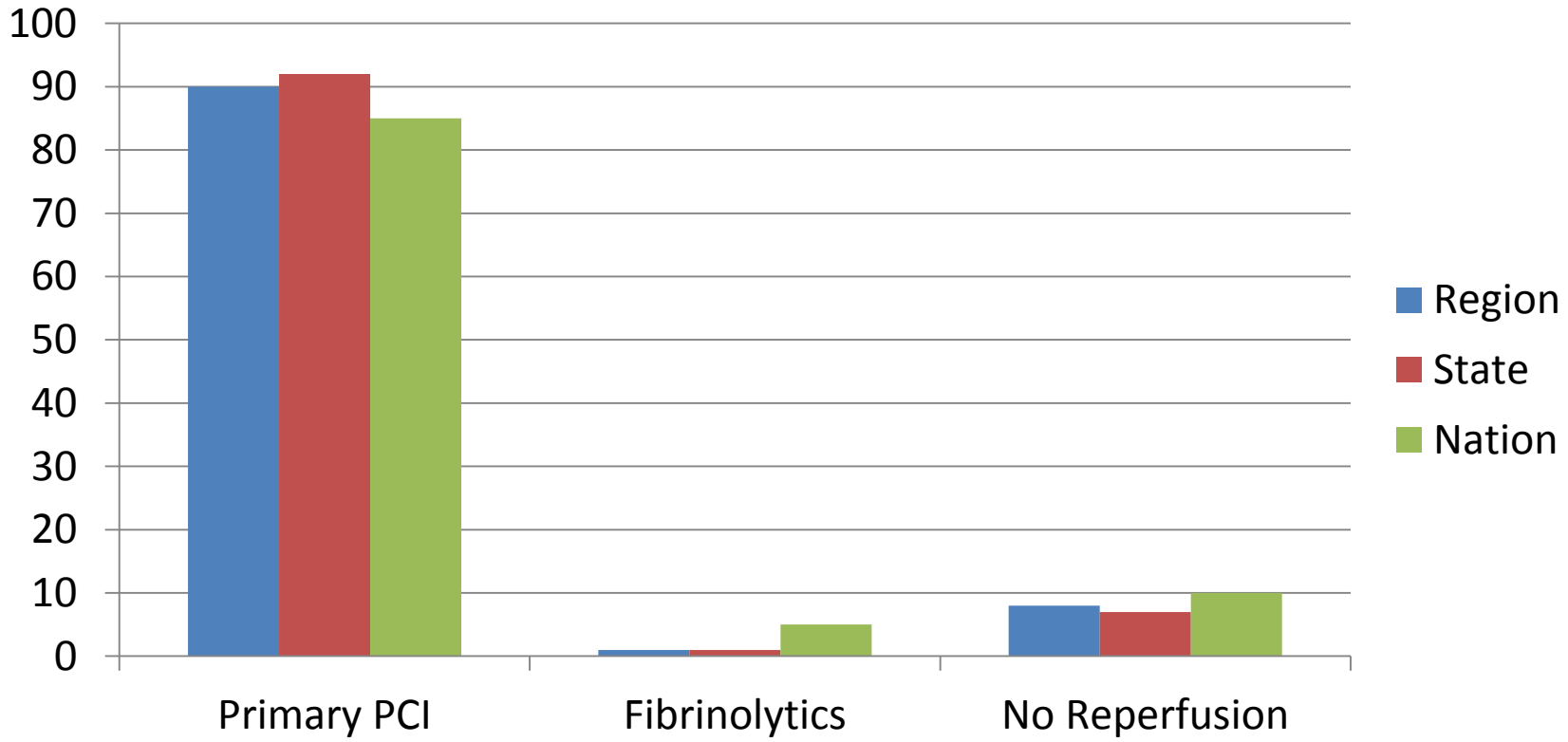
Immediate transfer to a PCI-capable hospital for primary PCI is the recommended strategy for patients with STEMI who initially arrive at or are transported to a non-PCI hospital, with a FMC-to-device time system goal of 120 minutes or less.

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

When fibrinolytic therapy is indicated or chosen as the primary reperfusion strategy, it should be administered within 30 minutes of hospital arrival

Reperfusion Method:

Last 12 months ending 2Q2016



Reperfusion: Fibrinolytic Therapy

Metric: **MEDIAN TIME IN MINUTES TO FIBRINOLYTIC THERAPY FOR STEMI PATIENTS**

Goal: **ADMINISTER WITHIN 30 MINUTES OF HOSPITAL ARRIVAL**

Patients best suited for initial fibrinolytic therapy:

Low bleeding risk

AND

Early presentation after symptom onset (< 2-3 hours)

AND

Present to non-PCI capable hospital with longer transfer time

Median time in minutes to fibrinolytic therapy for STEMI patients:

National Comparison:

34.1 minutes	50th percentile
18.1 minutes	90th percentile

Referral Center Metrics

Metric: TIME IN MINUTES FROM ED ARRIVAL TO ED DISCHARGE AT REFERRAL FACILITY (door in door out)

Goal: LESS THAN 30 MINUTES

Inter-hospital transfer to a PCI-capable hospital is the recommended triage strategy if primary PCI consistently can be performed within 120 minutes

Mortality!!!

The most important metric of them all.

Current AMI measures most likely do not truthfully account for advanced therapies.

Knowing the inclusion and exclusion criteria for advanced therapies and intended outcomes will help mortality.

Is this patient appropriate for Hypothermia?

Should this patient be transferred for ECMO?

Does your network include advanced treatments such as Impella?

Mortality Numbers

In Hospital Risk Adjusted Mortality (Excluding cardiac arrest)

3%	US Hospitals in the 50th Percentile
2.54%	US Hospitals in the 90th Percentile

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QUESTIONS?

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- Amy Schumaker
  - –Research Medical Center

Cath Lab Metrics

ACS Summit, October 24, 2017

Metrics

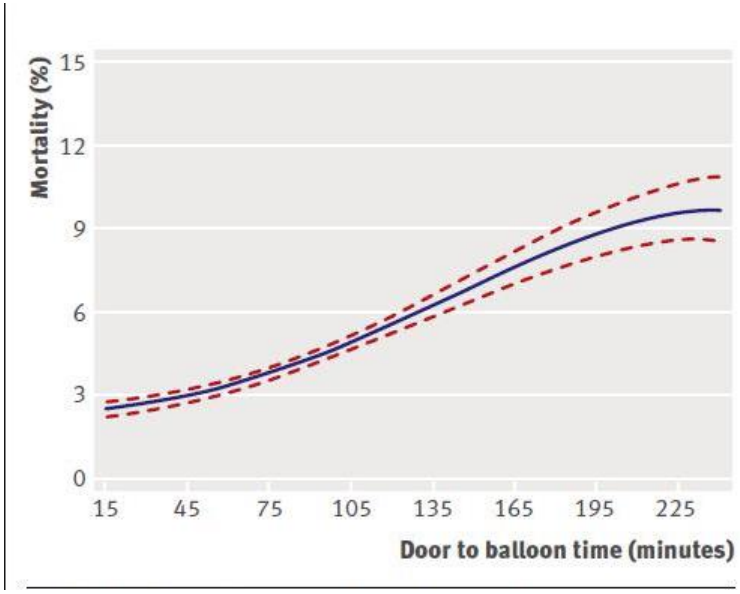
- Door to Balloon
- Door in to Door out

Door to Balloon

- Proportion of STEMI patients Receiving primary PCI within 90 Minutes
  - Reported in a percentage as number of times within 90 min over the total opportunities
  - Door to first intervention
    - Door = Admission time, the time the patient arrives
    - First Intervention = balloon, thrombectomy, direct stenting or whatever restores blood flow
  - Exclusion Criteria
    - Code Blue
    - Need to consult Chaplain
    - Need to consult with other physician
    - Non-system delay

Door to Balloon

- Why is this important?
  - The estimated mortality starts to rise as the door to balloon time increases



Medic Scribe

Door to Balloon

- The median US benchmark is 57 min

NCDR 2Q 2017

Door in to Door out (DIDO) at STEMI Referral Center

- Median Time from Emergency Department Arrival to Discharge from the STEMI Referral Center in patients transferred for primary PCI
- Many non-PCI centers participate in ACTION Registry
- Emphasis is for referral hospitals that do not have cath labs or a STEMI program to diagnose and transfer to a STEMI Receiving Center ASAP

Patients that receive fibrinolytic therapy or meet other exclusion criteria are not included

Door in to Door out (DIDO) at STEMI Referral Center

- ED metrics apply
  - ECG within 5-10 min
  - ECG read within 10 min
  - STEMI diagnosed and team activated within 15 min
  - Total time goal = 30 min

Door in to Door out (DIDO) at STEMI Referral Center

- National 50% benchmark is 43.9 minutes

NCDR 2Q 2017

- Dwayne Shive
  - –Centerpoint Medical Center

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There is no place like home…

Discharge Metrics

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Discharge Metrics

- Beta blocker prescribed at discharge
- Statin prescribed at discharge
- LVEF evaluation prior to discharge or planned as outpatient
- ACE/ARB prescribed at discharge for patients with LVSD
- ADP receptor blockers prescribed at discharge
- ASA prescribed at discharge
- Smoking Cessation Counseling provided prior to discharge
- Phase 2 (Out Patient) Cardiac Rehab referral provided prior to discharge

Exclusion Criteria

- Patient transferred to another acute care hospital
- Patient with discharge status of deceased
- Patients leaving AMA
- Patients discharged with comfort care only
- Patients discharged to hospice

Beta blockers at Discharge

- **Clinical Rationale:**

Beta blockers administered chronically reduce the risk of recurrent ischemic events and long-term mortality in patients surviving myocardial infarction.

- **Exclusion Criteria:** documentation indicating Beta blocker is contraindicated
- Documentation must be specific– “Beta blocker contraindicated due to hypotension, bradycardia, allergy, etc.”
- **Barriers:** Data elements cannot be assumed by abstractors

Metric	National 50th percentile	National 90th percentile
Beta Blocker at Discharge	98.5%	100%

Statins Prescribed at Discharge

- **Clinical Rationale:**

HMG co-A reductase inhibitors (statins) reduce the risk of vascular events and death in patients surviving myocardial infarction.

- **Exclusion Criteria:** documented contraindicated to statins (any statin allergy or intolerance), the patient's LDL is <100.
- **High-intensity statin therapy:** Atorvastatin (Lipitor) 80 mg
  Rosuvastatin (Crestor) 20- 40 mg

Metric	National 50th percentile	National 90th percentile
Statin at Discharge	100%	100%

Evaluation of Left Ventricular Systolic Function

- Evaluating LVSF is a class I recommendation in patients with AMI (NSTEMI or STEMI)
- **Clinical Rationale**:

It is important to evaluate LVSF for therapeutic and prognostic standpoints for patients with AMI. Patients with LVSD may be candidates for specific therapies, such as ACE-inhibitor or ARB treatment, invasive management , possible need for external or internal defibrillators placed prior to discharge for severe LVSD. In addition, systolic dysfunction following AMI predicts long term survival.

Evaluation of LVSF

- **Modalities** for evaluation of LVSF: echocardiogram, radionuclide angiogram, or left ventriculography
- **Barriers:** weekend discharges prior to LV-gram/echo being performed, recent evaluation of LVSF performed prior to their AMI
- It is acceptable to document that the patient will be having an echo performed after discharge.

Metric	National 50th percentile	National 90th percentile
Evaluation of LVSF at Discharge	98.1%	100%

ACE/ARB prescribed at Discharge

- **Clinical Rationale:**

ACE inhibitors reduce the risk of vascular events and death in patients with established coronary artery disease. The benefits of ACE inhibitors are greatest in patients with LVSD. Angiotensin receptor blockers are reasonable alternatives to ACE inhibitors in patients with MI and LVSD or who are intolerant to ACE inhibitors.

- **Exclusion Criteria:** documented contraindications to both an ACE-I or ARB (patients with kidney dysfunction may be considered for ARB), LVSF >40%

Metric	National 50th percentile	National 90th percentile
ACE/ARB for LVSD at Discharge	94.8%	100%

ADP Receptor Blockers

- Clopidogrel (Plavix), Ticlopidine (Ticlid), Ticagrelor (Brilinta) and Prasugrel (Effient)
- **Clinical Rationale**: Dual anti-platelet therapy has been demonstrated to reduce recurrent cardiovascular events in patient's that have been revascularized by PCI or ACS patients treated "medically."
- **Exclusions**: documented contraindications to ADP Receptor blockers, or patients prescribed Warfarin, Dabigatrin, Rivaroxaban, Apixaban at discharge.

Metric	National 50th percentile	National 90th percentile
ADP receptor blockers at discharge: Medical treatment	62.8%	90.2%
ADP receptor blockers at discharge: revascularized patients	97.8%	100%

Aspirin Prescribed at Discharge

- **Clinical Rationale**:

The use of aspirin has been shown to reduce recurrent MI and death in patients surviving myocardial infarction.

- **Exclusion Criteria:** documented contraindication to aspirin, or patients prescribed Warfarin, Dabigatrin, Rivaroxaban, Apixaban at discharge.

Metric	National 50th percentile	National 90th percentile
Aspirin at Discharge	99.3%	100%

Smoking Cessation Counseling

- **Clinical Rationale**:

Smoking cessation is essential to their recovery, long-term health, and the prevention of subsequent reinfarction In patients surviving MI.

Metric	National 50th percentile	National 90th percentile
Smoking Cessation counseling prior to Discharge	100%	100%

Smoking Cessation Counseling

- **Exclusion Criteria:** Patients documented as non-smoker or that have quit smoking > 1year
- **Documentation:** Can occur anywhere in the medical record. For example: physician reports (ED summary, H&P, Consult notes, progress notes), nursing notes or interventions, education records, cardiac rehab notes, etc.
- **Barriers**: discrepancies in documentation on patient smoking history, sometimes documentation for this metric is difficult for abstractors to find because this data element can be found in multiple places.

Cardiac Rehab Referral

- **Clinical Rationale**:

A key component to outpatient CR program utilization is the appropriate and timely referral of patients. Generally, the most important time for this referral to take place is while the patient is hospitalized for a qualifying event/diagnosis (MI, CSA, CABG, PCI, cardiac valve surgery, or cardiac transplantation).

Metric	National 50th percentile	National 90th percentile
CR referral prior to Discharge	85.7%	99.4%

What is a Cardiac Rehab Referral?

- An official communication between the health care provider and the patient to carry out a referral order and is not just information as to the need or recommendation for cardiac rehab. A referral MUST be provided PRIOR to discharge.
- The patient is provided information that will allow them to enroll in an outpatient cardiac rehabilitation program. Think of it as a “Prescription” for phase 2 Cardiac Rehab
- Close the Loop- Communication from the hospital or provider must be sent to the CR program with patient consent OR provided to the patient to present on their first visit to the CR program.

Cardiac Rehab Referral

- **Exclusion Criteria**:
- **Medical Reason-** patient deemed by primary cardiologist to have a medically unstable, life-threatening condition. The expectation is that patients in poor physical condition can have the program modified to their individual medical needs.
- **Patient Reason/Preference-** Discharge to nursing home or long term rehab facility (>60 days). Patient refusal is longer accepted, provide information to the patient regardless.
- **Health Care System Reason-** No cardiac rehab program available within 60 minutes of travel time from the patient's home. Financial barriers no longer accepted as a reason for patient ineligible.