

Contra Costa EMS Agency
Core Quality Indicators

Annual Report
2014

CONTRA COSTA COUNTY
EMERGENCY MEDICAL SERVICES
SYSTEM CORE PERFORMANCE MEASURES REPORT
ANNUAL: 2014

Executive Summary

The annual 2014 Core Performance Measures Report demonstrates EMS system activity and outcomes that are within normal and safe statistical control limits. Performance levels continue to meet and exceed established national-benchmarks and standards of care.

System Utilization

- 911 system responses and transports for 2014 showed a level volume with fluctuations becoming higher towards the end of the year.
- The base hospital call volume decrease is not a full representation of real picture since the data program was changed in 2014 and does not contain all of the year's data.
Cardiac Care
 - Both the Utstein and the overall survival rates remained consistently above national benchmarks CARES 30% benchmark.
 - Due to changes in the methodology of how the CARES data registry calculates bystander CPR, there was a statistically significant drop in performance levels. We will continue to watch and understand the best way to define and measure bystander CPR rates. Meanwhile, high performance CPR and cardiac arrest care continue to be a hallmark driving force behind providing exceptional care to our customers in the field.STEMI System
 - "Door to Intervention" time intervals continued to meet the 90 minute benchmark.Stroke System
 - Our stroke system continues to meet benchmark 60 mins door to care time intervals.Trauma System
 - Trauma System data shows system in control with on scene times for MTV patients within the 10 min benchmark and with blunt trauma being slightly longer on scene. These performance levels are consistent and within process control limits,

Conclusion

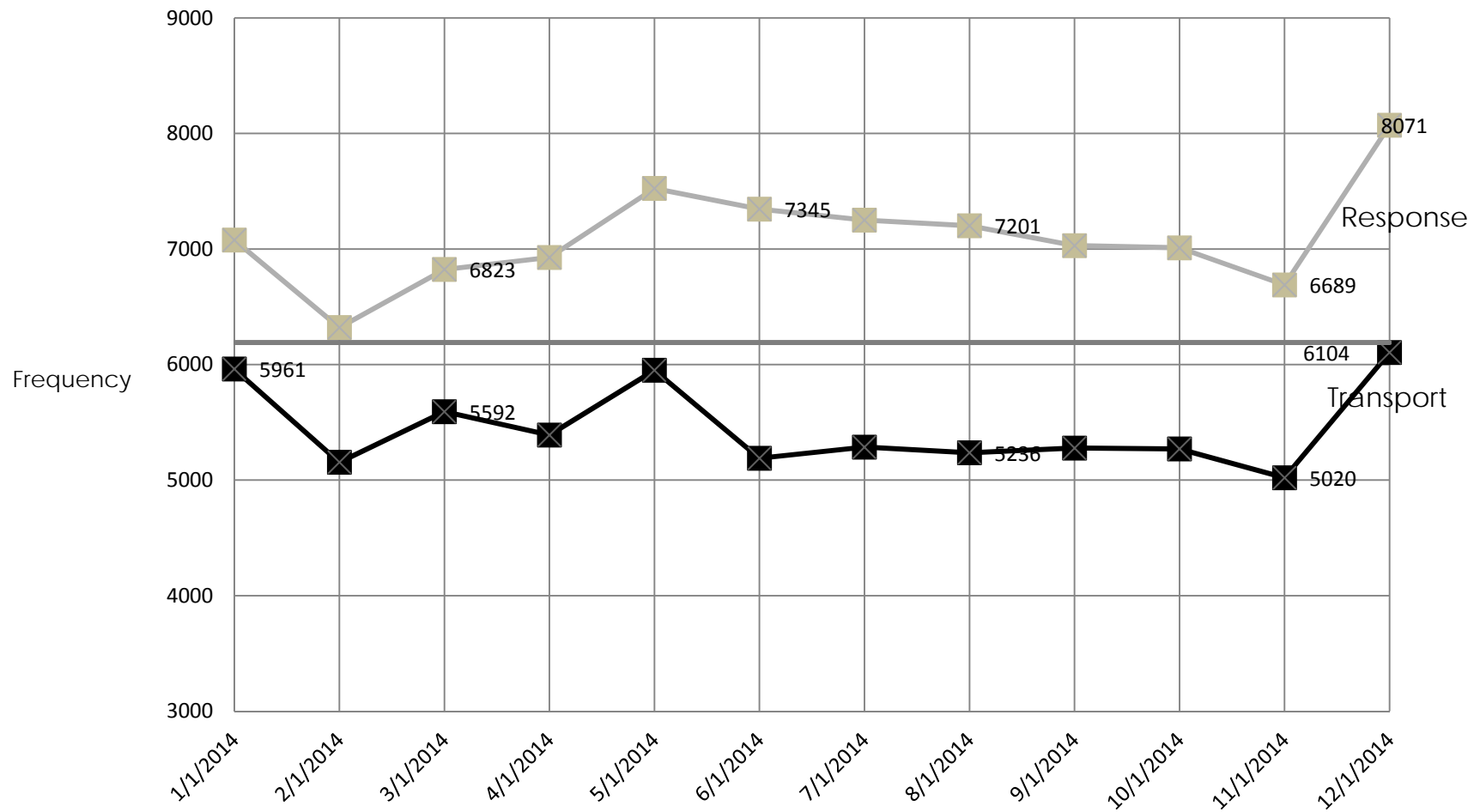
All 2014 quality indicators were vetted and reviewed by the Contra Costa County Quality Leadership Council (QLC) at their meeting of March 10, 2015.

System Utilization 2014

Data Source: First Watch

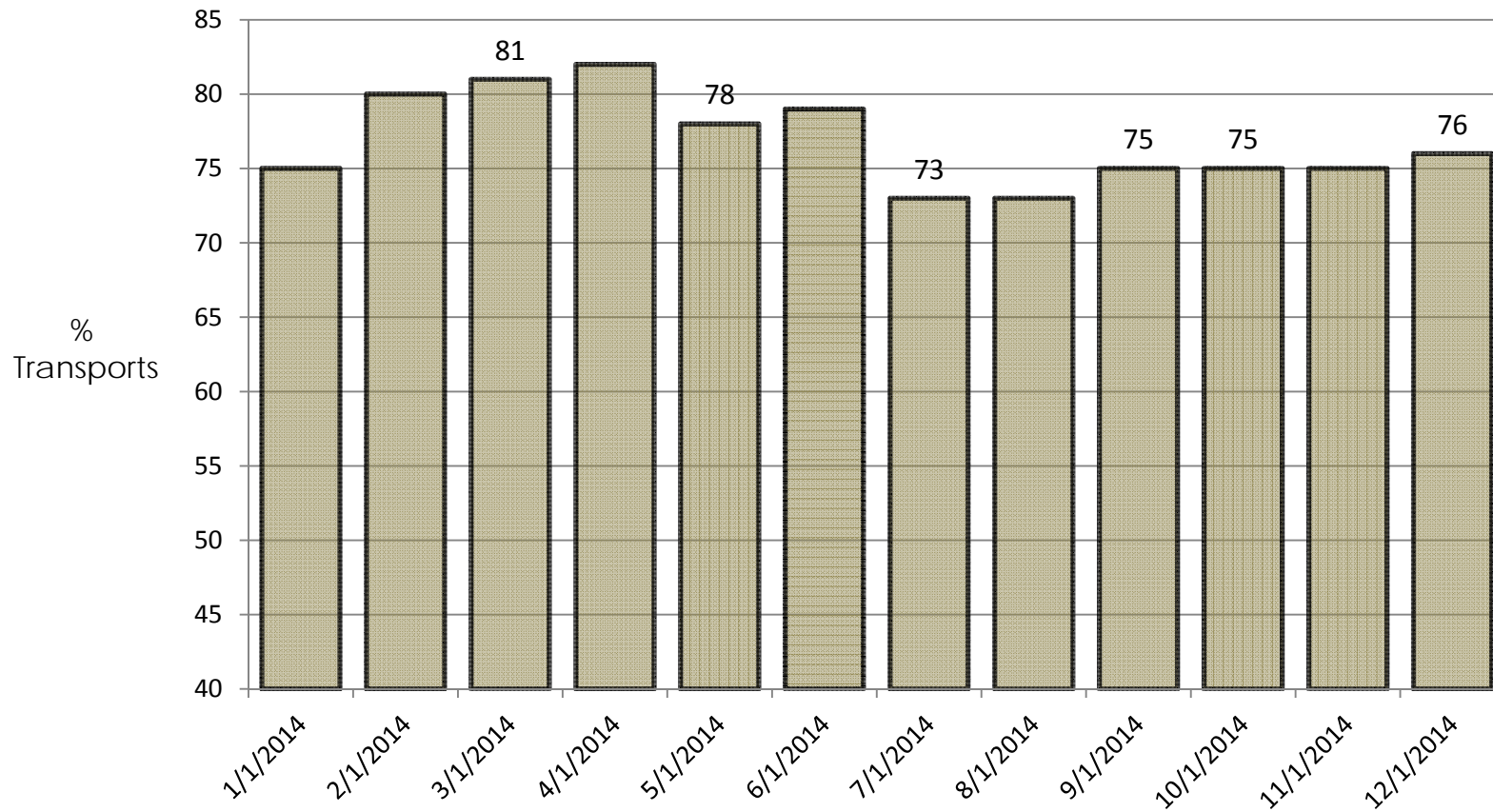
Contra Costa County 911 Ambulance Response and Transport Frequency Annual 2014

N= 85267 Responses
N= 65427 Transports



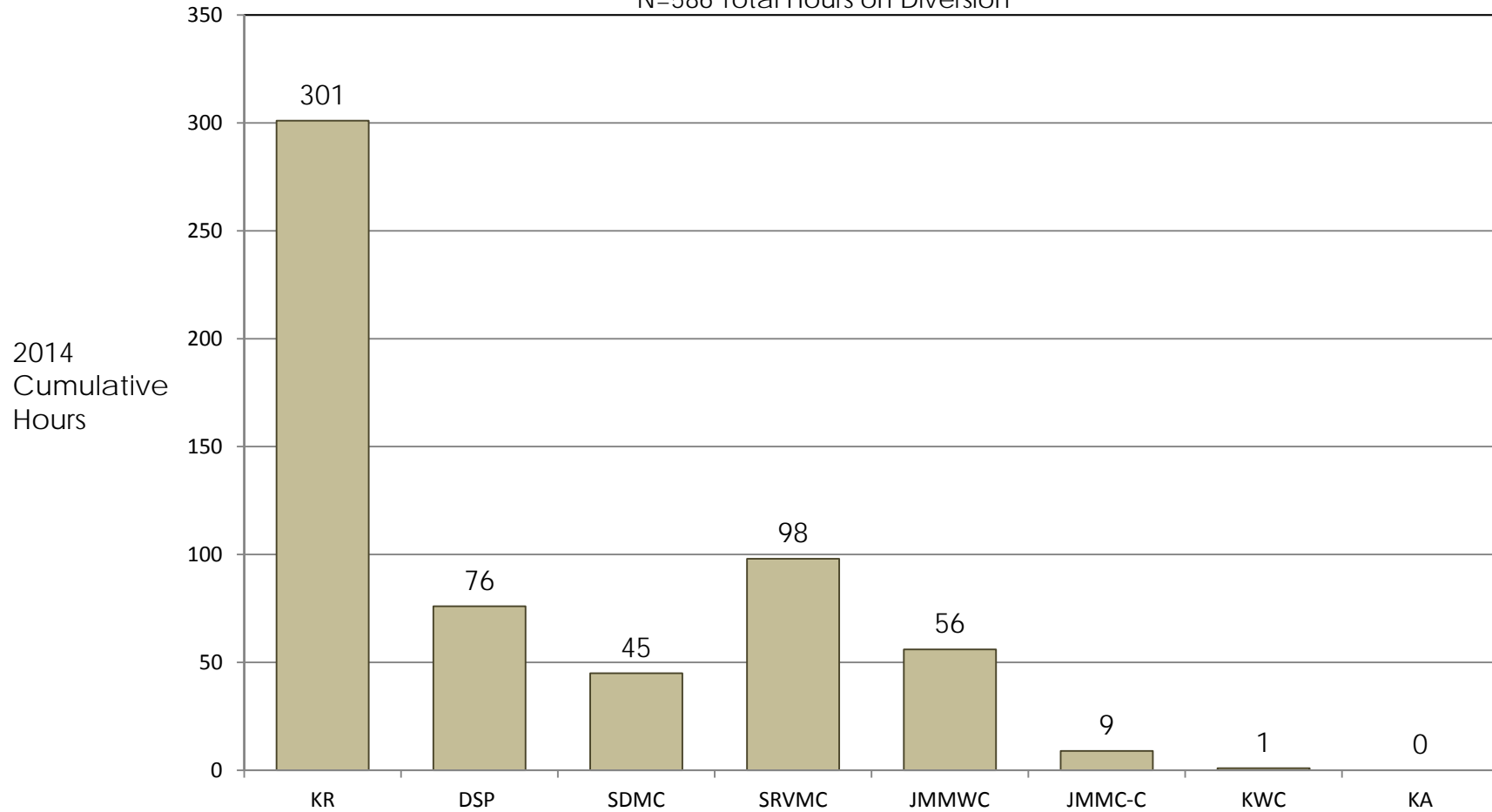
Contra Costa County 911 Ambulance % Transport per Response Annual 2014

N= 85,267 Responses
N= 65,427 Transports
Mean Transport/Response = 77 %



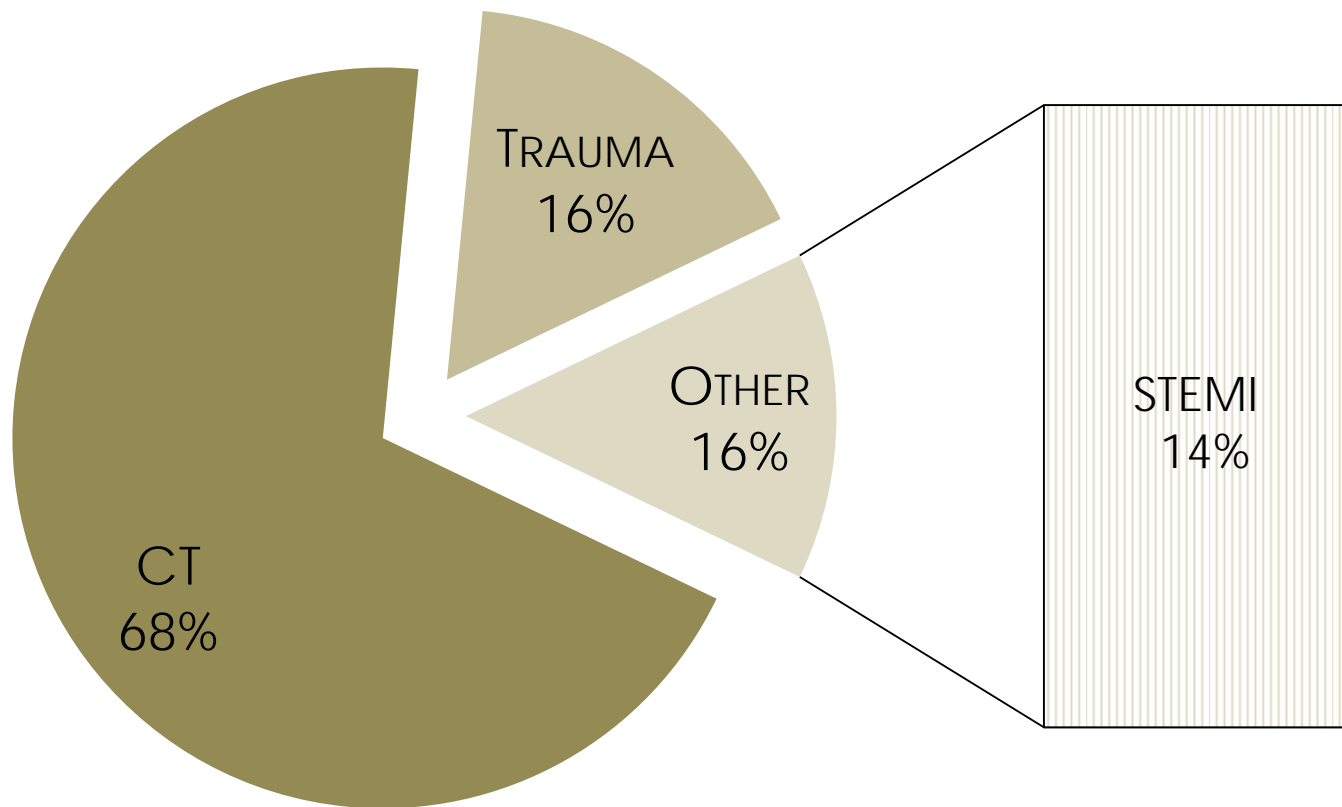
Contra Costa EMS Cumulative Hours on EMS Diversion by Hospital Annual 2014

N=586 Total Hours on Diversion



Contra Costa EMS
Hospital Diversion Hours % by Cause
Annual 2014

N=586 Total Hours on Diversion 2014

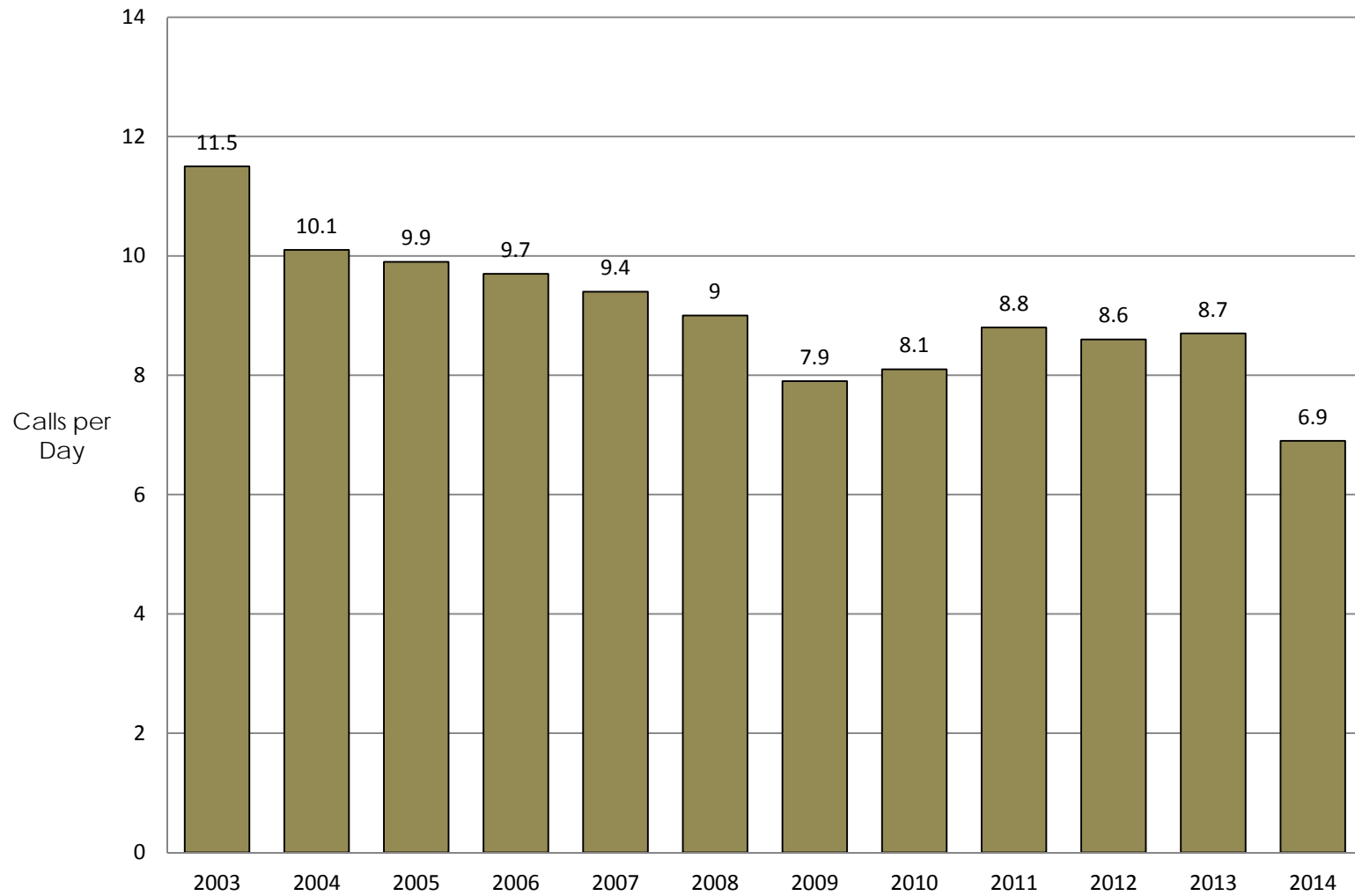


Base Hospital Annual 2014

Data Source: Base Hosp Log

Base Hospital Average Daily Calls Annual 2014

Note: No data reported Dec 2014

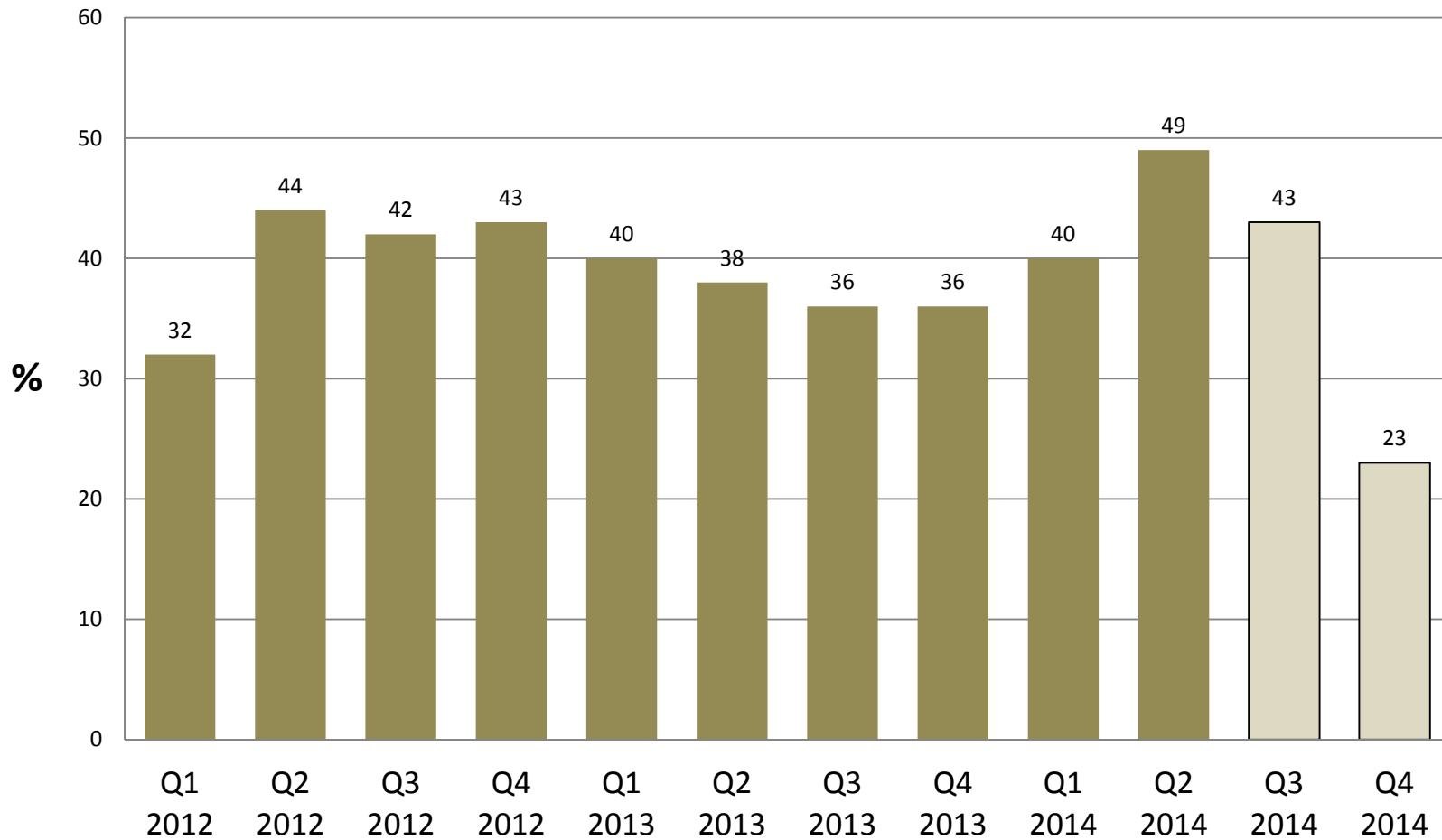


Cardiac Arrest Annual 2014

Data Source: CARES Registry through June 2012.
Excludes Medical Facilities (hospitals, clinics, SNF); Excludes arrest after EMS arrival

% Bystander CPR by Quarter Annual 2014

N=509 Total Resuscitations Attempted

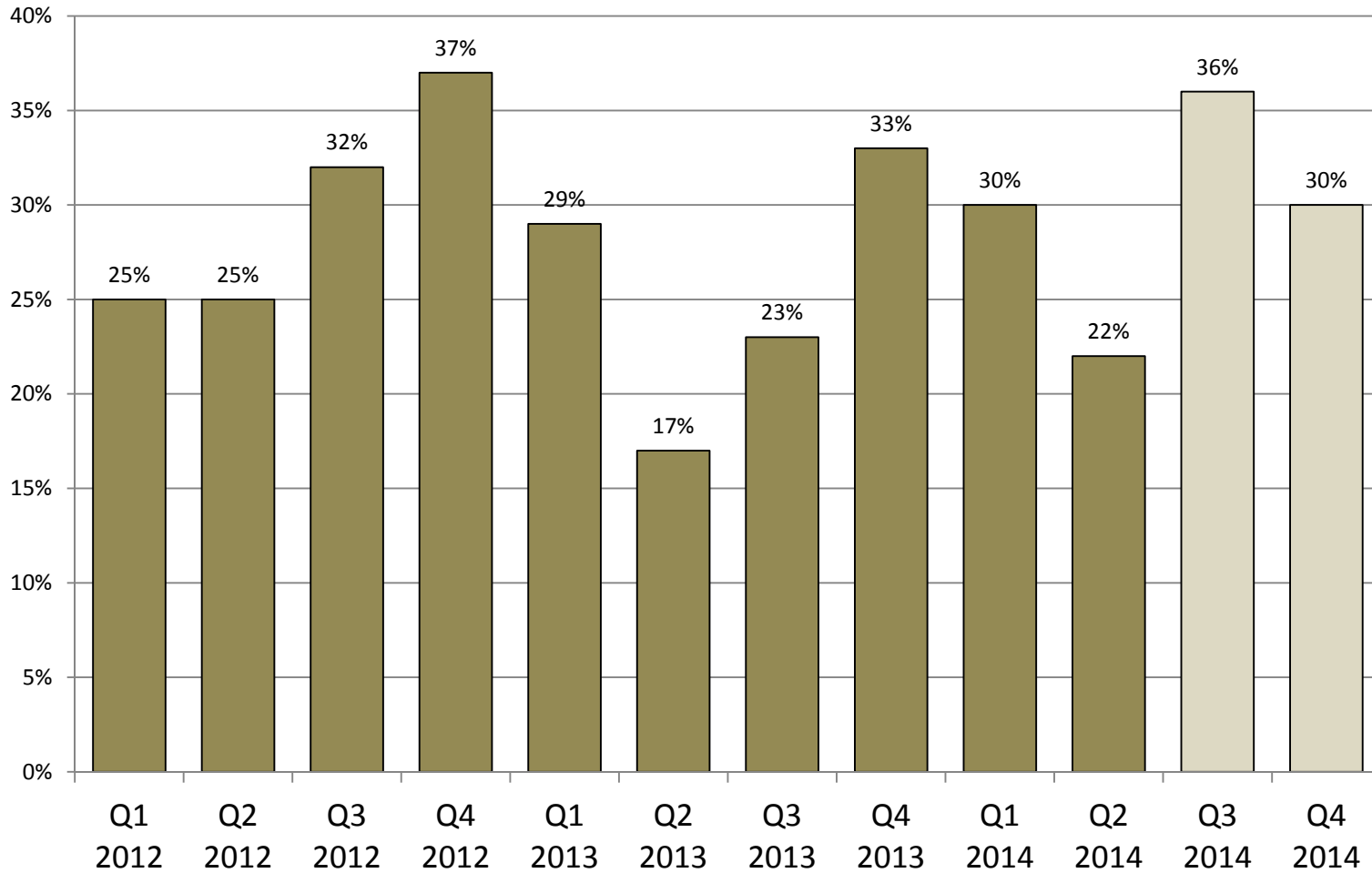


Cardiac Arrest Survival Utstein

% Survival by Quarter

Annual 2014

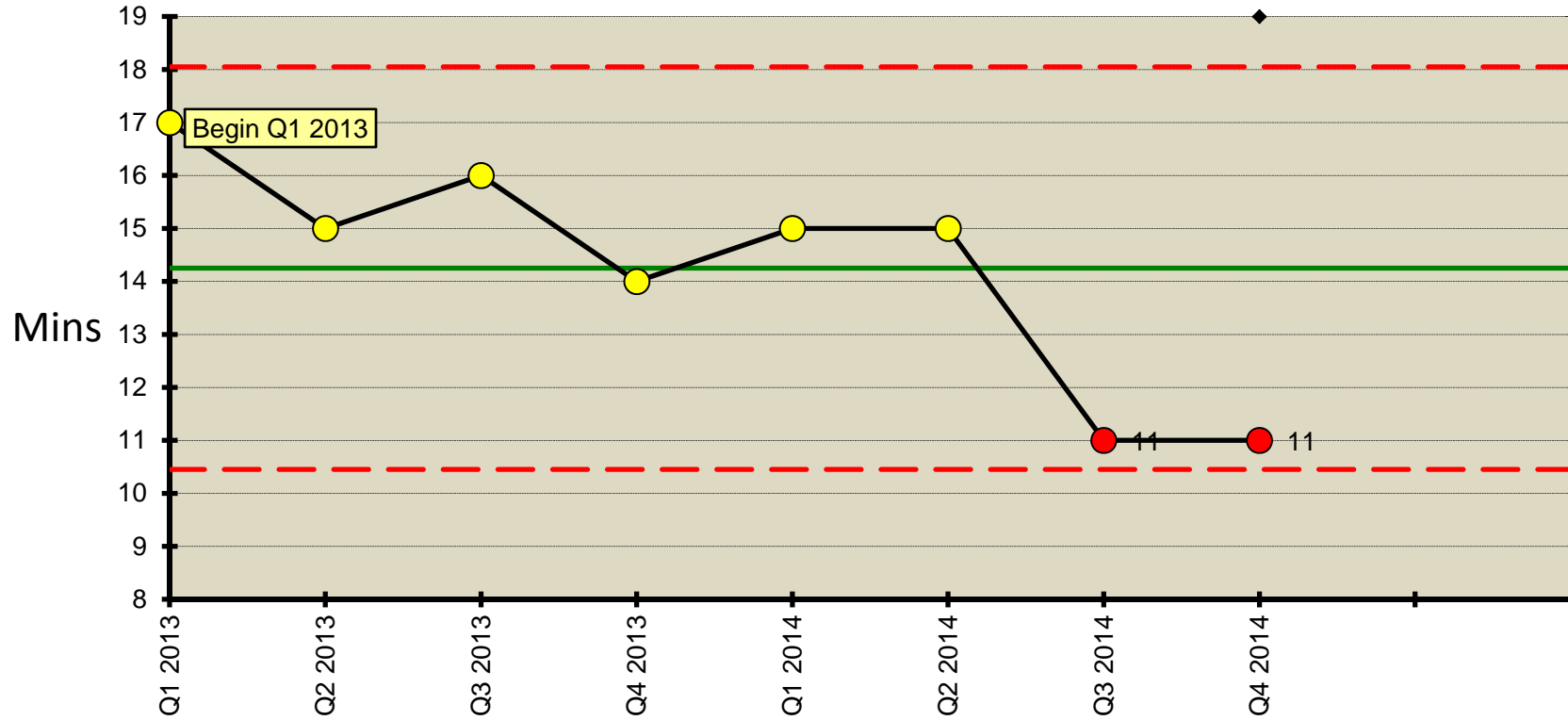
N=509 Total Resuscitations Attempted



STEMI System Annual 2014

Data Source: AMR, CCC STEMI Centers

Median Prehospital Scene Time Interval - STEMI By Quarter through 2014



No Special Cause Detected

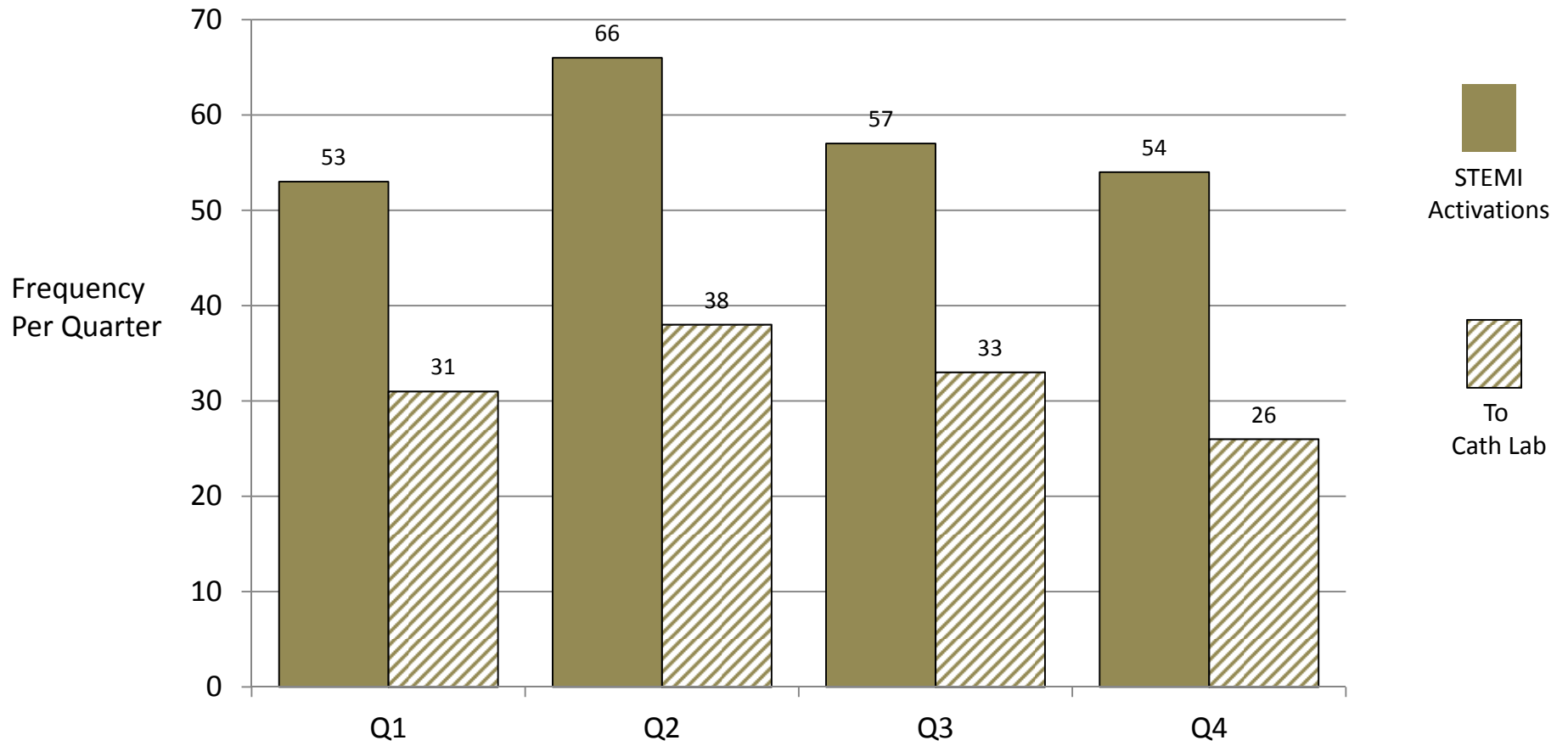
Avg of Data Shown 15.1
Median Data Shown 15
Sigma for Limits 1.216
Base for Limits Average MR

Chart Type: Chart for Individuals
 Centerline: 15.10 Process Limits: Lower: 11.45 Upper: 18.75 Database Column 1

- A: 1 Beyond Control Limit
- B: 9 On One Side of Average
- C: 6 Trending Up or Down
- D: 14 Alternating Up & Down
- E: 2 of 3 Beyond 2 Sigma
- F: 4 of 5 Beyond 1 Sigma
- G: 15 Within 1 Sigma
- H: 8 Outside 1 Sigma
- X: Excluded or Missing Data

Contra Costa STEMI System Activations and Disposition 2014

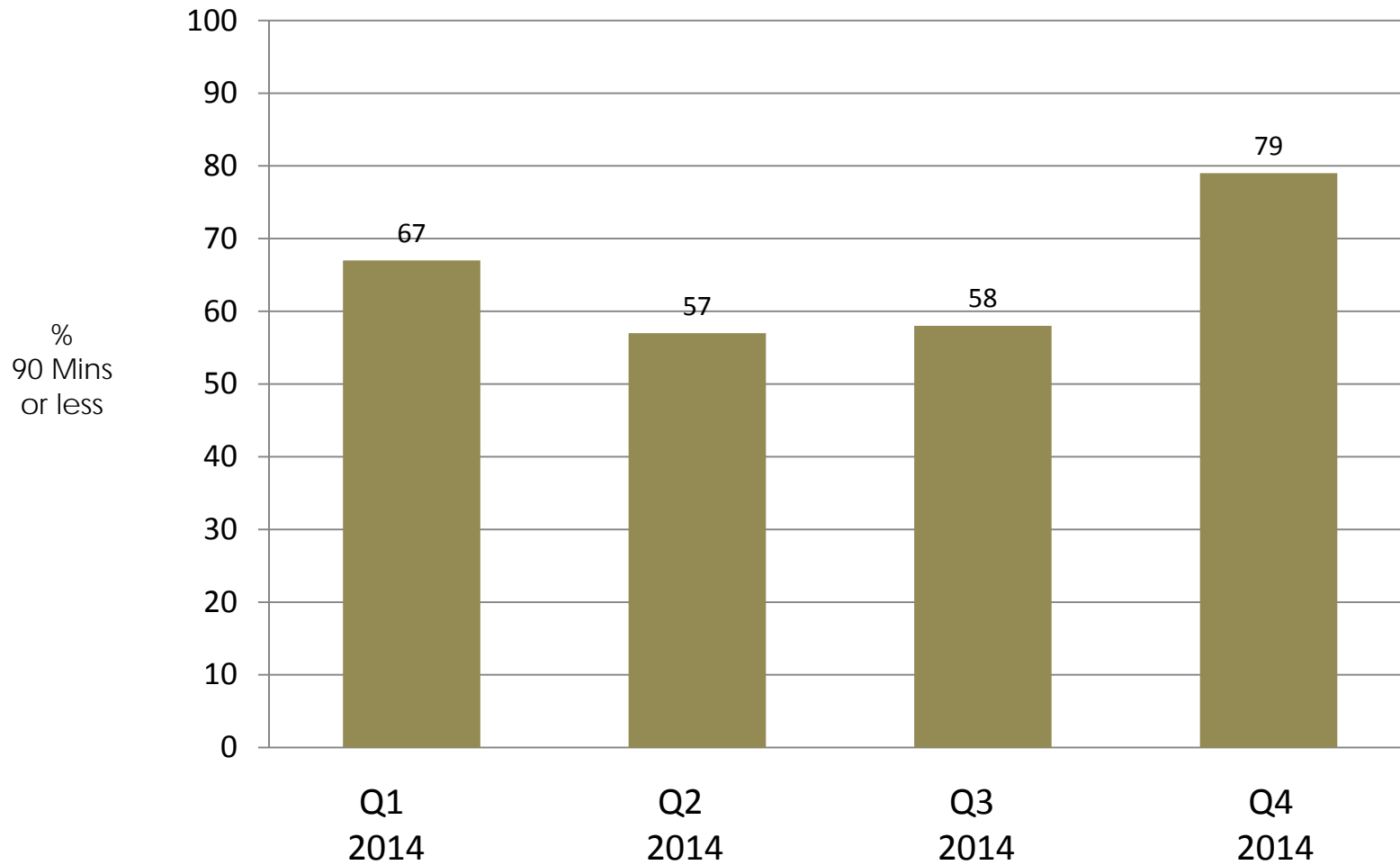
N=230 Total Activations



STEMI System Median Time Benchmarks By Quarter 2014

N=230 Activations

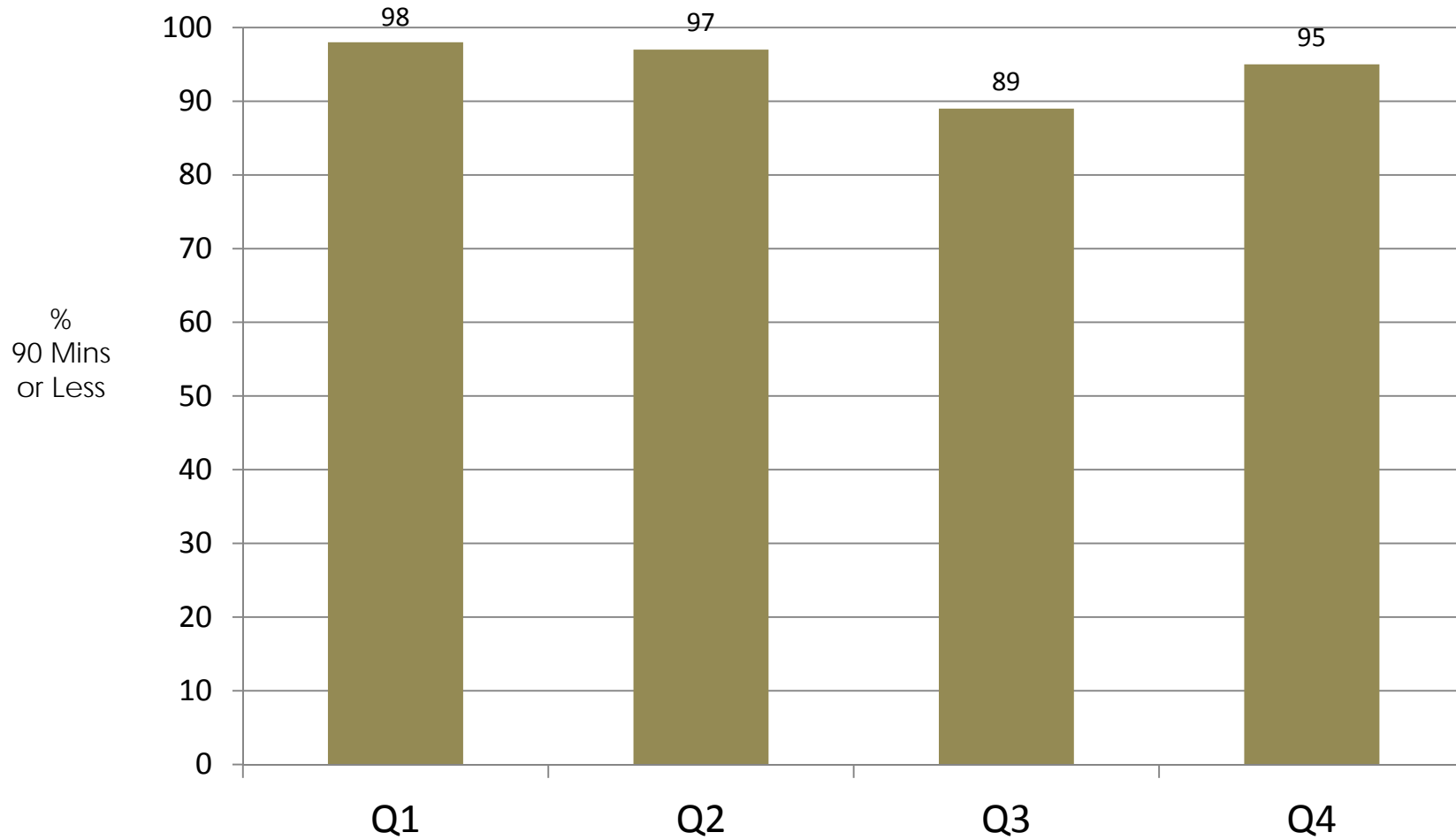
Benchmark: Scene to PCI < 90 mins



STEMI System Median Time Benchmarks By Quarter 2014

N=230 Activation

Benchmark: Door to PCI s < 90 mins

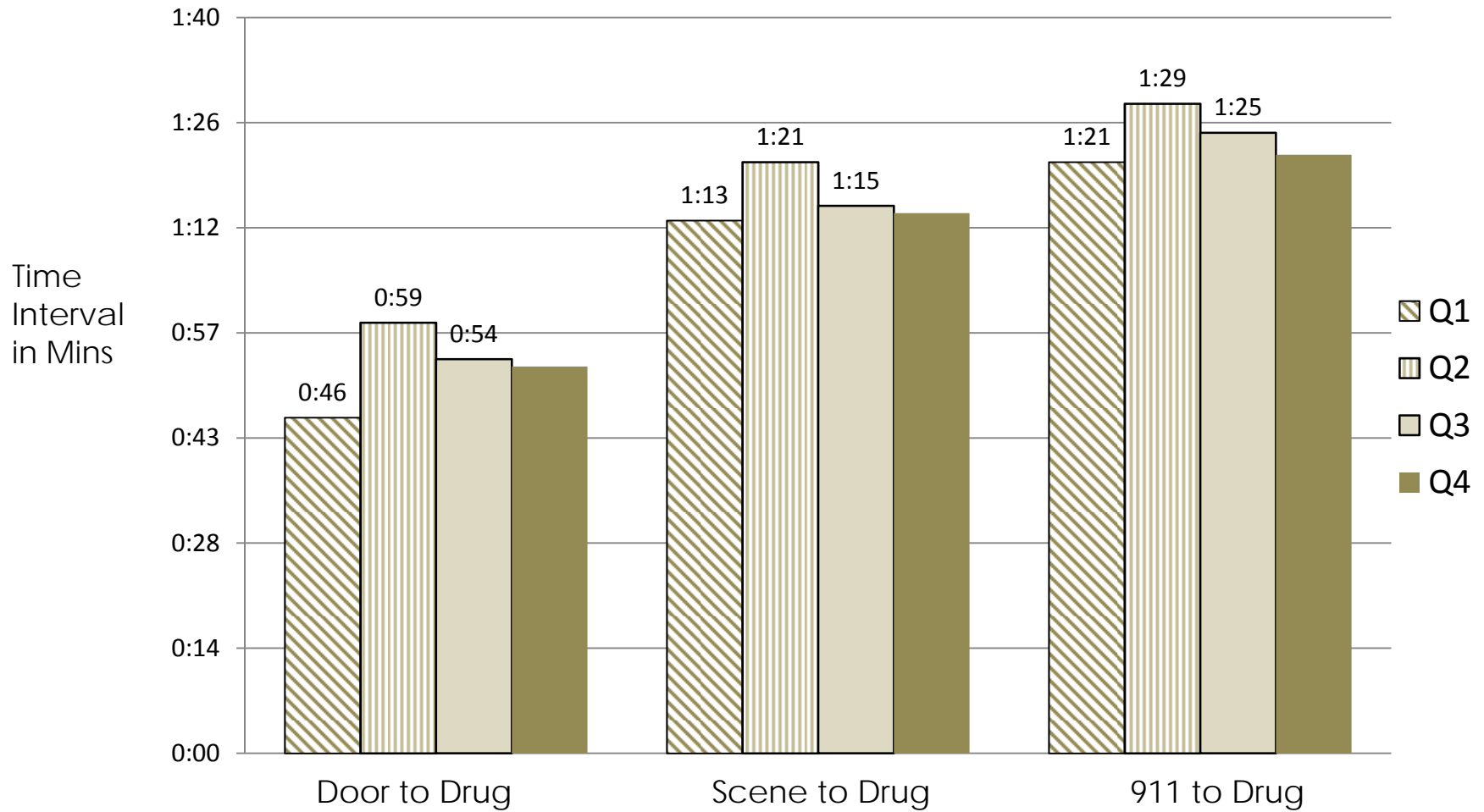


Stroke System Annual 2014

Data Source: **MEDS 3** California Stroke Registry

Contra Costa Stroke System Mean Pt Care Time Intervals Annual 2014

N = 269



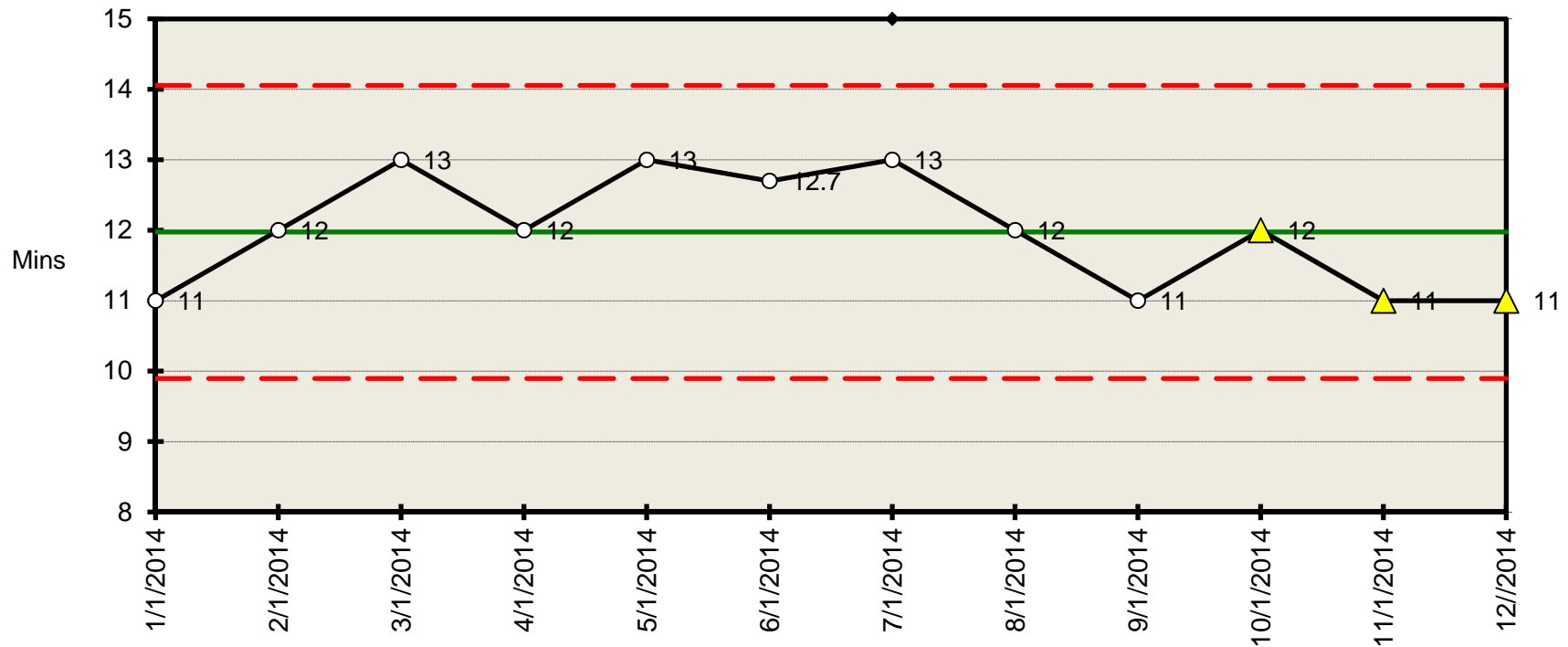
Benchmark ASA: Door-to-Drug within 60 minutes

STROKE ALERT

Mean Prehospital Scene Time Interval

Annual 2014

Control Chart Analysis
 N=725 Stroke Alerts
 Benchmark = 15 mins



Centerline: 11.98 Process Limits: Lower: 9.896 Upper: 14.05

1

Avg of Data
 Shown 11.975
Median Data
 Shown 12
Sigma for
 Limits 0.6931
Base for
 Limits Average MR

- A.1 Beyond Control Limit
- B.9 On One Side of Average
- C.6 Trending Up or Down
- D.14 Alternating Up & Down
- E. 2 of 3 Beyond 2 Sigma
- F. 4 of 5 Beyond 1 Sigma
- G. 15 Within 1 Sigma
- H. 8 Outside 1 Sigma
- X. Excluded or Missing Data

Final Diagnosis of Stroke Alerts

2014

N = 757

Source: AMR Meds, Zoll, Primary Stroke Centers

Migraine/Headache,

3%

Other, 20%

CVA, 43%

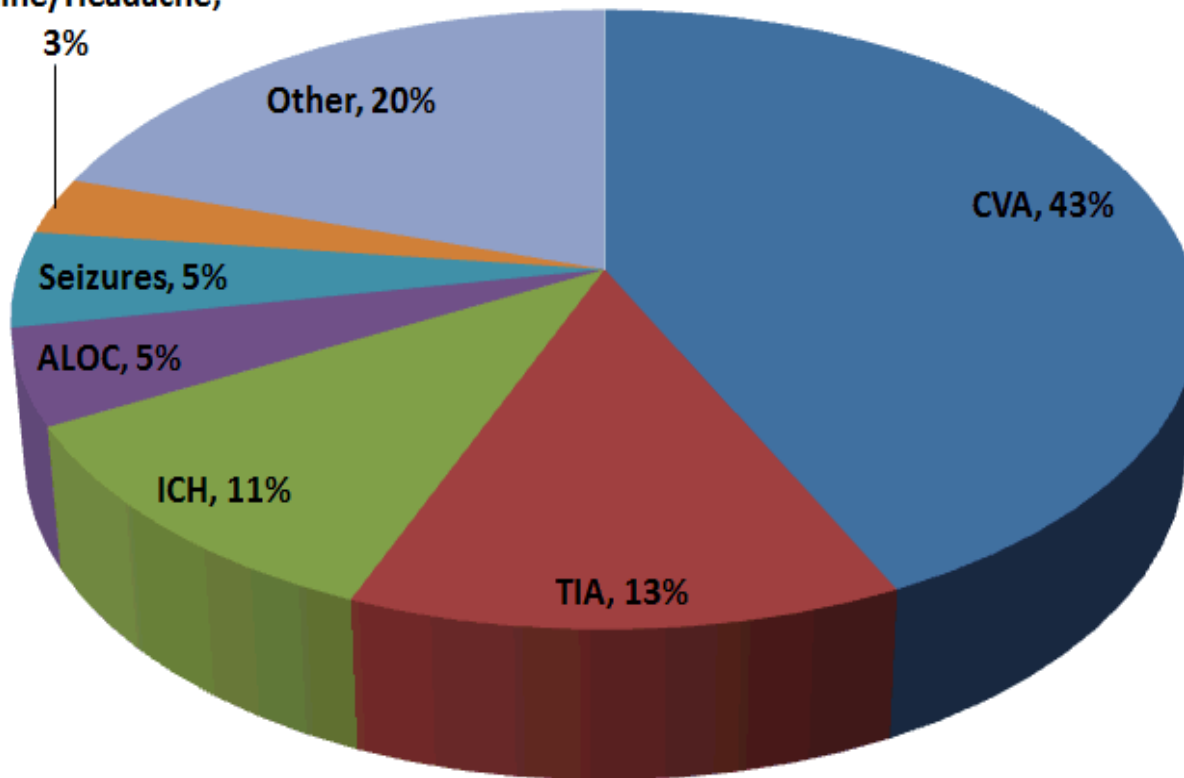
Seizures, 5%

ALOC, 5%

ICH, 11%

TIA, 13%

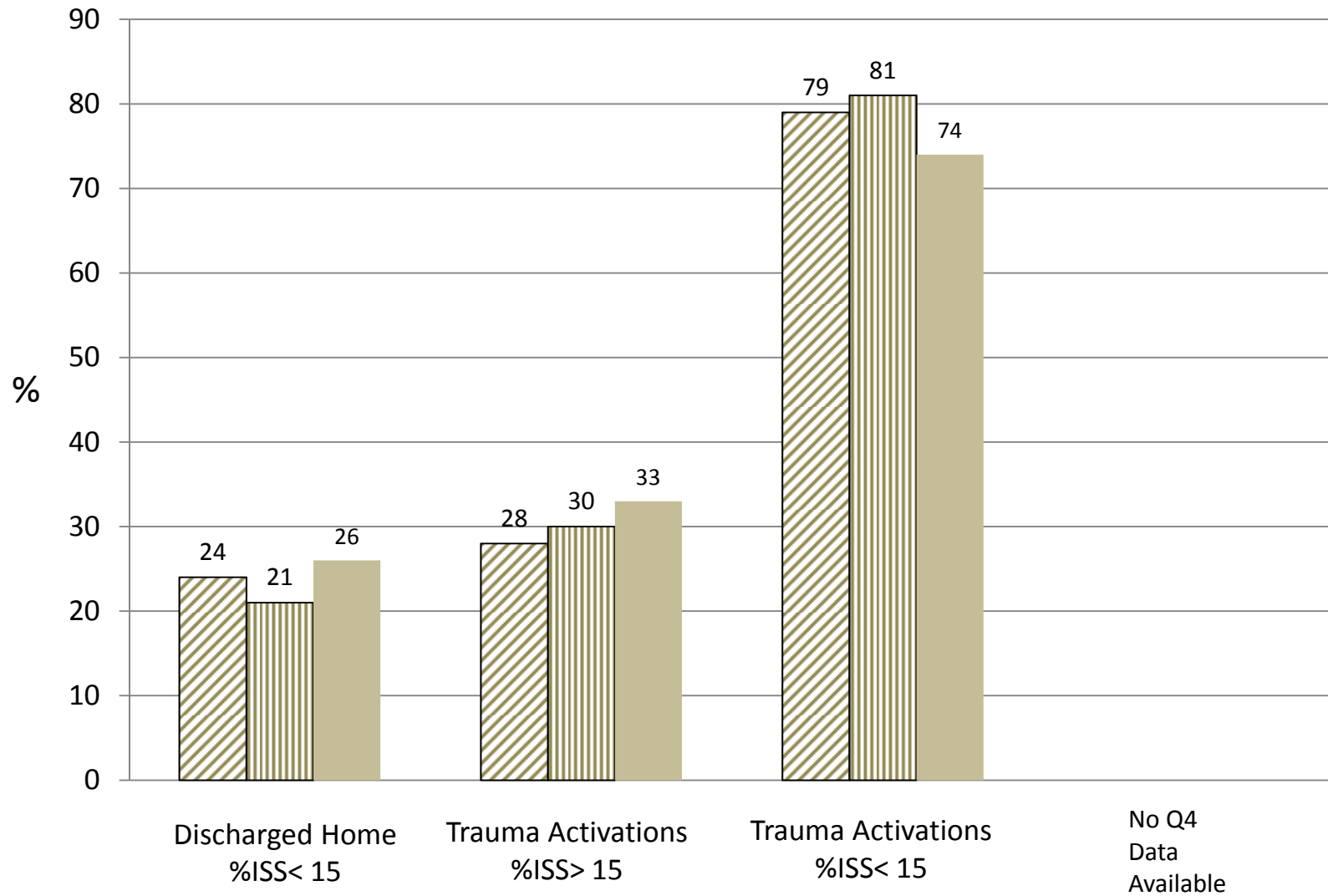
- CVA
- TIA
- ICH
- ALOC
- Seizures
- Migraine/Headache
- Other



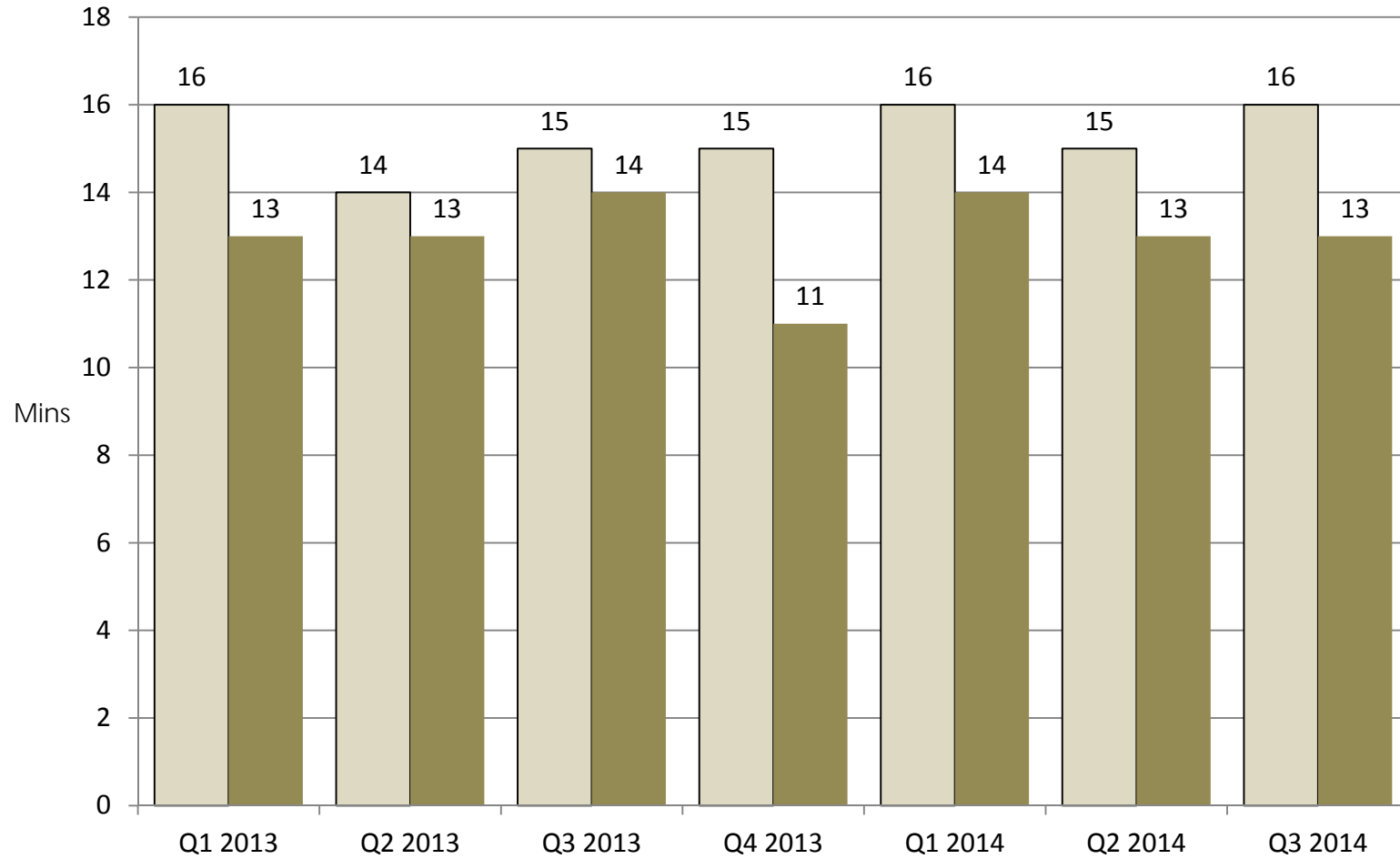
Trauma System Annual 2014

Data Source: Trauma Registry

Trauma Activations & Discharges By Quarter: Q1-Q3 2014



Median Prehospital On Scene Time Interval Blunt vs. Penetrating Trauma By Quarter Annual 2014



END
CORE MEASURES
SYSTEM REPORT
Annual 2014

Contra Costa EMS Agency Quality Initiatives

PRIORITY 2015-16

Patient Care Documentation

2014-15 -Continue Active

High Performance Cardiac Arrest & CPR

EMS Patient Off-Load Time Reduction

Never Events - EMS Events Reporting Process

2013-14 – Monitor & Sustain

Spinal Motion Restriction

Pediatric Medication Safety

Adhoc Studies
Annual 2014

EMS Never Events (Patient Handoff > 1 hour) Patient Safety Initiative: The Journey to Zero

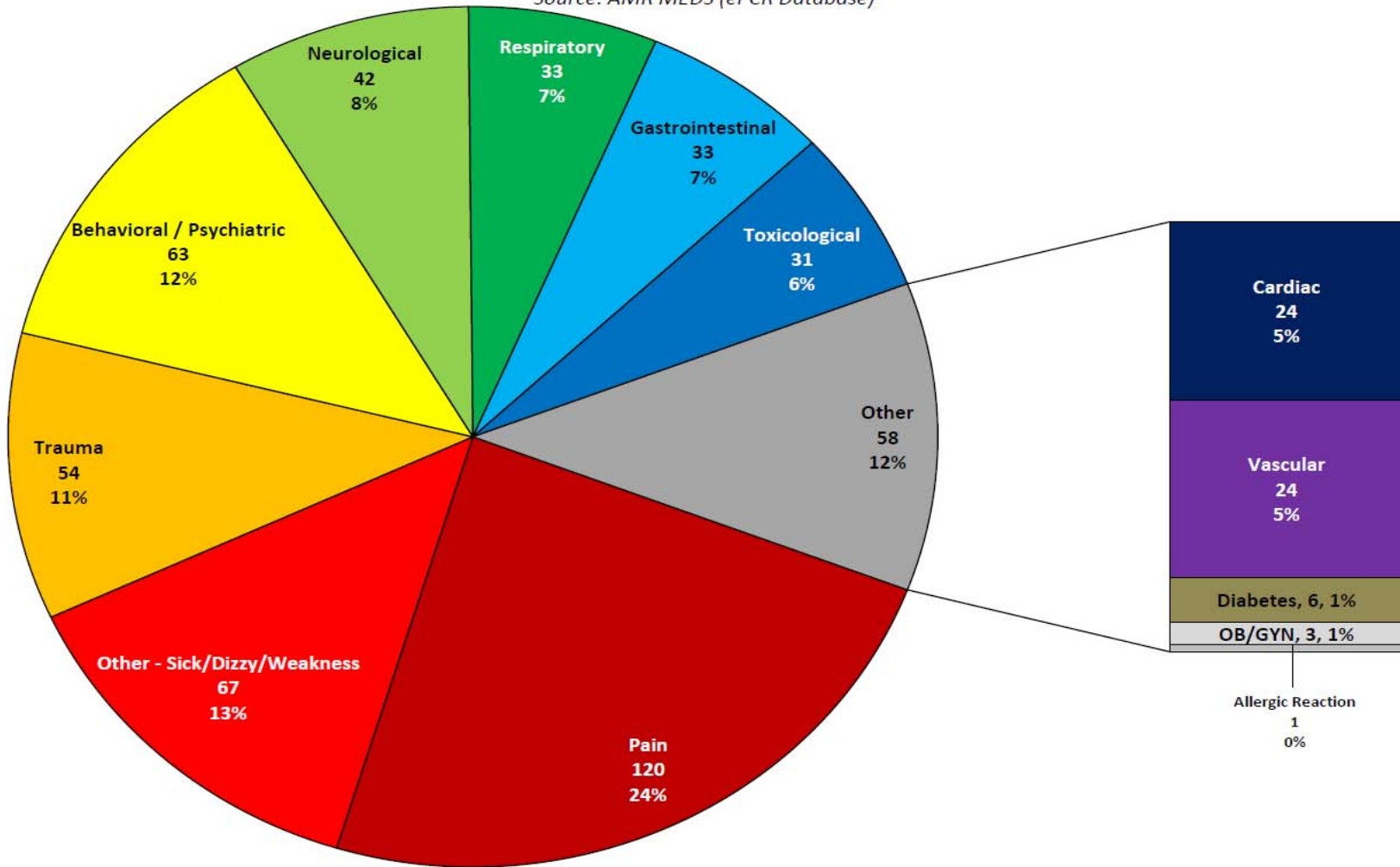
Never Events by Facility (>1 Hour Drop Time)	2013 (8/1/2013 - 12/31/2013)	2014 (1/1/2014 - 12/31/2014)	2015 (1/1/2015- 1/31/2015)	Grand Total
CCRMC	2	15	6	23
CCRMC - PES	6	34	4	44
John Muir - Concord	8	19	1	28
John Muir - Walnut Creek	3	17	3	23
Kaiser - Antioch	4	10	2	16
Kaiser - Richmond	1	13	1	15
Kaiser - Walnut Creek	2	8	1	11
Sutter Delta	36	285	20	341

Which Patients Experience Never Events?



Paramedic Primary Impressions Never Events (>1 Hour Handoff Time) 8/1/2013 - 1/31/2015

Source: AMR MEDS (ePCR Database)



Never Event Characteristics: Affects All Ages

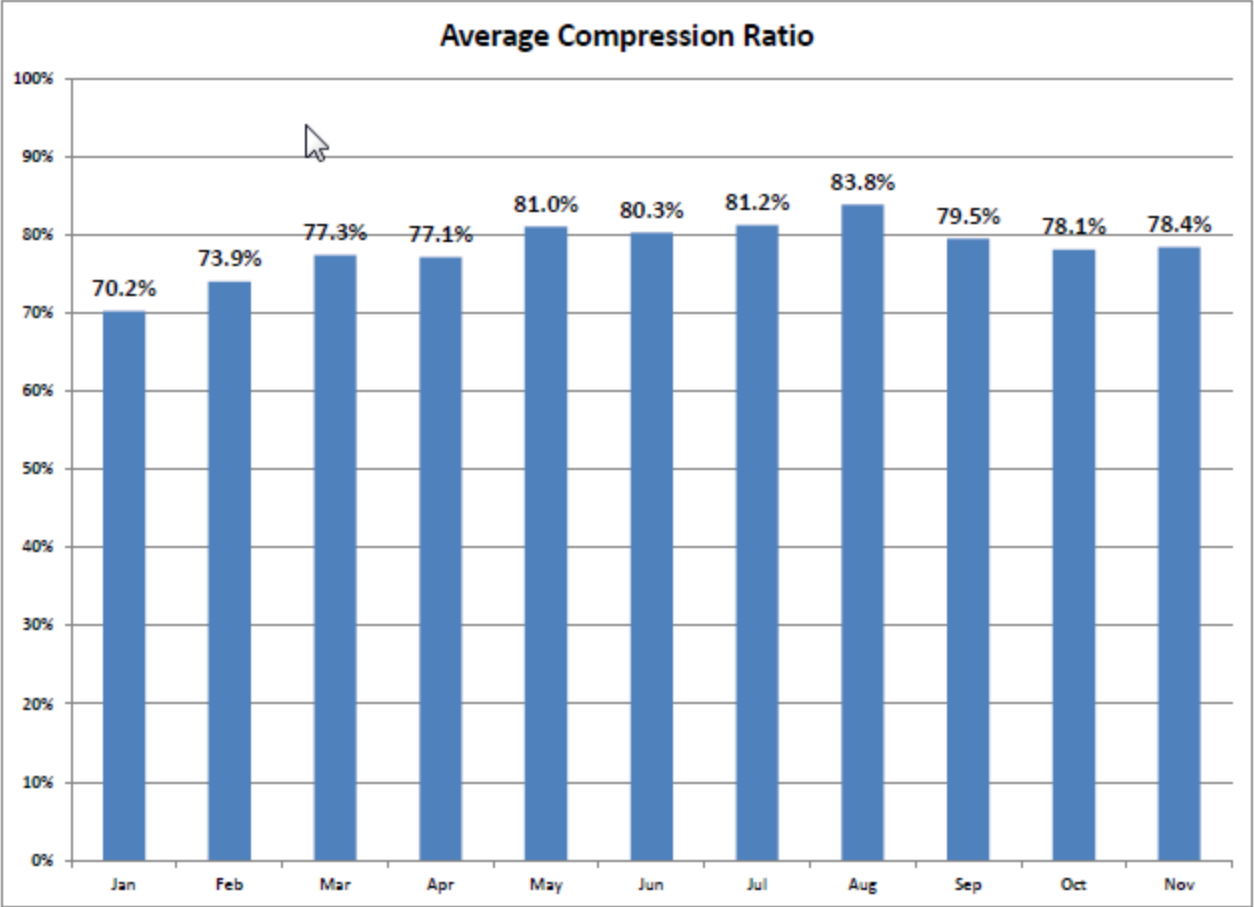
Never Events (>1 Hour Drop Time) By Patient Age	2013 (8/1/2013 - 12/31/2013)	2014 (1/1/2014 - 12/31/2014)	2015 (1/1/2015- 1/31/2015)	Grand Total
0-9	1	9	0	10
10-19	5	21	2	28
20-29	7	41	4	52
30-39	5	37	6	48
40-49	8	58	3	69
50-59	10	65	5	80
60-69	10	70	3	83
70-79	8	41	5	54
80-89	4	42	6	52
90-100	4	16	4	24
> 100	0	1	0	1

Never Event Patient Characteristics

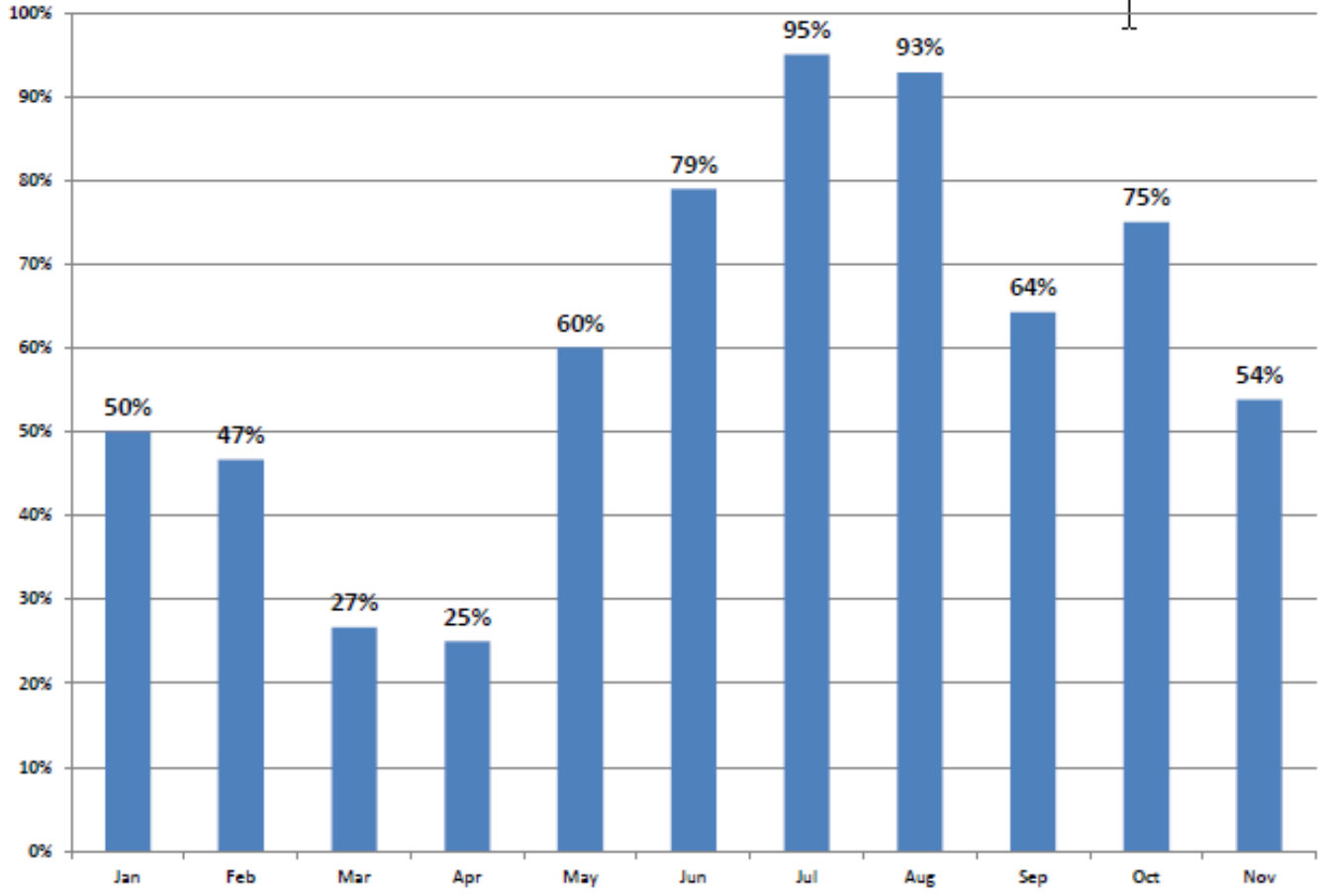
Never Events (>1 Hour Drop Time) By Patient Gender	2013 (8/1/2013 - 12/31/2013)	2014 (1/1/2014 - 12/31/2014)	2015 (1/1/2015- 1/31/2015)	Grand Total
Female	32	235	26	293
Male	30	166	12	208

Never Events (>1 Hour Drop Time) By Patient Ethnicity	2013 (8/1/2013 - 12/31/2013)	2014 (1/1/2014 - 12/31/2014)	2015 (1/1/2015- 1/31/2015)	Grand Total
Asian	2	17	0	19
Black/African American	19	106	9	134
Caucasian	29	200	20	249
Hispanic or Latino	11	49	7	67
Other Race	1	29	2	32

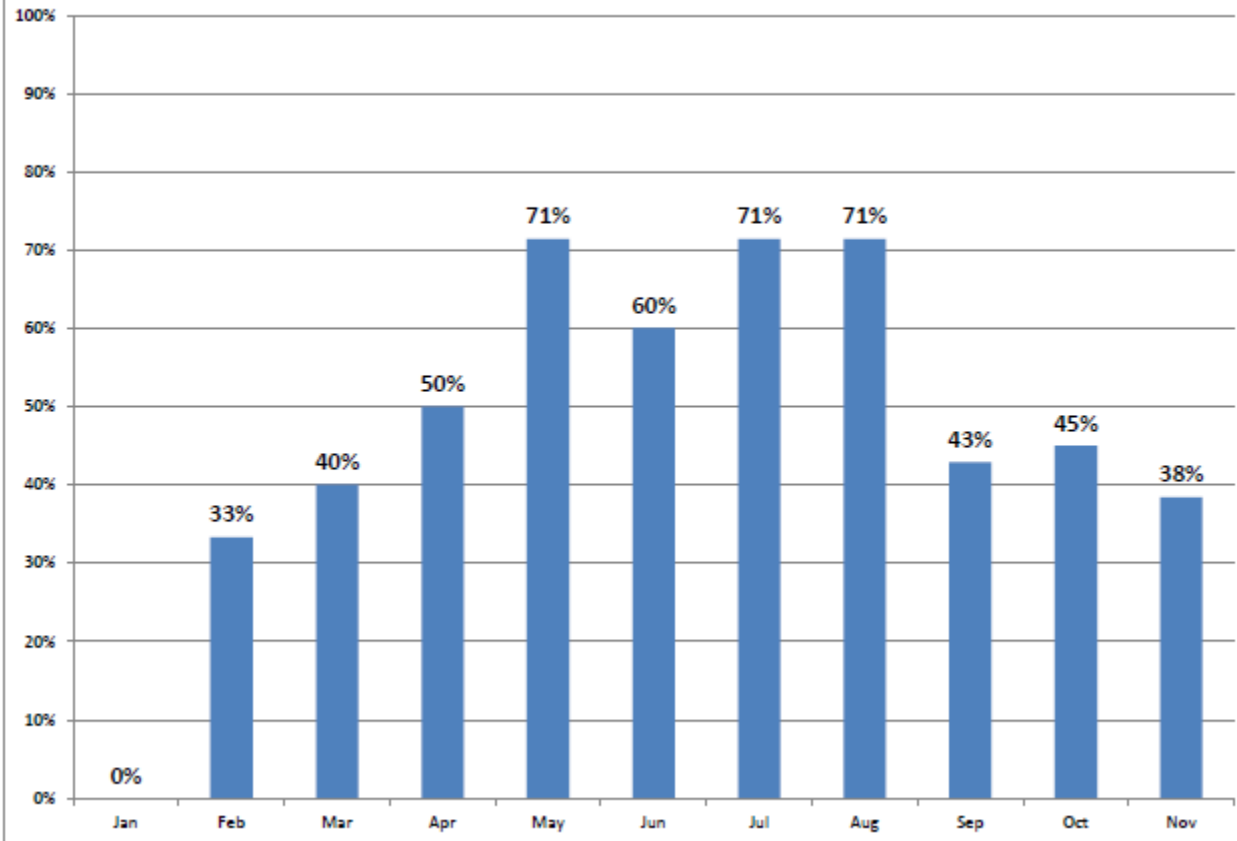
*High Performance Cardiac Arrest & CPR
Quality Initiative*



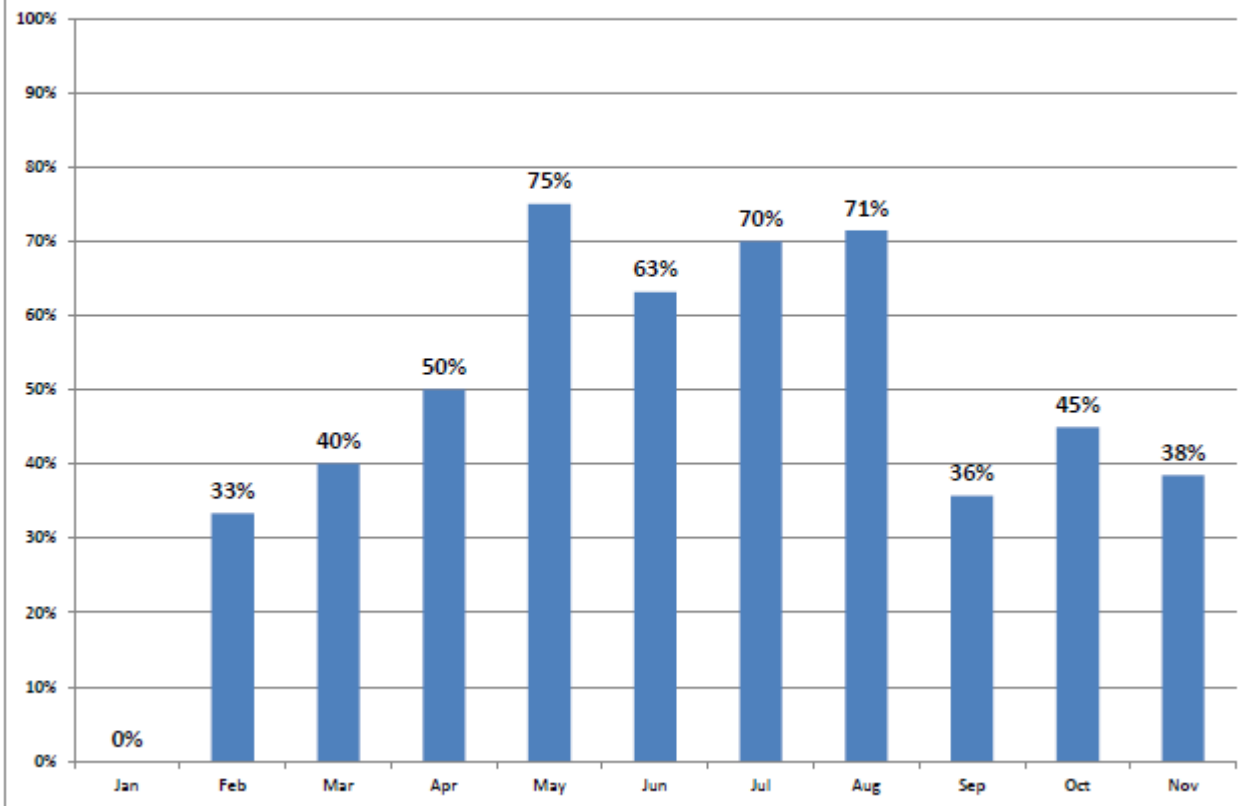
Percent of Cases with Compression Rate between 100 and 120 - 2014



Percent of Cases with Compression Ratio of at Least 80% - 2014



**Percent of Cases with Both Compliant Compression Rate and Ratio -
2014**



END REPORT
Annual 2014