It's time to change the math.

ACC 22

Global Heart Attack Treatment Initiative

Quality Improvement for STEMI Care

TRANSFORMING CARDIOVASCULAR CARE FOR YOU. FOR YOUR TEAM. FOR YOUR PATIENTS.

AMERICAN COLLEGE of CARDIOLOGY

Improving STEMI Management Internationally: Two-year Report of 4,015 Patients Enrolled in the American College of Cardiology Global Heart Attack Treatment Initiative

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Disclosures

The following authors have nothing to disclose:

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★ **Initial cohort (Q4 2019)**

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★ **Initial cohort (Q4 2019)**

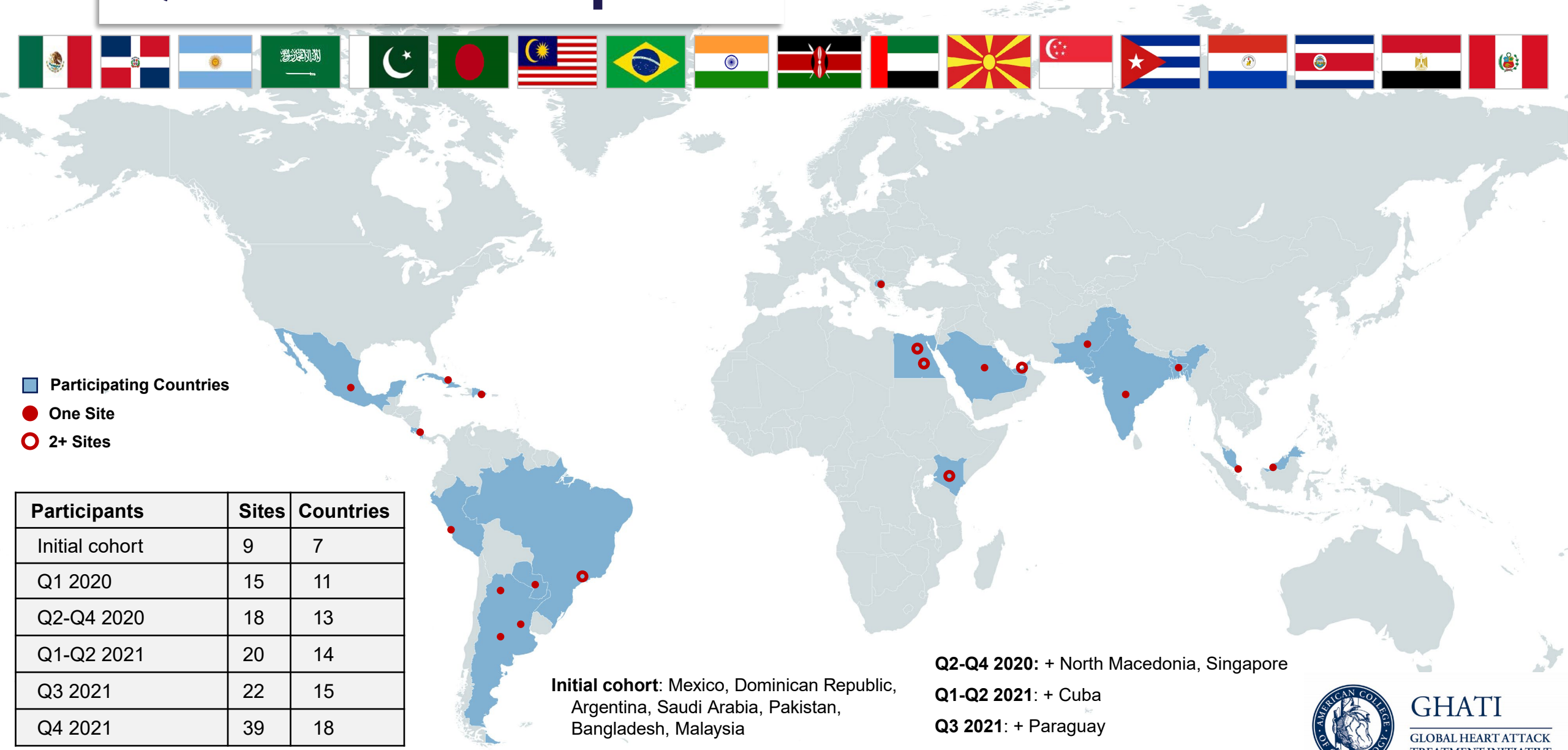
Background

- Over 3 million STEMIs are estimated to occur annually in low- and middle-income countries.
- Little data exist on system-based initiatives and measurement of performance metrics of STEMI in these nations.
- GHATI encourages adherence to Guidelines and tracking of clinical and institutional indicators.

Goals

- Collect data across the care continuum to evaluate and improve evidence-based STEMI management.
- Use data/QI efforts to enact change within health systems.
- Promote consistent application of optimal, Guideline-directed treatments for STEMI.
- Encourage adherence to evidence-based secondary prevention regimens, including medication use.

Q4 2021 Participants



Participants	Sites	Countries
Initial cohort	9	7
Q1 2020	15	11
Q2-Q4 2020	18	13
Q1-Q2 2021	20	14
Q3 2021	22	15
Q4 2021	39	18

Initial cohort: Mexico, Dominican Republic, Argentina, Saudi Arabia, Pakistan, Bangladesh, Malaysia

Q1 2020: + Brazil, India, Kenya, UAE

Q2-Q4 2020: + North Macedonia, Singapore

Q1-Q2 2021: + Cuba

Q3 2021: + Paraguay

Q4 2021: + Costa Rica, Egypt, Peru

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Methods

- Data elements derived from the ACC Chest Pain-MI Registry collected prospectively, aggregated, and reported quarterly by Hospital between October 1, 2019 – September 30, 2021.
- No direct patient health information included in submissions; Hospital identifiers anonymized.
- Adherence to Guidelines by Hospital was measured for the initial cohort at two-years, using a rolling 4-quarters quantified using significance tests (t-Test and Wilcoxon).

ACC Chest Pain-MI Performance Metrics and Data Points

Elements	Description
E1	Reason for delay at facility
E2	Transportation time
E3	Mean and Median time: First Medical Contact (FMC) to Electrocardiogram (ECG)
E4	Mean and Median time: Arrival to Electrocardiogram (ECG)
E5	Mean and Median time: Arrival to Cath Lab
E6	Mean and Median time: Arrival to Fibrinolytic Therapy
E7	Mean and Median time: Arrival to Device Time
E8	Proportion of Patients with LVEF <40%
E9	Proportion of Patients Discharged Alive
E11	Proportion of Patients receiving P2Y12 inhibitor between First Medical Contact (FMC) and Catheterization
E12	Proportion of Patients Received at facility in Cardiogenic Shock
E13	Patients who experienced cardiac arrest before intervention
E14	Patients who experienced cardiac arrest after intervention
E15	Patients who are current smokers
E16	Patients who are female (sex)

Performance Metrics	Description
PM1	Aspirin upon arrival
PM2	Aspirin prescribed at discharge
PM3	Beta-blocker at discharge
PM4	Statin at discharge
PM5	Evaluation of LVEF
PM6	ACE-I or ARB for LVSD (<40% LVEF) at discharge
PM7	Door-to-Needle Time (fibrinolytic therapy)
PM8	STEMI patients receiving primary PCI within 90 minutes
PM9	Reperfusion therapy
PM13	P2Y12 inhibitor at discharge

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Results (1)

To date, 4,212 consecutive patients with STEMIs have been enrolled,

4,015 are reported here:

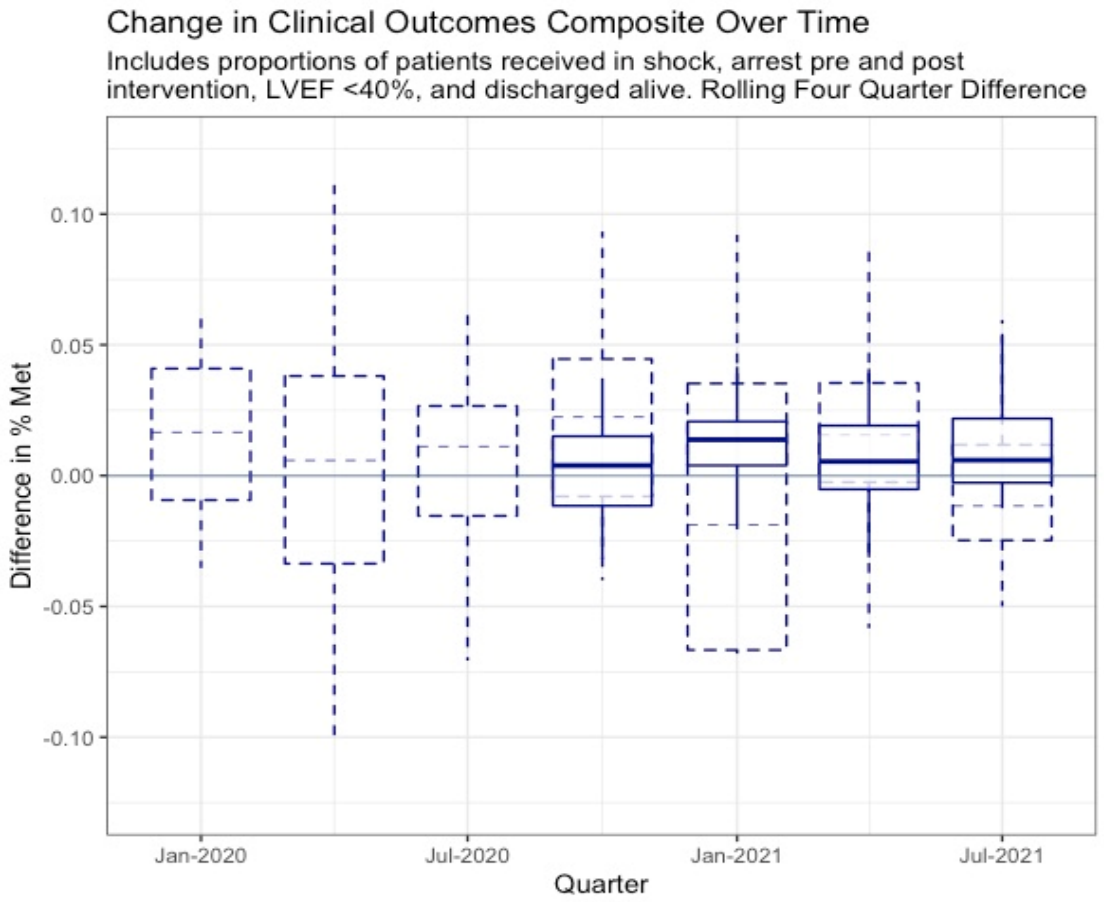
- Female – **mean 19.5% (IQR – 10.5%)**
- Smokers – **35.5% (15.3%)**
- Cardiogenic shock on arrival – **10% (7.3%)**
- Cardiac arrest before intervention – **5.1% (4.4%)**

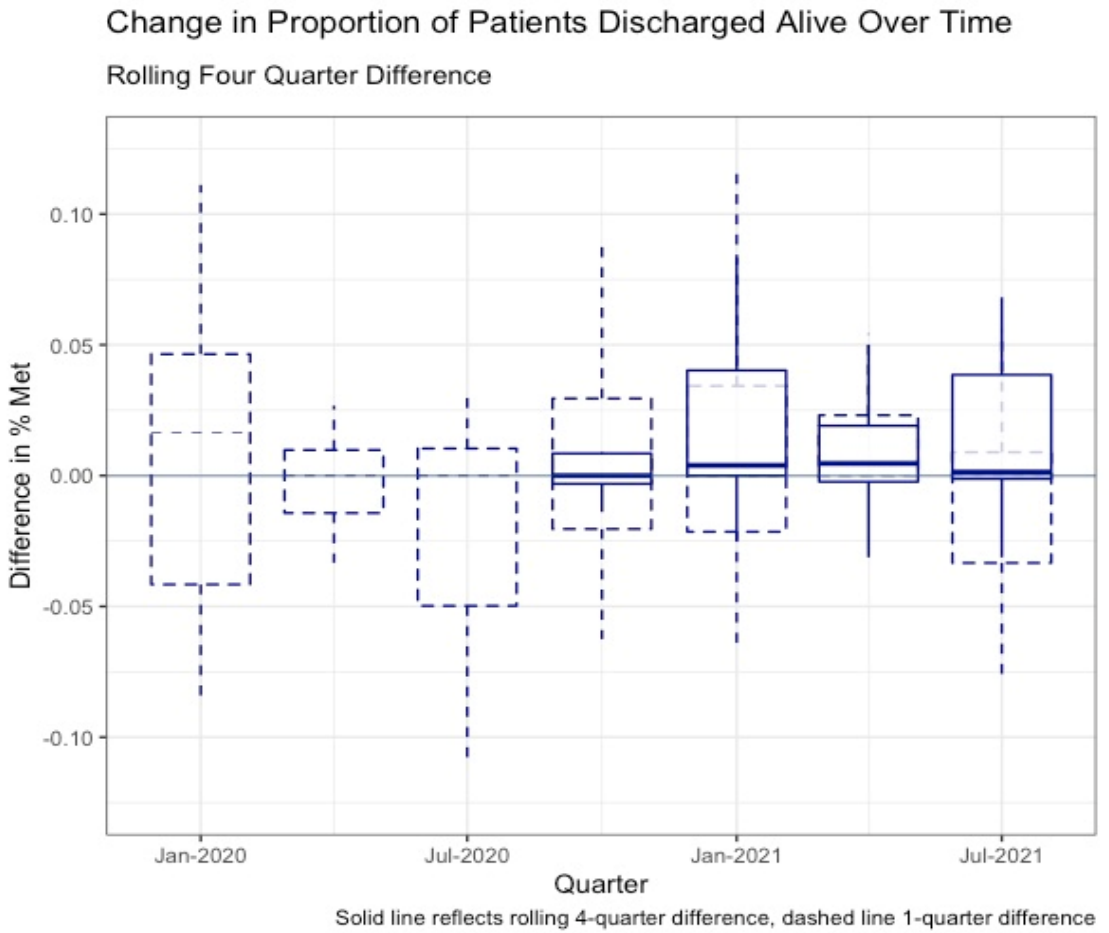
Results (2)

- We observed improvement in combined endpoints of shock on arrival, arrest before / after intervention, final EF < 40%, and survival at discharge: **1st to last Quarter mean difference of 3.1% (IQR 4.3%)**.

- Improvement in proportion of patients discharged alive over time was also noted: **mean difference 1.7% (IQR 3.5%)**.

Results (3)


Change in Clinical Outcomes Composite Over Time
Includes proportions of patients received in shock, arrest pre and post intervention, LVEF <40%, and discharged alive. Rolling Four Quarter Difference
Difference in % Met
0.10
0.05
0.00
-0.05
-0.10
Jan-2020
Jul-2020
Jan-2021
Jul-2021
Quarter


Change in Proportion of Patients Discharged Alive Over Time
Rolling Four Quarter Difference
Difference in % Met
0.10
0.05
0.00
-0.05
-0.10
Jan-2020
Jul-2020
Jan-2021
Jul-2021
Quarter
Solid line reflects rolling 4-quarter difference, dashed line 1-quarter difference

Results (4)

Additional findings included sustained high rates of:

- First Medical Contact – Device Time < 90 min: **mean 70%+**
- Reperfusion therapy: **mean 90%+**
- Evaluation of LVEF: **mean 85%+**
- Use of Guideline-Directed Medical Therapy: **mean 85%+**

Limitations

- Not all-comers registry.
- Relatively small initial cohort.
- Scant system-based quality assessment experience.
- Limited availability of electronic health records.
- Restricted by the use of aggregated data, not patient health information.

Conclusions

- This global contemporary registry successfully enrolled STEMI patients in countries generally unfamiliar with Quality Improvement metrics.
- Important trends of clinical parameters improvement were observed.
- GHATI may facilitate the implementation of policies aimed at enhancing outcomes of CV disease worldwide.

Future of GHATI

- Establish long-term, worldwide STEMI systems of care.
- Continue and expand global rollout.
- Address culture change locally.
- Study potential gender / regional differences on STEMI care.
- Collaboration with other Quality Assessment programs.

Join GHATI!

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ACC's Global Heart Attack Treatment Initiative

A Global Opportunity - We look forward to collaborating with you to advance STEMI care around the world.