Deciphering the Code Using Simulation and Teamwork

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BACKGROUND

Frontline clinical, quality, and education nurses identified an increased number of cardiopulmonary arrests (CPAs) occurring outside of the ICU, as well as an increase in American Heart Association (AHA) Gold Standard failures. These nurses began to share data and collaborate on clinical, quality, and education efforts related to these concerns. Increased surveillance and education in areas with the most needs will ultimately improve patient outcomes.

PROJECT AIM

1. Decrease the number of CPAs occurring outside of the ICU.
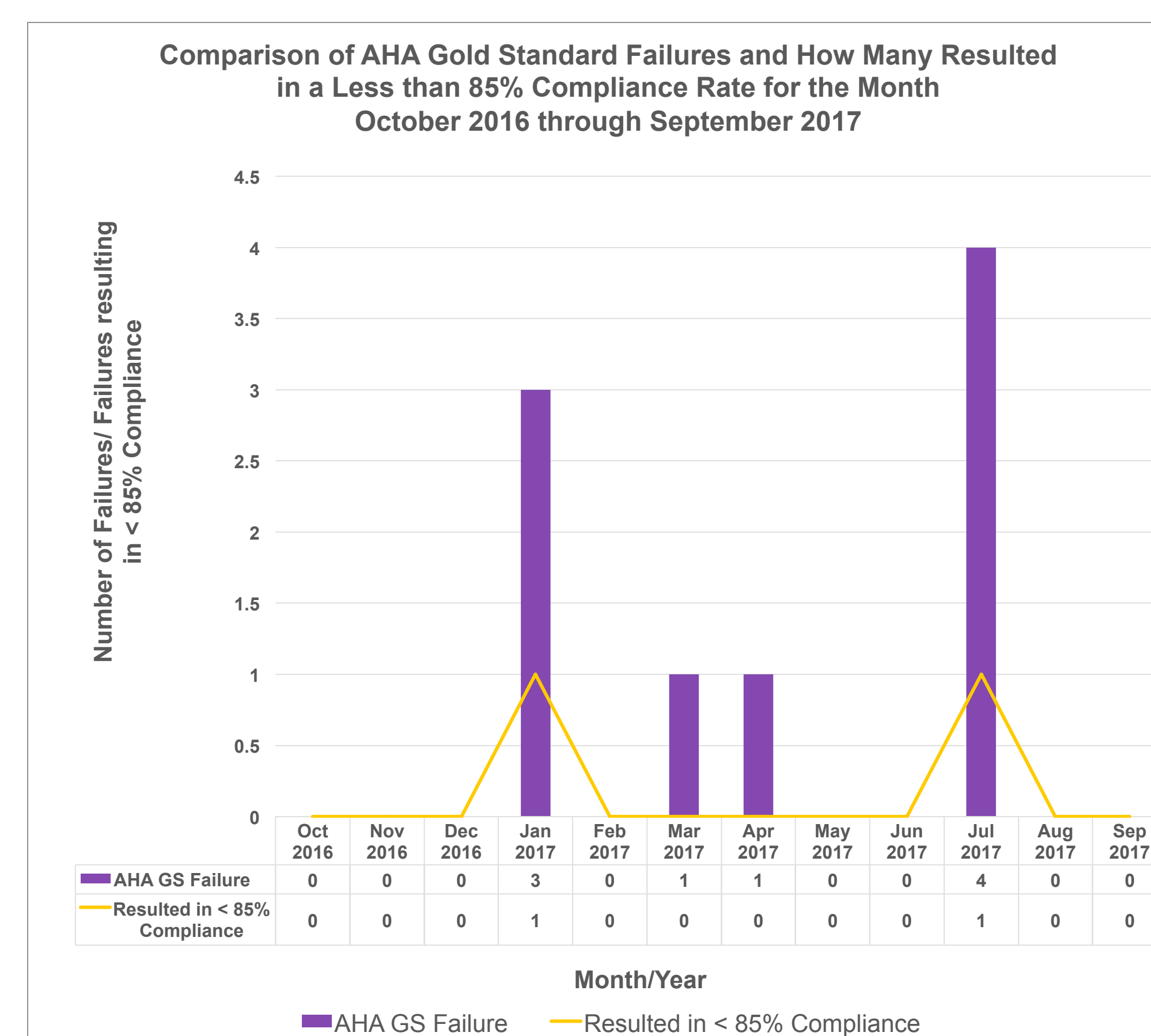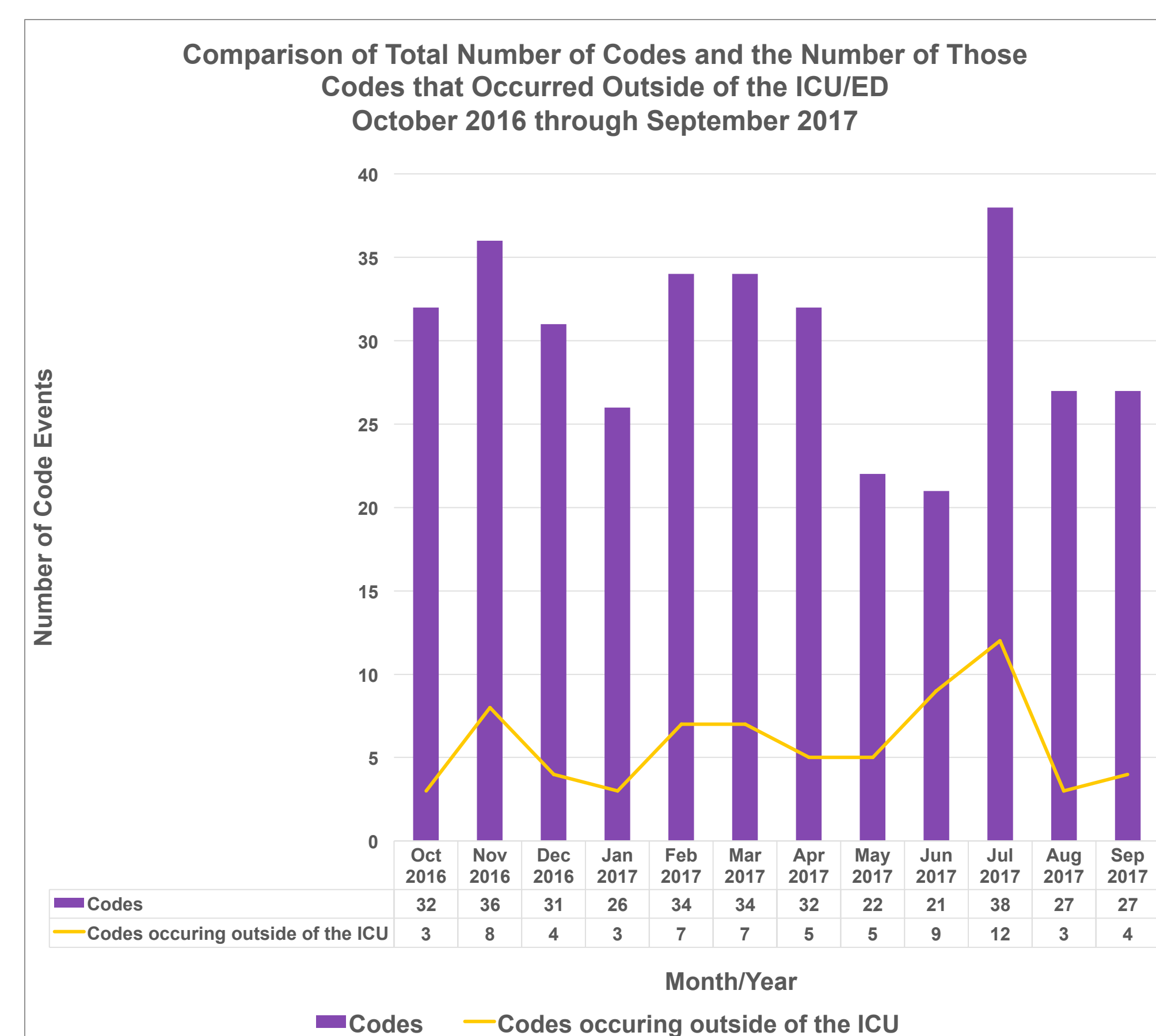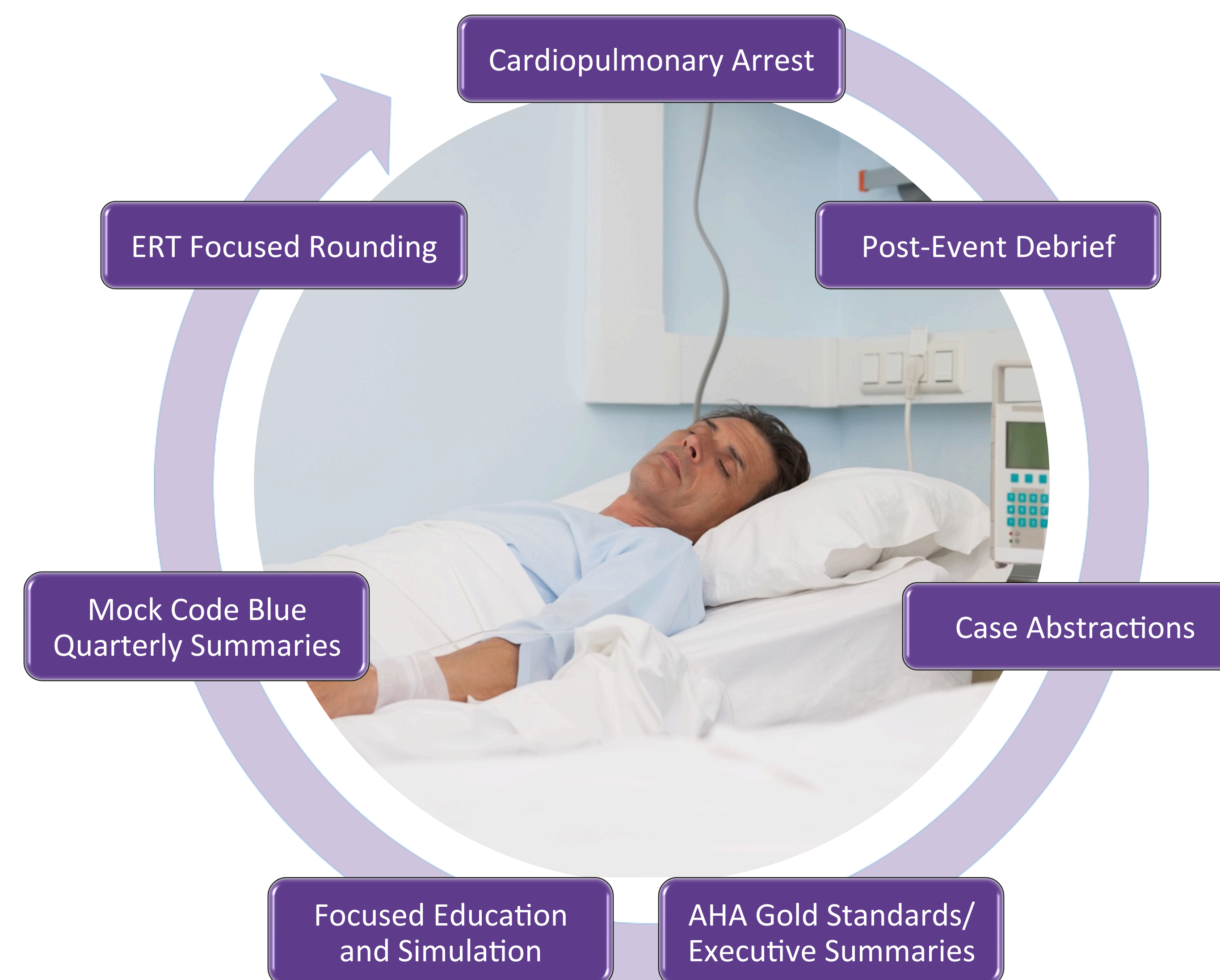2. Decrease AHA Gold Standard Failures by 25%.

PROJECT DESIGN/STRATEGY

I: Quality Nurse Specialist began sharing monthly Get with the Guidelines-Resuscitation (GWTG-R) Executive Summaries that were shared with executives, administrators and managers.

2: Simulation Coordinator created a mirror-image of the executive summary indicating mock code events conducted each quarter. The mock code summary includes AHA Gold Standard measures and identified trends or opportunities for focused education.

3: ERT proactively rounds on the identified units. There are multiple triggers for ERT activation, including code sepsis, lab activation for lactic acid result > 2.0, and the EHR Modified Early Warning Score. Simulation Coordinator also began increasing simulation activities on the identified units.

RESULTS/OUTCOMES

Evaluation of the number of CPAs occurring outside of the ICU and AHA Gold Standard Failures is conducted monthly.

An overall trend of decreased CPAs has been noted over the past fiscal year. Since October 2016, only two months have identified AHA Gold Standard results below the benchmark.

- Cardiopulmonary Arrest
- ERT Focused Rounding
- Post-Event Debrief
- Mock Code Blue Quarterly Summaries
- Case Abstractions
- Focused Education and Simulation
- AHA Gold Standards/ Executive Summaries

Comparison of Total Number of Codes and the Number of Those Codes that Occurred Outside of the ICU/ED October 2016 through September 2017

Month/Year	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017
Codes	32	36	31	26	34	34	32	22	21	38	27	27
Codes occurring outside of the ICU	3	8	4	7	5	8	5	5	9	12	3	4

Comparison of AHA Gold Standard Failures and How Many Resulted in a Less than 85% Compliance Rate for the Month October 2016 through September 2017

Month/Year	Oct 2016	Nov 2016	Dec 2016	Jan 2017	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017
AHA GS Failure	0	0	0	3	0	1	1	0	0	4	0	0
Resulted in < 85% Compliance	0	0	0	1	0	1	0	0	0	1	0	0

LESSONS LEARNED

Improvements have been noted over the past fiscal year, but July 2017 skewed our data to look as though we have slightly increased in both of these initiatives. When July 2017 was removed from the data, there is a clear decrease in the number of both CPAs outside of the ICU and AHA Gold Standard failures. We proved a correlation between both initiatives (CPAs outside of the ICU and Gold Standard failures) with the evidence that July 2017 data affected both outcomes.

NEXT STEPS

We have learned that both initiatives to decrease CPAs outside of the ICU and decrease AHA Gold Standard Failures are interrelated and require collaborative efforts. We have the potential to show marked improvement in patient outcomes by ensuring that staff are more prepared to respond in emergency events.

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