

February 11, 2021

NOTICE

The Board of Directors of the Kaweah Delta Health Care District will meet in a Quality Council Committee meeting at 7:00AM on Thursday, February 18, 2021, in the Kaweah Delta Lifestyle Center, Conference Room A, 5105 W. Cypress Avenue, or via GoTo Meeting from your computer, tablet or smartphone. <https://global.gotomeeting.com/join/881426077> or call (224) 501-3412 - Access Code: 881-426-077.

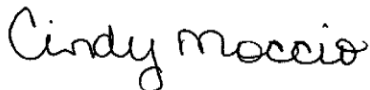
The Board of Directors of the Kaweah Delta Health Care District will meet in a Closed Quality Council Committee at 7:01AM on Thursday, February 18, 2021, in the Kaweah Delta Lifestyle Center, Conference Room A, 5105 W. Cypress Avenue, pursuant to Health and Safety code 32155 & 1461. Board members and Quality Council closed session participants will access closed meeting via Confidential GoTo Meeting phone number provided to them.

The Board of Directors of the Kaweah Delta Health Care District will meet in an open Quality Council Committee meeting at 8:00AM on Thursday, February 18, 2021, in the Kaweah Delta Lifestyle Center, Conference Room A, 5105 Cypress Avenue, or via GoTo Meeting via computer, tablet or smartphone. <https://global.gotomeeting.com/join/881426077> or call (224) 501-3412 - Access Code: 881-426-077.

All Kaweah Delta Health Care District regular board meeting and committee meeting notices and agendas are posted 72 hours prior to meetings in the Kaweah Delta Medical Center, Mineral King Wing entry corridor between the Mineral King lobby and the Emergency Department waiting room.

Due to COVID 19 visitor restrictions to the Medical Center - the disclosable public records related to agendas can be obtained by contacting the Board Clerk at Kaweah Delta Medical Center – Acequia Wing, Executive Offices (Administration Department) {1st floor}, 400 West Mineral King Avenue, Visalia, CA via email: cmoccio@kdhcd.org, via phone: 559-624-2330 or on the Kaweah Delta Health Care District web page <http://www.kawahdelta.org>.

KAWEAH DELTA HEALTH CARE DISTRICT
Garth Gipson, Secretary/Treasurer



Cindy Moccio
Board Clerk, Executive Assistant to CEO

DISTRIBUTION:
Governing Board, Legal Counsel, Executive Team, Chief of Staff
<http://www.kawahdelta.org>

**KAWEAH DELTA HEALTH CARE DISTRICT BOARD OF DIRECTORS
QUALITY COUNCIL**

Thursday, February 18, 2021

5105 W. Cypress Avenue

The Lifestyle Center; Conference Room A

GoToMeeting: <https://global.gotomeeting.com/join/881426077>

Call in option: 1-224-501-3412 Access Code: 881-426-077

ATTENDING: Board Members; David Francis – Committee Chair, Mike Olmos; Gary Herbst, CEO; Keri Noeske, RN, BSW, DNP, VP & CNO; Anu Banerjee, PhD, VP & Chief Quality Officer, Byron Mendenhall, MD, Chief of Staff; Monica Manga, MD, Professional Staff Quality Committee Chair; Daniel Hightower, MD, Secretary/Treasurer; Harry Lively, MD, Past Chief of Staff; Lori Winston, MD, DIO & VP of Medical Education; Tom Gray, MD, Quality and Patient Safety Medical Director; Sandy Volchko DNP, RN CLSSBB, Director of Quality and Patient Safety; Ben Cripps, Chief Compliance Officer, and Michelle Adams, Recording.

OPEN MEETING – 7:00AM

1. **Call to order** – *David Francis, Committee Chair*
2. **Public / Medical Staff participation** – Members of the public wishing to address the Committee concerning items not on the agenda and within the subject matter jurisdiction of the Committee may step forward and are requested to identify themselves at this time. Members of the public or the medical staff may comment on agenda items after the item has been discussed by the Committee but before a Committee recommendation is decided. In either case, each speaker will be allowed five minutes.
3. **Approval of Quality Council Closed Meeting Agenda – 7:01AM**
 - **Quality Assurance** pursuant to Health and Safety Code 32155 and 1461 – *Monica Manga, MD, and Professional Staff Quality Committee Chair;*
 - **Quality Assurance** pursuant to Health and Safety Code 32155 and 1461 – *Anu Banerjee, PhD, VP & Chief Quality Officer*
4. **Adjourn Open Meeting** – *David Francis, Committee Chair*

CLOSED MEETING – 7:01AM

1. **Call to order** – *David Francis, Committee Chair & Board Member*
2. **[Quality Assurance pursuant to Health and Safety Code 32155 and 1461](#)** – *Monica Manga, MD, and Professional Staff Quality Committee Chair*
3. **Quality Assurance** pursuant to Health and Safety Code 32155 and 1461 — *Anu Banerjee, PhD, VP & Chief Quality Officer*

4. Adjourn Closed Meeting – David Francis, Committee Chair

OPEN MEETING – 8:00AM

1. **Call to order – David Francis, Committee Chair**
2. **Public / Medical Staff participation** – Members of the public wishing to address the Committee concerning items not on the agenda and within the subject matter jurisdiction of the Committee may step forward and are requested to identify themselves at this time. Members of the public or the medical staff may comment on agenda items after the item has been discussed by the Committee but before a Committee recommendation is decided. In either case, each speaker will be allowed five minutes.
3. **Written Quality Reports** – A review of key quality metrics and actions associated with the following improvement initiatives:
 - 3.1. [Cardiac Service Society of Thoracic Surgery \(STS\) and American College of Cardiology \(ACC\) Data](#)
 - 3.2. [Hand Hygiene Quality Report](#)
 - 3.3. [CLABSI/MRSA Quality Focus Team](#)
4. **[Update: Clinical Quality Goals](#)** - A review of current performance and actions focused on the FY 2021 clinical quality goals. *Sandy Volchko, RN, DNP, Director of Quality and Patient Safety.*
5. **[Cardiology Scorecard](#)** – A review of current focused measures and key initiatives in the cardiac service line. *Anu Banerjee, PhD, VP/Chief Quality Officer, Tom Gray, MD, Medical Director of Quality and Patient Safety.*
6. **Adjourn Open Meeting – David Francis, Committee Chair**

In compliance with the Americans with Disabilities Act, if you need special assistance to participate at this meeting, please contact the Board Clerk (559) 624-2330. Notification 48 hours prior to the meeting will enable the District to make reasonable arrangements to ensure accessibility to the Kaweah Delta Health Care District Board of Directors committee meeting.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

Unit/Department: Cardiovascular Services

Prostaff Report Date: September 2020

Measure Objective/Goal: Door-to-Balloon (D2B) time to be in the top 90th percentile nationwide

Date range of data evaluated: Q2 2019 – Q1 2020

Analysis of all measures/data: (Include key findings, improvements, and opportunities)

Based on ACC PCI Cath Registry definition, the D2B is median time from hospital arrival to immediate PCI for STEMI patients in minutes [detail line: 4448 of ACCF Institutional Outcomes Report]. Exclusions: Patients transferred in from another acute care facility or patient caused delay in treatment. ACC Guidelines require intervention prior to 90 minutes. Kaweah Delta internal goal, in collaboration with Cleveland Clinic, is to be in the 90th percentile. Kaweah Delta had a 53 minute D2B time for Q1 2020, which is 1 minute faster than Q4 2019. Kaweah Delta's Rolling 4 Quarters (Q2 2019 – Q1 2020) D2B time is 56 minutes, representing an improvement from the previous R4Q by 1 minute. Refer to attached slide for trending over the past four quarters. Note KD's average is better than US hospitals at the 50th percentile of 60 minutes; faster than average by 4 minutes. We've been unable to achieve the 90th percentile times.

If improvement opportunities identified, provide action plan and expected resolution date:

Creation of block schedule that allows for staffed room for cardiac alerts (completed 9/2019)

Adjusted the staffing of the call team to 4 members (2 RN, 2 Rad. Tech) (completed 7/2020) – The additional staff member allows for a quicker safer transition from the ED to the Cath Lab.

Developed a STEMI and NON-STEMI heart code protocol flip card for neighboring hospital emergency departments if patient can't be transferred within 90 minutes (approved, sent for printing)

Next Steps/Recommendations/Outcomes:

Develop a written debrief tool for Cath Lab and ED to use for all STEMI's. This debrief will aid in the collaboration between departments and keep both informed of all measured metrics. Audits of all STEMI cases continues regularly. Data is consistently reported back to staff for input and suggestions on interventions to possibly implement. Thoughtful pause cards to be handed out to ED Physicians (currently in printing phase)

Submitted by Name:

Christine Aleman, RN
Leslie Archer, RN

Date Submitted:

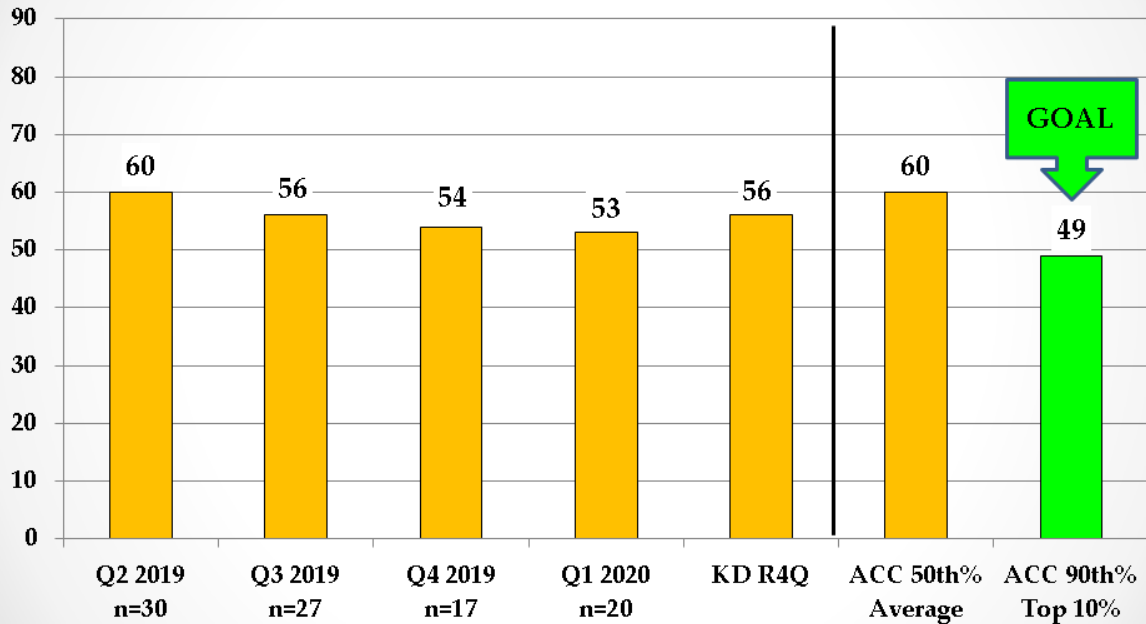
September 15, 2020

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

Immediate PCI for STEMI (in minutes)¹



R4Q O/E = 0.9

¹ Median time frame from hospital arrival to immediate PCI for STEMI pts in minutes. Exclusions: Patients transferred in from another acute care facility; Reasons for delay does not equal none. (ref:4448)

*Comparison reporting period is 04/01/19 through 03/31/20

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

Unit/Department: Cardiovascular Services

Prostaff Report Date: September 2020

Measure Objective/Goal: Percentage of cardiac surgery patients (isolated CABG) who did not acquire any infections post-operatively (per STS definition). To be better than the STS Average

Date range of data evaluated: Q1 2018 – Q1 2020

Analysis of all measures/data: (Include key findings, improvements, and opportunities):

This metric is being measured as per the Society of Thoracic Surgeons definition (Indicate whether a Deep Sternal Infection/Mediastinitis, Superficial Sternal Infection, Septicemia/Sepsis, Conduit Harvest or Cannulation Site infections was diagnosed within 30 days of the procedure or any time during the hospitalization for surgery). Historically, this indicator had proved to be challenging. Action Plans had been elusive in monitoring and tracking capabilities. Since implementation of new action plans with coordinated effort between departments and disciplines our results have been favorable. In 2018 we had five infections which equated to a rate of 2.6% for the year. This was improved in 2019 when we had four infections over the course of the entire year, this calculated as a 2.0% infection rate. The first quarter of 2020 has proven to be better than years past as there were zero infections recorded during this time frame equating to a 0% rate of infection. This measure's definition has changed within the STS Registry and Kaweah Delta is now performing below/better than the national average when measured through the STS.

If improvement opportunities identified, provide action plan and expected resolution date:

This indicator requires continual monitoring to ensure we improve every quarter. Action plans include: Two Chlorhexidine baths prior to surgery, Chlorhexidine mouth wash used morning of surgery, MRSA screening of each patient, Terminal cleaning of operating rooms monitored daily, Disposable ECG cables on each patient, limiting staff/MD exits and re-entry during surgery. Education of floor nurses and staff will need to be implemented as this measure extends through the patient's entire stay at the hospital. This measure now includes cannulation site (chest tubes), harvest site and blood stream infections not only sternal wound infections.

Next Steps/Recommendations/Outcomes:

Continue to examine and debrief with staff any fall outs as they occur for this indicator. Continue to educate staff, nurses and medical staff on the changes in the definition and the new ways and areas that infections are recorded per the STS Registry Nationwide.

Submitted by Name:

Christine Aleman, RN
Leslie Archer, RN

Date Submitted:

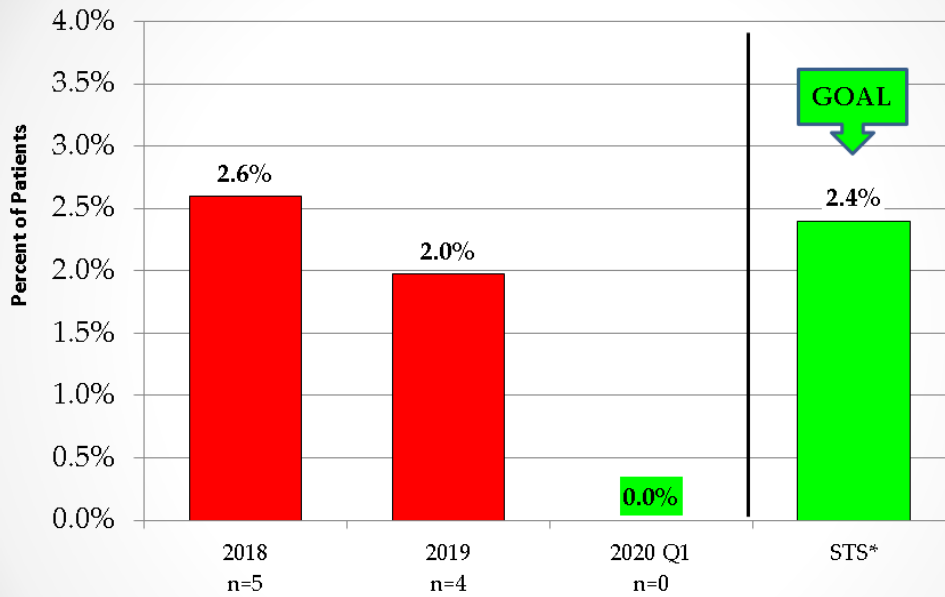
September 15, 2020

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

CABG Post-op Any Infection¹



Kaweah Delta Medical Center

2019 O/E = ~

*Comparison reporting period 01/01/2019 through 09/30/2019

¹-Includes Deep Sternal Infection/Mediastinitis, Septicemia/Sepsis, Conduit Harvest or Cannulation Site infections

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

Unit/Department: Cardiovascular Services

Prostaff Report Date: September 2020

Measure Objective/Goal: Contrast Induced Nephropathy (CIN) post PCI to be in the top 90th percentile nationwide

Date range of data evaluated: Q2 2019 – Q1 2020

Analysis of all measures/data: (Include key findings, improvements, and opportunities):

Based on the ACC PCI Cath Registry definition of CIN (stated as “acute kidney injury”) [detail line: 4882 of ACCF Institutional Outcomes Report] is the proportion of patients who had a rise of serum Creatinine of > 50% over their pre-procedure baseline (excluding patients who had dialysis pre-procedure). Inclusions: ≥ 90% of patients with a pre and post Creatinine drawn and LOS ≥ 1 day. Kaweah Delta had a risk adjusted rate of 7.8% in rolling four quarter data (n=61/900). This represents a worsening trend over four quarters from 6.7% in Q4 2019. Refer to attached slide for trending over the past four quarters. Note that KD’s percentage is worse than the US 50th percentile of 6.2% and worse than the US 90th percentile of participants at 2.9%.

If improvement opportunities identified, provide action plan and expected resolution date:

In collaboration with the cardiologist, hydration protocols have been adjusted. (8/2020)

Pre-arrival: Oral hydration is encouraged the day before the procedure. Patients are instructed to drink clear liquids up to 2 hours prior to arrival

Pre-procedure: Intravenous hydration to be started upon admission and continued post-cath. IV fluids at 250 ml/hour

Intra-procedure: LVEDP < 18 NS 500/hr for 4 hours
LVEDP > 19 NS 250 ml/hr for 4 hours

Post procedure labs must be ordered.

Continue to track and record contrast utilization for diagnostic and interventional procedure.

Fluids orders are pre-checked on orders (completed 8/2020)

Next Steps/Recommendations/Outcomes:

Continue to monitor cardiologist without completed orders.

ISS physician support to follow up with cardiologist.

Submitted by Name:

Christine Aleman, RN

Date Submitted:

September 15, 2020

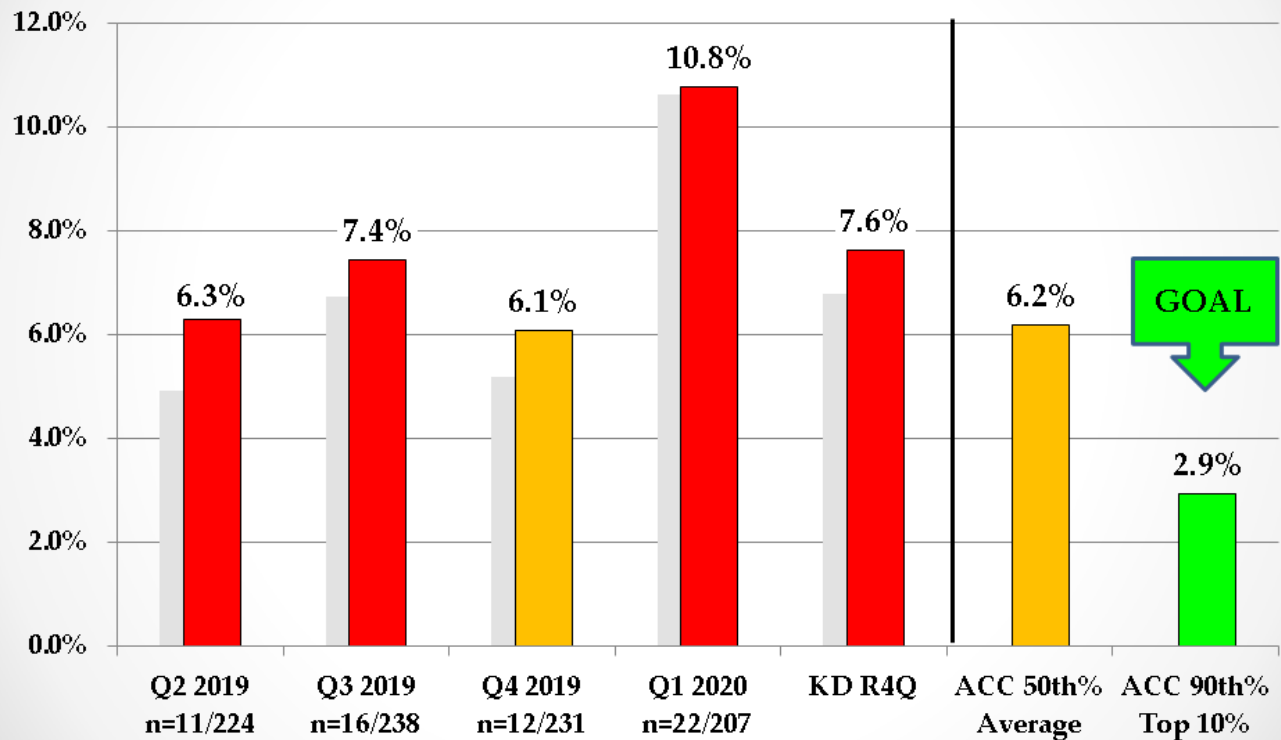
Leslie Archer, RN

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Unit/Department Specific Data Collection Summarization

Professional Staff Quality Committee

Acute Kidney Injury¹ Post PCI Risk Adjusted^{InColor}



R4Q O/E = 1.11

¹ Proportion of pt's with a rise of serum creatinine of > 50% or ≥ 0.3 mg/dL over the pre-procedure baseline; all pt's w/ New Requirement for Dialysis. Exclusions: pt's on dialysis pre-procedure; pt's second PCI within this episode of care; same day discharges. (ref: 4882; O/E ref: 4881) *Comparison reporting period is 04/01/19 through 03/31/20

Please submit your data along with the summary to your PI liaison 2 weeks prior to the scheduled report date.

Cardiac Surgery Data

2019 Q1-Q3



DATA ANALYSES BY THE SOCIETY OF THORACIC SURGEONS
NATIONAL ADULT CARDIAC SURGERY DATABASE

*Comparison STS reporting period 01/01/2019 through 9/30/2019
28/114

Star Ratings 2018

Isolated CABG - (3 stars possible)



STS CABG Composite Quality Rating

Participant 30045
STS Period Ending 12/31/2018

Duke Clinical Research Institute

Quality Domain	Participant Score (98% CI)	STS Mean Participant Score	Participant Rating ¹	Distribution of Participant Scores ● = STS Mean
Jan 2018 - Dec 2018 Overall	96.6% (95.1, 97.8)	96.7%	★ ★	
Jan 2018 - Dec 2018 Absence of Mortality	97.8% (95.9, 99.0)	97.6%	★ ★	
Jan 2018 - Dec 2018 Absence of Morbidity ²	86.6% (81.6, 90.7)	88.8%	★ ★	
Jan 2018 - Dec 2018 Use of IMA ²	98.7% (96.4, 99.8)	99.0%	★ ★	
Jan 2018 - Dec 2018 Medications ²	97.7% (94.6, 99.4)	92.5%	★ ★ ★	

¹* = Participant performance is significantly lower than the STS mean based on 99% Bayesian probability

²** = Participant performance is not significantly different than the STS mean based on 99% Bayesian probability

³*** = Participant performance is significantly higher than the STS mean based on 99% Bayesian probability

²Please refer to Report Overview - STS Composite Quality Rating and NQF-Endorsed Measures for full details



AVR

STS AVR Composite Quality Rating



Participant 30045
STS Period Ending 12/31/2018

Quality Domain	Participant Score (95% CI)	STS Mean Participant Score	Participant Rating ¹	Distribution of Participant Scores ● = STS Mean
Jan 2016 - Dec 2018 Overall	96.7% (95.0, 98.0)	95.5%	★ ★	
Jan 2016 - Dec 2018 Absence of Mortality	98.3% (96.6, 99.3)	97.8%	★ ★	
Jan 2016 - Dec 2018 Absence of Morbidity ²	91.4% (87.5, 94.5)	89.6%	★ ★	



AVR+CAB

STS AVR + CABG Composite Quality Rating



Participant 30045
STS Period Ending 12/31/2018

Quality Domain	Participant Score (95% CI)	STS Mean Participant Score	Participant Rating ¹	Distribution of Participant Scores ● = STS Mean
Jan 2016 - Dec 2018 Overall	90.3% (86.3, 93.5)	92.3%	★ ★	
Jan 2016 - Dec 2018 Absence of Mortality	95.4% (91.9, 97.8)	96.2%	★ ★	
Jan 2016 - Dec 2018 Absence of Morbidity ²	79.7% (71.7, 86.3)	82.8%	★ ★	

Healthgrades

Specialty Clinical Quality Awards & Ratings



America's 50 Best Hospitals for Cardiac Surgery Award™ (2019, 2018)

Superior clinical outcomes in heart bypass surgery and heart valve surgery



America's 100 Best Hospitals for Cardiac Care Award™ (2019, 2018)

Superior clinical outcomes in heart bypass surgery, coronary interventional procedures, heart attack treatment, heart failure treatment, and heart valve surgery



Cardiac Surgery Excellence Award™ (2017)

Superior clinical outcomes in heart bypass surgery and heart valve surgery

Mortality Based Ratings

Procedure/Condition

Mortality In-Hospital

Mortality within 30 days

Coronary Artery Bypass Graft
(CABG) Surgery



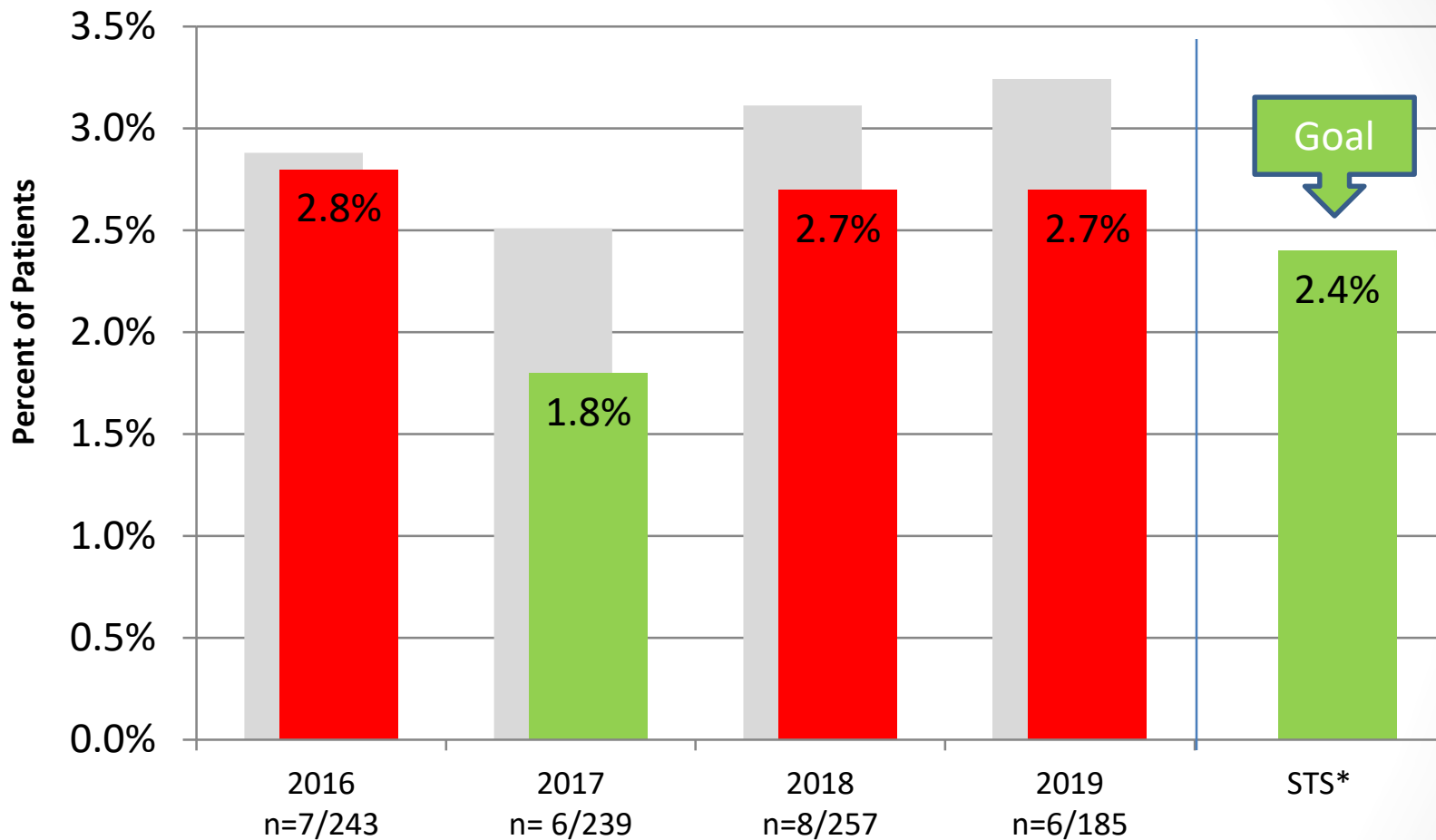
Better than Expected



Better than Expected

All Operative Mortality¹

Risk Adjusted in Color



Kaweah Delta Medical Center

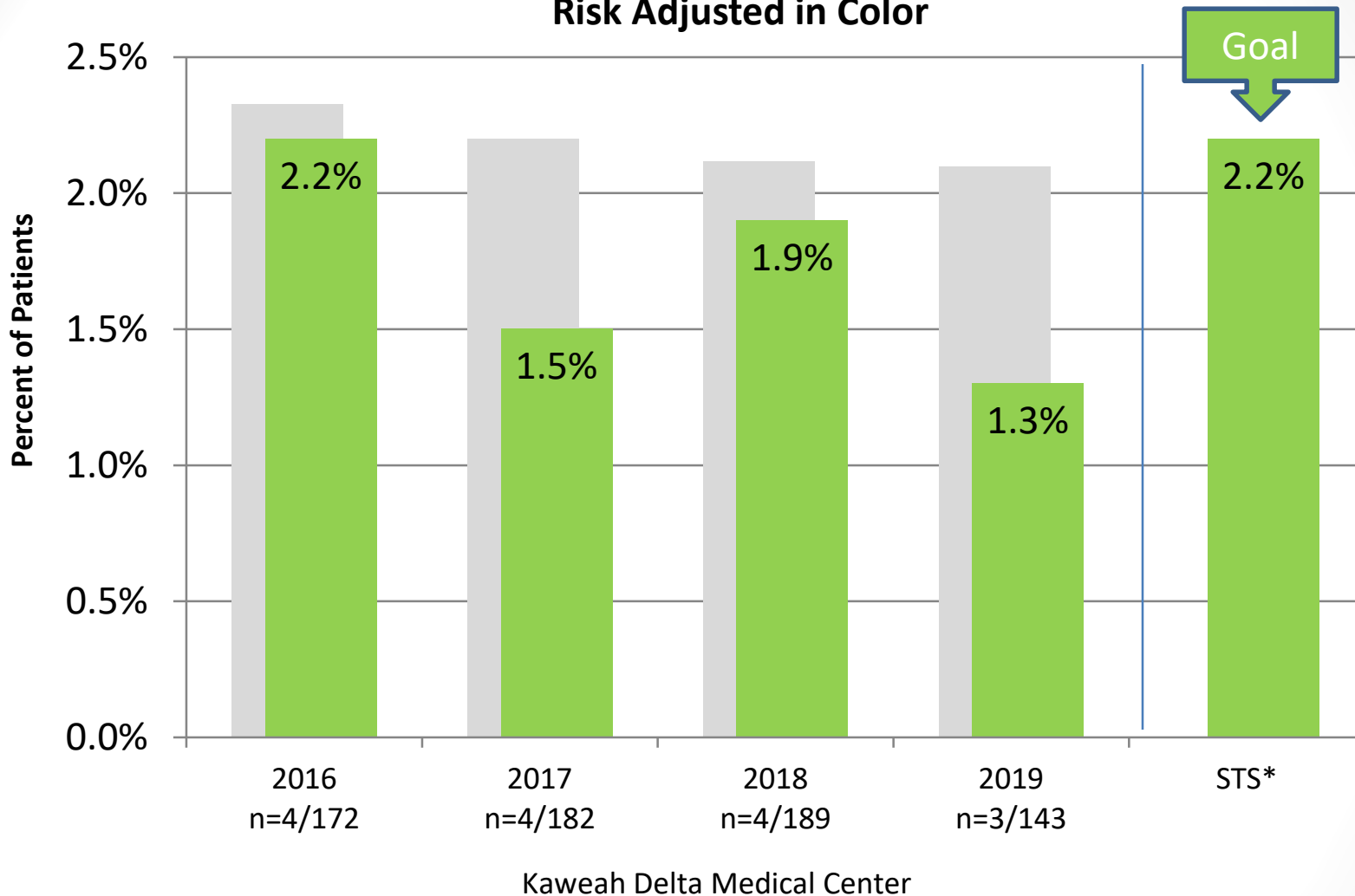
2019 Risk-Adjusted O/E = 1.1

*Comparison reporting period 1/1/2019 through 9/30/2019

1- Includes all 7 Major Procedure Categories (CABG, AVR, AVR+CABG, MVR, MVR+CABG, MVP, MVP+CABG)
 Excludes Other category procedures 32/114

CABG Operative Mortality

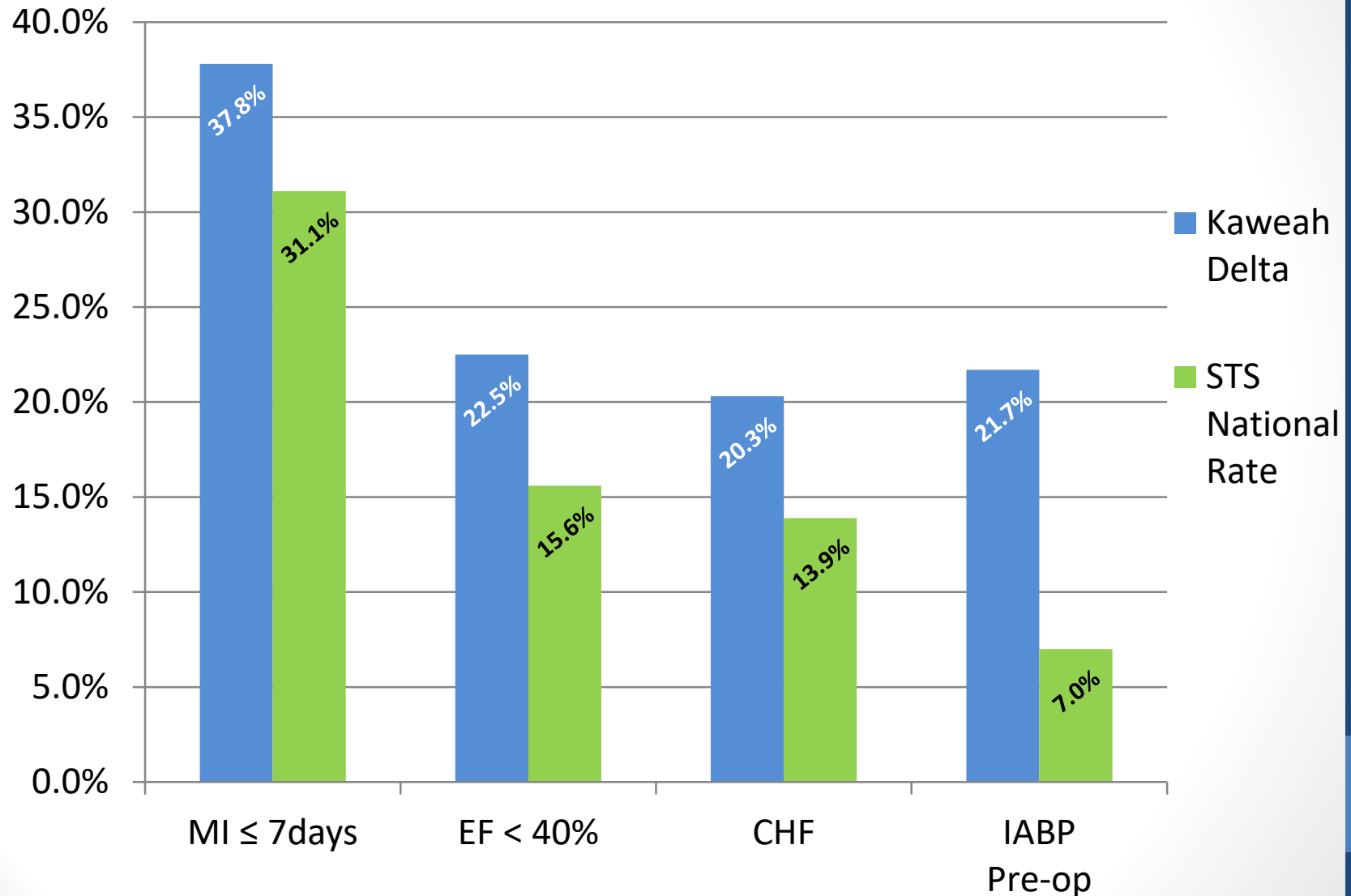
Risk Adjusted in Color



2019 Risk-Adjusted O/E = 0.7

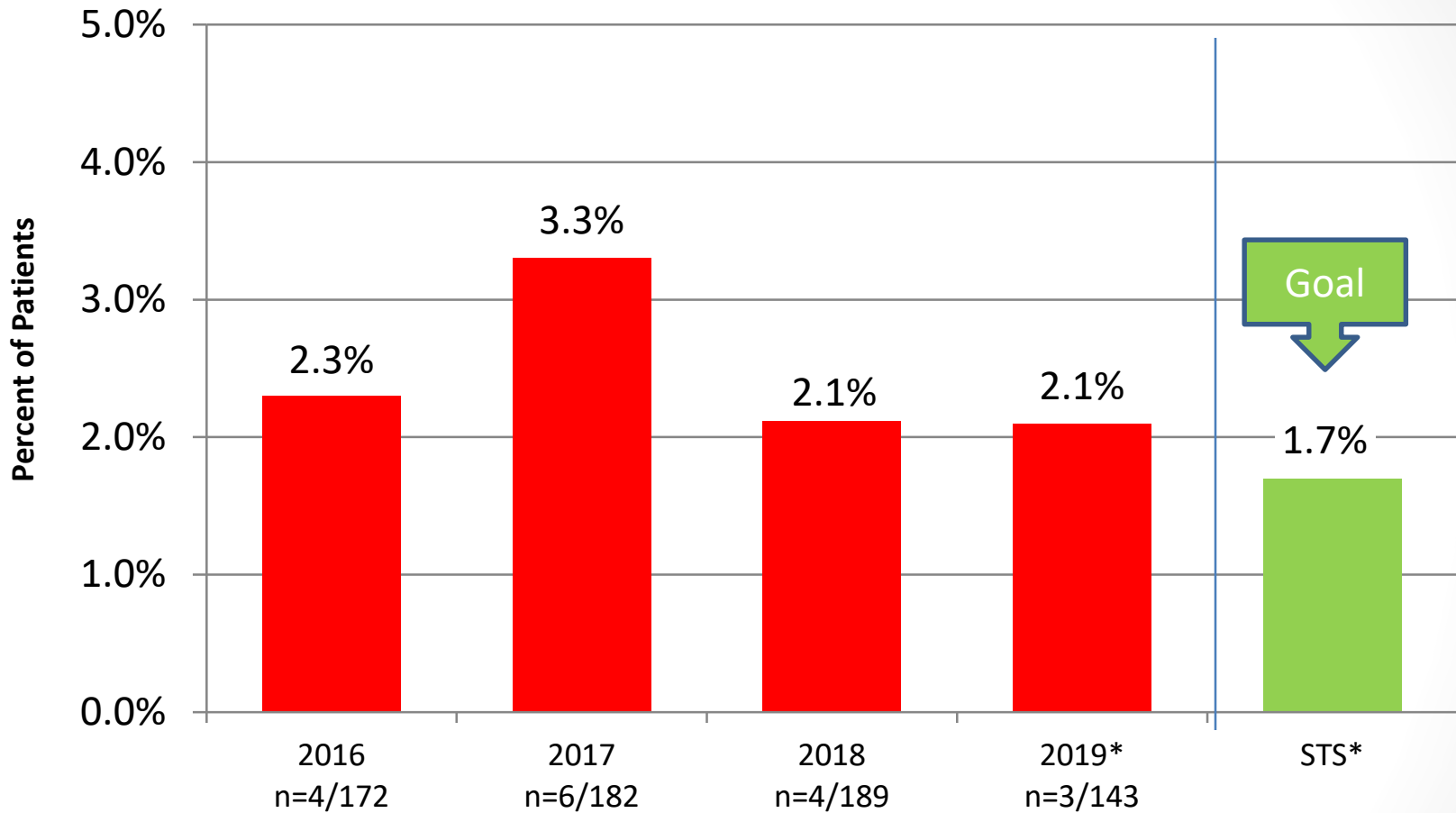
***Comparison reporting period 1/1/2019 through 9/30/2019**

Kaweah Delta Pt. Populations



*Comparison reporting period 1/1/2019 through 9/30/2019 – Isolated CABG cases ONLY

CABG Re-Op Bleed or Tamponade



Kaweah Delta Medical Center

2019 O/E = 1.2

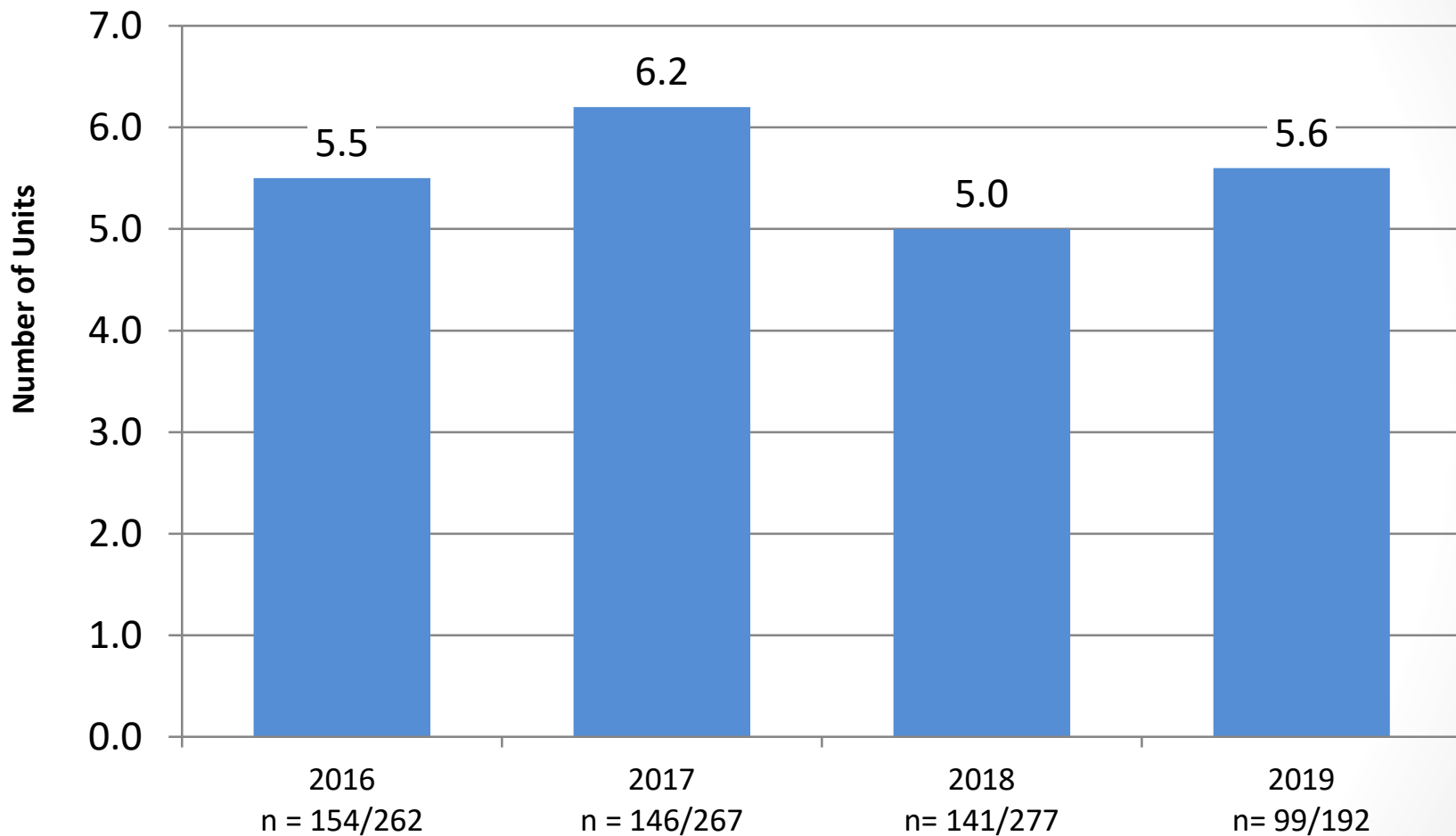
***Comparison reporting period 1/1/2019 through 9/30/2019**

Quality Initiative: Intra-operative Patient Safety

- Time out performed with entire surgical team
- Surgeon led briefing on procedure with entire surgical team
- Minimize trips to the Sterile Core by Nursing staff
- Minimize OR traffic (i.e.: switching staff for breaks)
- Noise reduction implemented:
 - Discussions about current surgical case only
 - Avoid conversations about other cases or other issues
 - Music to be calming and at a lower volume
 - All phones & beepers at the Nurses desk
- Perfusion check list completed each case

Blood Usage - Average Units / Pt. receiving products¹

(No National Comparison Data)

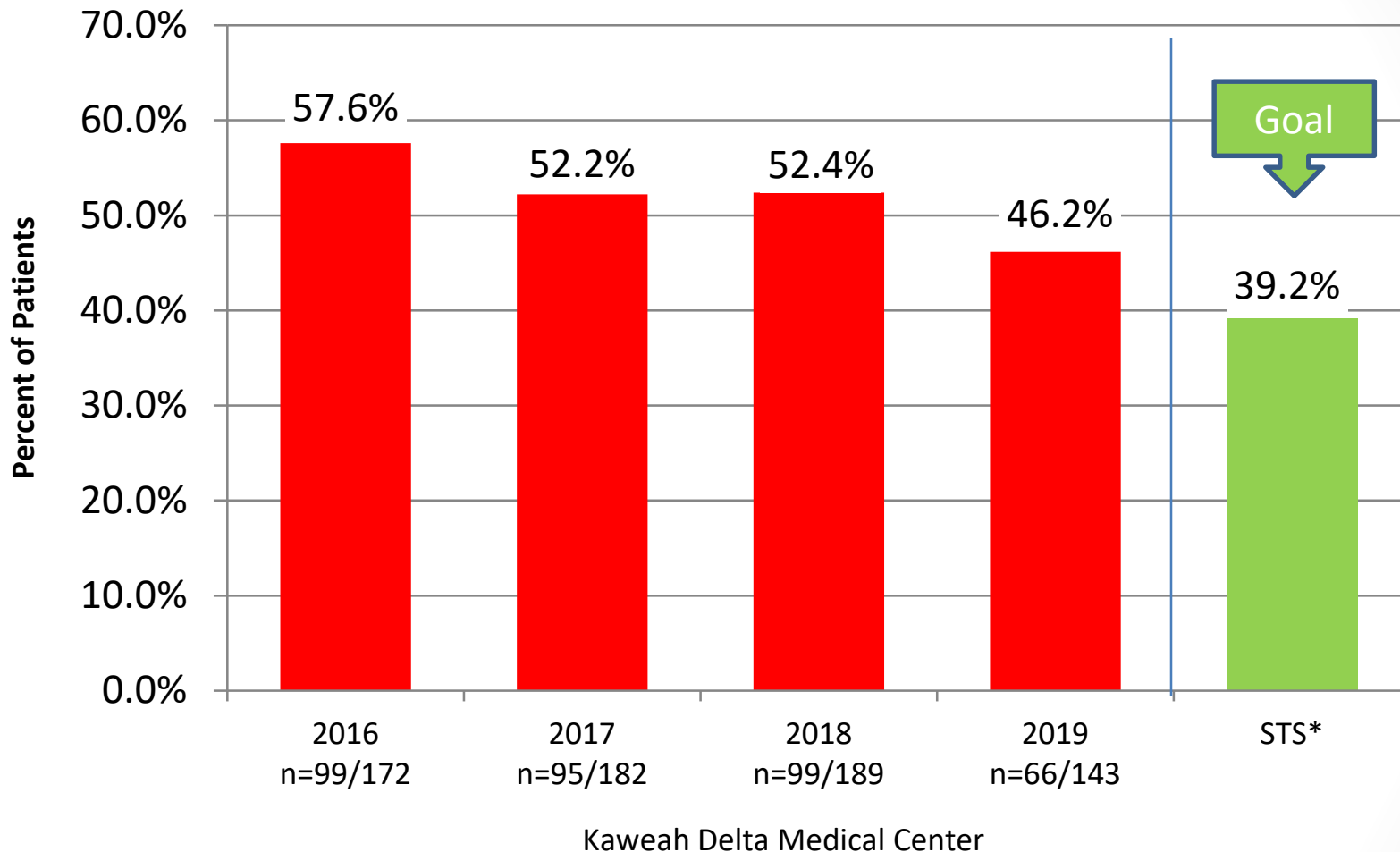


Kaweah Delta Medical Center

¹ All STS surgeries – Includes any blood products given Intra-op and Post-op (Excludes patients that did not receive any blood products; excludes pre-op Hgb<8 and Emergent/Salvage)

*Data is not reported on the National Outcomes Report

CABG Intra & Post-Op Blood Product Usage¹



2019 O/E = 1.2

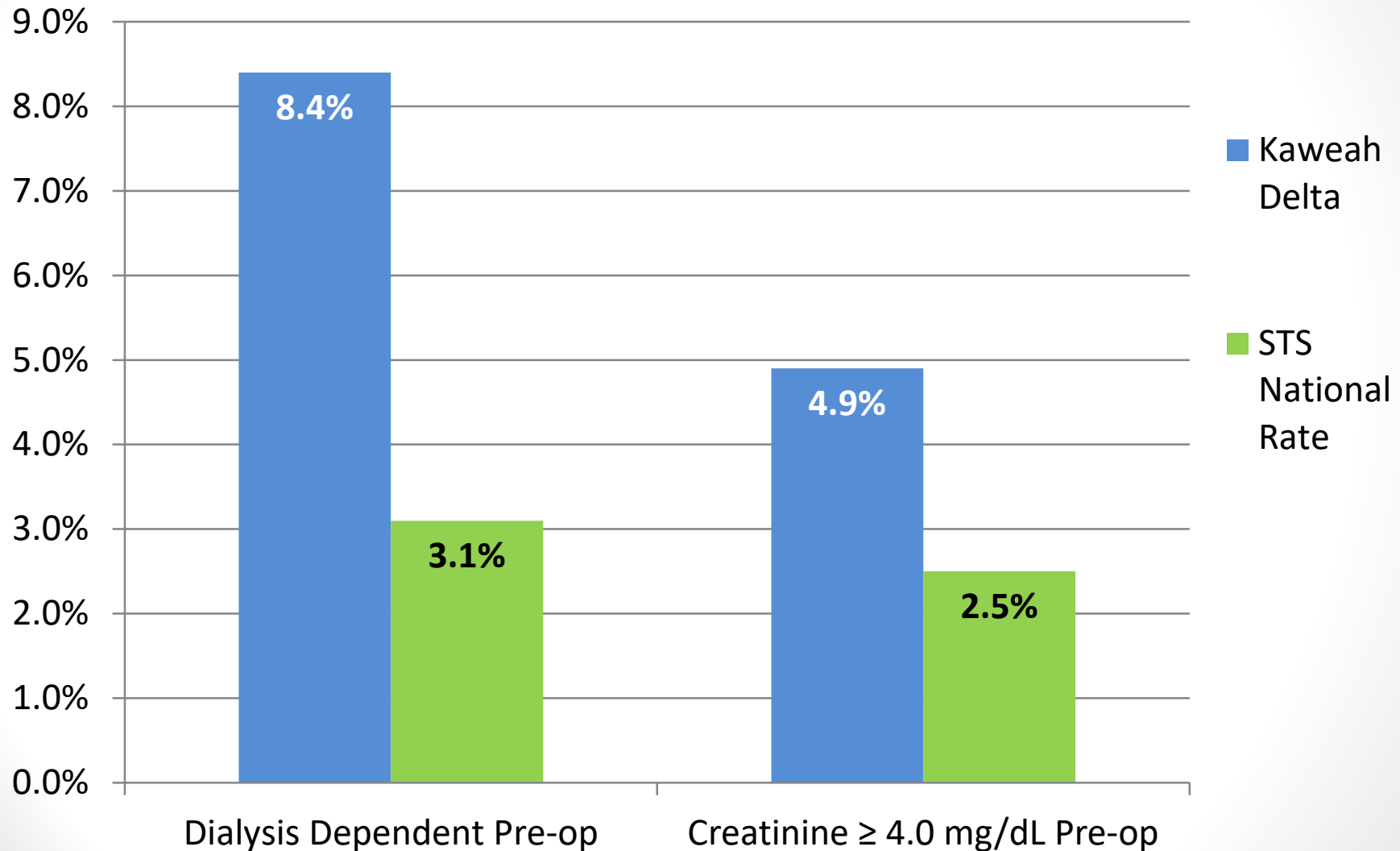
***Comparison reporting period 1/1/2019 through 9/30/2019**

¹Surgeries where at least one unit of blood product (RBC, Plasma, Platelet) was given Intra-and/or Post-operatively. 38/114

Quality Initiative: Bleeding, blood usage

- Quarterly review of blood usage throughout Pt. stay
- TEG coagulation monitoring
- Antifibrinolytic agents
- Heparin monitoring
- Heparin coated circuits
- Hemostasis achieved during procedure
- Cell saver utilized during surgery
- Restrictive transfusion criteria
- Surgeon approval of each transfusion
- Treatment of pre-operative anemia or transfusion as needed

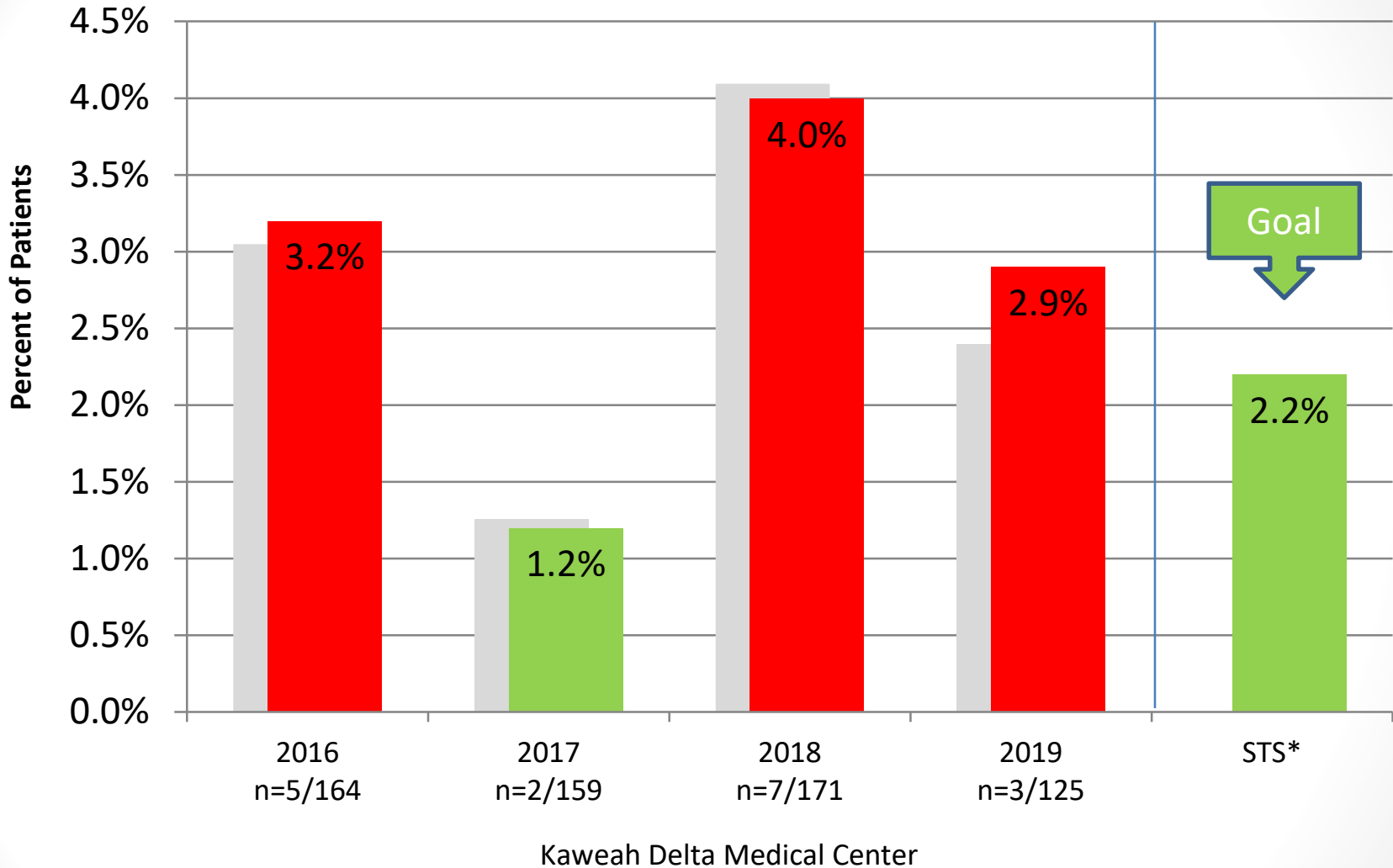
Kaweah Delta Pt. Populations



*Comparison reporting period 1/1/2019 through 9/30/2019 – Isolated CABG cases ONLY

CABG Post-Op Renal Failure¹

Risk Adjusted in Color



2019 Risk Adjusted O/E = 1.3

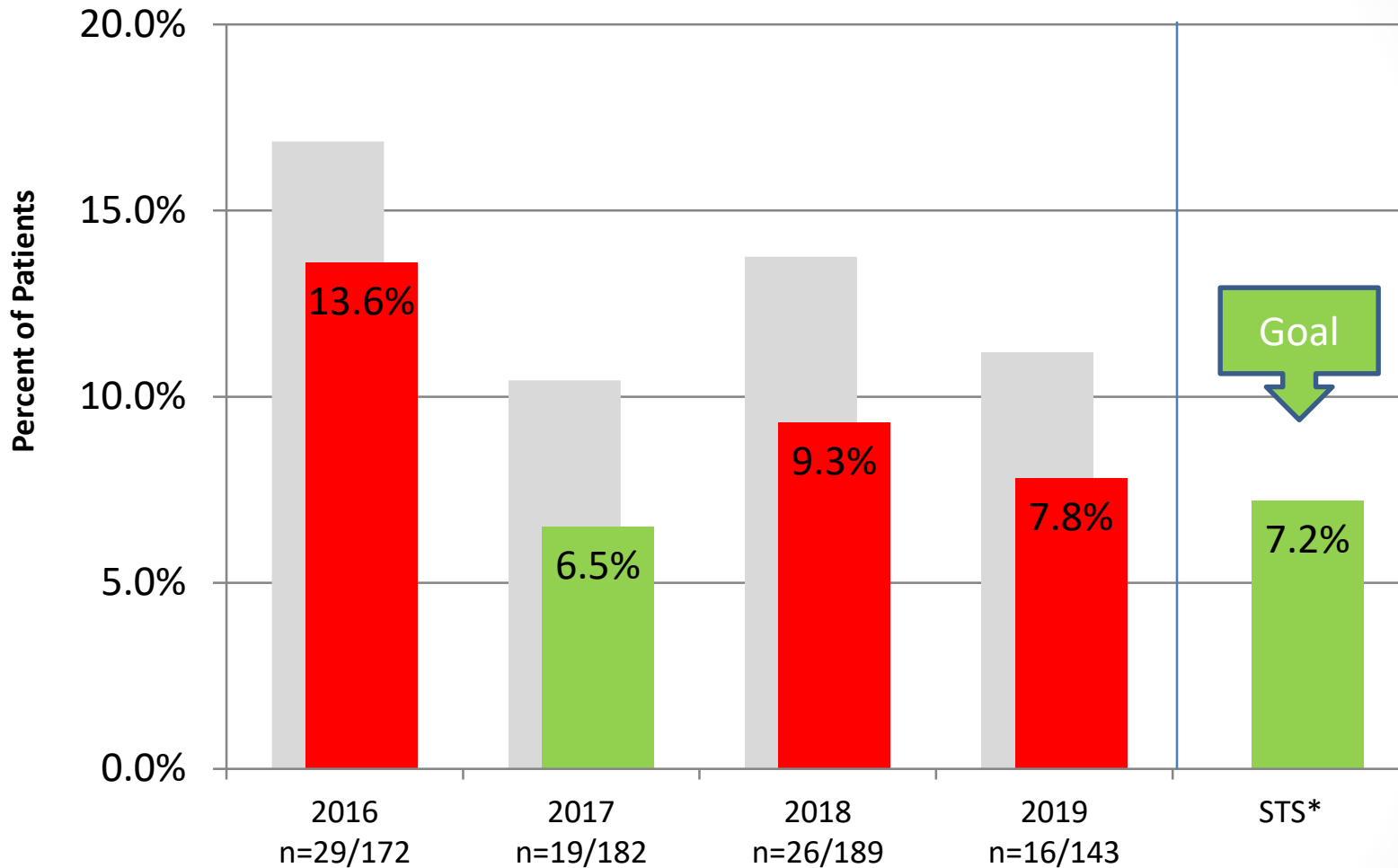
***Comparison reporting period 1/1/2019 through 9/30/2019**

1 – Excludes patients with preoperative dialysis or preoperative Creatinine ≥ 4

Quality Initiative: Renal failure prevention

- Risk factor evaluation pre-operatively
- Timing of surgery considered
- Diabetes control
- Liberal hydration
- Intra-operative blood flow & pressure controlled by perfusion and anesthesia
- Blood pressure management peri-operatively

CABG Prolonged Ventilation Risk Adjusted in Color



Kaweah Delta Medical Center

2019 Risk Adjusted O/E = 1.1

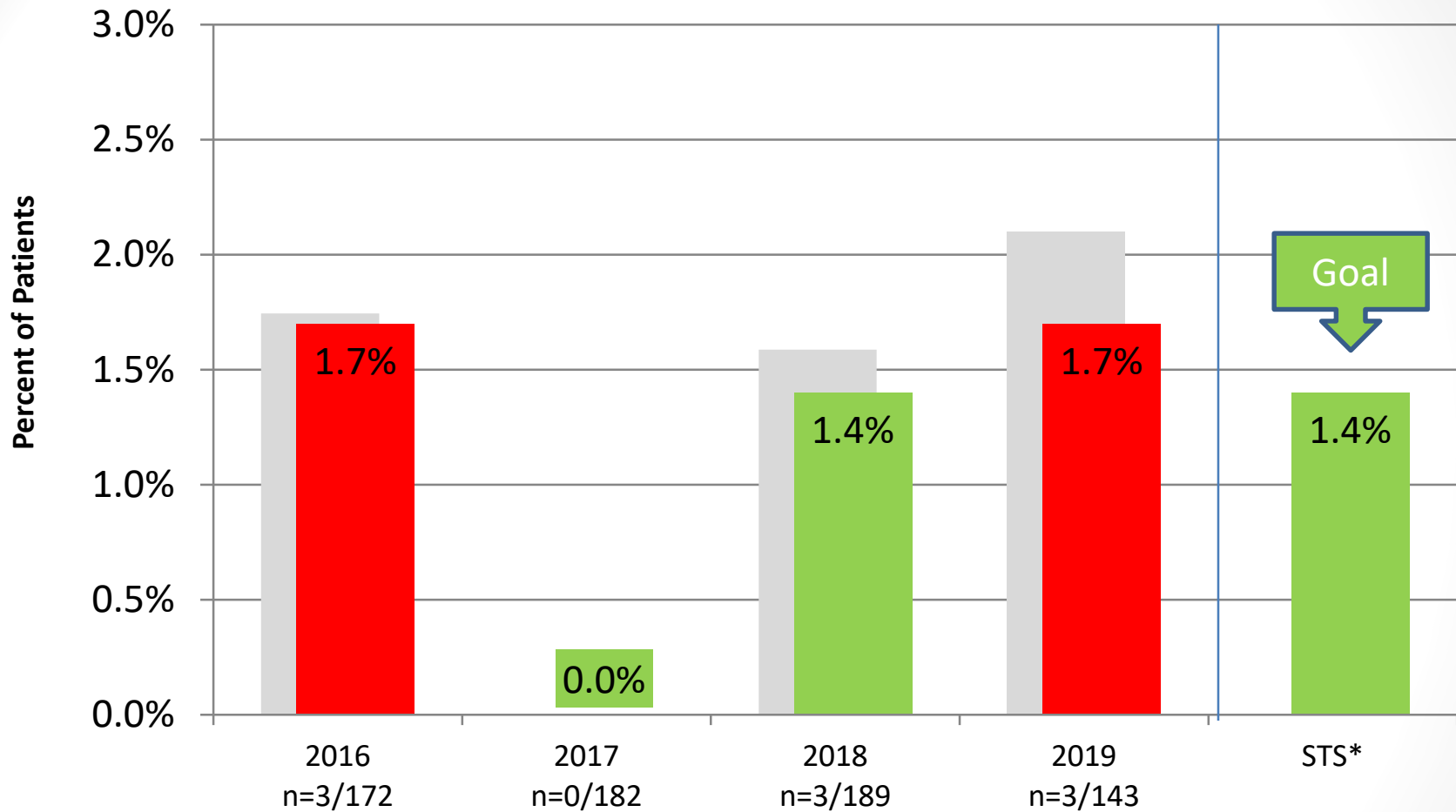
***Comparison reporting period 1/1/2019 through 9/30/2019**

Quality Initiative: Prolonged Ventilation

- Monthly audit & analysis of prolonged ventilation times and delayed Extubation cases due to medical necessity
- Action Plan for 100% compliance in completing Cardiac Extubation Tool ~ followed daily by CVICU nurse manager
- Sedation and Analgesia to be used in an appropriate and conservative manner
 - Avoid Benzodiazepines and narcotic drips
 - To illicit calm awakening utilize Propofol & precedex drips when medically necessary
- Train nursing, medical and ancillary staff on the revised Fast Track Extubation Protocol available in PolicyTech
- Address ventilation time of each Pt. in rounds and shift reports by RN, RT & MD
- Promote Respiratory Therapy Education Tool for patients
- Review of Anesthesia Protocols
 - Positive Base excess or > -2.0 on CVICU arrival
 - Core Temperature $> 36.0^{\circ}\text{C}$ on CVICU arrival

CABG Post Op Permanent Stroke

Risk Adjusted in Color



Kaweah Delta Medical Center

2019 Risk Adjusted O/E = 1.3

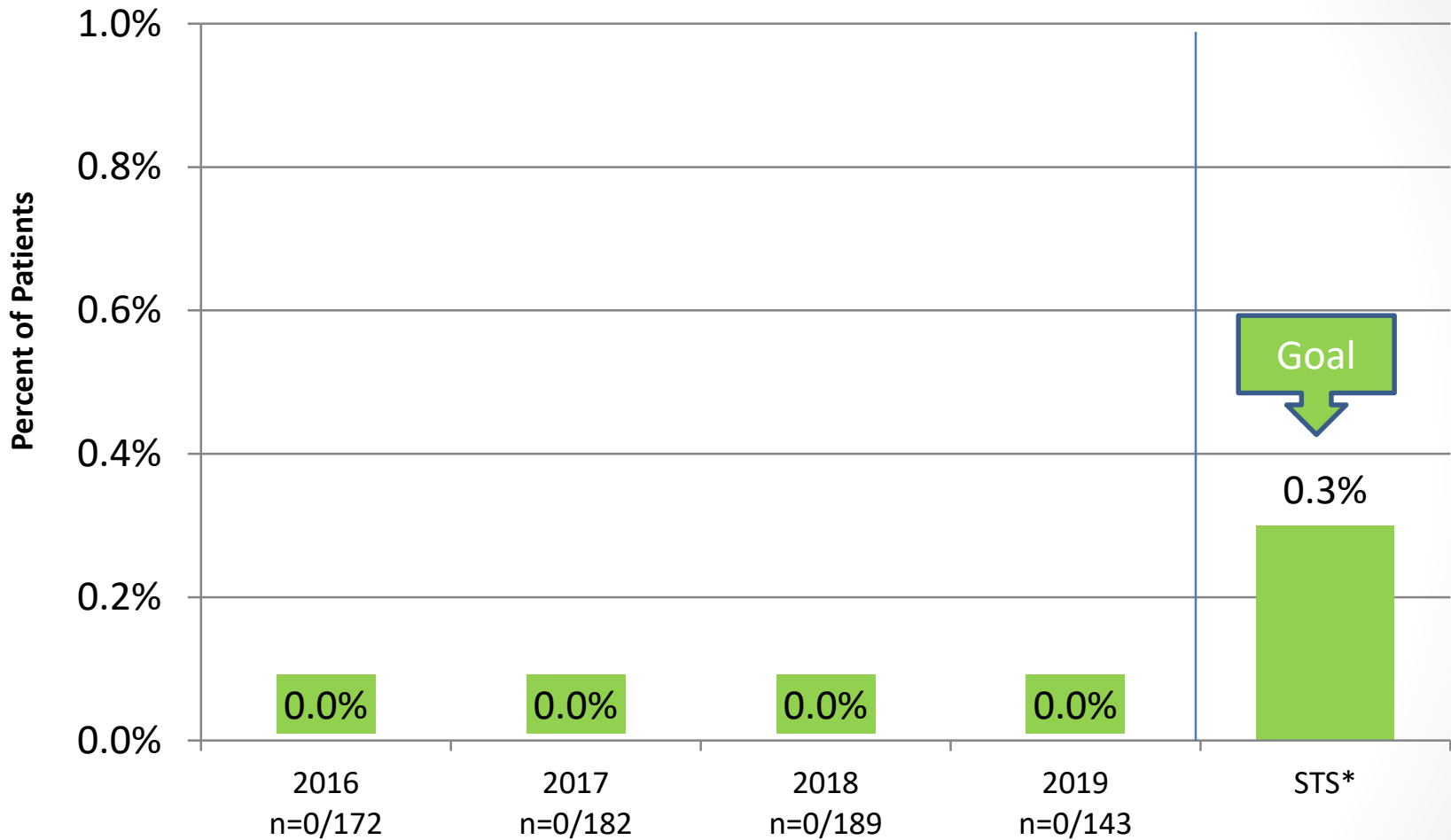
*Comparison reporting period 1/1/2019 through 9/30/2019

Quality Initiative: Stroke prevention

- Risk factor, neurological evaluation
- TEE, CT of the aorta with evaluation as needed
- Carotid Doppler ~ Ultrasound
- Invox cortical brain monitoring
- Intraoperative blood flow & pressure control by perfusion and anesthesia
- Intraoperative temperature control

CABG Post Op Deep Sternal Wound Infection

Risk Adjusted in Color



Kaweah Delta Medical Center

2019 Risk Adjusted O/E = ~

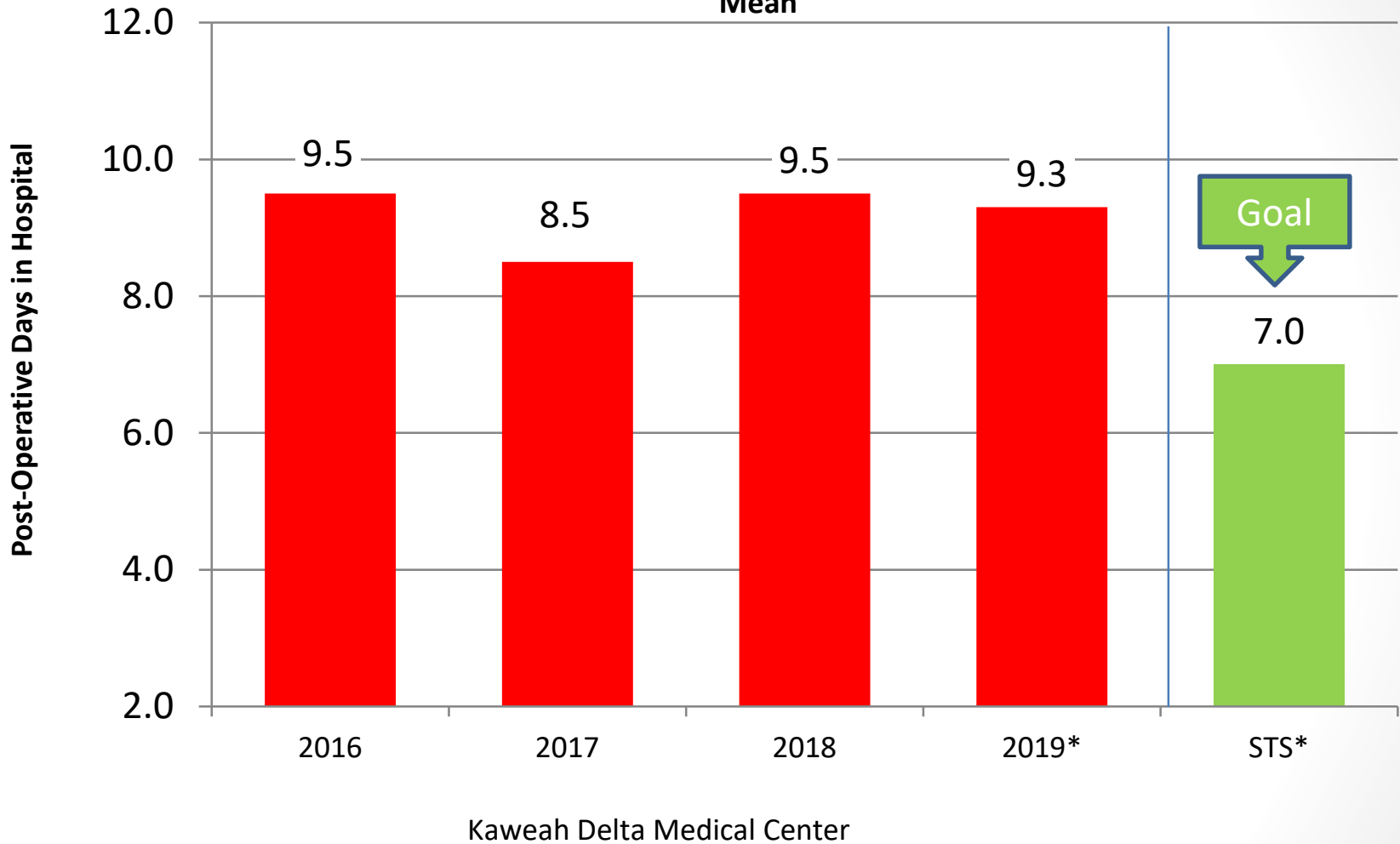
*Comparison reporting period 1/1/2019 through 9/30/2019

Quality Initiative: Infection Prevention

- Glucose control w/ Glucommander – insulin drip or subcutaneous
- Two Chlorhexidine baths prior to surgery
- Chlorhexidine mouth wash used morning of surgery
- MRSA screening of each patient
- Terminal cleaning of operating rooms monitored daily
- Disposable ECG monitoring cables on each patient
- Use of Early closure technique for vein harvest incisions
- Vancomycin paste for sternal application
- Silver Nitrate or Prevena suction dressing applied to sternum
- Prophylactic antibiotic treatment for 48 hours
- Early removal of central lines and Foley catheter

CABG Post Op Length of Stay

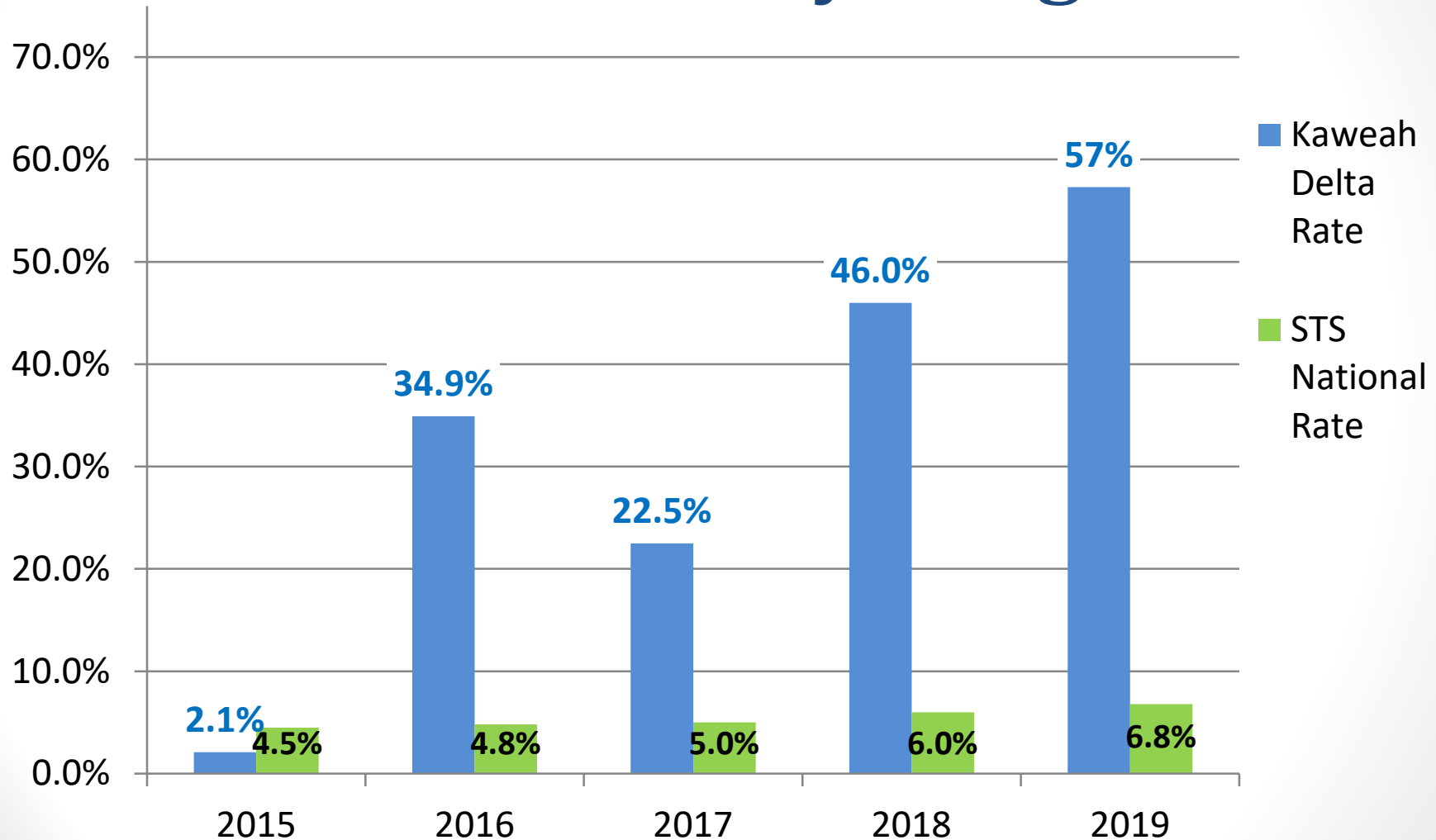
Mean



2019 O/E = 1.3

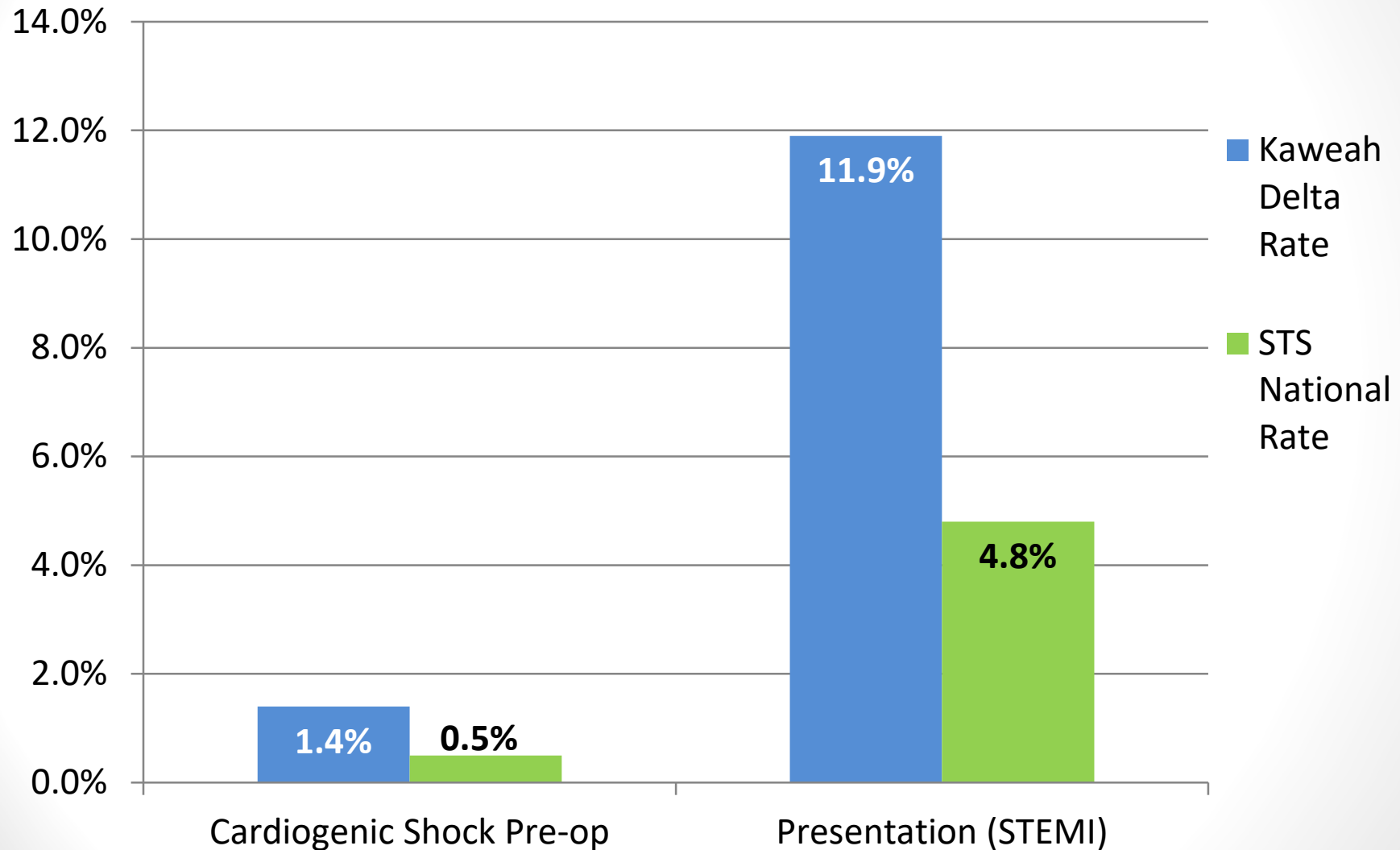
***Comparison reporting period 1/1/2019 through 9/30/2019**

Kaweah Delta Radial Artery Usage



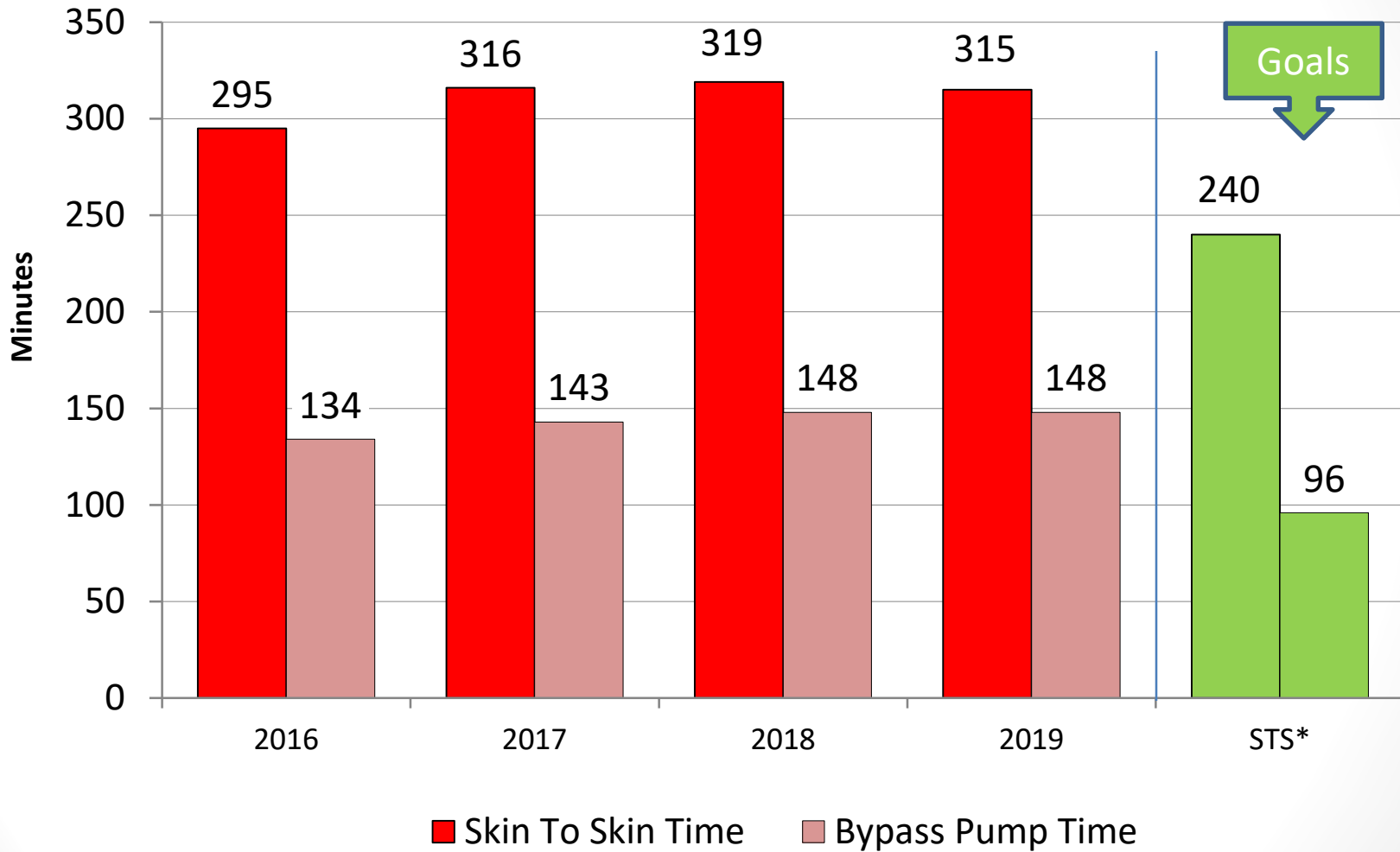
*Comparison reporting period 1/1/2019 through 9/30/2019 – Isolated CABG cases ONLY

Kaweah Delta Pt. Populations



*Comparison reporting period 1/1/2019 through 9/30/2019 – Isolated CABG cases ONLY

CABG Skin-to-Skin and Bypass Pump Durations ¹

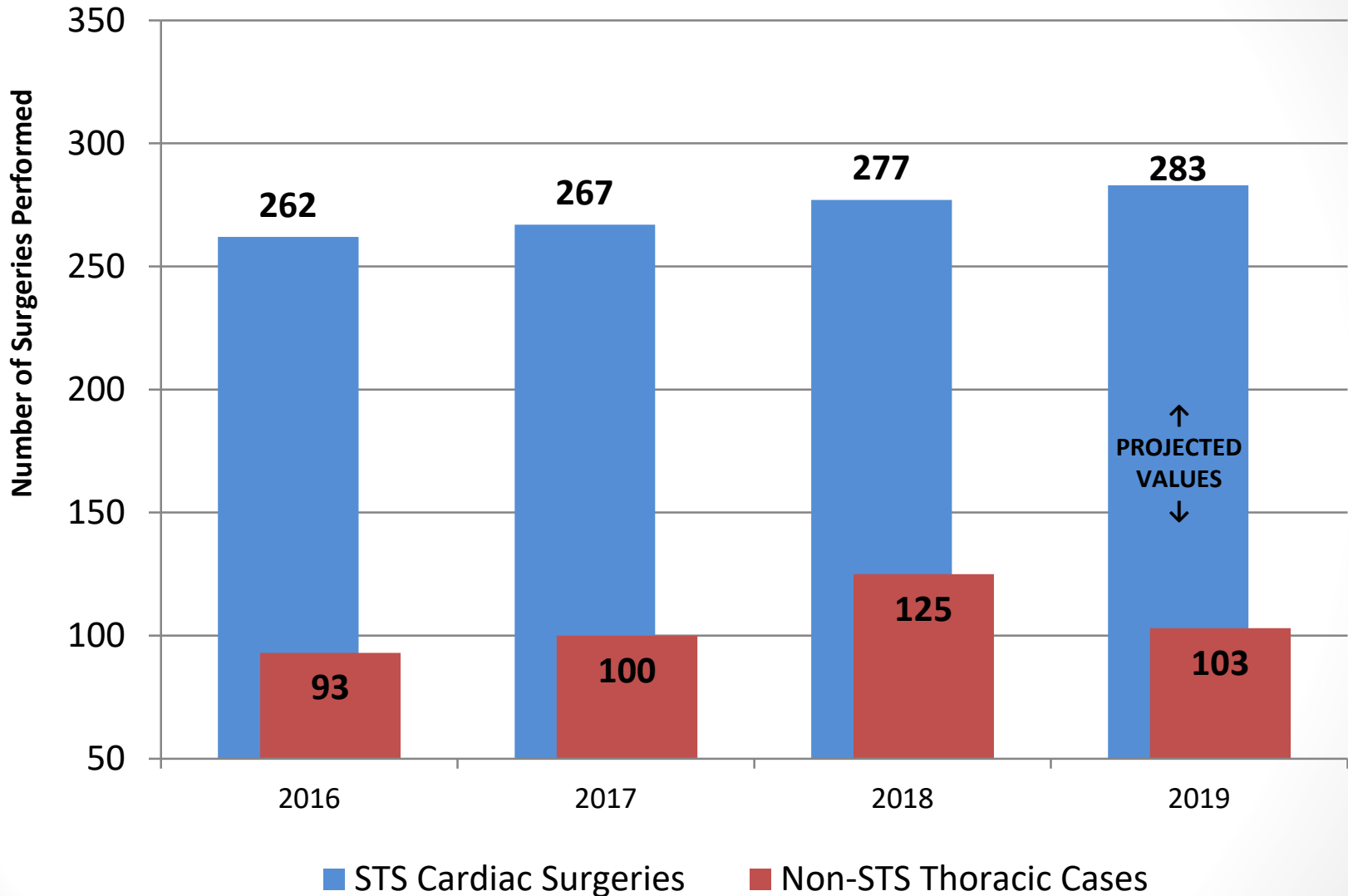


2019 O/E Skin Times = 1.3

2019 O/E Pump Times = 1.5

*Comparison reporting period 1/1/2019 through 9/30/2019 ^{52/114}

Cardiothoracic Surgery Volumes ¹



¹ Cardiac surgery as defined per STS database. Includes all 7 Major Procedure Categories (**CABG, AVR, AVR+CABG, MVR, MVR+CABG, MVP, MVP+CABG**) + Other Heart only procedures.

U.S. News & World Report



- Kaweah Delta Medical Center was one of only two Hospitals Recognized for *Cardiology & Heart Surgery* amongst All Central Valley Hospitals
- Kaweah Delta Medical Center rated Highest among the 46 Central Valley Hospitals and Clinics reviewed by U.S. News & World Report



Quality Improvement
for Institutions



AMERICAN
COLLEGE of
CARDIOLOGY

Kaweah Delta Medical Center PCI Data Quality Analysis

2019 Q2 – 2020 Q1

Green = In the Top 10% of the Nation

Yellow = Better or Equal to the National Average

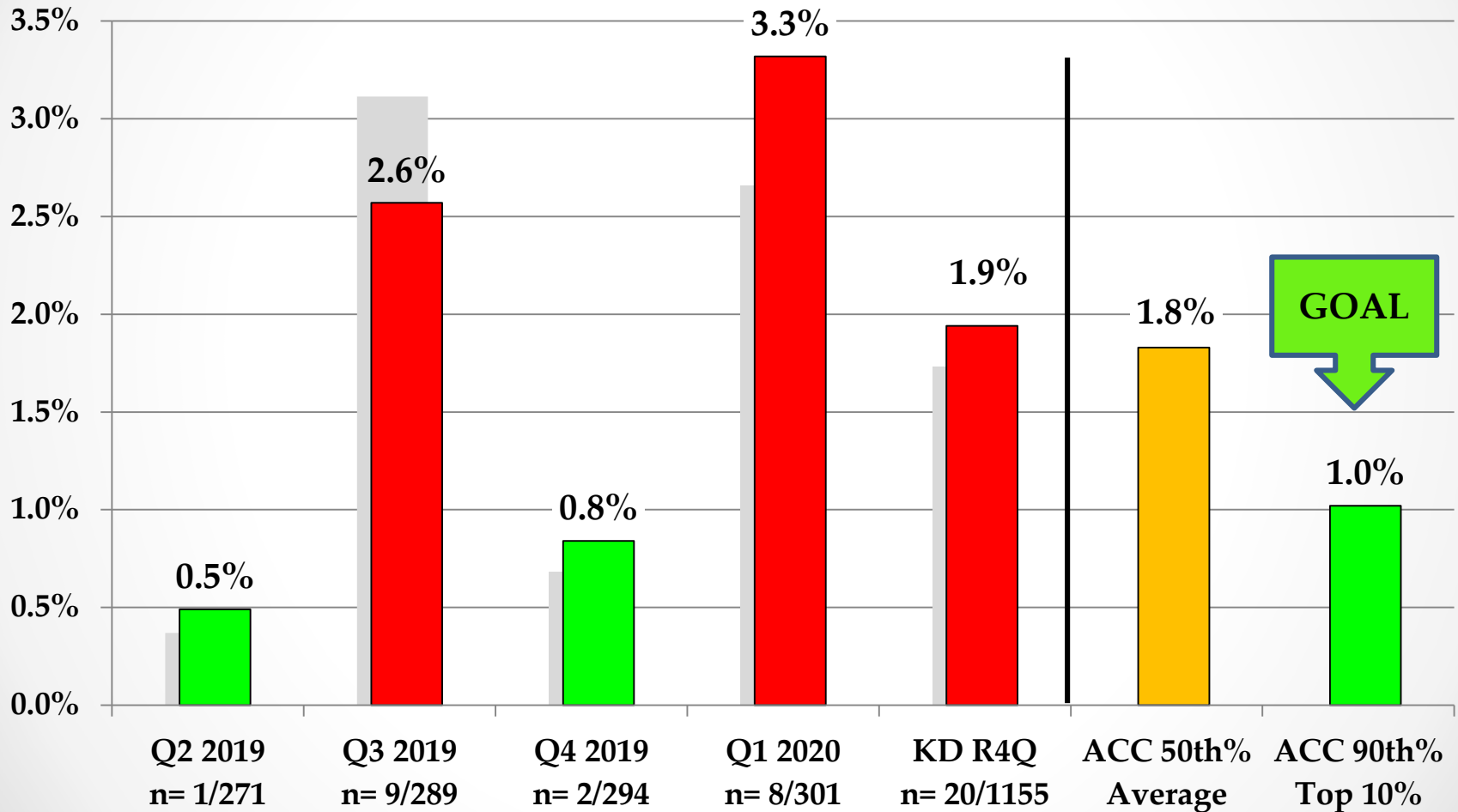
Red = Worse than National Average

Gray = Non-Risk Adjusted Value (for Reference only)

*Comparison reporting period 04/01/19 through 03/31/20

PCI In-Hospital Mortality Rate¹

Risk Adjusted^{InColor} (All patients)



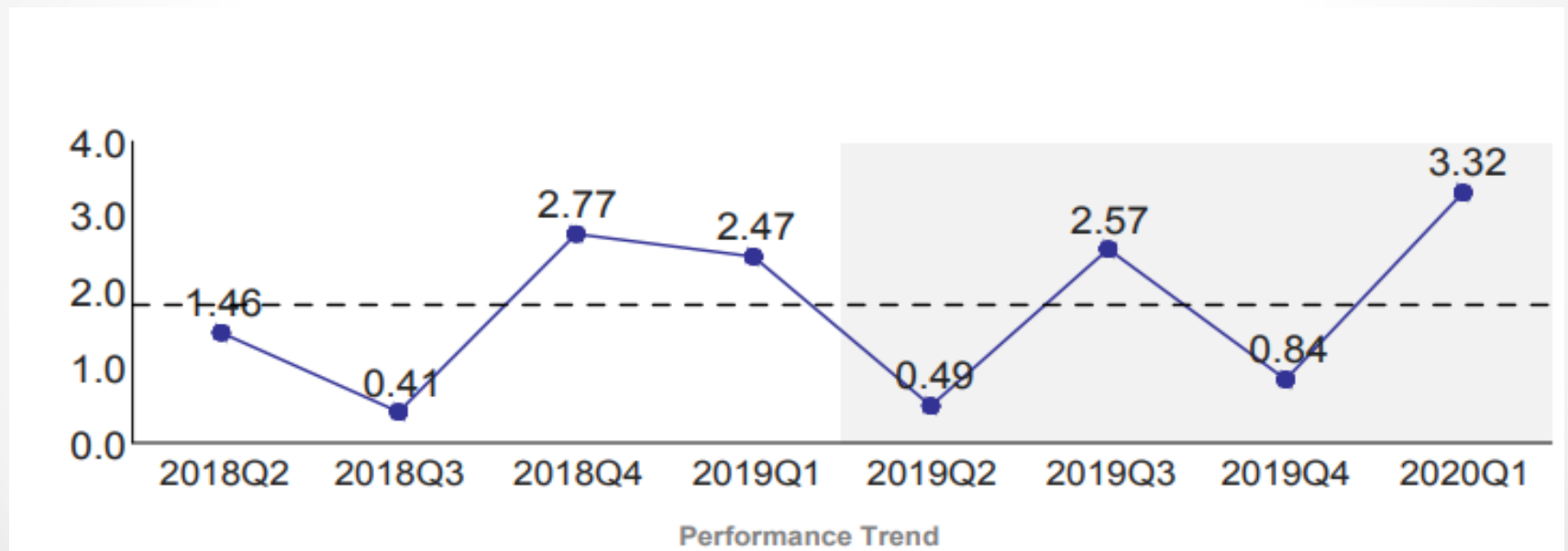
R4Q O/E = 1.03

¹ PCI in-hospital mortality rate for all patients, risk adjusted. Exclusions include patients with a discharge location of "other acute care hospital." (ref: 4739)

*Comparison reporting period is 04/01/19 through 03/31/20

PCI In-Hospital Mortality Rate¹ Risk Adjusted (All patients)

- TWO-YEAR TRENDING

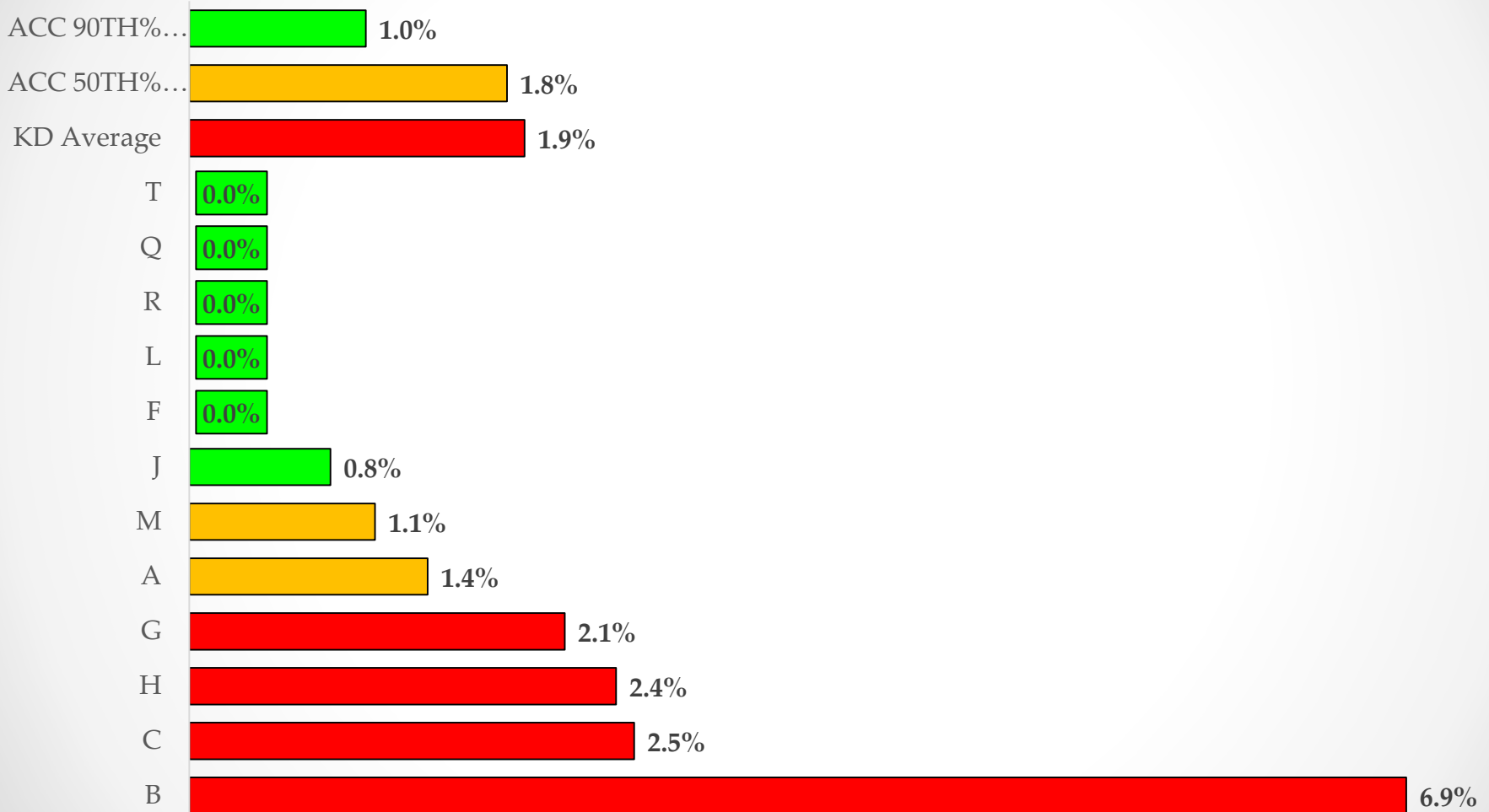


R4Q O/E = 1.03

¹ PCI in-hospital mortality rate for all patients, risk adjusted. Exclusions include patients with a discharge location of "other acute care hospital." (O/E ref: 4748)

PCI Mortality¹ Rate by Physician

ALL PATIENTS - ROLLING 4 QUARTERS (Q2 2019 – Q1 2020*)

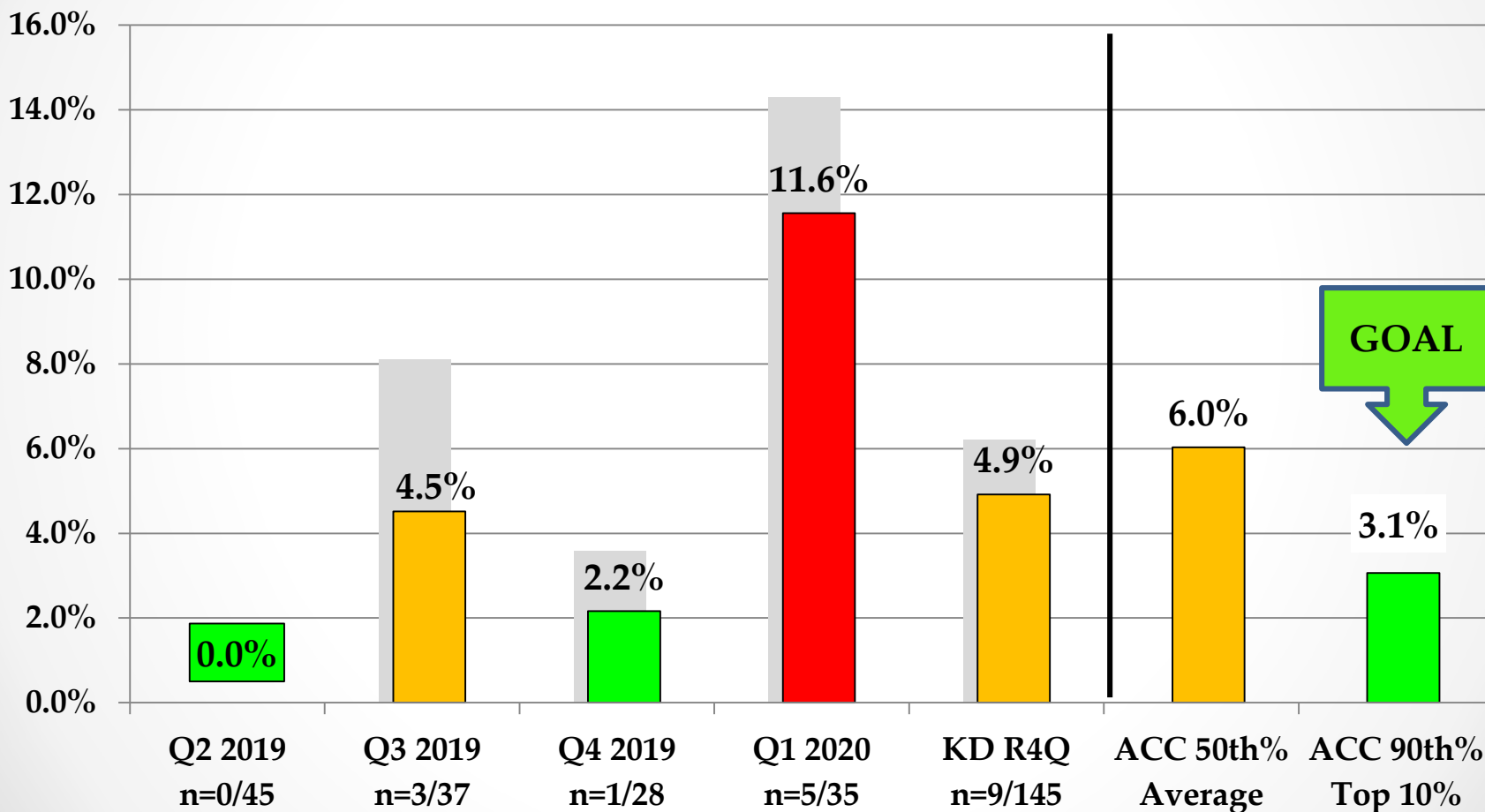


¹ PCI in-hospital mortality rate for all patients for that MD. Exclusions include patients with a discharge location of “other acute care hospital.” (ref: NCDR/ACC Physician Dashboard)

*Comparison reporting period is 04/01/19 through 03/31/20 - Raw DATA all Quarters

PCI In-Hospital Mortality Rate¹

Risk Adjusted In Color (STEMI patients)



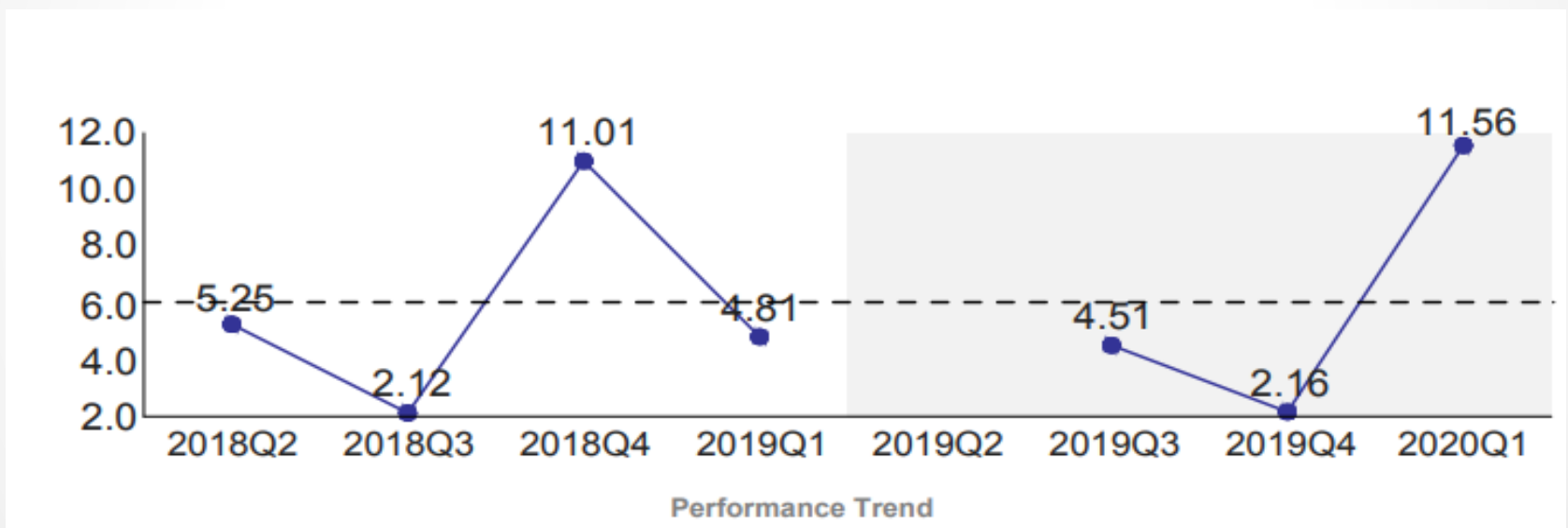
R4Q O/E = 0.78

¹ PCI in-hospital mortality rate for STEMI Pt.'s. (ref: 4740)

*Comparison reporting period 04/01/19 through 03/31/20 59/114

PCI In-Hospital Mortality Rate¹ Risk Adjusted (STEMI patients)

- TWO-YEAR TRENDING

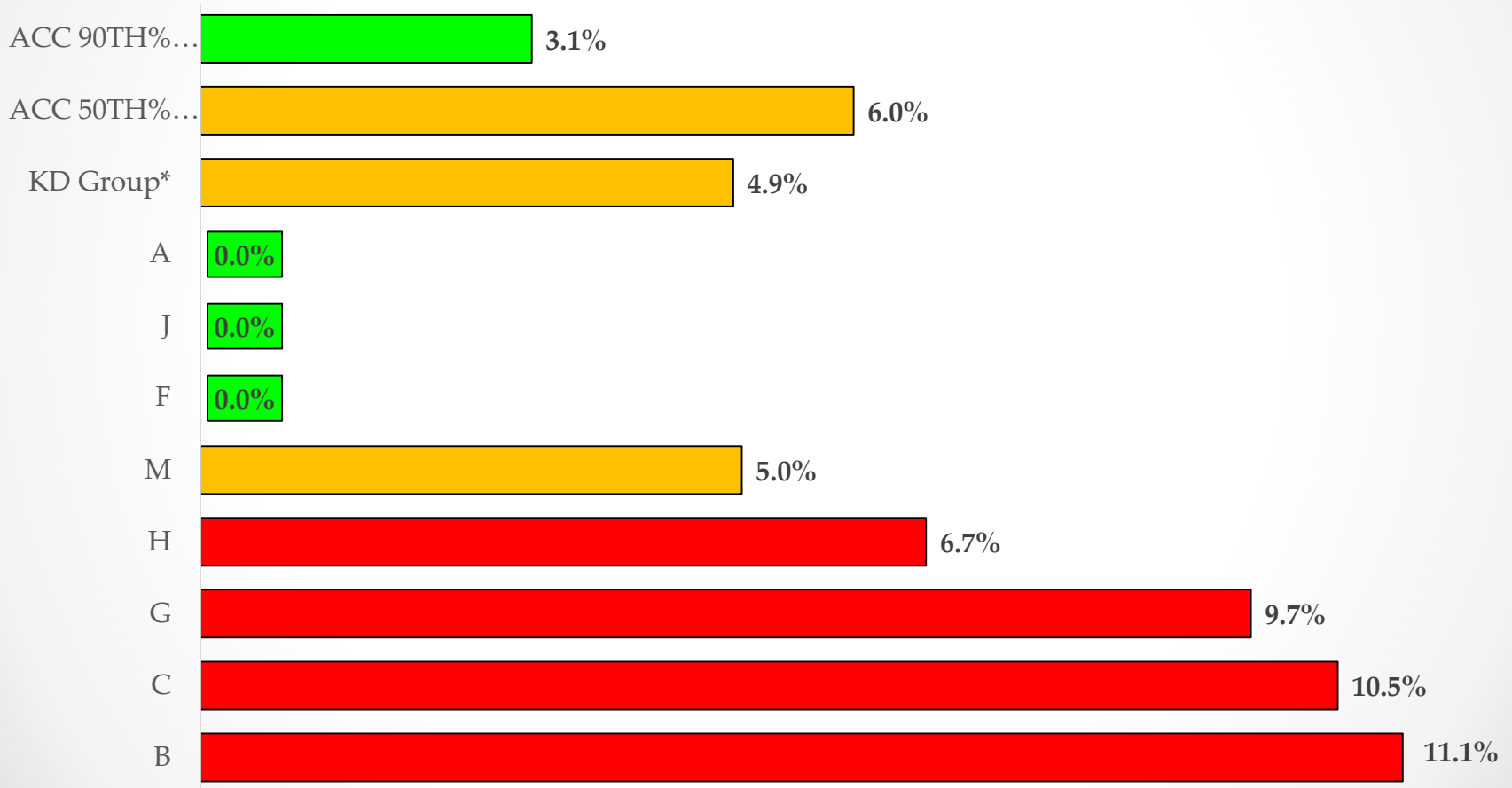


R4Q O/E = 0.78

¹ PCI in-hospital mortality rate for STEMI Pt.'s. (O/E ref: 4749)

PCI Mortality¹ Rate by Physician

STEMI PATIENTS - ROLLING 4 QUARTERS (Q2 2019 – Q1 2020*)

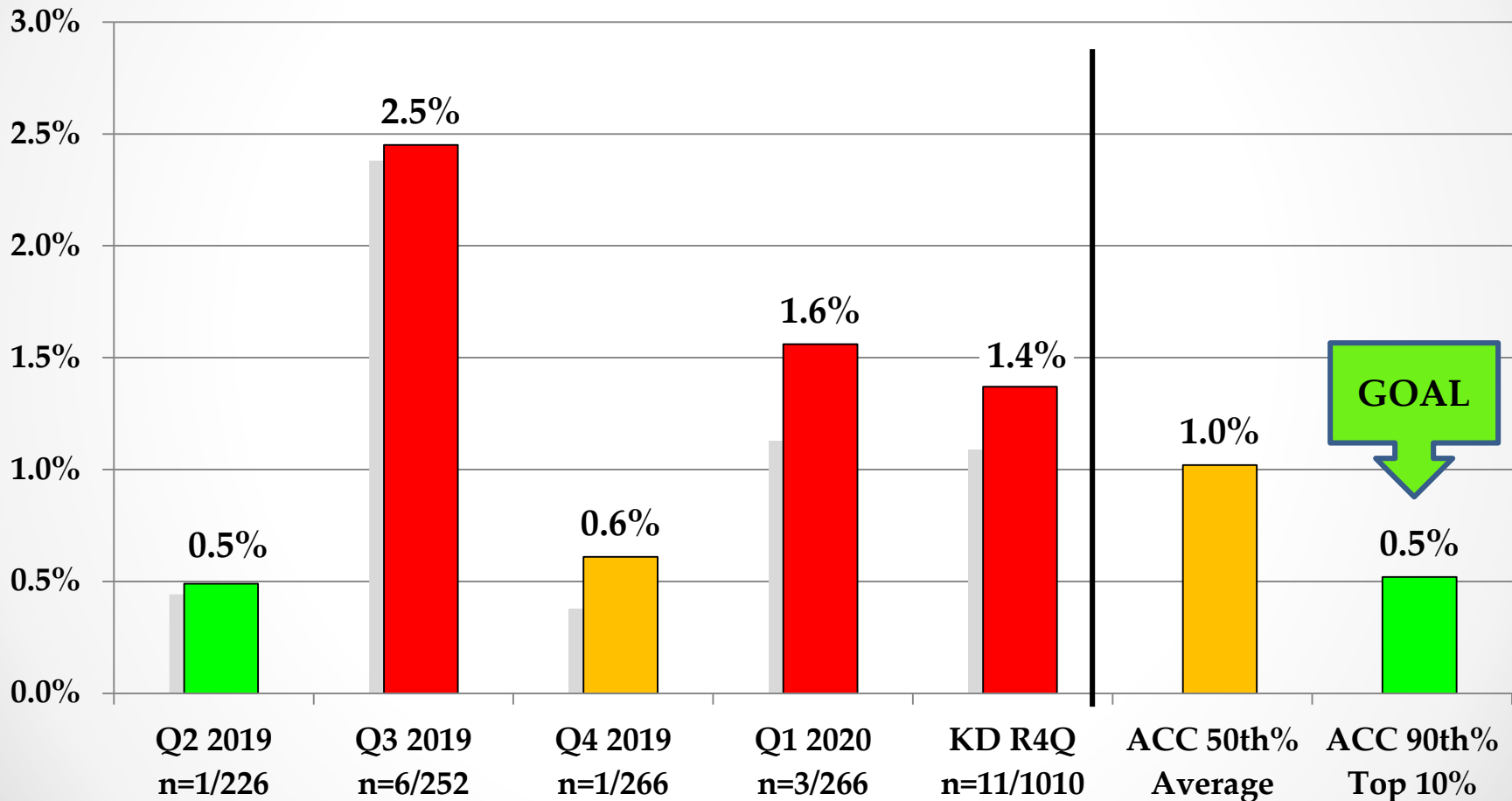


¹ PCI in-hospital mortality rate for STEMI patients for that MD. Exclusions include patients with a discharge location of "other acute care hospital." (ref: NCDR/ACC Physician Dashboard)

*Comparison reporting period is 04/01/19 through 03/31/20 - Raw DATA all Quarters

PCI In-Hospital Mortality Rate¹

Risk Adjusted^{InColor} (NSTEMI, unstable angina, electives)



R4Q O/E = 1.39

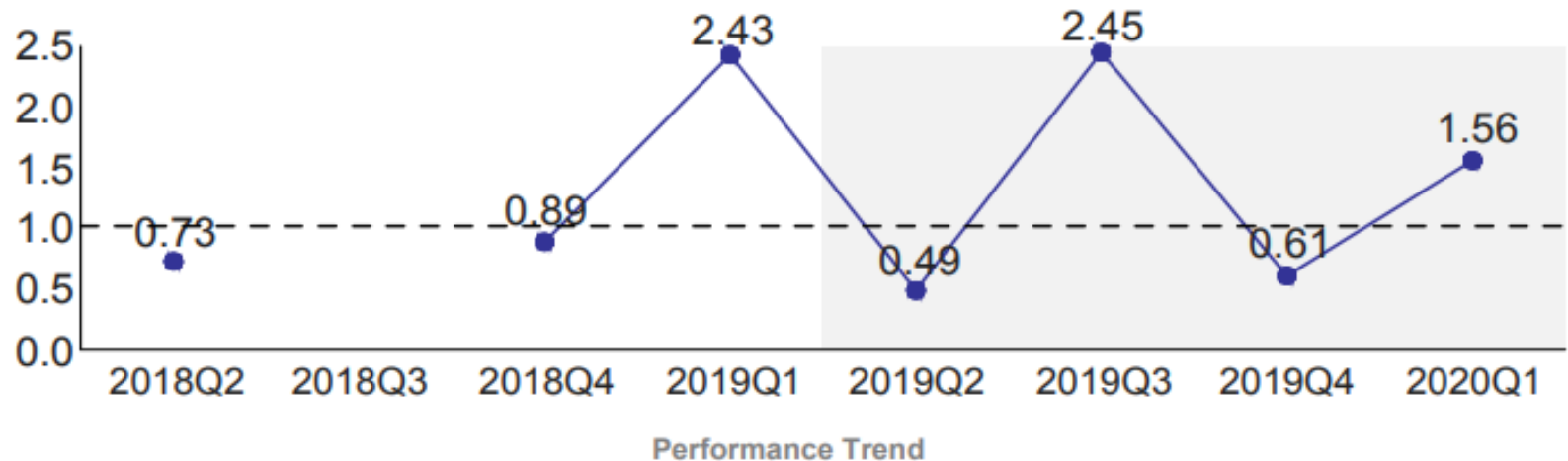
¹ PCI in-hospital mortality rate for all patients Excluding STEMI. Exclusions include patients with a discharge location of "other acute care hospital." (ref: 4741)

*Comparison reporting period is 04/01/19 through 03/31/20

PCI In-Hospital Mortality Rate¹

Risk Adjusted (NSTEMI, unstable angina, electives)

- TWO-YEAR TRENDING

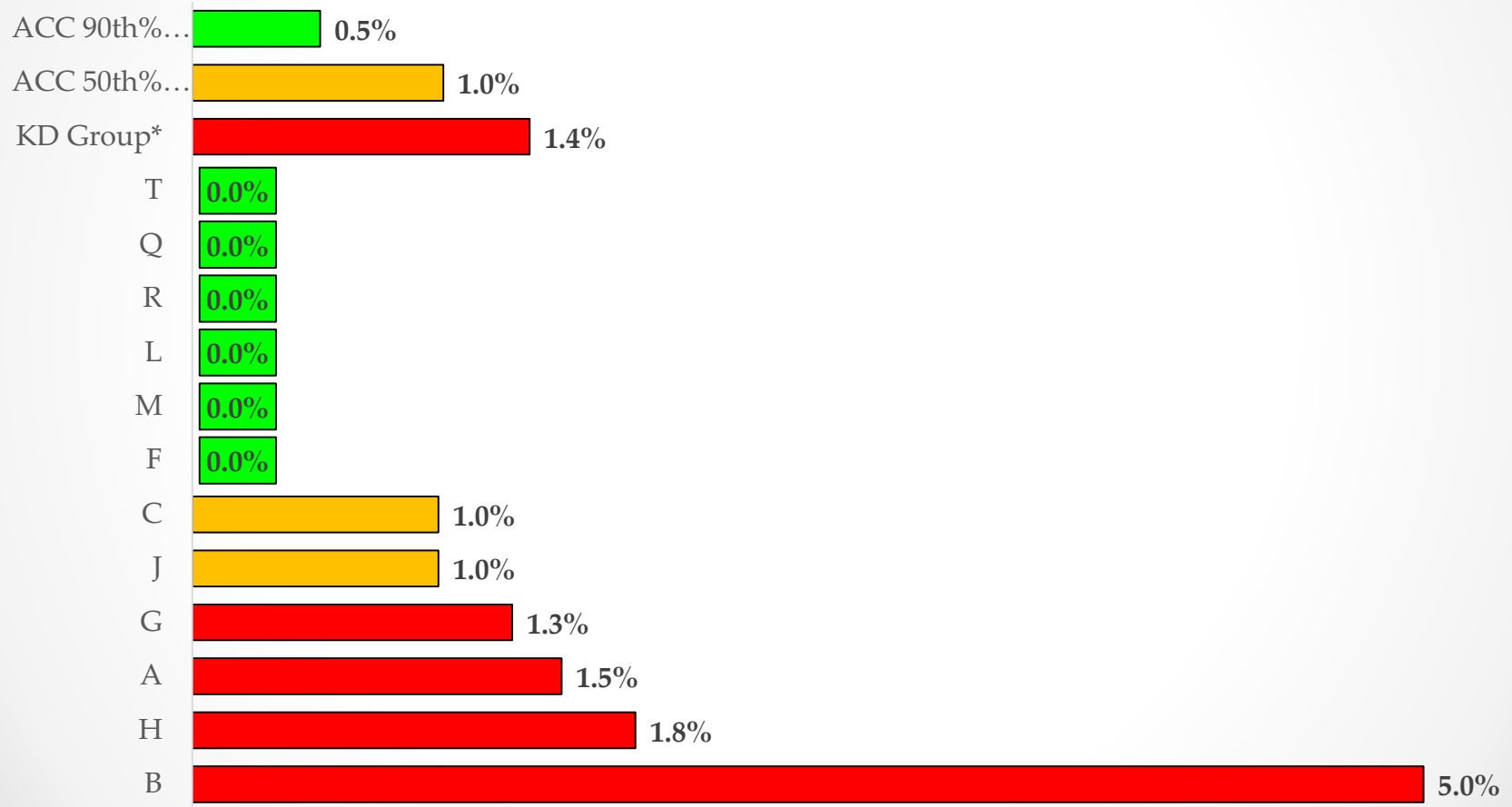


R4Q O/E = 1.39

¹ PCI in-hospital mortality rate for all patients Excluding STEMI. Exclusions include patients with a discharge location of "other acute care hospital." (O/E ref: 4750)

PCI Mortality¹ Rate by Physician

N-STEMI, USA, ELECTIVE PATIENTS - ROLLING 4 QUARTERS (Q2 2019 – Q1 2020*)



¹ PCI in-hospital mortality rate for N-STEMI, USA, Elective patients for that MD. Exclusions include patients with a discharge location of "other acute care hospital." (ref: NCDR/ACC Physician Dashboard)

*Comparison reporting period is 04/01/19 through 03/31/20 - Raw DATA all Quarters

STEMI Triage Guidelines

Thoughtful Pause

- Should go to CVICU First, not the Cath Lab
 - Cardiac Arrest with CPR \geq 20 minutes and un/minimally responsive
 - Cardiogenic Shock, age \geq 80
 - STEMI \geq 24 hours without Chest Pain
 - Excess risk of bleeding (e.g. active internal bleed, ICH < 3 mos, Hct < 22, PLT < 30K)
 - Altered Mental Status
 - Apparent sepsis or other conditions (other than pure cardiogenic shock) that would markedly increase the risk of dying within 30 days
 - Pre-existing DNR / No Code Status
- ❖ Consider lytic agents for symptoms < 3 hours, anticipated DTB time > 120 minutes and low risk of bleeding
- ❖ These are intended as guidelines, not to supersede clinical judgement

Adopted from The Cleveland Clinic Heart Institute: Triage Guidelines for STEMI patients.

Predicted Mortality Risk Factors

- STEMI
- Age >70
- BMI
- Cerebral Vasc. Disease
- Peripheral Vasc. Disease
- Chronic Lung Disease
- Previous PCI
- NIDDM
- IDDM
- GFR
- Renal Failure / Dialysis
- Ejection Fraction
- Cardiogenic Shock
- NYHA Class I/II/III
- NYHA Class IV
- Cardiac Arrest
- Thrombosis w/in 1 month
- PCI of Prox LAD
- PCI of LM
- ≥ 2 VD
- Total Chronic Occlusion

*Risk Factors taken from the American College of Cardiology inclusion list for their Risk Model for Predicted Mortality: version 4.4

Quality Initiative:

Treatment Algorithm for Invasive Cardiac Procedures

- Targeted Temperature Management
 - Immediate hypothermia measures to be implemented on cardiac arrest patients
- 12-Lead ECG must be done within 10 minutes of arrival to hospital
- ACT initiated – (Do not delay cooling measures)
 - Assessment for unfavorable resuscitation features
 - Consultation between ED, Critical Care and Cardiology physicians
 - Transport to CathLab urgently when consensus reached

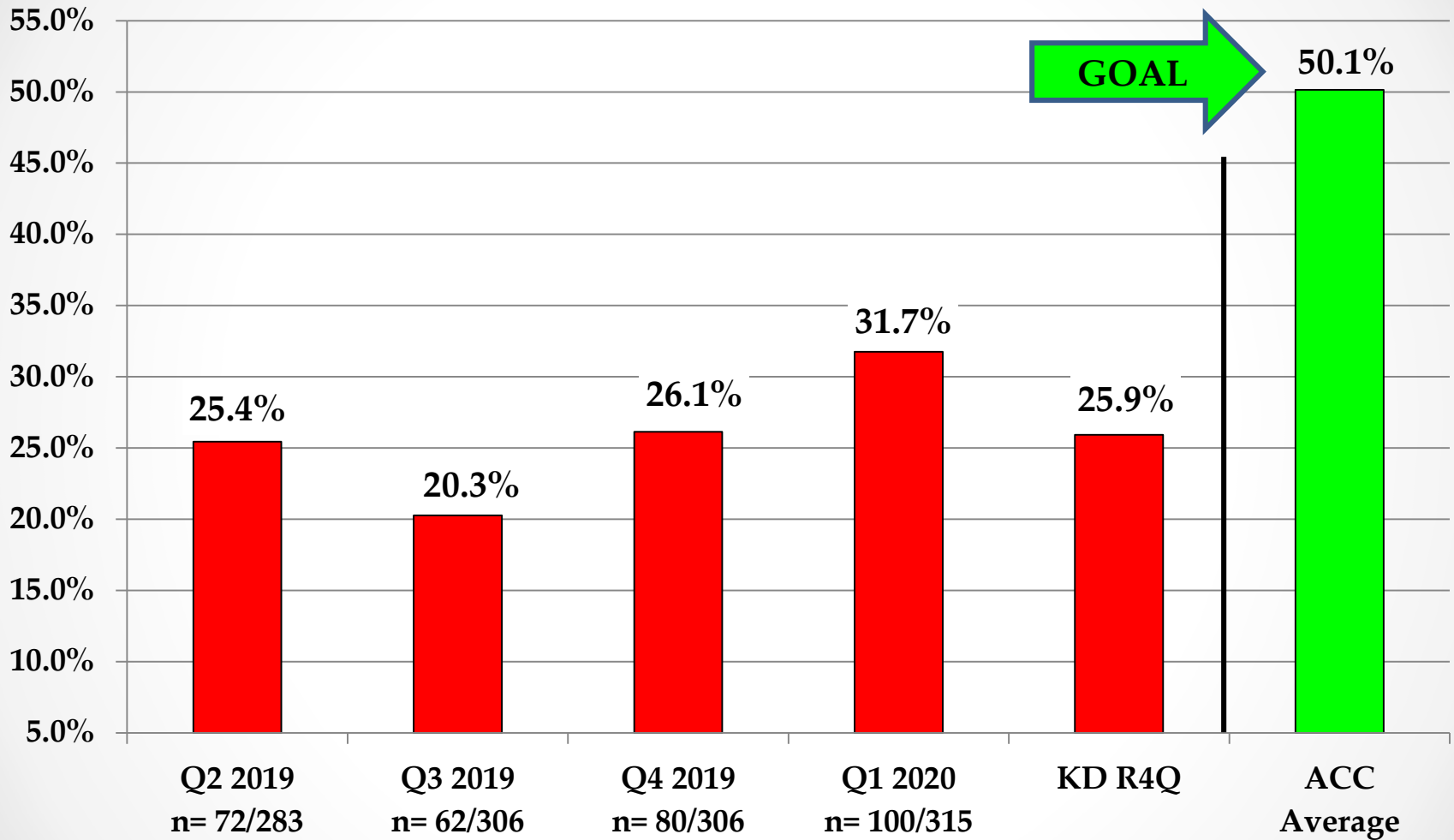
Quality Initiative: Vitaly Important Steps

- Physician collaboration & coordination between departments is required
- Cardiologist must participate in all thoughtful pause discussions
- ED physician and Cardiologist will consult with an Intensivist as needed for difficult cases
- Intensivist will respond to the ED for thoughtful pauses as requested
- Thoughtful pause must be documented in patient's EMR by a physician
- ED staff will transport patients to the Cath Lab for Cardiac Alerts after hours with the Cath Lab RN
- Families must be given aggressive treatment options with their corresponding prognosis or futility
- Honest communication between all parties required to maintain transparency and trust

Ethical Issues pertinent to care

- Ethical issues are unavoidable in the care of critically ill patients but we must maximize the ethical decision-making regarding angiography and PCI in these patient populations
 - Clinical judgments of the multidisciplinary physicians must be observed whenever possible
 - Diagnostic tools and data must be readily available for discussion in real time so that decisions can be made
 - Additional research into emerging data on this topic and diagnostic tools to keep our patients receiving state of the art care
 - Transparent discussions at the practice and policy making levels about what characterizes appropriate or futile care
 - Assessing patient wishes, respecting DNR and advanced directives even in times of family crisis and proxy decision makers
 - ***Lastly and importantly, a frank and honest discussion with families as to what is futile care***

PCI Radial Artery Access



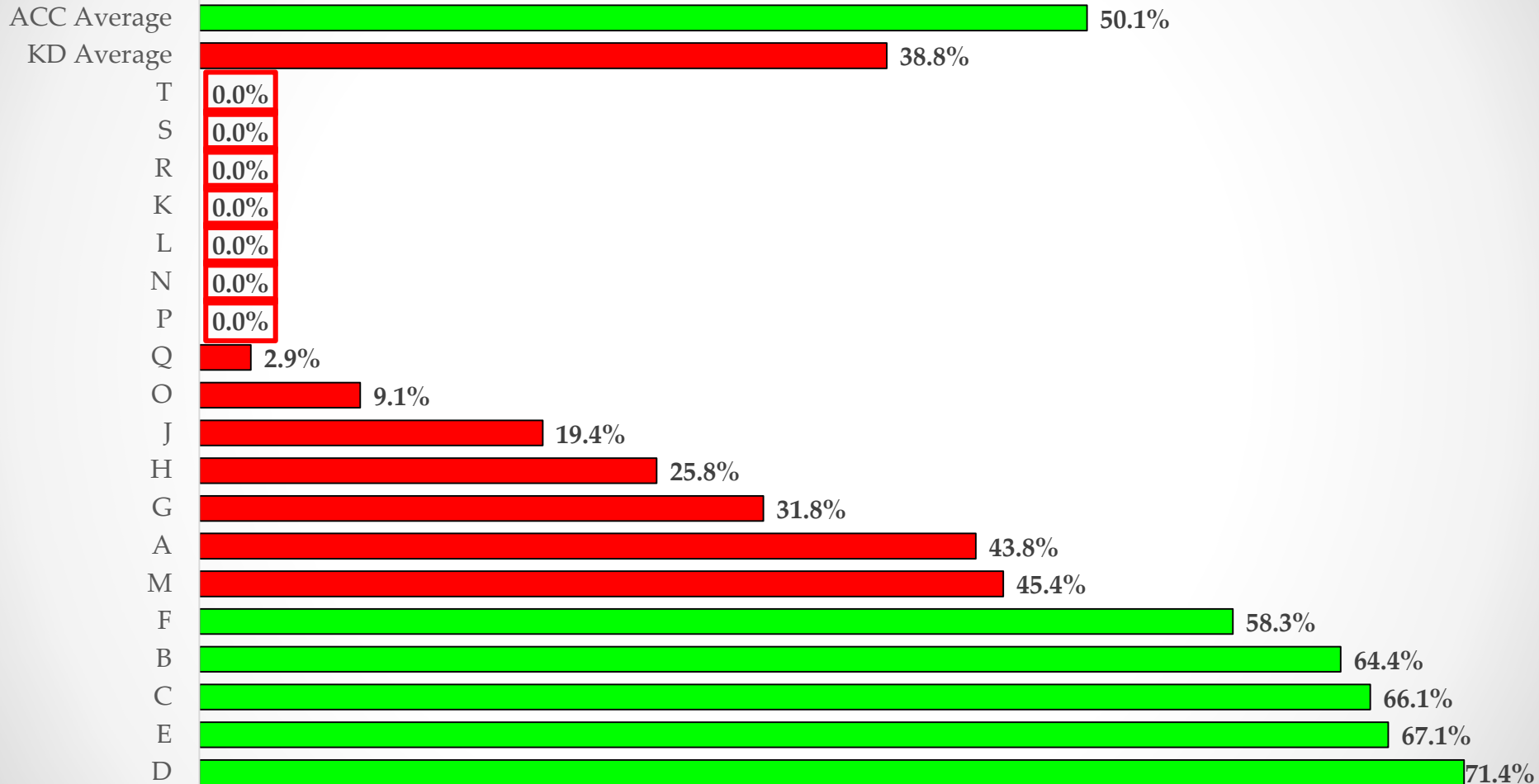
R4Q O/E = 0.5

PCI Procedures - Arterial Access Site equaling "Radial", no exclusions (ref: 4163)

*Comparison (ACC Average) reporting period is 04/01/19 through 03/31/20

All Caths Radial Artery Use¹ by Physician

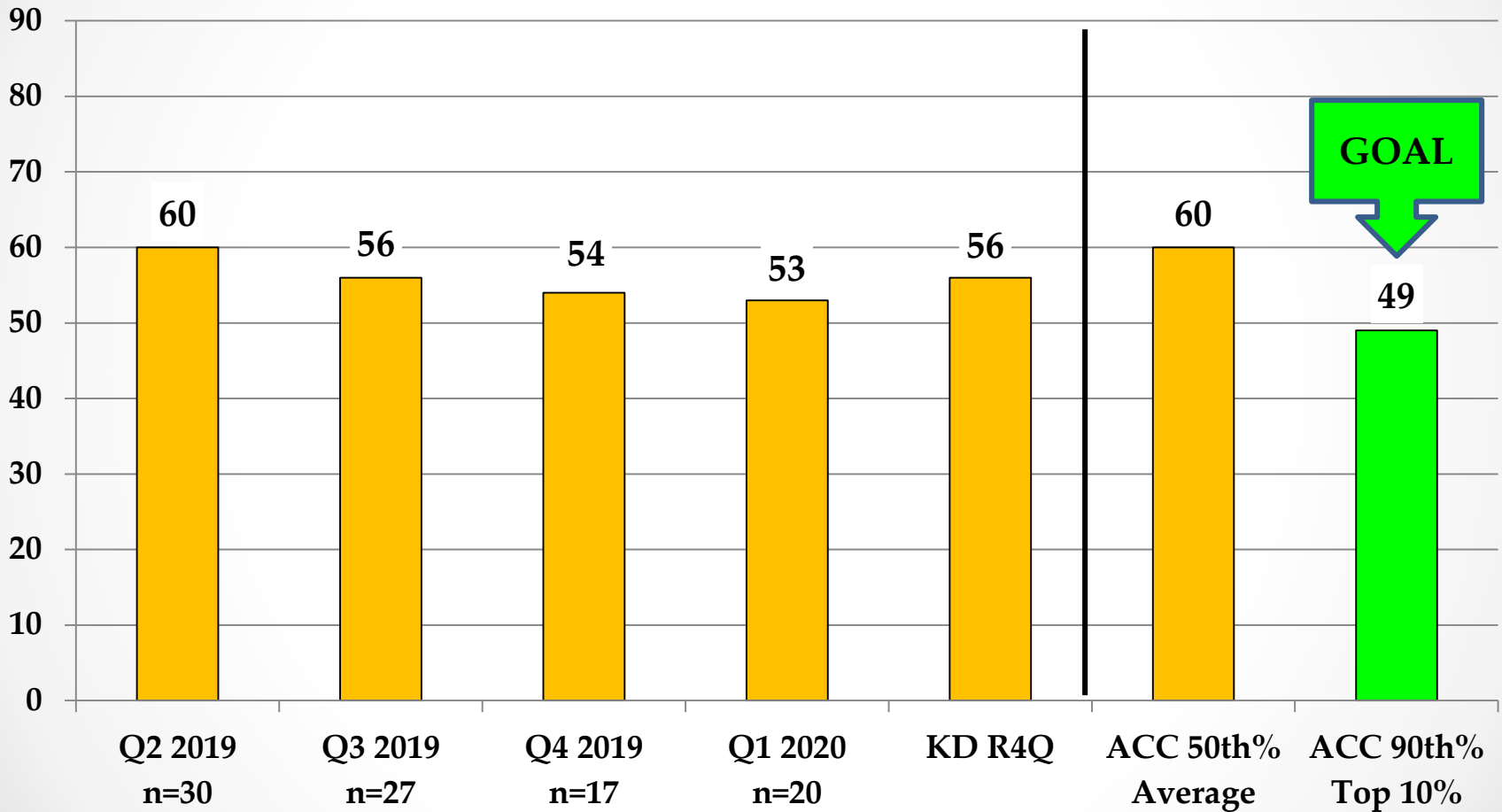
ROLLING 4 QUARTERS (Q2 2019 – Q1 2020*)



¹ PCI & Diagnostic Cardiac Catheterization Procedures - Arterial Access Site equaling "Radial" for all patients for that MD. No Exclusions; Pt.'s with an aborted Radial attempt included in denominator (ref: SENSIS Statistical Manager)

*Comparison (ACC Average) reporting period is 04/01/19 through 03/31/20 –RAW DATA all quarters

Immediate PCI for STEMI (in minutes)¹

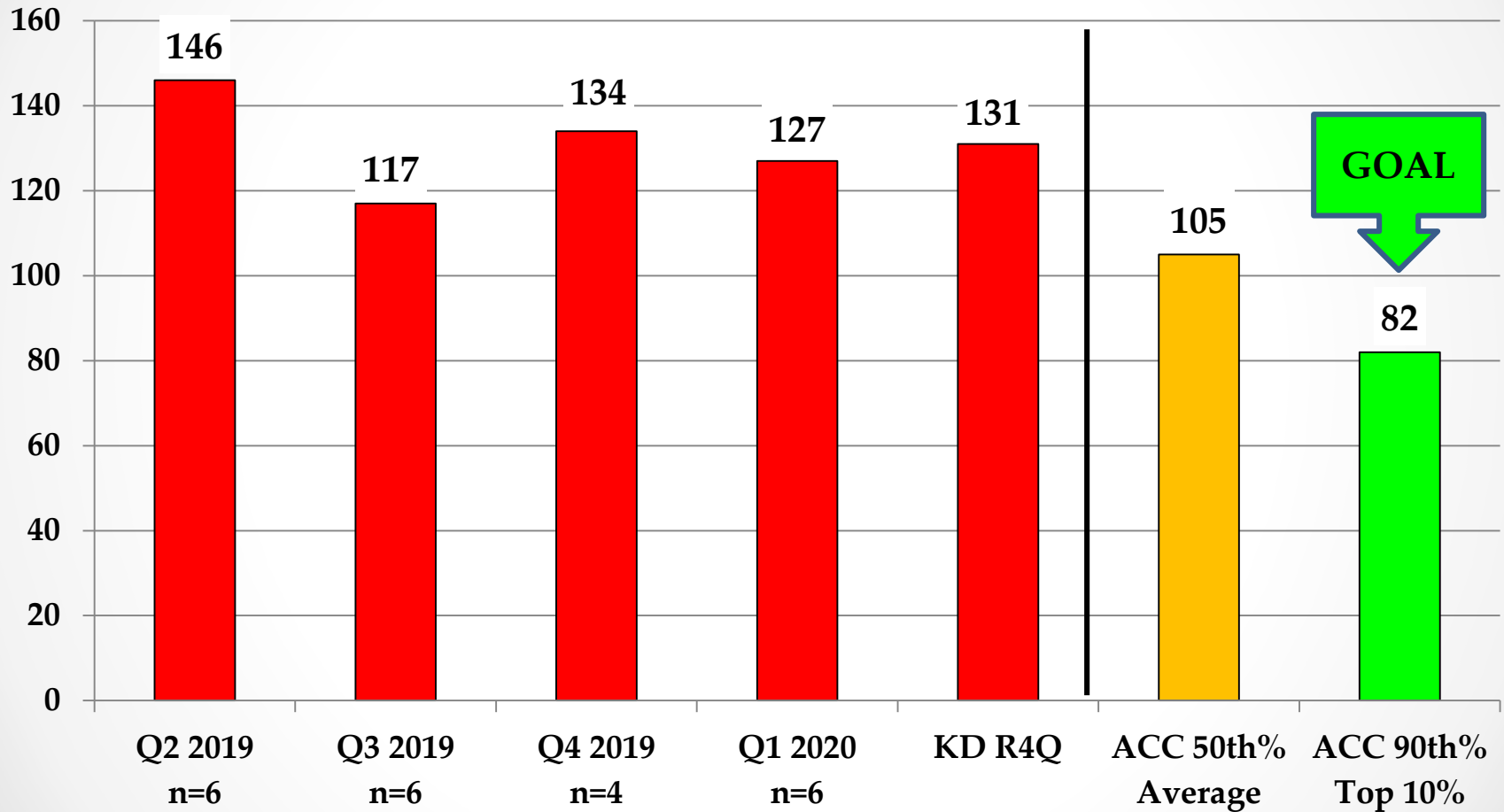


R4Q O/E = 0.9

¹ Median time frame from hospital arrival to immediate PCI for STEMI pts in minutes. Exclusions: Patients transferred in from another acute care facility; Reasons for delay does not equal none. (ref:4448)

*Comparison reporting period is 04/01/19 through 03/31/20 72/114

Immediate PCI for STEMI Transfers (in minutes)¹



R4Q O/E = 1.2

¹ Median time from ED arrival at STEMI transferring facility to immediate PCI at STEMI receiving facility among transferred patients (excluding reason for delays); Reasons for delay does not equal none. (ref:4452)

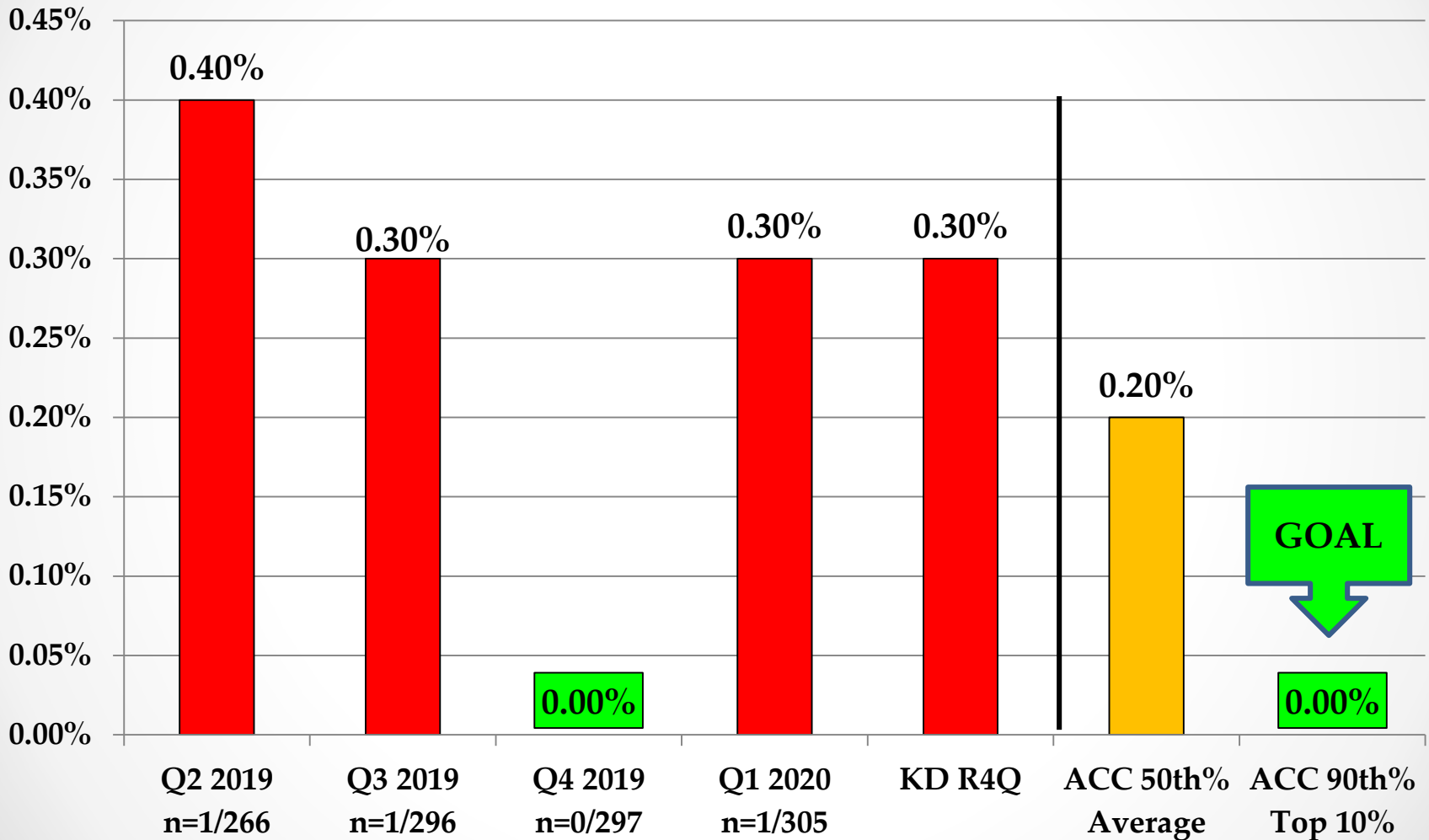
*Comparison reporting period is 04/01/19 through 03/31/20 73/114

Quality Initiative:

Best Practice in Door to Balloon

- ED staff and CathLab RN to bring patients to Cath Lab in Cardiac Alerts after 9:00pm
- Cardiac Alerts to be called at the time of leaving transferring hospitals
- ED EKG to be placed in EMR or Tracemaster
- Cath Lab on call crew response time of 20 minutes
- Fallouts are reviewed promptly and in every case
- Cardiac Alerts called within 10 minutes of ED arrival unless Thoughtful Pause is documented in the EMR

Stroke Post PCI¹



R4Q O/E = 1.3

¹ Exclusions: Patients with an Intervention this admission (Surgery, EP, Other); Pt's discharged to *Other Acute Care Facility*
 (ref: 4235) *Comparison reporting period is 04/01/19 through 03/31/20

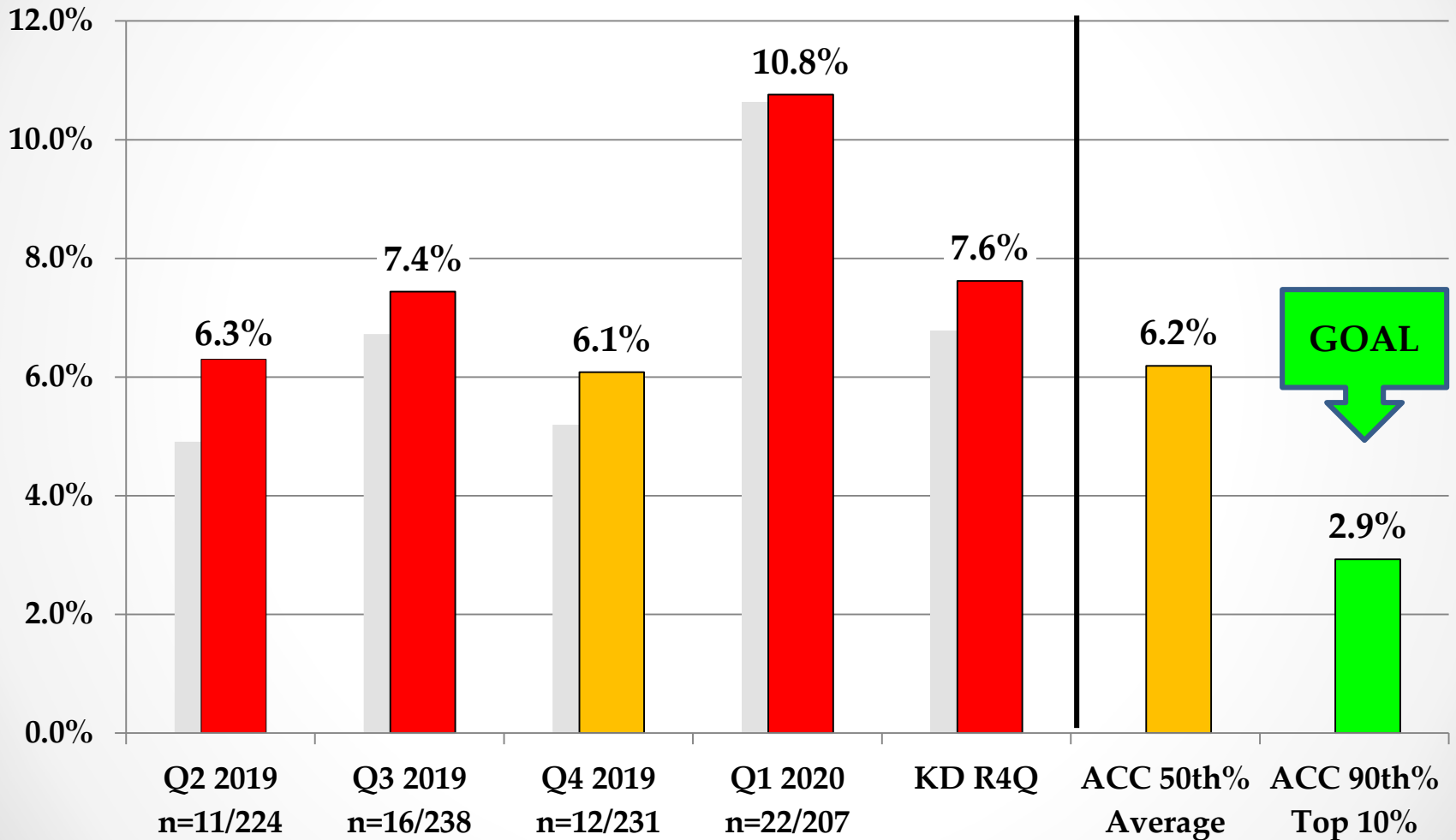
Quality Initiative:

Stroke Recognition and Treatment

- Assess Stroke Risk factors in PCI for each patient
 - Age, gender, history of CVA, End Stage Renal Disease, Diabetes, Hypertension, Peripheral Vascular Disease, Smoking, Congestive Heart Failure, Atrial Fibrillation, CABG surgery or emergent PCI
- Rapid recognition of stroke symptoms in Cath Lab
- Use of the clear protocol for recognition and interventions will facilitate efficient care in the unlikely event of a stroke in Cath Lab

Acute Kidney Injury¹ Post PCI

Risk Adjusted^{InColor}



R4Q O/E = 1.11

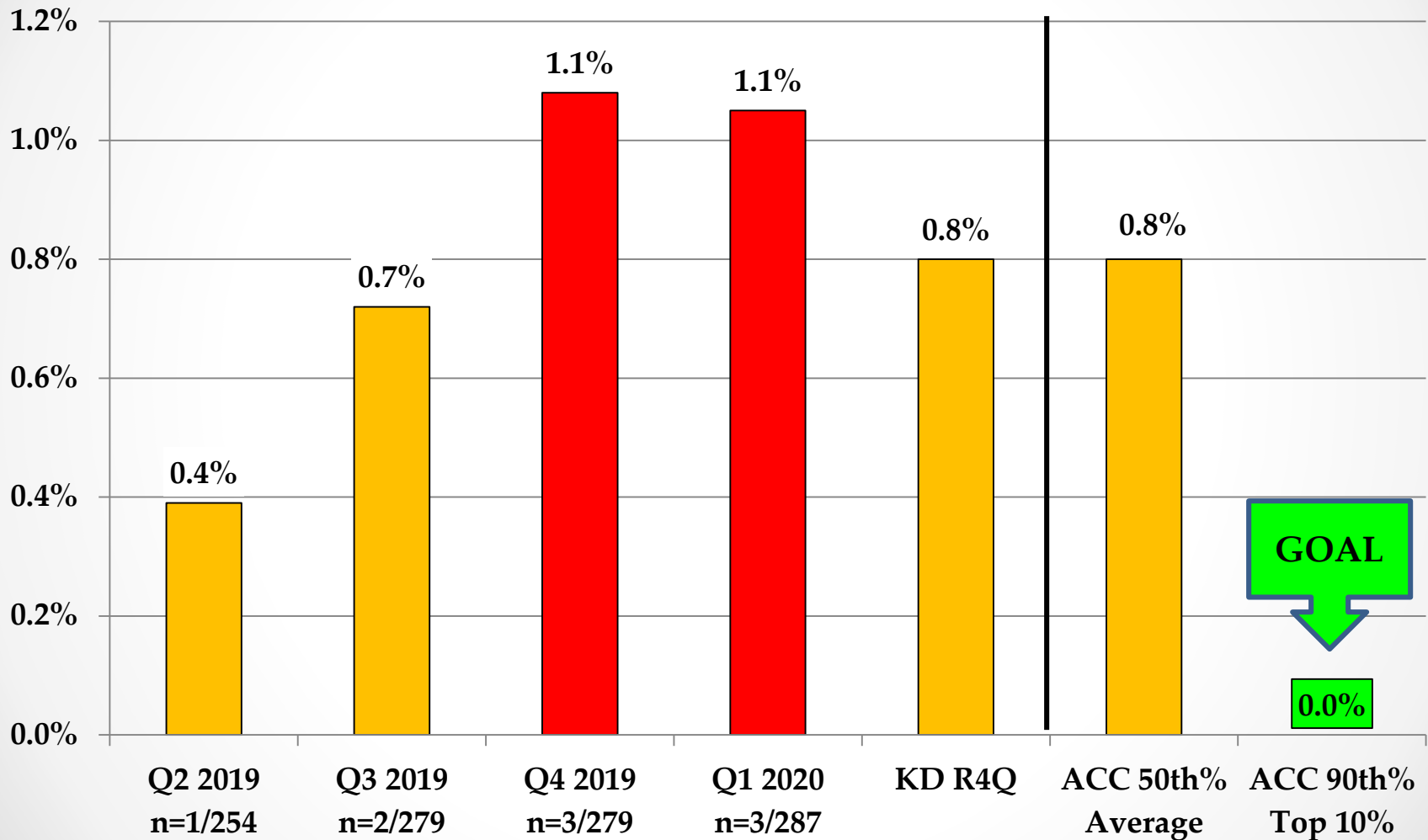
¹ Proportion of pt's with a rise of serum creatinine of > 50% or ≥ 0.3 mg/dL over the pre-procedure baseline; all pt's w/ New Requirement for Dialysis. Exclusions: pt's on dialysis pre-procedure; pt's second PCI within this episode of care; same day discharges. (ref: 4882; O/E ref: 4881) *Comparison reporting period is 04/01/19 through 03/31/20

Quality Initiative:

Contrast Induced Nephropathy

- Renal impairment = estimated glomerular filtration rate \leq 60mL/min
- Hydration Needs
 - Pre procedure: Normal Saline 3mL/kg/hr for 3-12 hours prior
 - 80 kg (180 lbs) = 240mL / Hr
 - Intra procedure:
 - LVEDP <18 \rightarrow NS 500 mL/hr for 4 hours
 - LVEDP >19 \rightarrow NS 250 mL/hr for 4 hours
 - Post procedure: Normal Saline 3mL/kg/hr for 6-24 hours
- For outpatients with CKD, oral hydration should be considered and encouraged the day before arrival. Intravenous hydration should be started on admission, and continued post cath, according to physician recommendations.
- Post procedure labs must be ordered
- Metabolic panel ordered one day post procedure
- Track and Report contrast utilization for Diagnostic and Interventional procedures

Transfusion Post-PCI of RBCs¹



R4Q O/E = 1.1

¹ Proportion of 9 who receive a transfusion of whole blood or RBCs during or after, but within 72 hours of PCI procedure.

Exclusions: Patients on dialysis; EP study or CABG or other major surgery during the same admission; Pt.'s with a pre-procedure hemoglobin <8g/dL or no value. (ref: 4288) *Comparison reporting period is 04/01/19 through 03/31/20

APPROPRIATE USE OF RED BLOOD CELLS

- A. Pre-transfusion hematocrit of less than 24% or hemoglobin less than 8 grams/dl.

- B. Transfusion may be administered when hemoglobin levels are 8-10 grams/dl in the following circumstances:
 - 1. Acute Blood Loss/Active Bleed
 - 2. Presence of Symptomatic Anemia
 - 3. HGB <9 w/ Chemotherapy
 - 4. HGB <10 w/ Radiation Treatment

Quality Initiative:

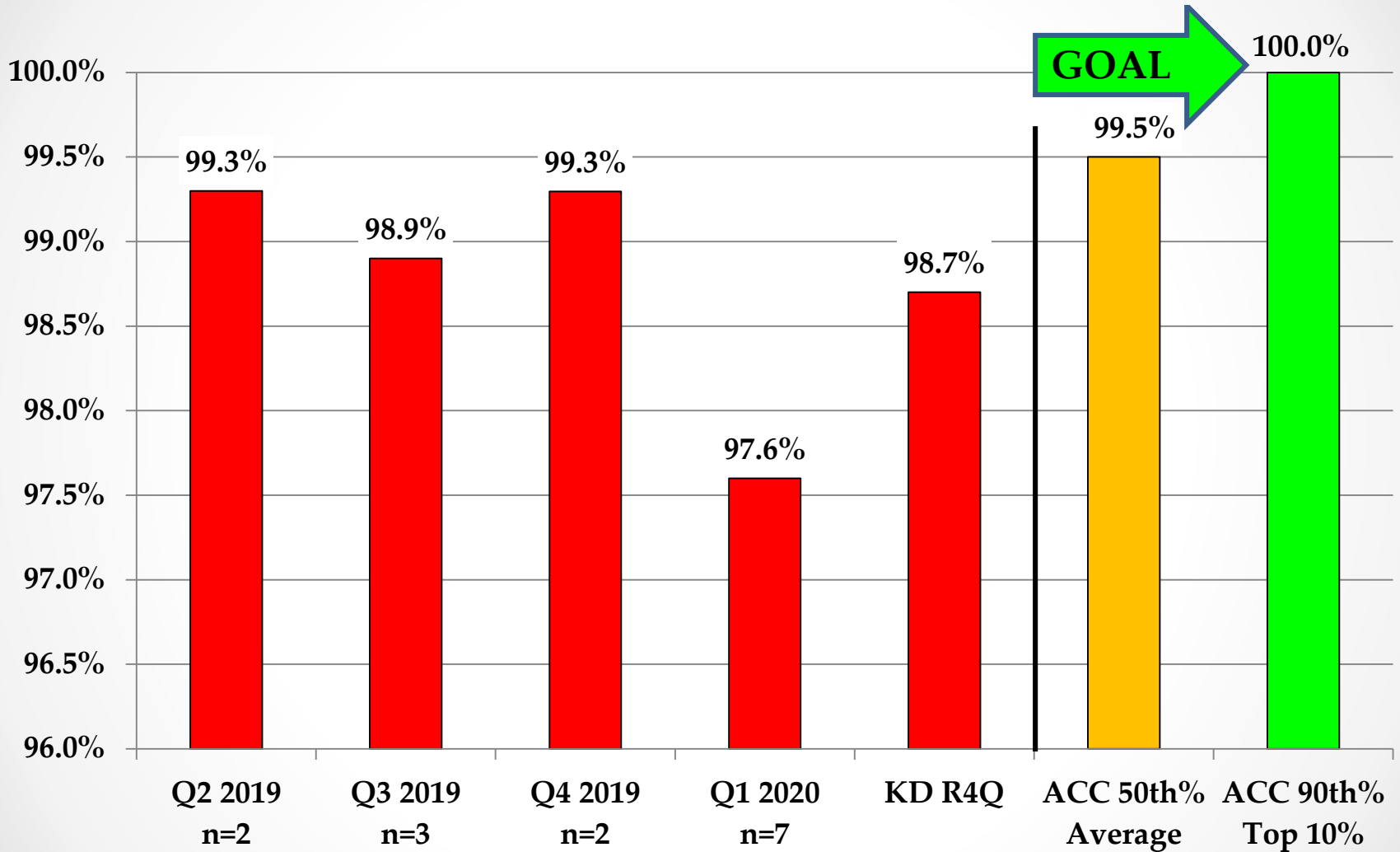
Bleeding Protocol

- Bleeding Avoidance Strategies (Risk Stratification)
 - Cath lab patients are now risk stratified
 - Low Risk Total Score of ≤ 7 points,
 - Medium Risk Total Score between 8-17 points
 - High Risk Total Score of ≥ 18 points
- Once score is known if patient is (High Risk)
 - Evaluate for short acting anticoagulant (Angiomax)
 - Evaluate quality of stick for sealant device deployment
 - High stick or Low stick, No sealant device
 - Admit patient to appropriate level of care (ICCU)

- Implemented best practice hemostasis management strategies standardized for Post Procedure Bleeding and Sheath Removal
 - Hemostasis management education program for early recognition of post procedure bleeds
 - Includes recognition of signs and symptoms of bleeding
 - Standardized communication
 - Communication between the procedure team and physician with emphasis on the quality of the groin stick and whether the use of sealant is used.
 - Bedside reporting between procedure team through the admitting nurse with emphasis on the vascular access site assessment
 - Manual sheath removal
 - Hold manual pressure minimum of 20 minutes
 - Frequent vital signs and distal pulse monitoring
 - Diligent vascular access site assessment
 - Assess Patient for pain
 - Vascular sealant device
 - Hold manual pressure minimum of 5 minutes
 - Frequent vital signs and distal pulse monitoring
 - Diligent vascular access site assessment
 - Assess patient for pain

- Implementation of mandatory hemostasis management education
 - Mandatory self study educational presentation using pre and post test evaluation testing. (Must be completed and passed)
 - Added to Nursing Unit Annual Competency
 - Added to core curriculum nursing education (Cardiac and CV ICU units)
 - 4 Tower, 2 North, 3 West, CVICU and ICU, CV ICCU.
 - Mock simulation of a post procedure bleeding patient is being done twice a year. Once in the skills lab and the other on the nurses home unit
- Utilize hemostat, with fluoroscopy to visualize location of femoral head, picture to be saved.
- Increase utilization of Radial Access to ACC average
- Utilize Ultrasound for vascular access

ASA Prescribed at DC¹

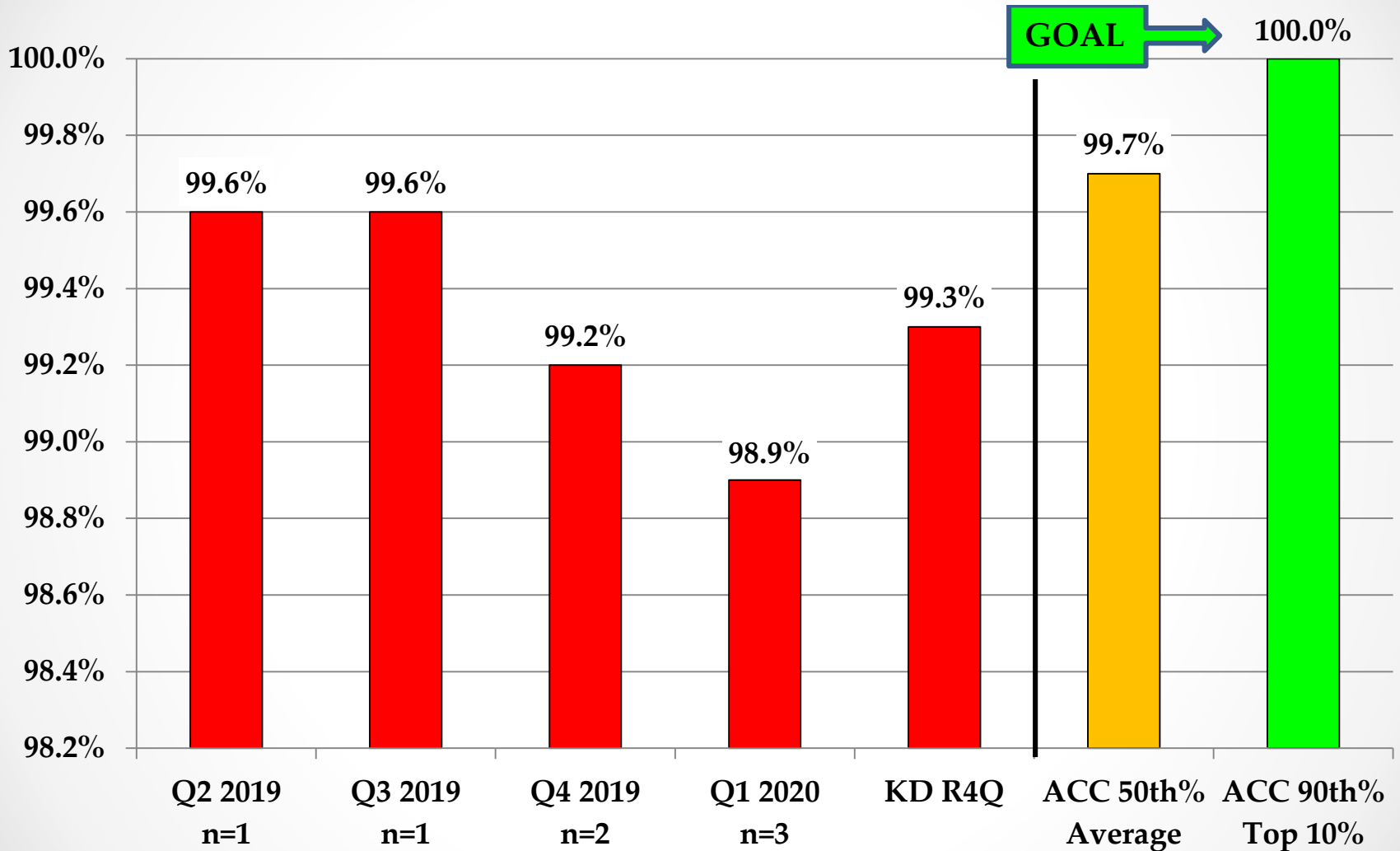


R4Q O/E = 1.0

¹ Proportion of pt.'s (without a documented contraindication) with a PCI attempted or performed that were prescribed aspirin at discharge. Exclusions: pt.'s that were discharged on Comfort Measures only; discharged to "Other acute care hospital", "Hospice", "Left against medical advice (AMA)" or deaths. (ref: 4702)

*Comparison reporting period is 04/01/19 through 03/31/20 84/114

P2Y12 Inhibitor Prescribed at DC¹

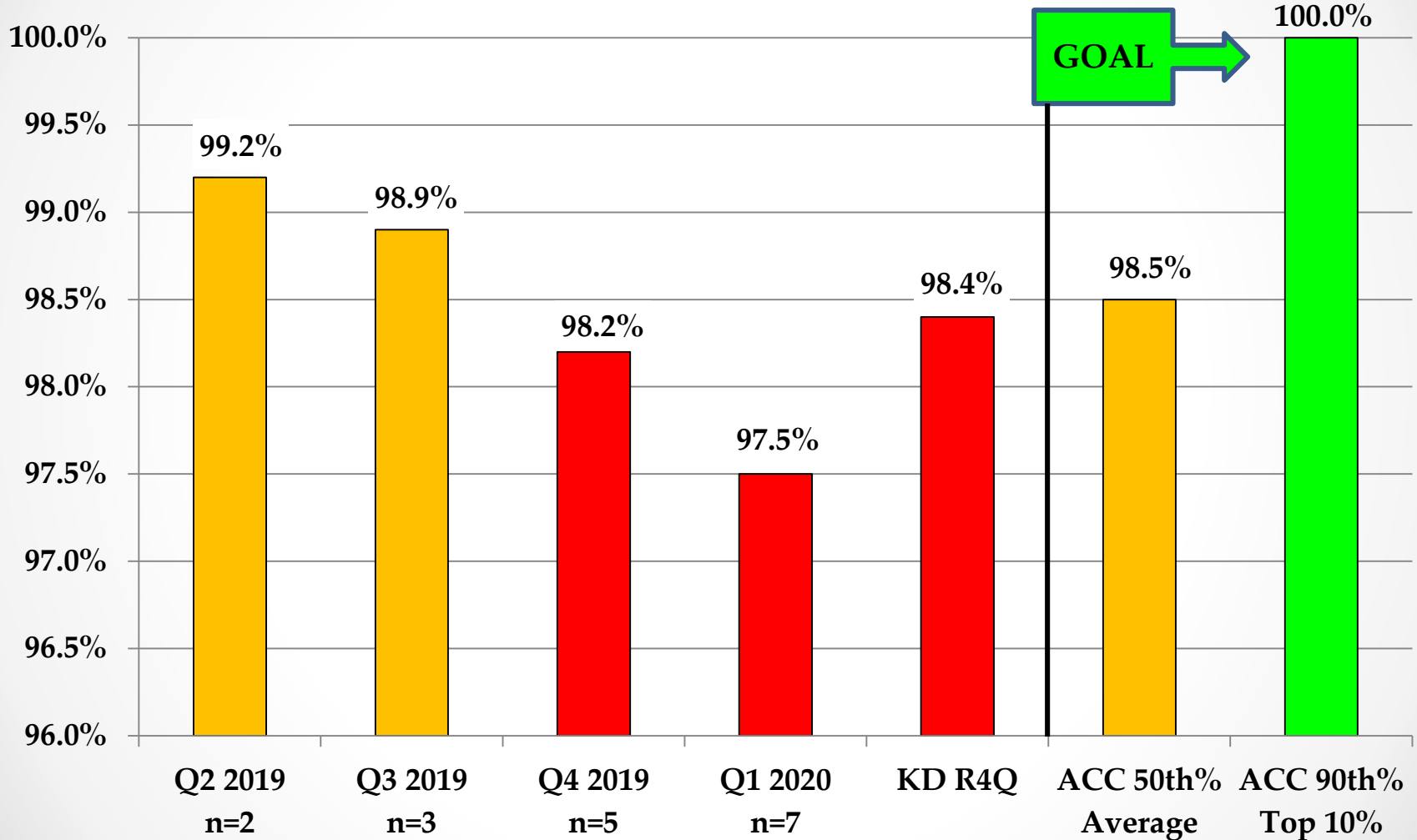


R4Q O/E = 1.0

¹ Proportion of pt.'s (without a documented contraindication) with a cardiac stent placed that were prescribed a thienopyridine/P2Y12 inhibitor at discharge. Exclusions: pt.'s that were discharged on Comfort Measures only; discharged to "Other acute care hospital", "Hospice", "Left against medical advice (AMA)" or deaths (ref: 4714)

*Comparison reporting period is 04/01/19 through 03/31/20

Statins Prescribed at DC¹



R4Q O/E = 1.0

¹ Proportion of pt.'s (without a documented contraindication) with a PCI attempted or performed that were prescribed a statin at

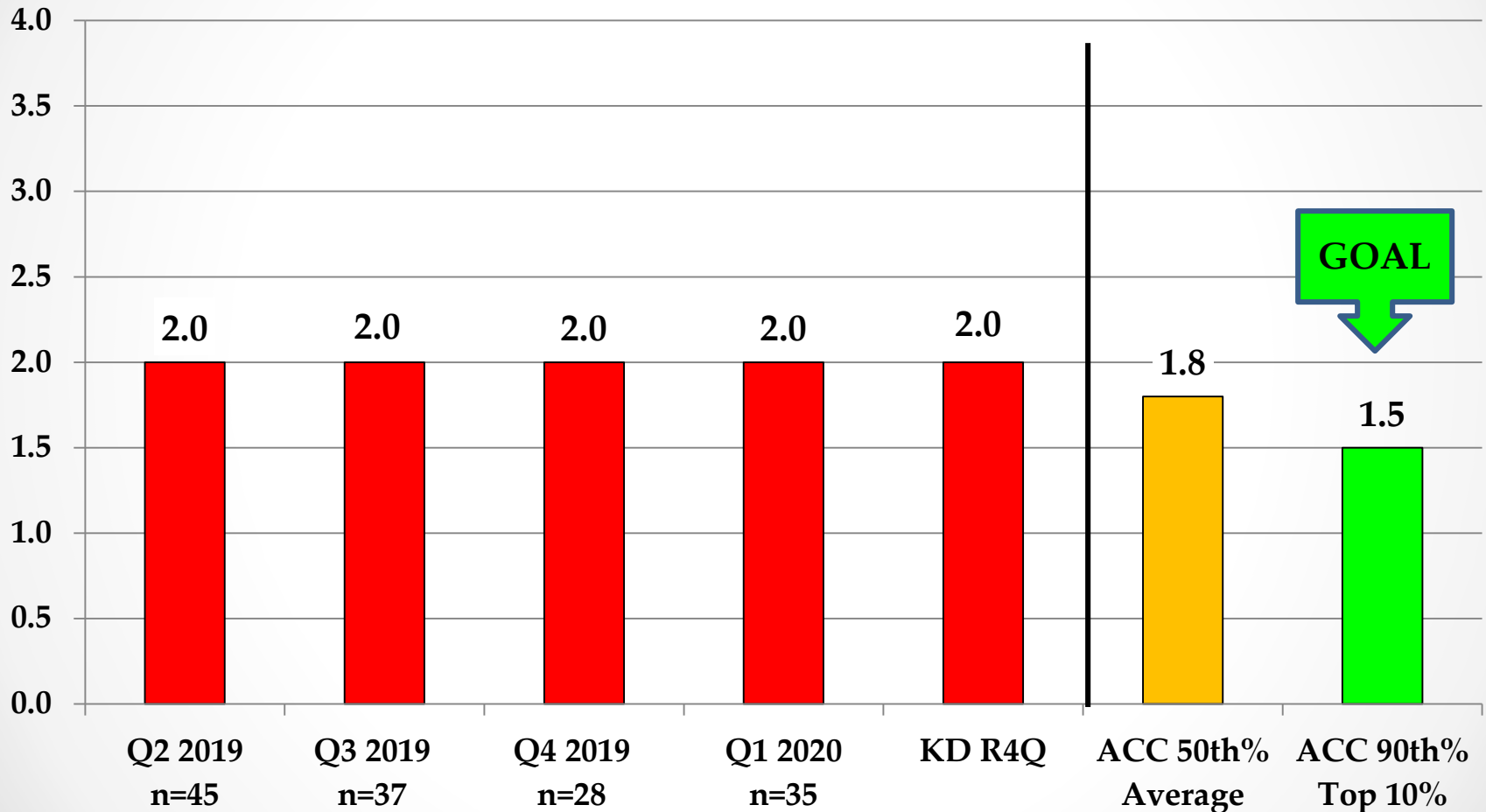
discharge. Exclusions: pt.'s that were discharged on Comfort Measures only; discharged to "Other acute care hospital", "Hospice", "Left against medical advice (AMA)" or deaths. (ref: 4707) *Comparison reporting period is 04/01/19 through 03/31/20

Quality Initiative:

Discharge Medications

- Develop and implement PCI specific discharge order set
- Re-educate Hospitalists and Nurse Practitioners on importance of specific discharge medications in this patient population and utilization of new Order Set.
- Track utilization of order set
- Contact Lead Hospitalist or Nurse Practitioner with all fallouts and track
- Improving Clinical documentation in the Discharge Summary of any contraindications
- Improving Clinical documentation in the Discharge Summary clarifying any pending diagnosis (i.e. possible NSTEMI, possible MI)

Post-PCI Length of Stay¹ – STEMI

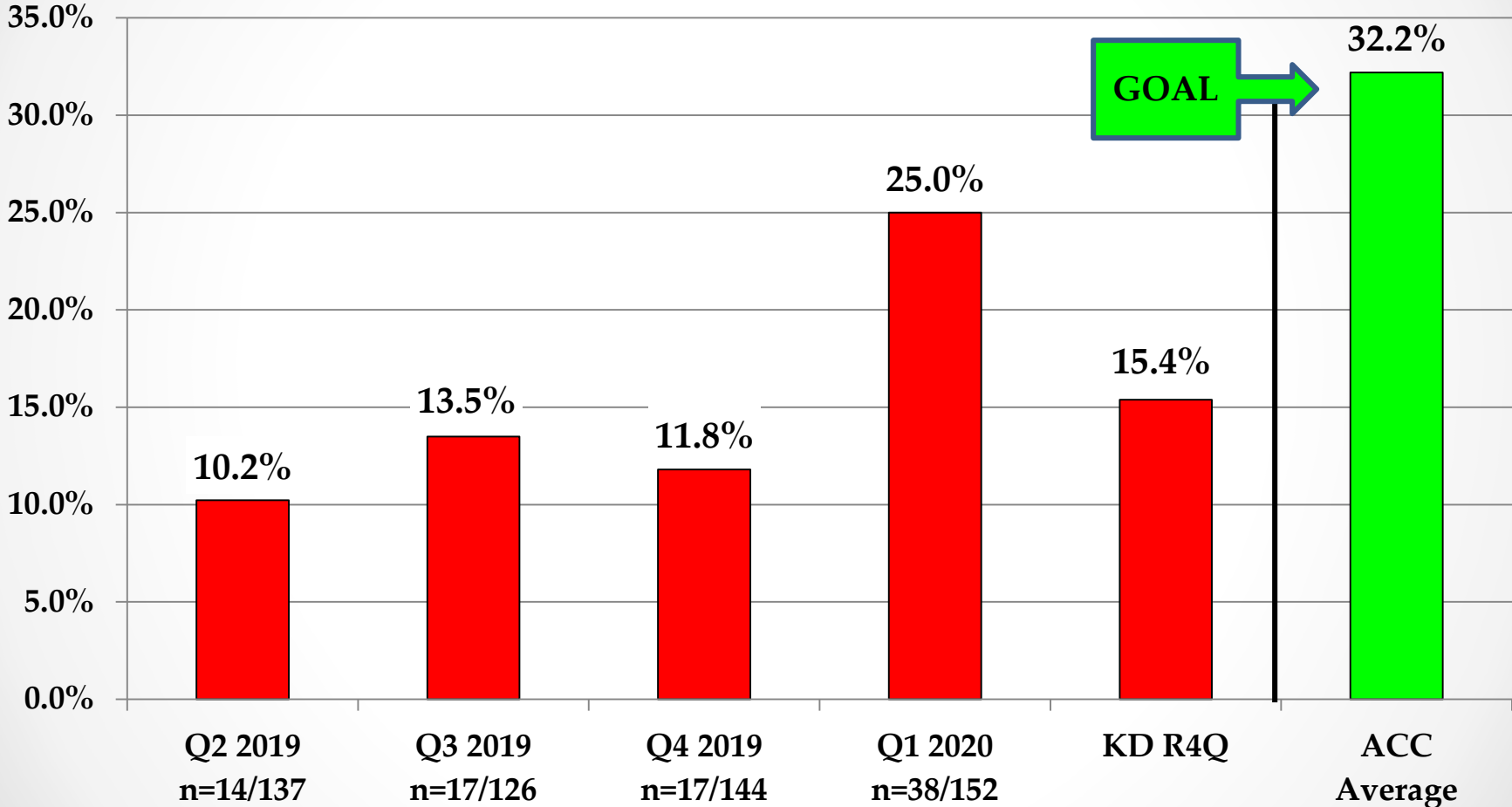


R4Q O/E = 1.1

¹ Median Post-procedure length of stay in STEMI patients. Exclusions: pt.'s discharged to Another Acute Care Facility; pt.'s who die during procedure (ref:4340)

*Comparison reporting period is 04/01/19 through 03/31/20 88/114

Post-PCI Same Day Discharge - Electives



R4Q O/E = 0.5

¹ Patients discharged on the same day as procedure. Exclusions: mortalities and pt.'s discharged to Another Acute Care Facility or AMA (ref:4971)

*Comparison reporting period is 04/01/19 through 03/31/20 89/114

Hand Hygiene Quality Report

February 2021



Hand Hygiene (HH) Dashboard

Measure Description	Benchmark/ Target	3Q20	4Q20	1Q21	2Q21
OUTCOME MEASURES					
HH Overall Compliance	95%	98.2%	97.6%		
Number of HH Audits Performed	#	1,796,985	3,338,851		
HH Compliance - Patient Care Units	95%	99.9%	97.6%		
Number of HH Audits - Patient Care Units	#	1,796,713	3,339,701		
PROCESS MEASURES - Patient Care Units					
Hand Hygiene By Day/time					
HH compliance am shift	95%	98.1%	97.5%		
Number of HH Audits am shift	95%	1,174,386	2,120,609		
HH compliance pm shift	95%	98.2%	97.8%		
Number of HH Audits pm shift	95%	711,163	1,339,598		
HH compliance weekday	95%	98.2%	97.7%		
Number of HH audits weekday	95%	1,455,661	2,466,872		
HH compliance weekend	95%	98.1%	97.5%		
Number of HH Audits Weekend	95%	447,612	818,010		

Data Analysis Summary:
 Goal: Identify trends over time

- HH compliance rates exceed goal for past 2 quarters
- No trends noted in HH compliance on am/pm shift or weekday/weekend

Hand Hygiene (HH) Dashboard

Measure Description	Benchmark/ Target	3Q20	4Q20
2N	95%	97.3%	96.9%
2S	95%	98.5%	98.1%
3N	95%	98.7%	98.4%
3S	95%	98.5%	98.0%
3W	95%	97.2%	97.1%
4N	95%	98.6%	98.2%
4S	95%	98.8%	98.0%
4T	95%	98.5%	97.9%
5T	95%	96.9%	95.3%
BP	95%	97.9%	98.2%
ICU	95%	97.1%	97.4%
CVICU	95%	97.7%	97.4%
ED	95%	65.9%	87.5%
L&D	95%	97.2%	97.3%
Mom/Baby	95%	98.0%	97.7%
NICU	95%	99.3%	99.5%
Peds	95%	98.4%	98.3%
ASC/PACU	95%	89.3%	100.0%
CCU (pre/post cath lab)	95%	99.5%	99.5%
Mental Health	95%	93.8%	76.1%
Acute Rehab	95%	89.0%	87.7%

Hand Hygiene by Patient Care Unit

Data Analysis Summary:

Goal: Identify trends over time

- Pre/post cath lab is the only non-Biovigil area meeting goal for both quarters
- 3 areas below goal, each have followed up with staff and provided reinforcement for proper HH. written action plans pending dept QI reports
- Jan 2021 rates show improvement in the 3 3&4Q areas below goal:
 - ED 90%
 - MH 97%
 - Rehab 100%

Hand Hygiene (HH) Dashboard

Measure Description	Benchmark/ Target	3Q20	4Q20
Nurse	95%	98.0%	97.9%
Nurse Number of Audits	95%	996,338	1,779,266
Aides	95%	99.2%	98.7%
Aides Number of Audits	95%	8,364	19,135
CNA	95%	98.0%	96.8%
CNA Number of Audits	95%	411,546	828,631
other	95%	99%	97%
Other Number of Audits	95%	160,785	44,163
Student	95%	99.0%	99.1%
Student Number of Audits	95%	7,414	17,610
Physician	95%	97.0%	95.1%
Physician Number of Audits	95%	642	10,343
EVS\HouseKeeping	95%	97.4%	96.6%
EVS\Housekeeping Number of Audits	95%	89,960	137,800
Respiratory	95%	98.4%	98.2%
Respiratory Number of Audits	95%	44,430	81,459
LVN/Tech	95%	99.0%	98.0%
LVN/Tech Number of Audits	95%	57,760	119,988

Hand Hygiene by Role

Data Analysis Summary:

Goal: Identify trends over time

- All roles above compliance; no trends noted

BioVigil System Validation

- RN Infection Preventionist entered and exited an empty BioVigil monitored room and created HH opportunities and purposefully executed compliant and a non-compliant HH events unknown to the trained HH observer who manually recorded the observations
- All compliant and non-compliant observations recorded manually were verified in the BioVigil system retrospectively. All observations matched.

Manual Observations		
Oct. 19 2N19		
Entry		Exit
14:53:20	Compliant	14:53:33
14:53:53	Compliant	14:54:07
14:54:53	Compliant	14:55:17
14:55:55	Compliant	14:56:45
14:57:06	Compliant	14:58:36
15:01:50	no HH	15:04:26
15:06:06	Compliant	15:06:47
15:06:58	Compliant	15:07:00

BioVigil Observations					
Oct 20 , 2020 2N19					
		entry		exit	
Room 2N19	Elkin, Shawn	2020-10-19 14:52:55	Compliant	2020-10-19 14:53:08	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 14:53:27	Compliant	2020-10-19 14:53:43	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 14:54:23	Compliant	2020-10-19 14:54:43	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 14:55:31	Compliant	2020-10-19 14:56:08	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 14:56:40	Compliant	2020-10-19 14:57:50	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 15:01:24	Non-compliant	2020-10-19 15:02:39	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 15:05:41	Compliant	2020-10-19 15:06:24	Compliant
Room 2N19	Elkin, Shawn	2020-10-19 15:06:30	Compliant	2020-10-19 15:06:37	Compliant

Environmental Services

Hand Hygiene Supply Audits July – Oct 2020

Ensuring HH supplies are available when needed for safe patient care

Audited Items	July-Sept 2020 n=224	Oct-Dec 2020 n=230
Soap dispenser refilled	98.2%	100%
Sanitizer refilled	99.6%	99.1%
Paper towel dispenser refilled	97.8%	97%

Hand Hygiene

Current Strategies – Hand Hygiene Program

- New hire orientation
 - Instructions on how to perform HH
 - Setting the expectation – Gary Herbst CEO “DUDE” video
- Quarterly audits and trending of HH supply processes (refil of soap, paper towels, sanitizer) by EVS
- BioVigil electronic HH reminder system in place; manual observations completed in patient care areas where BioVigil is not present
- Hand Hygiene compliance data disseminated to leadership for action; ready to use power points and written materials easily accessible to all staff and leaders for QI work
- Ad Hoc HH Campaigns
 - Examples:
 - DUDE VP/CEO videos, contests, DUDE decathlon, etc
 - Sanitizer handout (IP week)



Central Line Blood Stream Infection (CLABSI) Quality Focus Team Report November 2020

Amy Baker, Director of Renal Services (Chair)

Emma Camarena, Advanced Practice Nurse (Co-Chair)

Shawn Elkin, Infection Prevention Manager (IP Liaison)

Background: Patients are acquiring CLABSIs at rates that exceed national benchmarks. The CLABSI SIR from July 2019 to December 2019 was 1.47 with a goal (CMS 50th percentile) of ≤ 0.784 ; the number of CLABSIs was higher than expected (9 observed, 6 expected). CLABSIs result in poor outcomes for patients, a negative public perception of care through publically reported safety scores and financially impact the organization through HAC and VBP programs as well as increased treatment costs and length of stay.

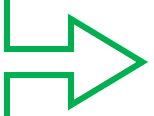
Current State Review - Feb 2020:

- Days between CLABSI from 4/2018 to 4/2020 is 18.74.
- CLABSIs are associated with both insertion practices and maintenance practices
- CLABSIs have not increased because we have more central lines or insert them under emergent circumstances
- We do not have consistency with best practices in CLABSI prevention
- No standard MD training on CLABSI prevention training
- The “Vital Few” are:
 - Central Line site: IJ or Femoral
 - Bath not received
 - Line necessity was not addressed
 - Hemodialysis
 - Expired peripheral IV
- CLABSIs are not isolated to one unit or unit type
- The weekly HAI audit (for best practices) has not helped consistency in bundle practices or reduced CLABSI

Analysis:

Identified Root Causes (in order from most significant to least):

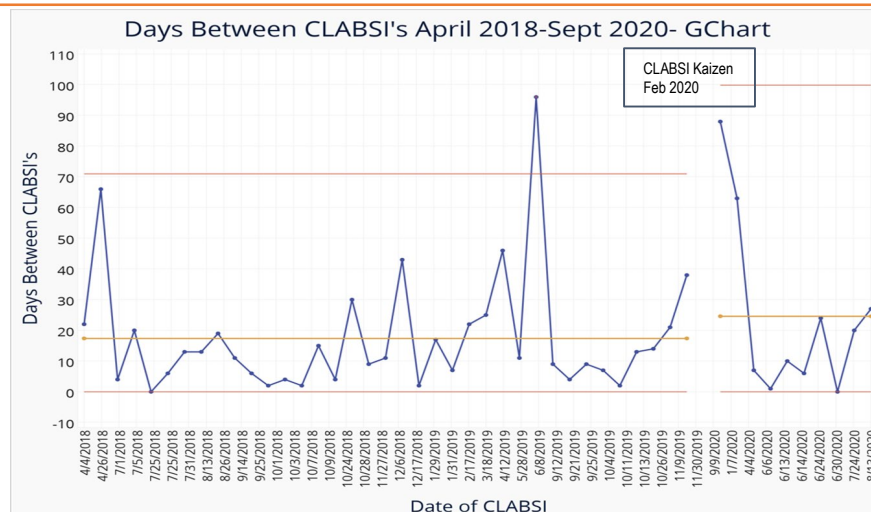
1. Line Necessity
2. Bundle Practice
3. Education
4. Cultures
5. Central Line Insertion
6. Bathing
7. Leadership Standard Work
8. Documentation
9. Human Factors



Kaizen improvement strategies focused on addressing the top 4 root causes

Action Plan: Goal CLABSI SIR ≤ 0.633 (new) and Mean Days Between CLABSI > 40.5

Improvement Strategy	Who?	When?
Line Necessity –Implementation of interventions delayed due to COVID-19 pandemic	Emma C. Joetta D.	March 31, 2020 (TPN orders 7/2020)
Bundle Practice –Implementation of interventions delayed due to COVID-19 pandemic	Amy Baker	March 31, 2020
Education –Implementation of interventions delayed due to COVID-19 pandemic priorities	Eileen P. Enri S.	March 31, 2020 (Comp Fair 6/20)
Blood Cultures: The Culture of Culturing	Dr. Gray & Shawn Elkin	
Leadership Standard Work	Mary Laufer	
Improve location and par of central line supplies <ul style="list-style-type: none"> • Include in manager communication plan; • Include in RN & CNA education that they need to follow up with CN or manager that PAR level needs to be adjusted; also talk to manager & central distribution 	Kaizen Team Education Team	
Email Take-Always after CLABSI committee review of events	Amy Baker	
Insertion: New site = New kit to be included with MD/resident education with Dr. LeDonne — Conference cancelled due to COVID-19 pandemic.	Dr. Gray Shawn Elkin	



Results Report

BASELINE DATA
 July-Dec 2019
 SIR = 1.47
 Goal = ≤ 0.784

Mean days between CLABSIs 4/2018 to 1/2020 = 17
 Goal > 40.5

Update: Sept 2020
 April – June 2020
 SIR = 1.63
 Goal = ≤ 0.633

Mean days between CLABSI 1/2020 to 9/2020 = 24.6

Post Kaizen- Gemba Data

CLABSI Committee Dashboard							
Measure Description	Benchmark/Target	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20
OUTCOME MEASURES							
Number of CLABSI	0	0	1	0	5	2	1
Quarterly SIR (all payor)	≤ 0.633	0.248			1.63		
FYTD SIR (all payor) BASELINE (FY19) =1.557	≤ 0.633	0.9	0.81	0.74	1.02	tdb	tdb
PROCESS MEASURES							
CL Gemba Rounds							
% of pts with bath within 24 hrs	99%	n/a	81%	78%	80%	84%	88%
% of CL with valid rationale order	100%	n/a	93%	93%	97%	96%	95%
% of CL dressings clean, dry and intact	100%	n/a	92%	92%	95%	91%	92%
% of CL that had drsg change no > than 7 days	100%	n/a	97%	90%	90%	89%	96%
% of patients with proper placed gardiva patch	100%	n/a	83%	81%	93%	90%	89%
% of CL pts with app & complete documentation	100%	n/a	81%	81%	86%	86%	87%
# of Pt Central Line days rounded on	n/a	n/a	426	1050	1315	1194	1087

Total Number of Patient Central Line Days
Rounded on = 5,072

96% had there central line dressing changed
within seven days

Only 88% of patients with central line received a
bath

Clabsi Kaizen Next Steps

- IUC/ Central Line Gemba form revised to address bathing refusals. New goal is to complete 99%.
- Priority Bathing Project started on 10/27/20.
 - Patients with central lines and foley catheters are identified to all staff to make bathing a priority. This information is written on the white board. Once bathing is completed the employees cross off the room number written on the white board. Unit leadership reviews this info at designated times throughout the day. If bathing isn't completed leaders work with employees to reallocate resources to complete the bathing.

Clabsi QFT- Plans for Improvement

- Working with Cardinal to purchase new central line dressing kits.
 - Different kits for Central Lines, Peripherally Inserted Central Lines (PICC), Midlines, and Implanted Ports.
 - All kits will come with GuardIVa patch, which is impregnated with Chlorhexidine to prevent infection.
- Will begin to send out MRSA takeaways like the CLABSI take away emails.
 - This will help educate all front line staff as to why MRSA infections are happening.
- Reviewing Chlorohexidine bathing in medical surgical units and Intermediate Critical Care units. Already being completed in Intensive Care units.

Future State Predications

FY 21 Clinical Quality Goals

	Jul-Sept 2020 <small>Higher is Better</small>	FYTD %	FY21 Goal	FY20	Last 6 Months FY20
SEP-1 <small>(% Bundle Compliance)</small>	tbd	tbd	≥ 70%	67%	69%

Our Mission
Health is our passion.
Excellence is our focus.
Compassion is our promise.

Our Vision
To be your world-class
healthcare choice, for life

Percent of patients with this serious infection complication that received "perfect care". Perfect care is the right treatment at the right time for our sepsis patients.

	July 2020 <small>Lower is Better</small>	Aug 2020 <small>Lower is Better</small>	Sept 2020 <small>Lower is Better</small>	Estimated Annual Number Not to Exceed to Achieve Goal*	FYTD SIR** (number of actual divided by number expected)	FY21 Goal	FY20
CAUTI <small>Catheter Associated Urinary Tract Infection</small>	3	0	1	13	0.78	≤0.727	1.12
CLABSI <small>Central Line Associated Blood Stream Infection</small>	2	1	2	9	1.28	≤0.633	1.2
MRSA <small>Methicillin-Resistant Staphylococcus Aureus</small>	2	tbd	tbd	5-6	tbd	≤0.748	1.02

*based on FY20 NHSN predicted

**Standardized Infection Ratio is the number of patients who acquired one of these infections while in the hospital divided by the number of patients who were expected.

QUESTIONS?

Clinical Quality Goal Update February 2021

FY 21 Clinical Quality Goals

Jul-Dec 2020

Higher is Better

75%

National Av = 66%
Top 10% = 82%

FYTD %

FY21
Goal

FY20

Last 6
Months
FY20

SEP-1

(% Bundle Compliance)

76%

≥ 70%

67%

69%

Our Mission

Health is our passion.
Excellence is our focus.
Compassion is our promise.

Our Vision

To be your world-class
healthcare choice, for life

Percent of patients with this serious infection complication that received “perfect care”. Perfect care is the right treatment at the right time for our sepsis patients.

	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021	Estimated Annual Number Not to Exceed to Achieve Goal*	FYTD SIR** (number of actual divided by number expected) July - Dec	FY21 Goal	FY20
CAUTI Catheter Associated Urinary Tract Infection	3	0	1	1	1	2	0	13	1.04	≤0.727	1.12
CLABSI Central Line Associated Blood Stream Infection	2	1	2	0	1	2	1	9	1.20	≤0.633	1.2
MRSA Methicillin-Resistant Staphylococcus Aureus	2	2	1	0	0	1	tbd	5-6	1.29	≤0.748	1.02

*based on FY20 NHSN predicted

**Standardized Infection Ratio is the number of patients who acquired one of these infections while in the hospital divided by the number of patients who were expected.



Commentary

Impact of SARS-CoV-2 on hospital acquired infection rates in the United States: Predictions and early results

Kathleen M. McMullen MPH, CIC, FAPIC^{a,*}, Barbara A. Smith MPA, BSN, RN, CIC, FAPIC^b, Terri Rebmann PhD, RN, CIC, FAPIC^c

^a Christian Hospital and Northwest Healthcare, St. Louis, MO
^b Mount Sinai Morningside, New York City, NY
^c St. Louis University, St. Louis, MO

The first case of SARS-CoV-2, also known as COVID-19, in the United States was reported on January 22, 2020,¹ and the disease continues to spread throughout the United States relatively quickly. Even before cases were confirmed in the US, many Infection Preventionists (IP) were involved in preparation activities for its spread, and the disease came closer to home, as COVID-19 take over the majority of their daily managed preparedness and response for queries of this disease, personal protective equipment and hundreds of details and minutia related to patients, there has been reduced time to focus on infection (HAI) surveillance and compliance work.

As a part of a series of waivers and exceptions to healthcare providers responding to the waived reporting requirements for HAIs through facilities will take advantage of those waivers, able to proactively surveil their patient population concerns, such as central line associated bloodstream infections (CLABSI), catheter associated urinary tract infections (CAUTI), and Clostridioides difficile infection (C. diff). However, as the emergency needs of the pandemic wane, life will start to return to "normal" and the impact of the pandemic on HAIs will become clear. Using the experiences of hospitals in New York City, NY and St. Louis, MO, the authors offer commentary on the potential infection prevention impact of crisis care for COVID-19 and anticipated resulting impact on HAI rates.

CLABSI – INCREASES EXPECTED

The highest impact to HAI from COVID-19 is expected to be CLABSI rates, and 2 of our facilities have seen rates increases (comparing several months of COVID to rates the prior 15 months, Hospital A saw a 420% increase to rate = 5.38 cases per 1,000 central line days, while Hospital B saw a 327% increase to rate = 3.79 cases per

CLABSI – INCREASES EXPECTED

The highest impact to HAI from COVID-19 is expected to be CLABSI rates, and 2 of our facilities have seen rates increases (comparing several months of COVID to rates the prior 15 months, Hospital A saw a 420% increase to rate = 5.38 cases per 1,000 central line days, while Hospital B saw a 327% increase to rate = 3.79 cases per

* Address correspondence to Kathleen M. McMullen, MPH, CIC, FAPIC, 11133 Dunn Rd, Room 11-107, St. Louis, MO 63136.
E-mail address: Kathleen.mcmullen@bjc.org (K.M. McMullen).
Conflicts of interest: None to report.

1,000 central line days). Several factors are expected to increase the number of CLABSI cases, while decreasing low-risk central line denominators, resulting in overall increases in rates and standardized infection rates. As stay-at-home orders proliferated around the coun-

from the mouth and respiratory tract. COVID-19 also leads to an increased incidence of acute kidney injury,³ requiring high numbers of patients to have central access for dialysis. There will be decreased provider focus on removing central lines, and likely a reluctance to try to manage patients with lower risk venous access, such as midlines or peripheral catheters.

Furthermore, several hallmarks of care of COVID-19 patients are important factors that increase risk of CLABSI. In order to minimize exposures of healthcare personnel to COVID-19, facilities are limiting completion of imaging studies. These missing imaging support alternative HAI definition imaging to support an intracatheter. These good results with increased prone positioning.⁴ However, result in pulling, tugging and Also as patients lay prone for visualization of the insertion site and other fluid buildup to compromise dressing integrity.⁴



Predictors and outcomes of healthcare-associated infections in COVID-19 patients

Gagan Kumar^{a,*}, Alex Adams^b, Martin Herrera^b, Erine Raybon Rojas^a, Vartika Singh^c, Ankit Sakhuja^d, Mark Meersman^e, Drew Dalton^e, Shrvan Kethireddy^a, Rahul Nanchal^f, Aehuta Kumar Guddati^g

^a Critical Care, Northeast Georgia Health System, Gainesville, GA, USA
^b Medicine, Northeast Georgia Health System, Gainesville, GA, USA
^c Medicine, Apex Hospital, Varamati, India
^d Critical Care, Department of Cardiovascular and Thoracic Surgery, West Virginia University, WV, USA
^e Critical Care, Medical College of Wisconsin, Milwaukee, WI, USA
^f Oncology, Georgia Cancer Center, Augusta University, Augusta, GA, USA

ABSTRACT

Introduction: Healthcare-associated infections (HAI) after viral illnesses are important sources of morbidity and mortality. This has not been extensively studied in hospitalized COVID-19 patients. Methods: This study included all COVID-19-positive adult patients (≥ 18 years) hospitalized between 01 March and 05 August 2020 at the current institution. The Centers for Disease Control and Prevention definition of HAI in the acute care setting was used. The outcomes that were studied were rates and types of infections and in-hospital mortality. Several multivariable logistic regression models were constructed to examine characteristics associated with development of HAI. Results: Fifty-nine (3.7%) of 1565 patients developed 140 separate HAIs from 73 different organisms: 23 were Gram-positive, 39 were Gram-negative and 11 were fungal. Patients who developed HAI did not have higher odds of death (OR 0.85, 95% CI 0.40–1.81, p = 0.69). HAIs were associated with the use of tocilizumab (OR 5.04, 95% CI 2.4–10.6, p < 0.001), steroids (OR 3.8, 95% CI 1.4–10, p = 0.007), hydroxychloroquine (OR 3.0, 95% CI 1.0–8.8, p = 0.05), and acute kidney injury requiring hemodialysis (OR 3.7, 95% CI 1.1–12.8, p = 0.04).

Conclusions: HAI were common in hospitalized Covid-19 patients. Tocilizumab and steroids were associated with increased risk of HAIs.

© 2020 The Authors. Published by Elsevier Ltd on behalf of International Society for Infectious Diseases.

Conclusions: HAI were common in hospitalized Covid-19 patients. Tocilizumab and steroids were associated with increased risk of HAIs.

© 2020 The Authors. Published by Elsevier Ltd on behalf of International Society for Infectious Diseases. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>)

CAUTI Dashboard December 2020

CAUTI Committee Dashboard											
Measure Description	Benchmark/Target	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20
OUTCOME MEASURES											
Number of CAUTI	0	0	1	3	1	3	0	1	1	1	2
FYTD SIR	≤ 0.727							0.78			1.04
PROCESS MEASURES IUC Gemba Rounds											
% of pts with appropriate cleanliness	99%	98%	99%	98%	95%	97%	96%	98%		98%	99%
% of IUCs with order & valid rationale	100%	90%	93%	92%	93%	92%	92%	93%		94%	95%
% of IUCs where removal was attempted	n/a	8%	5%	6%	7%	0%	9%	9%		6%	2%
% of pts where alternatives have been attempted	n/a	15%	12%	12%	10%	8%	14%	12%		12%	6%
# of Pt Catheter days rounded on	n/a	616	720	948	877	1037	1098	1145		1047	1046
% of IUCs removed because of Gemba Round	n/a	7%	6%	3%	4%	2%	4%	6%		6%	4%
# of IUCs removed because of Gemba Round	n/a	46	42	33	35	22	46	74		64	40
							Better than Target		Jan-Jul: Within 10% of Target As of Aug: Within 5% of Target		Does n

Summary:

- 1046 CL patient days rounded on!
- 40 IUC's **removed** because of the Gemba (that's 40 pt's who did not get a CAUTI!)
- Cleanliness **GREEN** at 99%!! (estimated 1% of pts refuse)
- IUC's order/appropriate reason **highest ever at 95%!!**
- Trying alternatives has dropped quite a bit, from 12% to 6%
- Removal also dropped to 2%, (perhaps it's because 95% of them have appropriate reasons for being in)

CLABSI Dashboard December 2020

CLABSI Committee Dashboard													
Measure Description	Benchmark/Target	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21
OUTCOME MEASURES													
Number of CLABSI	0	0	1	0	5	2	1	2	0	1	2		
FYTD SIR	≤ 0.633				1.63			1.28			1.2		
PROCESS MEASURES CL Gemba Rounds													
% of pts with bath within 24 hrs	99%	n/a	81%	78%	80%	84%	88%	88%		95%	96%		
% of CL with valid rationale order	100%	n/a	93%	93%	97%	96%	95%	96%		98%	98%		
% of CL dressings clean, dry and intact	100%	n/a	92%	92%	95%	91%	92%	95%		97%	95%		
% of CL that had drsg change no > than 7 days	100%	n/a	97%	90%	90%	89%	96%	98%		98%	98%		
% of patients with proper placed gardiva patch	100%	n/a	83%	81%	93%	90%	89%	92%		93%	94%		
% of CL pts with app & complete documentation	100%	n/a	81%	81%	86%	86%	87%	87%		92%	91%		
# of Pt Central Line days rounded on	n/a	n/a	426	1050	1315	1194	1087	1372		1084	1194		
					Better than Target			Jan-Jul: Within 10% of Target As of Aug: Within 5% of Target			Does not meet Target		

Summary:

- 4 process measures yellow (within 5% of goal) **FOR THE FIST TIME EVER, GREAT WORK!!!**
- 1194 CL patient days Gemba'ed
- CL pt's bathed –**highest ever at 96%!!**
- Dressing change at 7days is holding at 98% - but remember “is 99.9% enough?” 98% means that 24 pts didn't have a dressing change by the 7 day mark (what are the barriers to this?) [Input solicited from front line staff/leaders](#)
- 94% with a properly placed Gardiva patch, that's 72 pts with a wonky patch that won't protect them! Open to insight here, do we have the right size patches stocked? [Input solicited from front line staff/leaders](#)

CAUTI & CLABSI Near Misses January 2021

Cultures resulted on line patients that did NOT indicate CAUTI or CLABSI infection

CLABSI Near Miss Event	Amt.	Unit	LOS	CAUTI Near Miss Event	Amt.	Unit	LOS
1/1/2021	1	ICU	23	1/4/2021	1	CVICU	20
1/2/2021	1	4N	28	1/7/2021	1	ICU	28
1/11/2021	1	3N	30	1/14/2021	2	3W/ICU	20 & 45
1/14/2021	2	ICU/2S	17 & 22	1/15/2021	1	ICU	3
1/16/2021	1	ICU	3	1/18/2021	1	4T	12
1/18/2021	2	4T/ICU	12 & 41	1/26/2021	1	BP	8
1/19/2021	1	5T	41				
1/20/2021	1	4N	7				
TOTAL	10			TOTAL	7		

Key Strategies 1Q 2021

- Provider notification of sepsis alert
- Sepsis, CAUTI & CLABSI prevention RN New hire, retro fit & annual – in process
- Resident required learning module and test on CAUTI & CLABSI prevention (ie. insertion, line appropriateness, culture of culturing); to be completed by March 1st
- Learning barriers and addressing central line dressing changes and gardiva patch placement
- “Thoughtful pauses” before obtaining cultures on line patients
- Culture of Culturing & TPN Utilization stakeholders meeting 1st week March (left over Kaizen QI strategies & highest volume of contributing factors to 2020 HAI events)
- Biovigil Enhancements:
 - Transitioning to KD badge use – allows efficient management of system and accurate identification of staff using the system and hand hygiene compliance results

Questions?

ACC Prostaff Reported Measures	New Cardiology Measures
• PCI In-Hospital Mortality Rate	• Median Door to Balloon Time (STEMI with PCI Transfer Cases)
• PCI In-Hospital Mortality Rate - Risk Adjusted (STEMI patients)	• Median Transfer Time from Door to Door (STEMI with PCI Transfer Cases)
• PCI In-Hospital Mortality Rate – Risk Adjusted (NSTEMI, unstable angina electives)	• Median Door to Table Time (STEMI with PCI Transfer Cases)
• PCI Radial Artery Access	• Median Kaweah Delta ED Arrival Time to Case Start Time (STEMI with PCI Transfer Cases)
• Immediate PCI for STEMI	• Median Cardiologist Notified to Case Start Time (STEMI with PCI Transfer Cases)
• Stroke Post PCI	• Median Transport Time: Cath Lab Arrival to Patient in Cath Lab (STEMI with PCI Transfer Cases)
• Acute Kidney Injury Post PCI	• Median Cardiac Alert time to Cath Lab (STEMI with PCI Transfer Cases)
• Transfusion Post – PCI of RBCs	• Median Door to Balloon Time (STEMI Cases with PCI)
• ASA Prescribed at DC	• Median Door to Table Time (STEMI Cases with PCI)
• P2Y12 Inhibitor Prescribed at DC	• Median KD ED Arrival to Case Start Time (STEMI Cases with PCI)
• Statins Prescribed at DC	• Median Cardiologist Notified to Case Start Time (STEMI Cases with PCI)
• Post-PCI Length of Stay – STEMI	• Median Transport Time: Cath Lab Arrival to Patient in Cath Lab (STEMI Cases with PCI)
• Post-PCI Same Day Discharge – Electives	• Median Cardiac Alert Time to Cath Lab (STEMI Cases with PCI)
	• PCI In-Hospital Mortality R4Q O/E
	• PCI In-Hospital Mortality R4Q O/E for STEMI
	• PCI In-Hospital Mortality R4Q O/E for other (NSTEMI, unstable angina, electives)
	• Acute Kidney Injury Post PCI R4Q O/E

Interventional Cardiology Quality Scorecard 2020

Measure Description	External Benchmark	Internal Benchmark	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	YTD 2020
Count of Transfer Cases			2	2	2	2	2	3	1	1	2	5	2	2	25
Hanford Adventist Hospital			1	1	2	1	1	2	1	1	1	3		2	16
Tulare District Hospital			1			1	1					1	1		5
Sierra View Hospital				1				1				1	1		4
STEMI with PCI Transfer Cases, January-December 2020, N=25															
Median Door to Balloon Time (Min)	< 120	< 107	120	119	151 ¹	122	121	124	212 ²	92 ³	138 ⁴	159 ⁵	200 ⁶	133	141
Median Transfer Time from Door to Door (Min)	74	< 60	64	77	104 ¹	69	76	84	131 ²	262 ³	83	112 ⁵	152 ⁶	89	109
Median Door to Table Time (Min)		21	32	25	18	19	21	26	32	50	33	21	25	25	27
Median KD ED Arrival time to Case Start Time (Min)		30	39	26	32	42	34	38	48	81	35	32	35	31	39
Median Cardiologist Notified to Case Start Time (Min)		24	32	19	34	37	26	38	56	63	26	25	31	23	34
Median Transport Time: Cath Lab Arrival to Patient in Cath Lab (Min)		15	14	11	7	9	9	8	10	6	-	12	14	14	10
Median Cardiac Alert time to Cath Lab (Min)		33	41	13	51	18	27	39	57	32	25	21	37	30	32
STEMI Cases with PCI, January-December 2020, N= 113															
Measure Description	External Benchmark	Internal Benchmark	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	YTD 2020
Median Door to Balloon Time (Min)	<90	< 61	79	54	65	77	61	58	50	92	55	130 ⁹	58	77	71
Median Door to Table Time (Min)		29	32	25	33	31	29	26	31	41 ⁷	32	22	31	41 ¹¹	31
Median KD ED Arrival to Case Start Time (Min)		40	37	37	41	44	39	34	43	46 ⁷	35	34	42	45 ¹¹	40
Median Cardiologist Notified to Case Start Time (Min)		26	16	21	26	39	34	25	33	46 ⁷	26	29	26	24	30
Median Transport Time: Cath Lab Arrival to Patient in Cath Lab (Min)		9	10	10	8	6	10	8	10	8	10	12	11	11	10
Median Cardiac Alert time to Cath Lab (Min)		31	36	19	35	35	31	27	40	37	44 ⁸	30	38 ¹⁰	35	34
	Internal Target	R4Q Q 2 2019	R4Q Q 3 2019	R4Q Q 4 2019	R4Q Q 1 2020	R4Q Q 2 2020	R4Q Q 3 2020	R4Q Q 4 2020	YTD 2020 Average						
PCI In-Hospital Mortality R4Q O/E	< 1	1	1.2	0.98	1.03	1.1	0.9	*	1.06						
PCI In-Hospital Mortality R4Q O/E for STEMI	<1	1.6	0.9	0.6	0.78	0.9	1.3	*	0.96						
PCI In-Hospital Mortality R4Q O/E for Other (NSTEMI, unstable angina, electives)	< 1	0.9	1.6	1.7	1.39	1.45	0.7	*	1.41						
Acute Kidney Injury Post PCI R4Q O/E	< 1	0.8	0.9	1	1.11	1.1	1	*	0.98						

Green: Better than Internal Benchmark

Yellow: Within 10% of Internal Benchmark

Red: Does not meet Internal Benchmark

* R4Q 4 2020: 2020 Q4 ACC PCI Raw Data unavailable

Data Source: Raw Data: 2020 PCI Door to Balloon Times, ACC, Cardiac Alerts in Cerner, Pbx cardiac alerts, Syngo cath lab charting

Data Available: December 2020

Last Updated: February 2021

Transfer Outliers: Reason for Delay	
¹ March Transfer Outlier:	
976027573	Delay in transfer time from door to door. Adventist Health Hanford has delay in showing KDMC Cardiologist EKG. Multiple calls made to Doctor to determine method to send EKG and if patient should stop in ER upon arrival.
² July Transfer Outlier:	
976220320	Delay in transfer time from door to door. Adventist Health Hanford patient presents with STEMI. Given ST elevations and evolving EKG findings she is likely a candidate for PCI. Interventional cardiology was consulted and has agreed to take patient to the cath lab.
³ August Transfer Outlier:	
976273728	Pt transfer from Adventist Health Hanford for possible STEMI. Cardiologist declined pt, not a stemi. Adventist Health Hanford called back, Dr. accepted the patient as NSTEMI. Pt SOB over 24 hours. Subsequent EKG taken upon patient arrival to KD ED and showed STEMI. Delay transferring patient, inpatient lab was down, and delay getting to cath lab.
⁴ September Transfer Outliers	
976323752	Delay in transfer time from door to door. Adventist Health Patient presents with STEMI.
⁵ October Transfer Outliers	
976328740	Delay in transfer time from door to door. Patient presented with STEMI from Sierra View. KD Cardiologist originally declined pt after requesting a troponin. The KD cardiologist requested repeat EKG. After viewing 2nd EKG patient was accepted.
976348340	Sierra View Patient presents with a STEMI. Delay in transfer time door to door.
⁶ November Transfer Outliers	
976397528	Patient presented with STEMI from Tulare. Delay in transfer time from door to door. 55 minute delay from time patient was accepted to transfer to time of EMS arrival in Tulare. Delay in door to table time of 32 minutes.
976381794	Patient presented with STEMI from Sierra View. Delay in transfer time from door to door. In KD ED patient was transiently stabilized via transcutaneous pacing. Delay in arrival time to case start: 14 minute delay in lidocaine administration.
All STEMI Cases with PCI Outliers: Reason for Delay	
⁷ August Outliers	
FIN	Reason For Delay
976243081	Delay in door to table: Cardiac Arrest and/or need for intubation before PCI
976262861	Delay in door to table: Cardiac Arrest and/or need for intubation before PCI
⁸ September Outliers	
FIN	Reason For Delay
976295540	Delay in door to table: Patient delays in providing consent for PCI
⁹ October Outliers	
FIN	Reason For Delay
976342101	Delay in door to table: Subsequent EKG showed STEMI. Patient became cardiac alert. Translator needed to consent with patient and family.
¹⁰ November Outliers	
FIN	Reason For Delay
976412260	Delay in cardiac alert to cathlab entry: Cardiac Arrest and/or need for intubation before PCI
¹¹ December Outliers	
FIN	Reason For Delay
976427208	Delay in door to table: Subsequent EKG showed STEMI. Patient became cardiac alert. Cardiac alert called in zone 1 shortly after and zone 1 patient picked to go to cathlab before this patient.
Excluded ACC Cases: Delay Reasons	
Count of Cases	Reason for Delay
7	Cardiac Arrest and/or need for intubation before PCI
5	Patient delays in providing consent for PCI
5	Difficulty crossing the culprit lesion
2	Difficult Vascular Access
1	Emergent placement of LV support device before PCI