PENNSYLVANIA Health Care Quality Alliance

State of the State:
Hospital Performance in Pennsylvania
September 2012

Measuring Progress in PA Hospital Performance:
Process Measures

PA Hospital Performance: Process Measures

Process Measures Analysis

- We examined the latest year-over-year (YOY) changes in the CMS and Joint Commission process measures aggregated on the www.pahealthcarequality.org website

- 23 process measures (20 from Center for Medicare and Medicaid Services and 3 from The Joint Commission) reported on the PHCQA website were examined from Q3 2006 to Q2 2011.
  - 5 Heart Attack Measures*
  - 2 Heart Failure Measures*
  - 8 Pneumonia Measures*
  - 8 Surgical Care Measures*

- We used rates and averages to compare performance data.
  - PA rates are calculated using a volume-based, weighted-average of hospitals in Pennsylvania.
  - PA averages are calculated using an institution-based, non-weighted average of hospitals in Pennsylvania.

* See glossary for detailed list

CMS Process Measures Data for PA Hospitals: Overall Findings

- Overall PA hospital performance on all process measures improved from July 2010 to July 2011.

- The PA rates were greater than the CMS national rates for 18 of the 20 CMS process measures. Of the 20 CMS process measures, only AMI-3 and AMI-8a had a PA rate below the national rate.

- Increases in PA hospital performance were consistent with national hospital performance improvements during the July 2010 to July 2011 time period.

- Hospitals in Pennsylvania tended to perform above average compared to their peers at the national level. This mirrors results from previous 'State of the State' reports (with the exception of last year's report) which show PA improving at rates equal to or higher than the rest of the nation.

# YOY Comparisons between 12-month periods ending July 2010 and July 2011

- Process measure scores for PA hospitals improved across the board during the July 2010 to July 2011 time period.
  - PA rates increased for all 23 process measures
  - The standard deviations for PA hospitals decreased for 19 of 23 process measures indicating an overall increase in consistency.
  - The medians for PA hospitals either increased or stayed the same for all 23 process measures.
- Increases in the performance of PA hospitals were consistent with the performance of hospitals nationwide.
  - National rates and top ten percentiles either increased or remained the same for all 23 process measures.
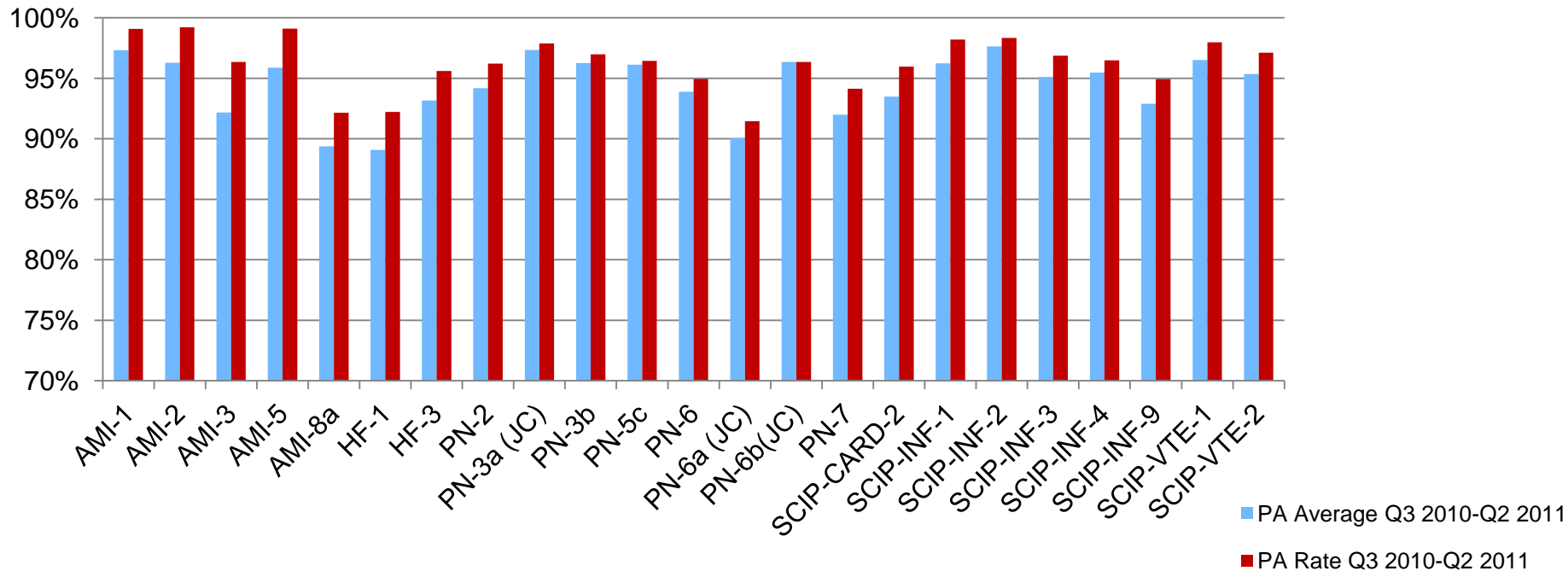
Process Measures in Charts and Graphs

YOY Comparison of PA Rates: Process Measures

Comparison of the performance from July 2010 vs. July 2011

PA Rate Q3 2009-Q2 2010

PA Rate Q3 2010-Q2 2011
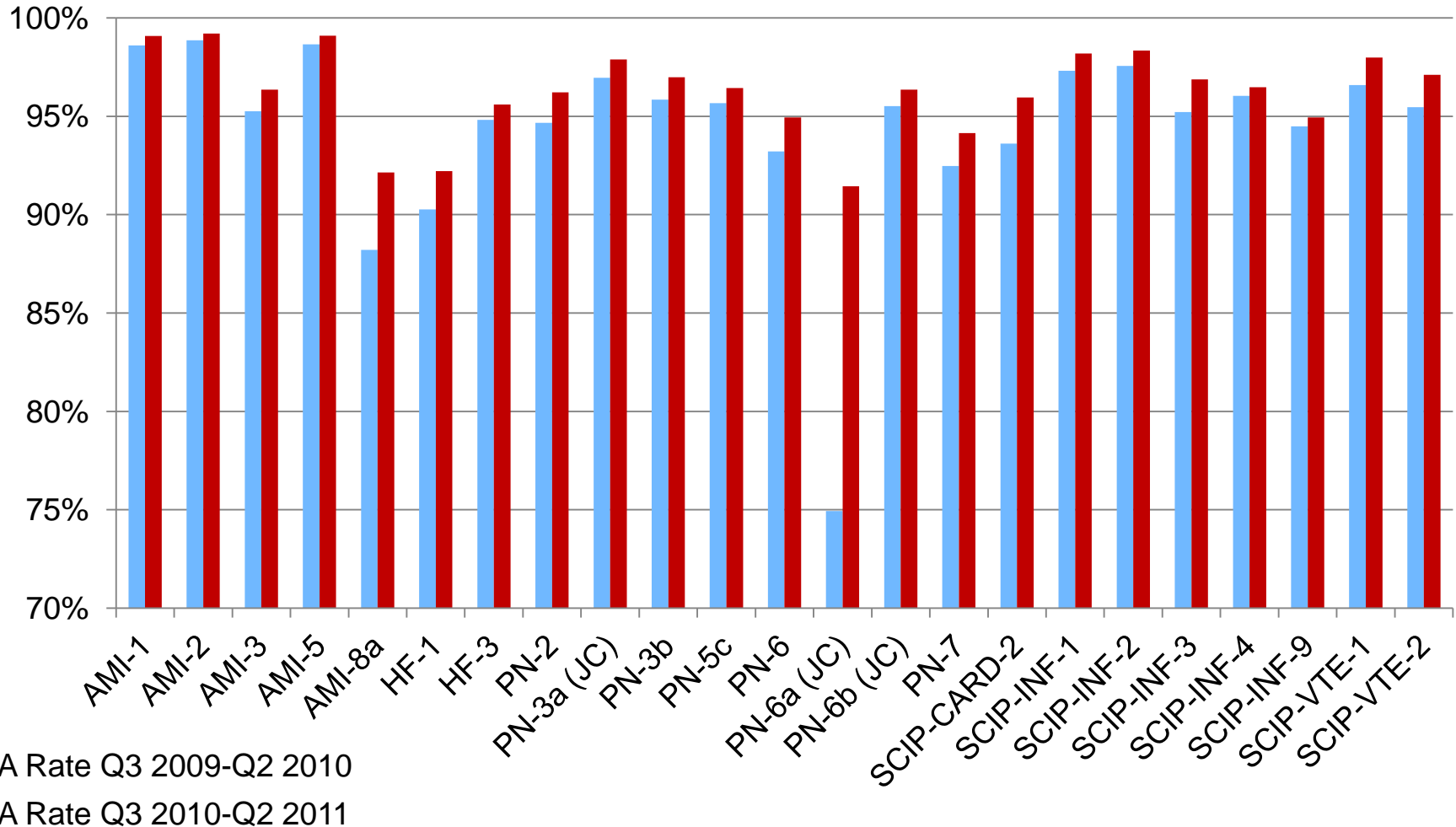
PA Averages vs. PA Rates for Process Measures

PA Averages vs. PA Rates for Q3 2010-Q2 2011

- All rates are larger than the corresponding averages

- This is driven by the fact that hospitals that see more patients are performing better on average than hospitals caring for fewer patients.

PA Rate vs. National Rate for Q3 2010-Q2 2011

Legend:
- ■ PA Rate Q3 2010-Q2 2011
- ■ US Rate Q3 2010-Q2 2011
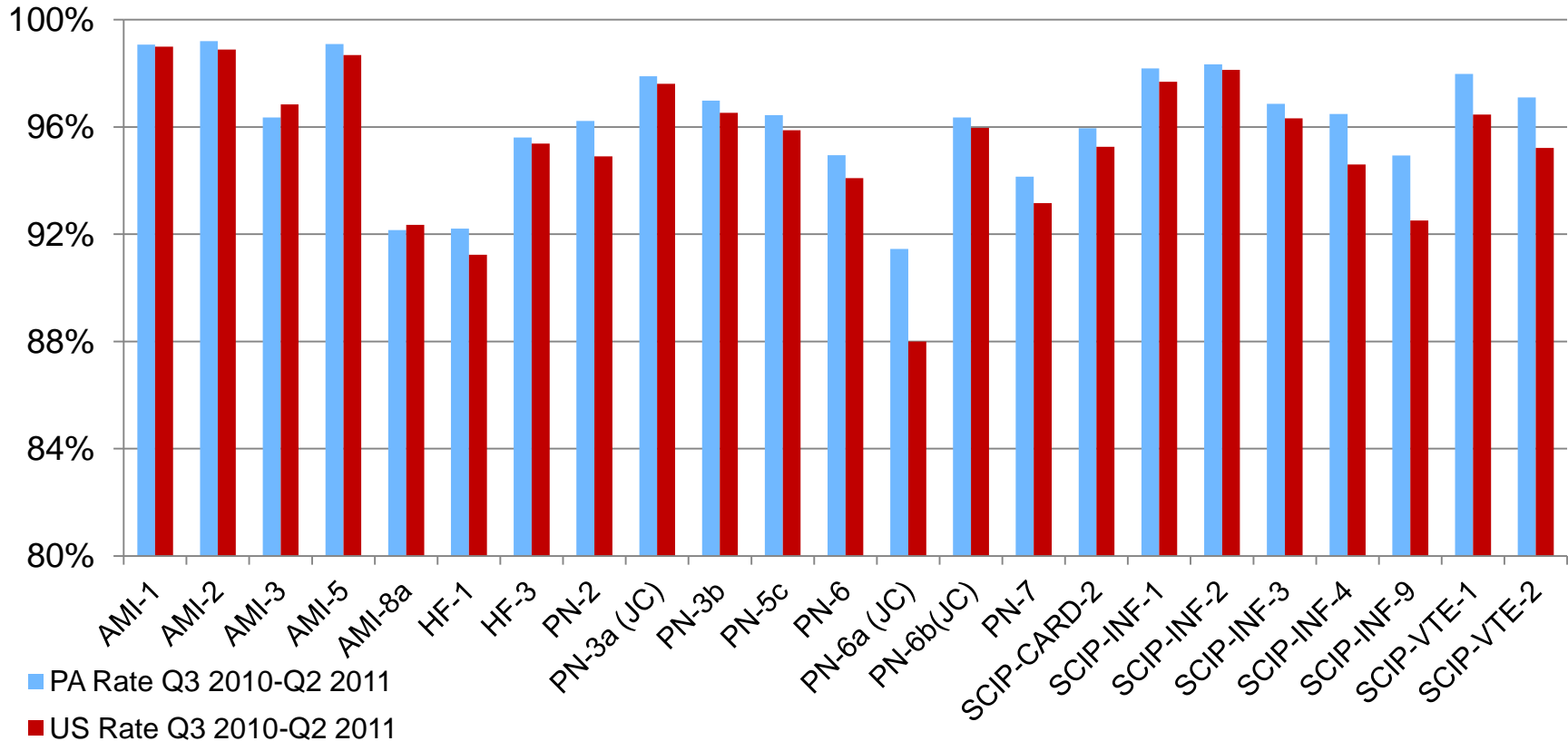
- In June 2010 the PA rates were better than the national rate for 20 of 23 process measures. As of June 2011 that number grew by one to 21 of the 23 process measures.
- Pennsylvania hospitals performed worse than the national rate only for the measures AMI-3 and AMI-8a.

YOY Comparisons between Q2 2009, Q2 2010, and Q2 2011 CMS Process Measures

% of PA Hospitals Greater than or Equal to US Top 10th Percentile
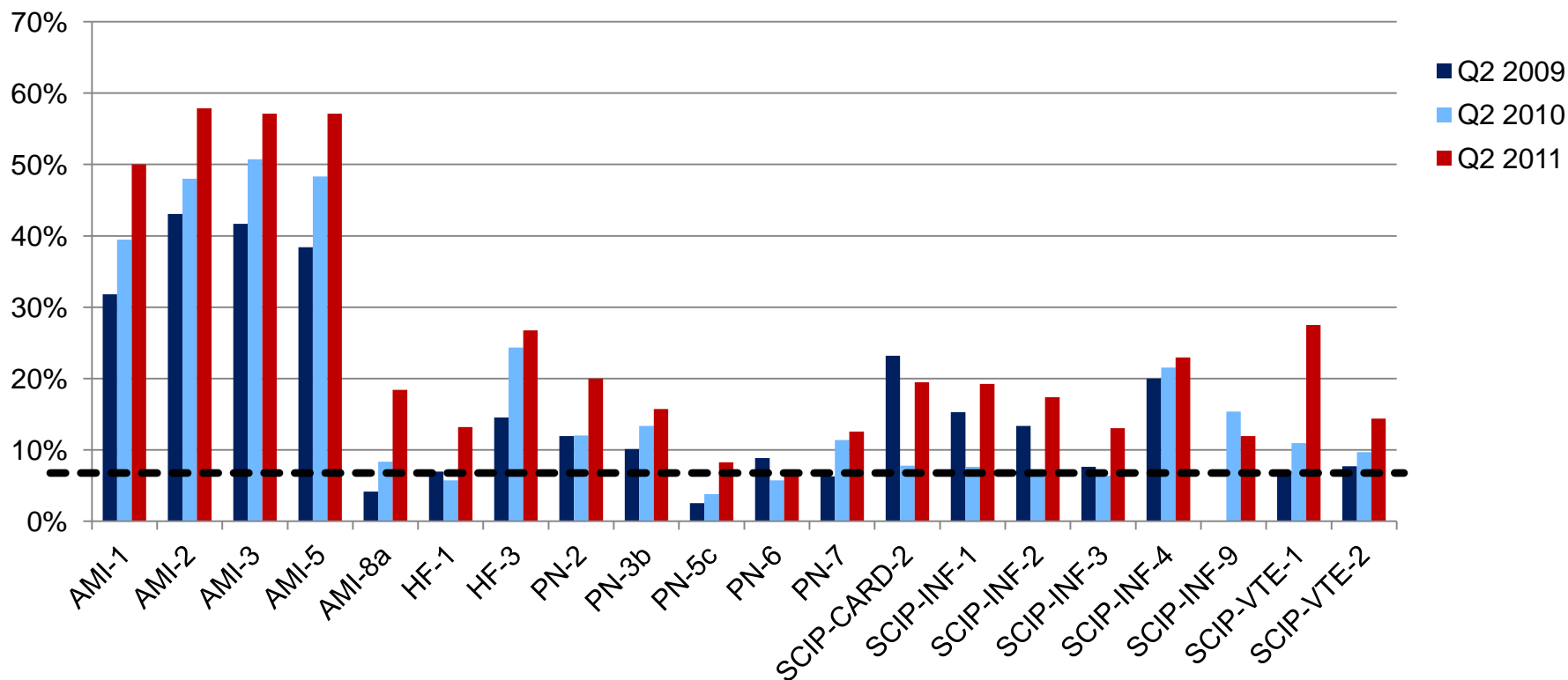
- Over the past three years, most measures show a gradual increase in the percentage of PA hospitals in the US top 10th percentile each year.
- Every measure, except SCIP-INF-9, showed an increase in the percentage of PA hospitals in the top 10th percentile between 2010 and 2011.

CMS Patient Experience Measures (HCAHPS)

Measuring Progress in PA Hospital Performance: HCAHPS Measures

HCAHPS Patient Experience Analysis

● We reviewed the latest year-over-year score changes in the 10 CMS HCAHPS Measures that are reported on the PHCQA website:

- H-COMP-1: Nurse Communication
- H-COMP-2: Doctor Communication
- H-COMP-3: Responsiveness of Hospital Staff
- H-COMP-4: Pain Well Controlled
- H-COMP-5: Medicine Explained by Staff

- H-COMP-6: Discharge Information
- H-CLEAN-HSP: Room and Bathroom Kept Clean
- H-QUIET-HSP: Room Quiet at Night
- H-HSP-RATING: Hospital Rating
- H-RECMND: Hospital Recommendation

● Only the scores of the top tier answer categories were evaluated.

● We also examined correlations among HCAHPS measure scores for the July 2011 time period.

YOY Comparisons between July 2010 and July 2011 HCAHPS Measures Data for PA Hospitals

- PA hospital HCAHPS scores from July 2011 tend to perform below average compared to hospitals nationwide.
  - The PA average equaled the national average for H-COMP-6.
  - The national average exceeded the PA average for all other HCAHPS measures.
- Overall, PA hospitals exhibited small increases in HCAHPS scores across the board.
  - All PA averages, except H-COMP-2 and H-COMP-3, increased since the previous year.
  - All PA medians, except H-COMP-3 and H-QUIET-HSP, increased since the previous year.
  - All increases were modest. None of the PA medians or averages increased by more than 1.27 percentage points.
- Changes in HCAHPS scores for hospitals nationwide were similar to changes in PA scores from the previous year.
  - The US averages increased or stayed the same for all HCAHPS measures.
  - None of the US averages increased by more than 1 percentage point.

YOY Comparison of PA Averages: Patient Experience (HCAHPS)
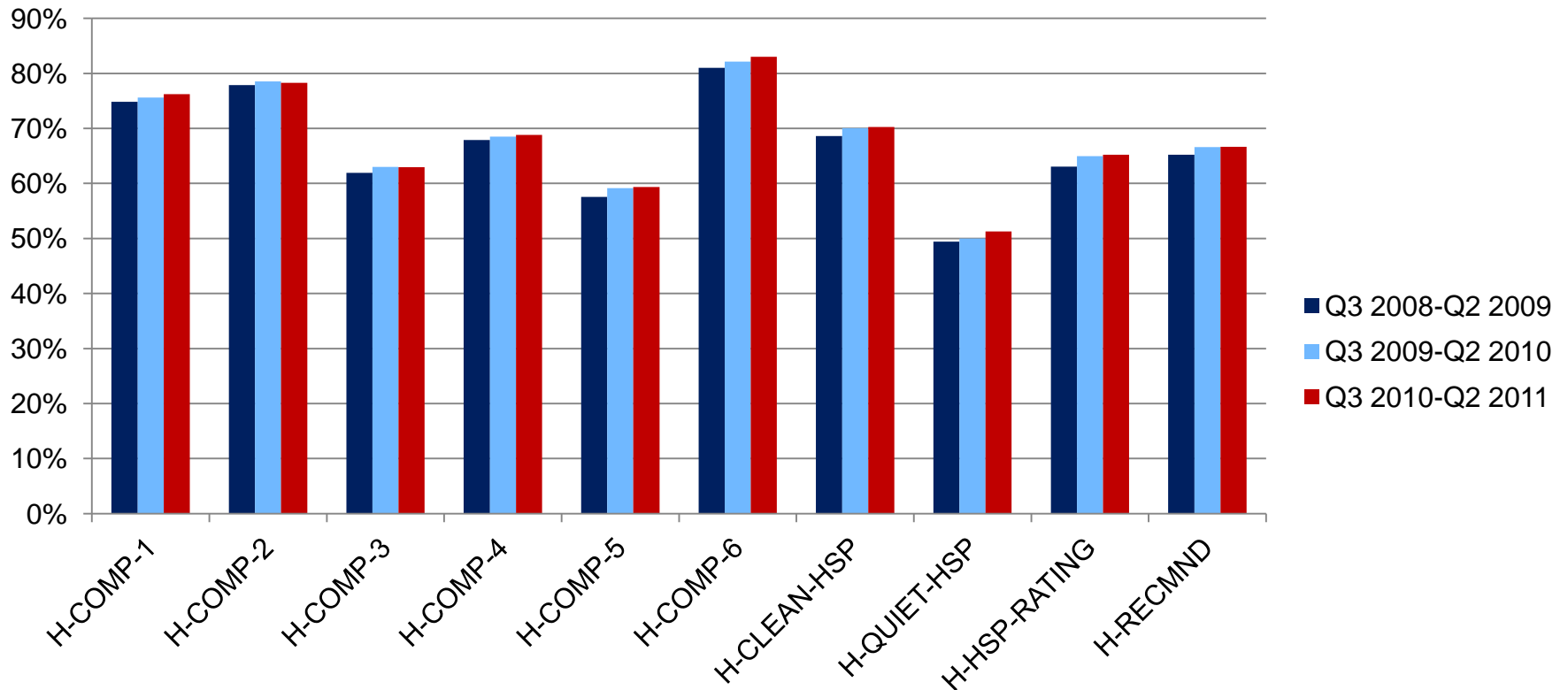
Comparison of the year's performance ending July 2010 vs. July 2011
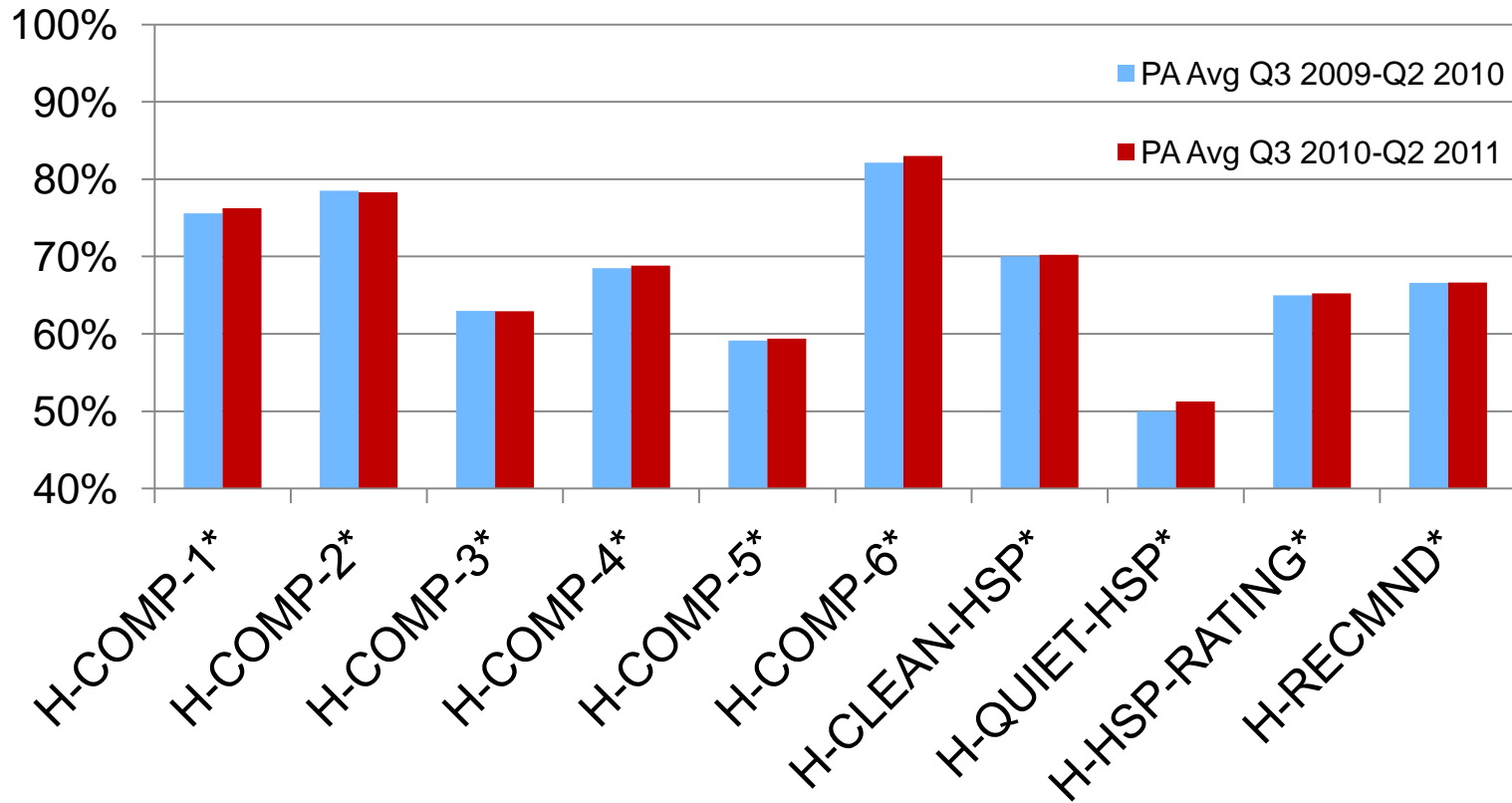
*HCAHPS data are averages and are not weighted by volume.

# 3-Year Comparisons of HCAHPS Measures Data for PA Hospitals

Comparison of HCAHPS PA Averages over Last Three Years

Legend:
- Q3 2008-Q2 2009
- Q3 2009-Q2 2010
- Q3 2010-Q2 2011

Categories: H-COMP-1, H-COMP-2, H-COMP-3, H-COMP-4, H-COMP-5, H-COMP-6, H-CLEAN-HSP, H-QUIET-HSP, H-HSP-RATING, H-RECMND

Overall, HCAHPS ratings have remained relatively constant over the last three years.

YOY Comparisons between Q2 2010 and Q2 2011 HCAHPS Measures Data for PA Hospitals

Legend:
- PA Average Q2 2010
- US Average Q2 2010
- PA Average Q2 2011
- US Average Q2 2011
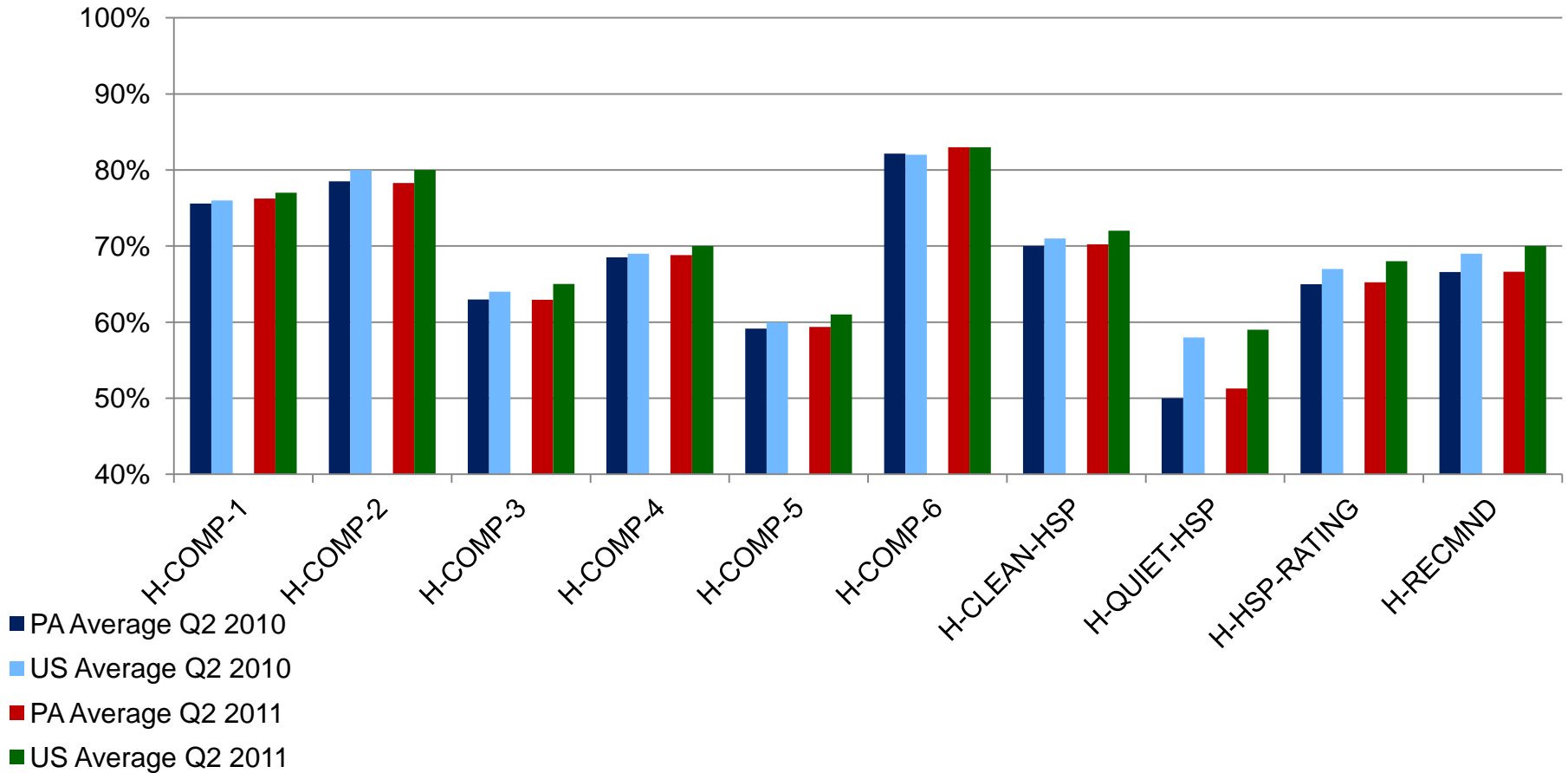
The difference between PA Averages and US Averages is about the same for both time periods.

% of PA Hospitals in the Top Tenth Percentile Nationwide
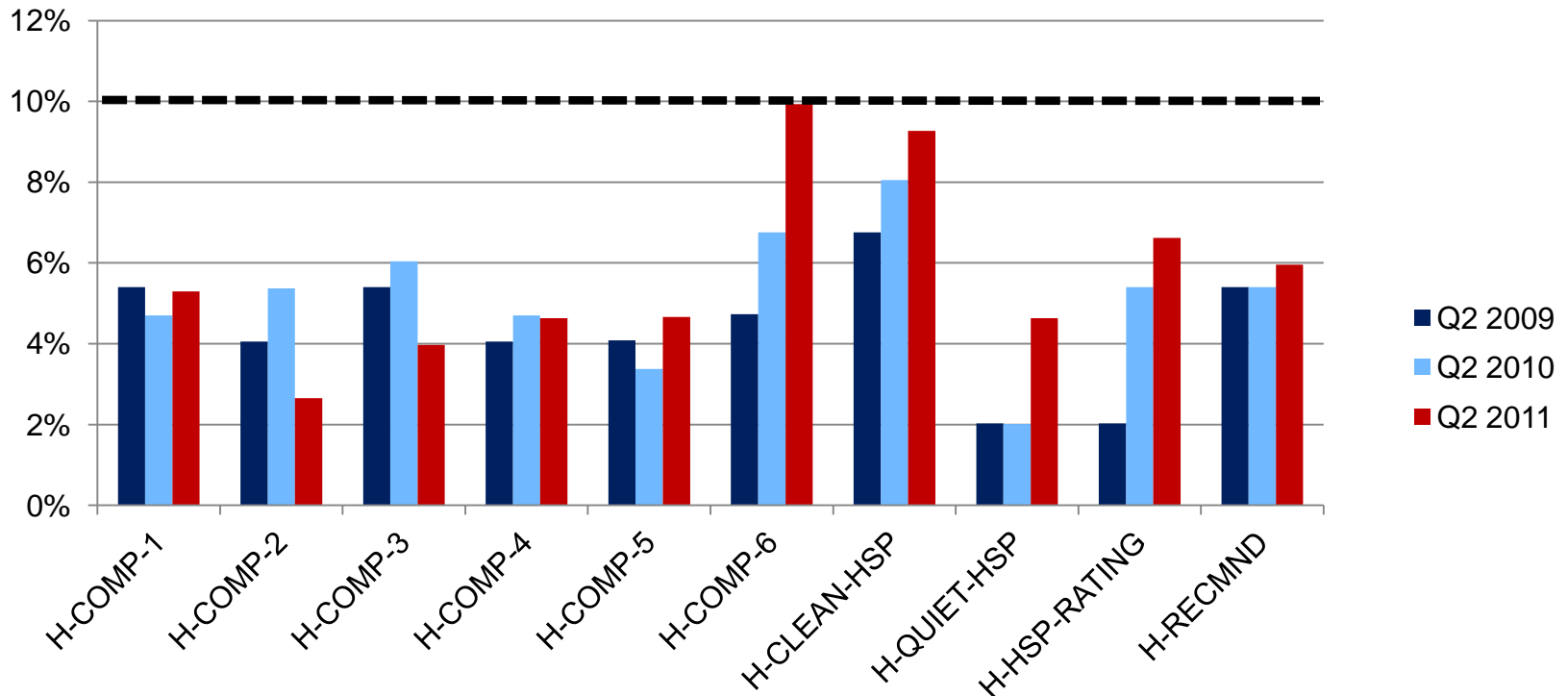
- The percentage of PA hospitals in the top tenth percentile nationwide increased from July 2010 to July 2011 for seven HCAHPS measures.
- Pennsylvania has fewer top performing hospitals than one would expect based on a random distribution of all US hospitals.

July 2011 HCAHPS Measures Data for PA Hospitals: Correlations

	H-COMP-1	H-COMP-2	H-COMP-3	H-COMP-4	H-COMP-5	H-COMP-6	H-CLEAN-HSP	H-QUIET-HSP	H-HSP-RATING	H-RECMND
H-COMP-1	1							Correlation Key		
H-COMP-2	0.76106123	1						= Perfect Correlation (1.0)		
H-COMP-3	0.8717486	0.6949156	1					= Very Strong Correlation (0.7-0.999)		
H-COMP-4	0.86916471	0.6851258	0.7982825	1				= Strong Correlation (0.5-0.699)		
H-COMP-5	0.84107742	0.6968369	0.7753154	0.80872404	1			= Medium Correlation (0.3-0.499)		
H-COMP-6	0.27445692	0.2233421	0.2657676	0.34398651	0.4837651	1				
H-CLEAN-HSP	0.66353618	0.5810346	0.7315601	0.61745876	0.6014244	0.242593	1			
H-QUIET-HSP	0.31177597	0.1866823	0.3529333	0.38524986	0.6329609	0.3913762	0.314119163	1		
H-HSP-RATING	0.77118782	0.5360227	0.7072303	0.70844122	0.7450322	0.5127495	0.531073152	0.433896064	1	
H-RECMND	0.67947771	0.4344263	0.5832267	0.61053291	0.6381823	0.4436653	0.351665821	0.335593598	0.940910473	1

- How well a nurse communicates with patients (H-COMP-1) strongly correlates with high ratings (H-HSP-RATING) and good recommendations (H-RECMND).
- Hospital Ratings are also strongly correlated with
    - H-COMP-3: Responsiveness of Hospital Staff (r = 0.707)
    - H-COMP-4: Pain Well Controlled (r = 0.708)
    - H-COMP-5: Medicine Explained by Staff (r = 0.745)
- Recommendations are very strongly correlated with hospital ratings (r = .941).

Average HCAHPS Scores Based on Location

	All	Large Urban (Phil & Pitt)	Urban	Rural	West	Central	Northeast	Southeast
# of Hospitals	167	69	52	46	61	32	32	42
H-COMP-1	76.2%	75.3%	76.5%	77.4%	76.3%	75.8%	78.2%	75.0%
H-COMP-2	78.3%	76.9%	78.8%	80.0%	79.6%	77.7%	79.6%	75.9%
H-COMP-3	62.9%	60.3%	64.0%	65.8%	63.1%	63.6%	66.3%	59.6%
H-COMP-4	68.8%	68.3%	68.8%	69.6%	68.6%	68.0%	70.3%	68.5%
H-COMP-5	59.4%	58.6%	59.7%	60.1%	59.5%	58.8%	60.6%	58.7%
H-COMP-6	83.0%	82.0%	84.0%	83.3%	83.5%	83.8%	83.1%	81.7%
H-CLEAN-HSP	70.2%	66.7%	72.1%	73.6%	70.2%	72.2%	73.7%	66.2%
H-QUIET-HSP	51.3%	51.1%	52.3%	50.3%	50.0%	49.0%	54.0%	52.7%
H-HSP-RATING	65.2%	64.3%	67.1%	64.5%	64.5%	66.3%	67.2%	64.1%
H-RECMND	66.6%	66.9%	69.0%	63.4%	65.2%	67.1%	68.3%	67.1%

- Rural hospitals scored better than large urban and urban hospitals for 6 of 10 HCAHPS measures.
- Patients rated urban hospitals higher than rural and large urban hospitals.
- Hospitals located in northeast Pennsylvania scored higher than other regions in Pennsylvania for 8 of 10 HCAHPS measures.

Average HCAHPS Scores Based on Facility Size

	All	<100	100 - 249	250 - 399	400+	Bottom Quartile (<68.5 Staffed Beds)	Top Quartile (>253 Staffed Beds)
# of Hospitals	167	60	64	19	24	42	42
H-COMP-1	76.2%	79.0%	74.8%	76.4%	74.6%	79.8%	75.4%
H-COMP-2	78.3%	81.1%	77.2%	77.7%	76.4%	81.2%	76.9%
H-COMP-3	62.9%	68.0%	61.0%	61.9%	59.0%	69.1%	60.2%
H-COMP-4	68.8%	71.0%	68.0%	69.1%	66.5%	71.8%	67.6%
H-COMP-5	59.4%	62.9%	57.7%	58.0%	58.1%	64.0%	58.1%
H-COMP-6	83.0%	84.9%	81.8%	82.4%	83.1%	85.3%	82.8%
H-CLEAN-HSP	70.2%	75.5%	69.5%	67.1%	64.2%	76.4%	65.6%
H-QUIET-HSP	51.3%	56.5%	49.3%	48.4%	48.5%	60.4%	48.3%
H-HSP-RATING	65.2%	68.1%	62.7%	66.9%	65.2%	70.4%	65.9%
H-RECMND	66.6%	67.3%	64.0%	70.8%	69.5%	70.2%	70.2%

- Patients tend to give slightly higher ratings to smaller hospitals than larger hospitals.
- Patients of larger hospitals are more likely to recommend their hospital to other people.

Average HCAHPS Scores: High Volume vs. Low Volume Hospitals

	All	Bottom Quartile (<10,948 Patient Days)	Top Quartile (>61,728 Patient Days)	P-Value	Significant at 1% Level
# of Hospitals	167	43	42		
H-COMP-1	76.2%	79.5%	75.5%	0.0093	Yes
H-COMP-2	78.3%	81.7%	76.9%	>0.001	Yes
H-COMP-3	62.9%	69.6%	60.3%	>0.001	Yes
H-COMP-4	68.8%	71.7%	67.6%	>0.001	Yes
H-COMP-5	59.4%	63.9%	58.4%	>0.001	Yes
H-COMP-6	83.0%	85.4%	82.8%	0.011	No
H-CLEAN-HSP	70.2%	76.5%	65.4%	>0.001	Yes
H-QUIET-HSP	51.3%	59.9%	47.8%	>0.001	Yes
H-HSP-RATING	65.2%	70.1%	66.1%	0.064	No
H-RECMND	66.6%	69.1%	70.4%	0.61	No

- Hospitals with lower volumes of patients tend to have higher average HCAHPS scores than those with higher volumes.
- These differences are statistically significant at the 1% level for 7 of the 10 HCAHPS measures and statistically significant at the 5% level for 8 of the 10 measures.

Average HCAHPS Scores: Teaching vs. Non-Teaching Hospitals

	All	Teaching	Non-Teaching	P-Value	Significant at 1% Level
# of Hospitals	167	84	83		
H-COMP-1	76.2%	74.6%	78.1%	>0.001	Yes
H-COMP-2	78.3%	77.1%	79.7%	>0.001	Yes
H-COMP-3	62.9%	59.8%	66.5%	>0.001	Yes
H-COMP-4	68.8%	67.2%	70.6%	>0.001	Yes
H-COMP-5	59.4%	57.6%	61.4%	>0.001	Yes
H-COMP-6	83.0%	82.0%	84.2%	>0.001	Yes
H-CLEAN-HSP	70.2%	66.5%	74.5%	>0.001	Yes
H-QUIET-HSP	51.3%	48.6%	54.4%	>0.001	Yes
H-HSP-RATING	65.2%	63.3%	67.5%	0.0032	Yes
H-RECMND	66.6%	65.8%	67.6%	0.30	No

- Non-teaching hospitals scored higher than teaching hospitals for all HCAHPS measures.
- This finding is statistically significant at the 1% level for 9 of 10 HCAHPS measures.
- Over the past two years, teaching hospital's scores have remained stagnant, while non-teaching hospitals have shown large improvements.
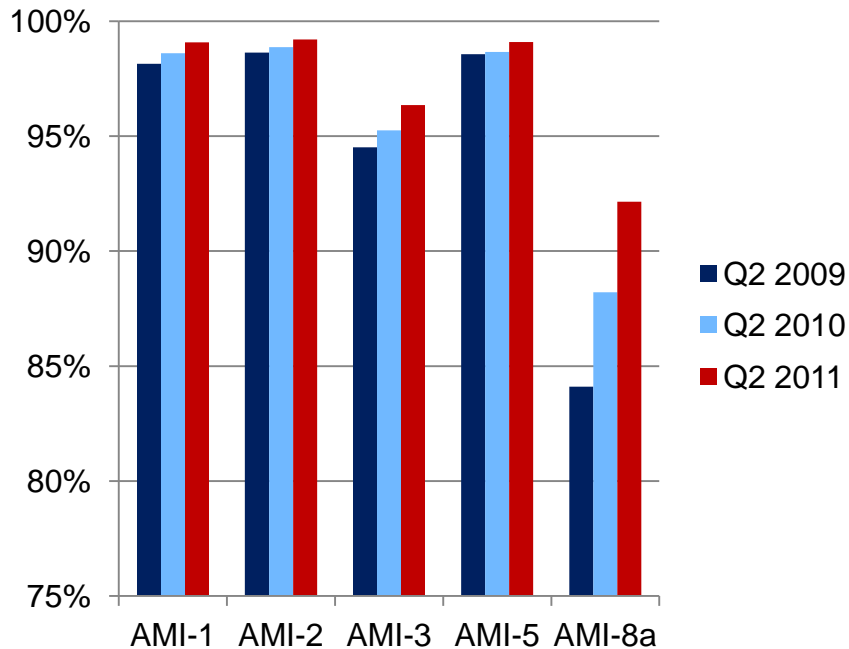
ACM 3-Year Trend Analysis

Trend Analysis: Process Measures
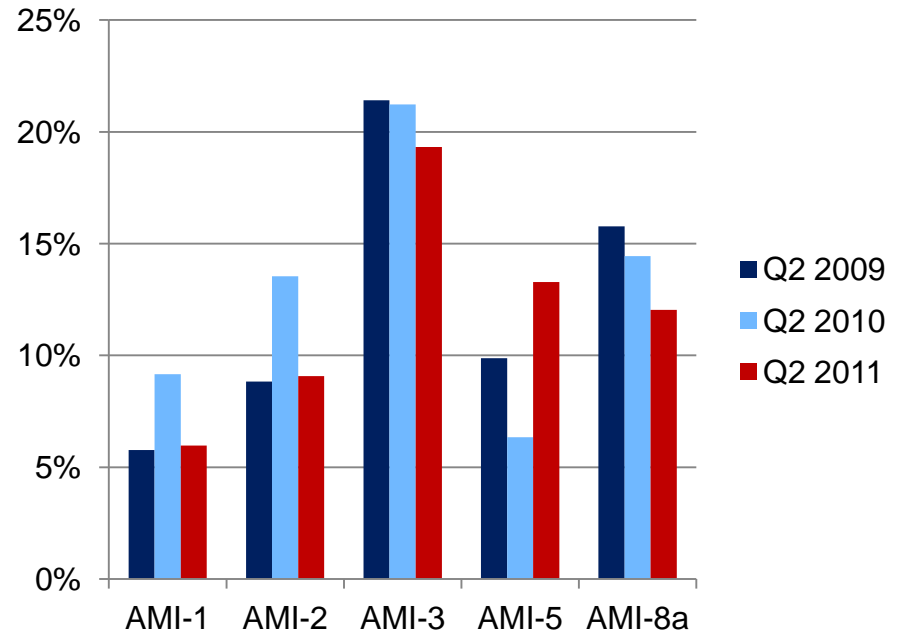
3-Year Trend Analysis

- We compared changes in the CMS process measures over the past 3 years.

- All process measure rates in Pennsylvania have increased since Q3 2009-Q2 2010.

- 16 of 20 process measure standard deviations decreased since Q3 2009-Q2 2010.
  - Measures with increased standard deviations include AMI-5, HF-1, HF-3, and SCIP-INF-3.
  - A higher standard deviation indicates greater variation in the quality of care in Pennsylvania hospitals while a lower standard deviation suggests more consistency.

- The heart attack indicator AMI-8a (PCI within 90 minutes) had the largest percentage point improvement over the measured 3-year period.

# 3-Year AMI Trend Analysis

Heart Attack Measures Yearly Rates

Three year trends show that for each year, Pennsylvania hospitals are improving on their delivery of heart attack care.

Heart Attack Measures Standard Deviations

All heart attack measures, except for AMI-5, show a decrease in standard deviation since last year, indicating that PA hospitals are delivering a more consistent quality of care.
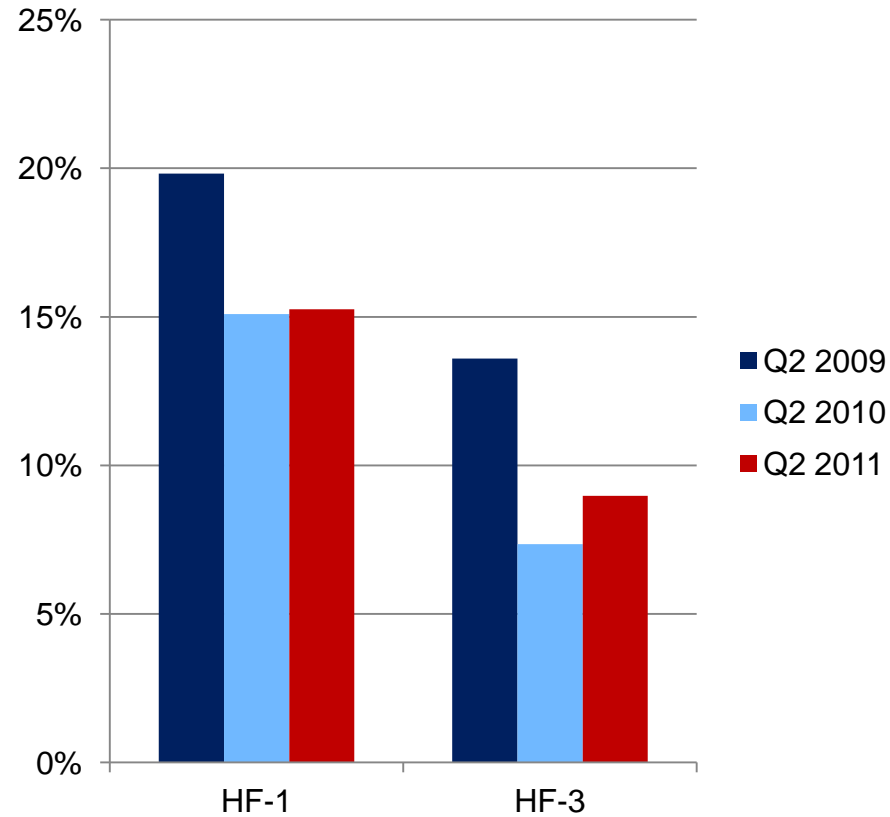
24

3-Year HF Trend Analysis

Heart Failure Measures
Yearly Rates

Legend: Q2 2009, Q2 2010, Q2 2011
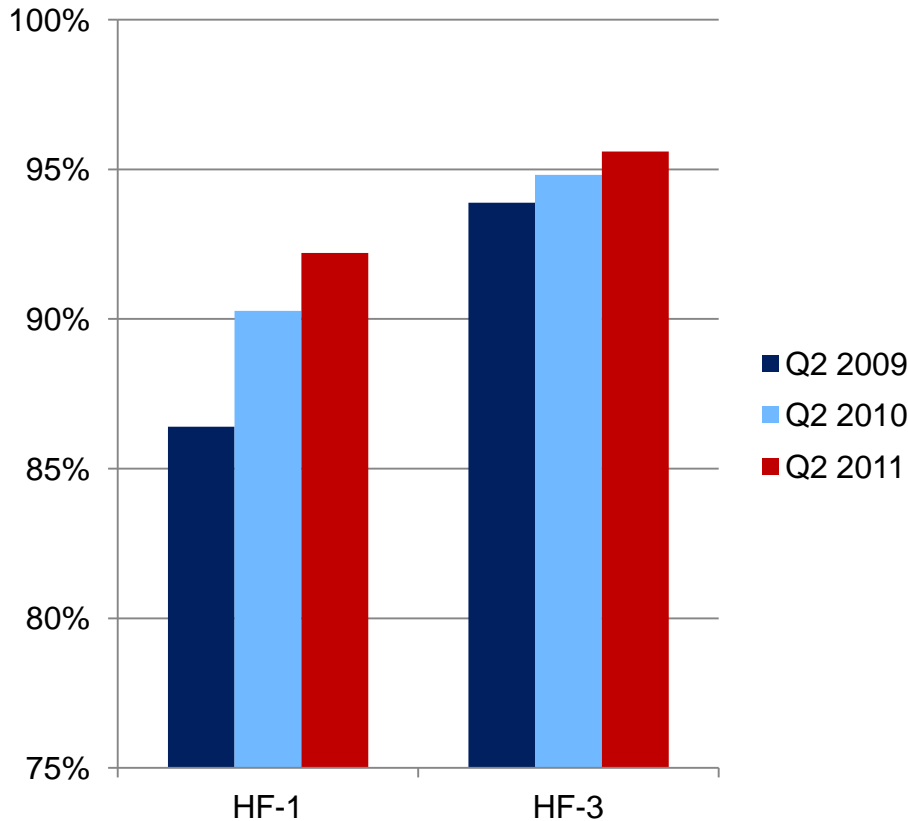
Over the past three years, all heart failure measures have seen gradual improvements in hospital performance.

Heart Failure Measures
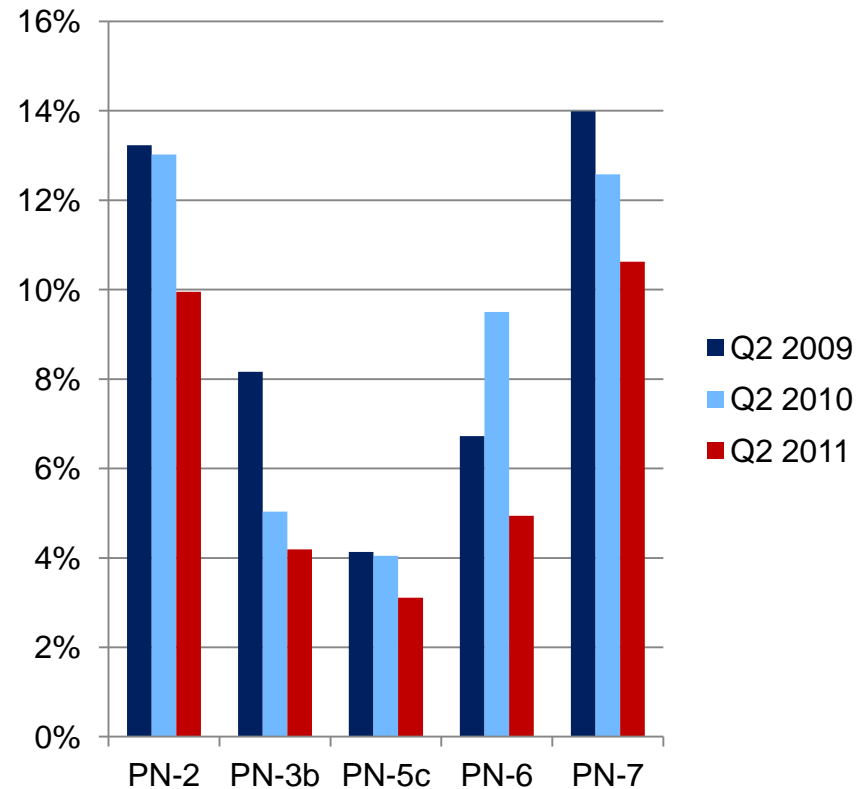## Standard Deviations

Legend: Q2 2009, Q2 2010, Q2 2011

According to the graph, there is less variation in quality of care for heart failure now than in 2009. Standard deviations, however, increased from 2010 to 2011.

3-Year PN Trend Analysis

Pneumonia Measures Yearly Rates

Legend: Q2 2009, Q2 2010, Q2 2011

Over the past three years, all pneumonia measures have shown a steady increase in performance.

Pneumonia Measures Standard Deviations

Legend: Q2 2009, Q2 2010, Q2 2011

Standard deviations have decreased since 2009 for all pneumonia measures.   As a result , PA hospitals are providing more consistent pneumonia care.

3-Year SCIP Trend Analysis

Surgical Care Yearly Rates

Legend: ■ Q2 2009 ■ Q2 2010 ■ Q2 2011

Based on yearly rate changes, PA hospitals have provided better surgical care in 2011 than they did in 2009 or 2010.

Surgical Care Standard Deviations

Legend: ■ Q2 2009 ■ Q2 2010 ■ Q2 2011

Standard deviations for SCIP measures have fallen over the last year for 6 of the 7 measures. Only SCIP-CARD-2 had a higher standard deviation in 2011 than in 2009.

*No data available for SCIP-INF-9 in 2009.

Composite Scores: Appropriate Care Measures

Appropriate Care Measures
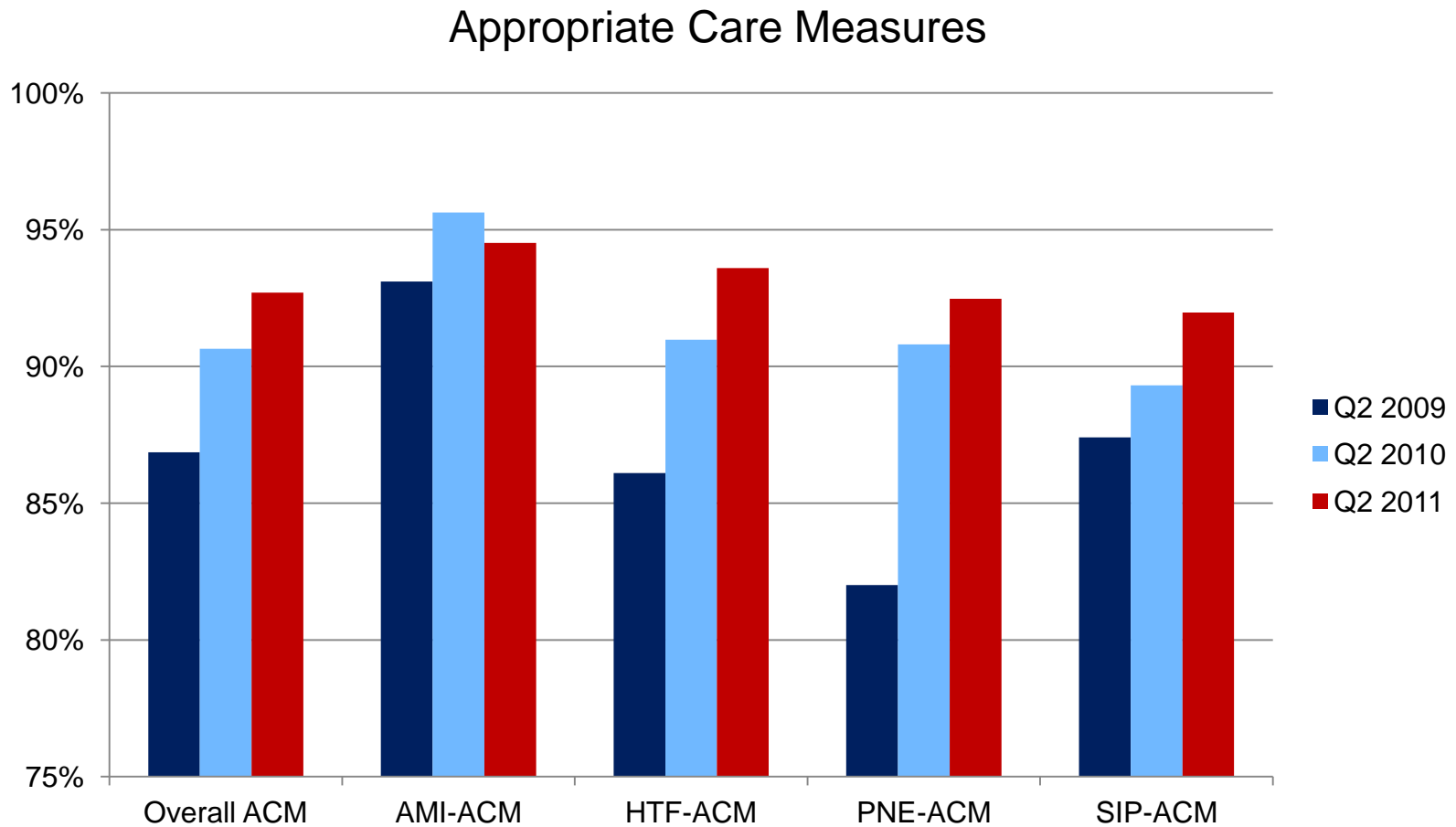
PA hospitals have improved their composite scores each year over the 3-year period for all measures, except AMI-ACM which fell slightly.

ACM 5-Year Trend Analysis

5-Year Appropriate Care Measures: Pennsylvania vs. National Rates

Overall ACM Rate Comparison
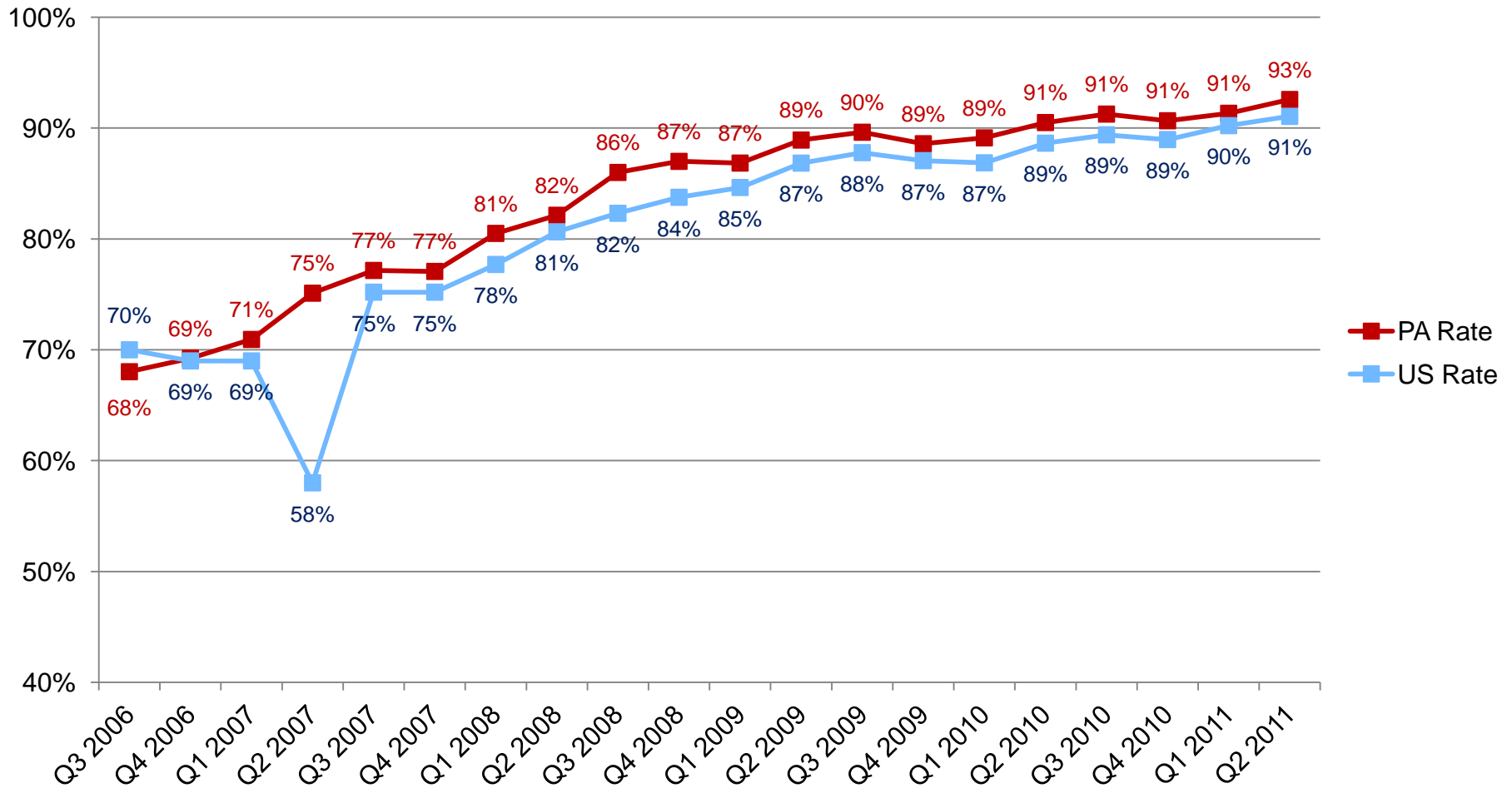
5-Year Appropriate Care Measures: Pennsylvania vs. National Rates

Heart Attack ACM Rate Comparison
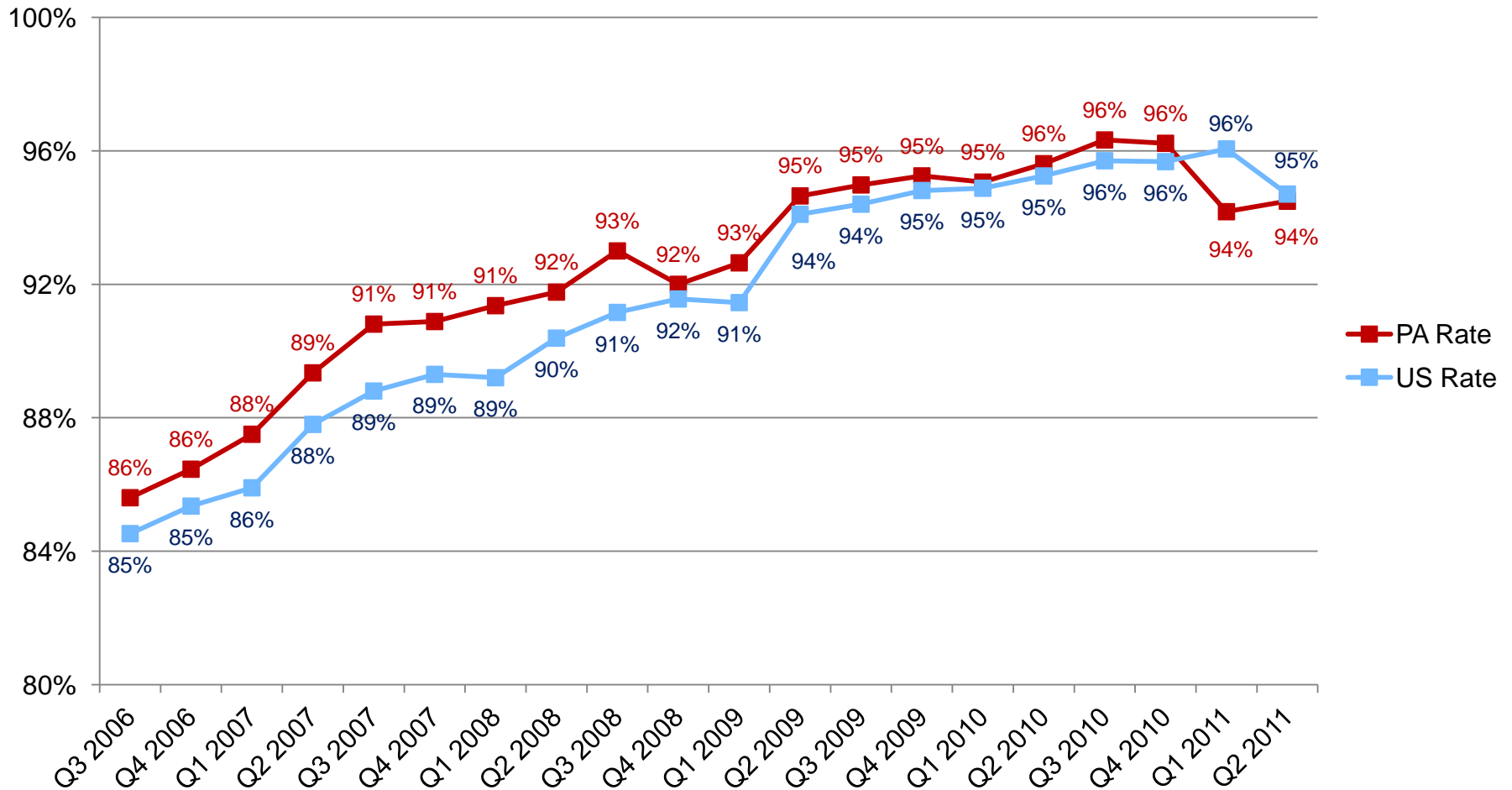
5-Year Appropriate Care Measures: Pennsylvania vs. National Rates

Heart Failure ACM Rate Comparison

5-Year Appropriate Care Measures: Pennsylvania vs. National Rates

Pneumonia ACM Rate Comparison

5-Year Appropriate Care Measures: Pennsylvania vs. National Rates

Surgical Care ACM Rate Comparison

All Process Measures
5-Year Trends

Pennsylvania Hospitals 5-Year Trend Analysis

Pennsylvania Averages

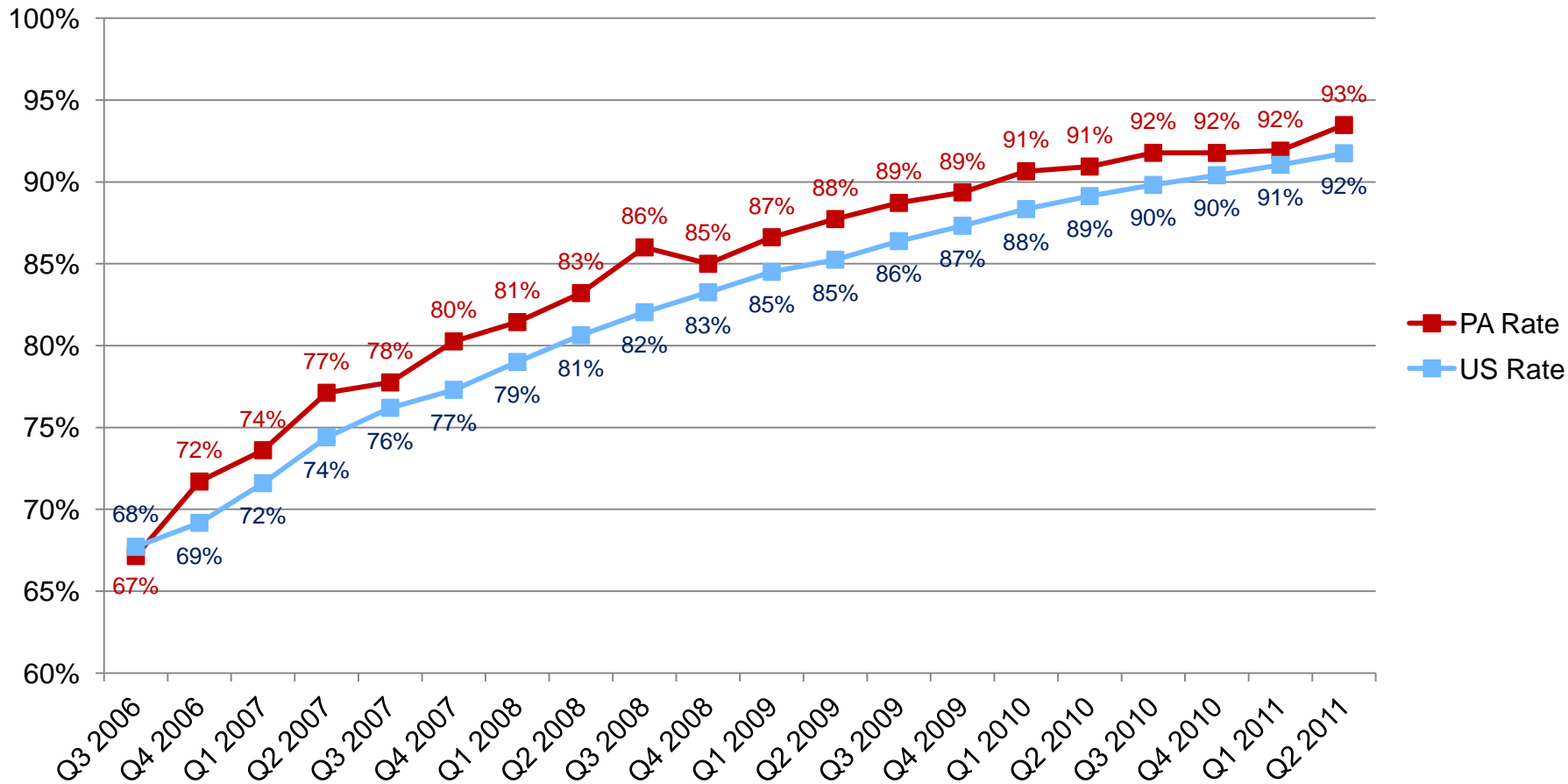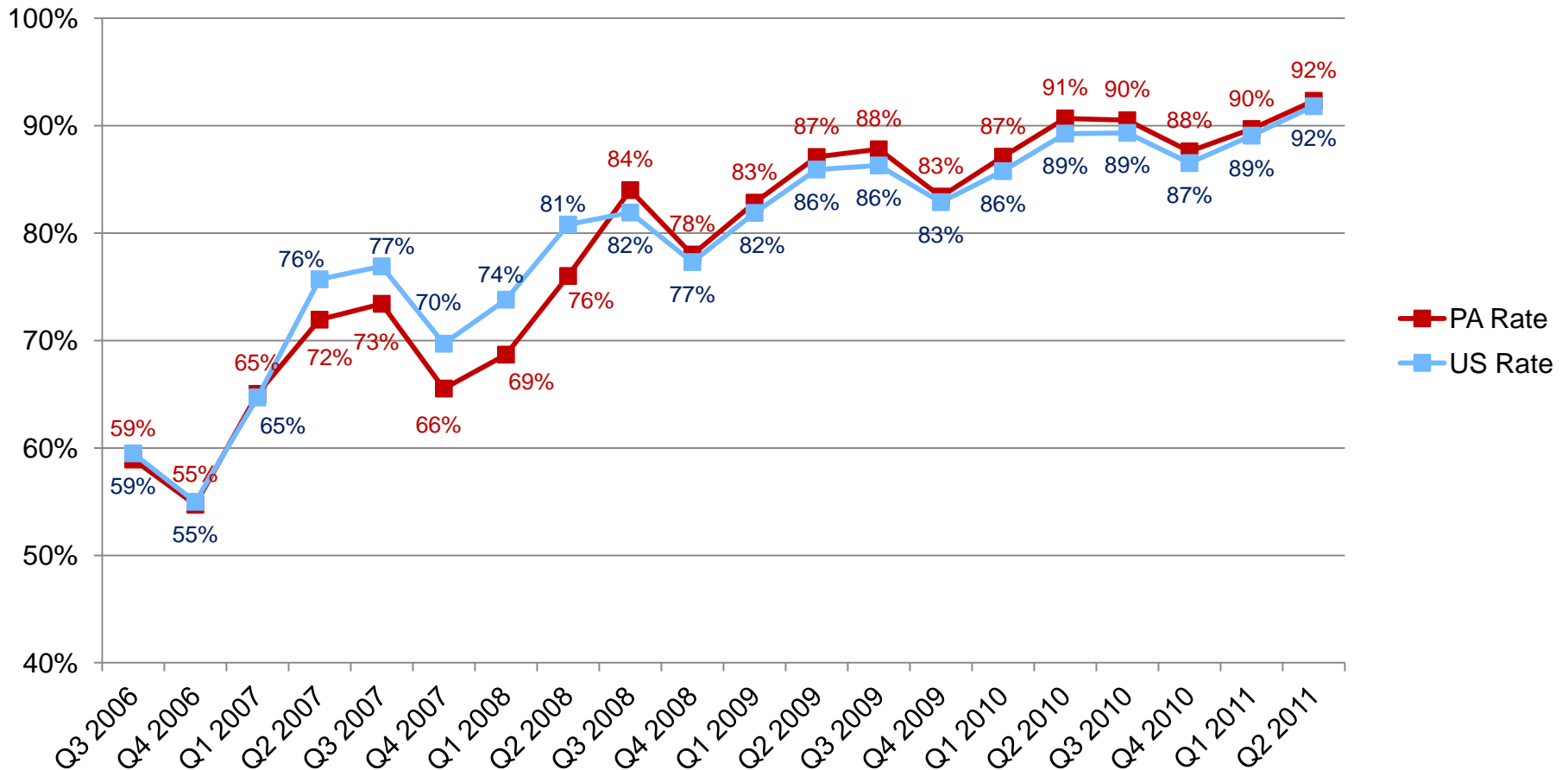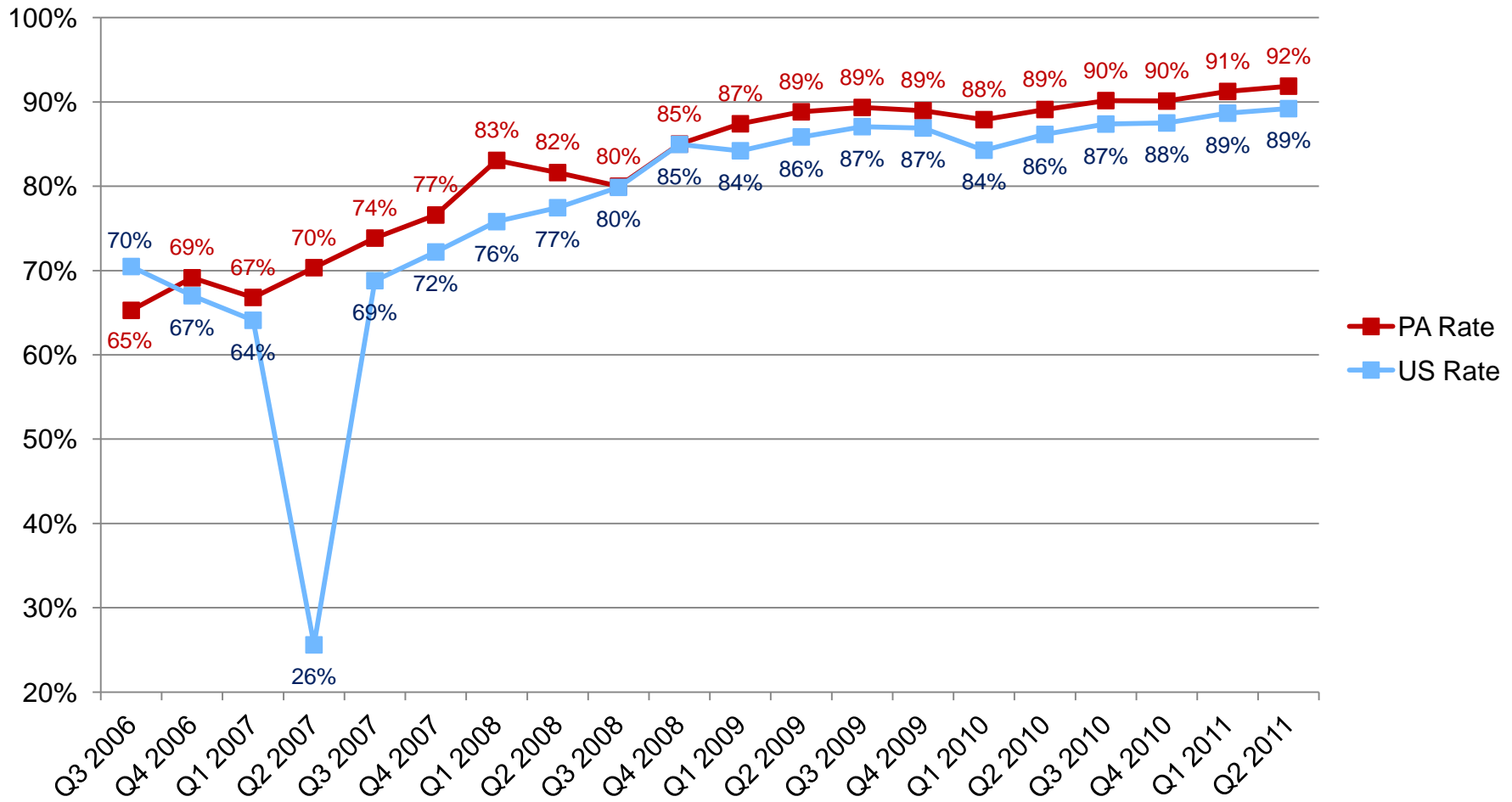| Performance Measure	Q207	Q208	Q209	Q210	Q211	Improvement from 2006-2011
Heart Attack Measures						
Heart Attack Patients Given Aspirin at Arrival (AMI-1)	94.8%	95.1%	96.4%	96.6%	97.3%	2.5%
Heart Attack Patients Given Aspirin at Discharge (AMI-2)	92.8%	94.2%	95.8%	95.2%	96.3%	3.5%
Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD) (AMI-3)	82.8%	89.3%	89.0%	90.4%	92.2%	9.4%
Heart Attack Patients Given Beta Blocker at Discharge (AMI-5)	94.8%	95.0%	95.1%	96.8%	95.9%	1.1%
Heart Attack Patients Given PCI Within 90 Minutes Of Arrival (AMI-8a)	57.5%	73.0%	80.5%	84.7%	89.4%	31.9%
Heart Failure Measures						
Heart Failure Patients Given Discharge Instructions (HF-1)	68.0%	76.6%	81.8%	87.5%	89.1%	21.1%
Heart Failure Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD) (HF-3)	82.8%	87.7%	90.1%	93.1%	93.2%	10.4%
Pneumonia Measures						
Pneumococcal Screen/Vaccination (PN-2)	80.6%	85.5%	89.7%	92.4%	94.2%	13.6%
Blood Culture Prior to First Antibiotic (PN-3b)	91.0%	91.7%	93.3%	96.3%	96.3%	5.3%
Initial Antibiotic within 6 Hours (PN-5c)	94.1%	93.7%	94.8%	95.4%	96.1%	2.0%
Initial Antibiotic Selection (PN-6)	87.4%	88.3%	90.1%	95.5%	93.9%	6.5%
Influenza Screen/Vaccination (PN-7)	78.9%	80.6%	86.9%	91.5%	92.0%	13.1%
Blood Culture within First 24 hours (ICU) (PN-3a (JC))	N/A	91.6%	95.3%	96.3%	97.3%	5.7%
Initial Antibiotic Selection for ICU Patients (PN-6a (JC))	N/A	64.1%	62.8%	72.4%	90.1%	26.0%
Initial Antibiotic Selection for Non-ICU Patients (PN-6b (JC))	N/A	92.4%	94.7%	95.1%	96.3%	3.9%

Pennsylvania Hospitals 5-Year Trend Analysis

Pennsylvania Averages

Performance Measure	Q207	Q208	Q209	Q210	Q211	Improvement from 2006-2011
Surgical Care						
Beta Blocker during the Perioperative Period (SCIP-CARD-2)	N/A	N/A	90.3%	89.8%	93.5%	3.2%
Prophylactic Antibiotic within 1 hour of incision (SCIP-INF-1)	82.9%	87.4%	91.7%	94.6%	96.3%	13.4%
Appropriate Antibiotic (SCIP-INF-2)	N/A	94.7%	96.8%	95.9%	97.6%	2.9%
Prophylactic Antibiotic Discontinued within 24 hrs (SCIP-INF-3)	76.0%	85.3%	90.4%	92.5%	95.1%	19.1%
Cardiac Surgery Patients with Controlled 6 A.M. Postoperative Blood Glucose (SCIP-INF-4)	N/A	86.2%	88.3%	94.4%	95.5%	9.3%
Urinary Catheter Removal within Two Days of Surgery (SCIP-INF-9)	N/A	N/A	N/A	90.5%	92.9%	2.4%
VTE Ordered prior to Surgery (SCIP-VTE-1)	85.2%	89.4%	92.6%	93.4%	96.5%	11.3%
VTE Received within 24 Hours of Surgery (SCIP-VTE-2)	89.3%	81.4%	90.4%	92.2%	95.4%	6.1%
Appropriate Care Measures						
Overall ACM	67.5%	76.2%	83.1%	88.3%	90.5%	23%
AMI-ACM	83.5%	86.0%	88.3%	92.3%	88.8%	5.3%
HTF-ACM	69.7%	77.7%	82.7%	89.0%	91.6%	21.9%
PN-ACM	63.3%	69.4%	80.1%	89.4%	91.2%	27.9%
SIP-ACM	62.5%	75.4%	82.9%	85.4%	88.6%	26.1%

Pennsylvania Hospitals 5-Year Trend Analysis

Pennsylvania Rates

Performance Measure	Q207	Q208	Q209	Q210	Q211	Improvement from 2006-2011
Heart Attack Measures						
Heart Attack Patients Given Aspirin at Arrival (AMI-1)	96.7%	97.4%	98.1%	98.6%	99.1%	2.4%
Heart Attack Patients Given Aspirin at Discharge (AMI-2)	97.5%	97.9%	98.6%	98.9%	99.2%	1.7%
Heart Attack Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD) (AMI-3)	87.7%	92.7%	94.5%	95.3%	96.4%	8.7%
Heart Attack Patients Given Beta Blocker at Discharge (AMI-5)	97.6%	98.2%	98.6%	98.7%	99.1%	1.5%
Heart Attack Patients Given PCI Within 90 Minutes Of Arrival (AMI-8a)	62.5%	76.9%	84.1%	88.2%	92.2%	29.7%
Heart Failure Measures						
Heart Failure Patients Given Discharge Instructions (HF-1)	73.6%	81.1%	86.4%	90.3%	92.2%	18.6%
Heart Failure Patients Given ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction (LVSD) (HF-3)	86.8%	91.8%	93.9%	94.8%	95.6%	8.8%
Pneumonia Measures						
Pneumococcal Screen/Vaccination (PN-2)	81.4%	87.3%	92.0%	94.7%	96.2%	14.8%
Blood Culture Prior to First Antibiotic (PN-3b)	91.1%	92.3%	94.4%	95.9%	97.0%	5.9%
Initial Antibiotic within 6 Hours (PN-5c)	94.0%	94.2%	94.9%	95.7%	96.4%	2.4%
Initial Antibiotic Selection (PN-6)	88.4%	89.8%	91.5%	93.2%	94.9%	6.5%
Influenza Screen/Vaccination (PN-7)	78.7%	82.8%	88.9%	92.5%	94.1%	15.4%
Blood Culture within First 24 hours (ICU) (PN-3a (JC))	N/A	93.2%	95.8%	97.0%	97.9%	4.7%
Initial Antibiotic Selection for ICU Patients (PN-6a (JC))	N/A	66.1%	65.7%	74.9%	91.5%	25.4%
Initial Antibiotic Selection for Non-ICU Patients (PN-6b (JC))	N/A	93.0%	94.8%	95.5%	96.4%	3.4%

Pennsylvania Hospitals 5-Year Trend Analysis

Pennsylvania Rates

| Performance Measure	Q207	Q208	Q209	Q210	Q211	Improvement from 2006-2011
Surgical Care Measures						
Beta Blocker during the Perioperative Period (SCIP-CARD-2)	N/A	N/A	91.3%	93.6%	96.0%	4.7%
Prophylactic Antibiotic within 1 hour of incision (SCIP-INF-1)	87.6%	91.8%	95.9%	97.3%	98.2%	10.6%
Appropriate Antibiotic (SCIP-INF-2)	N/A	96.1%	97.8%	97.6%	98.3%	2.2%
Prophylactic Antibiotic Discontinued within 24 hrs (SCIP-INF-3)	80.1%	89.3%	93.3%	95.2%	96.9%	16.8%
Cardiac Surgery Patients with Controlled 6 A.M. Postoperative Blood Glucose (SCIP-INF-4)	N/A	93.3%	95.2%	96.0%	96.5%	3.2%
Urinary Catheter Removal within Two Days of Surgery (SCIP-INF-9)	N/A	N/A	N/A	94.5%	94.9%	0.4%
VTE Ordered prior to Surgery (SCIP-VTE-1)	88.3%	93.1%	95.6%	96.6%	98.0%	9.7%
VTE Received within 24 Hours of Surgery (SCIP-VTE-2)	83.8%	90.7%	93.7%	95.5%	97.1%	13.3%
Appropriate Care Measures						
Overall ACM	72.0%	80.1%	86.9%	90.7%	92.7%	20.7%
AMI-ACM	87.7%	91.3%	93.1%	95.6%	94.5%	6.8%
HTF-ACM	73.9%	81.5%	86.1%	91.0%	93.6%	19.7%
PN-ACM	63.8%	71.0%	82.0%	90.8%	92.5%	28.7%
SIP-ACM	68.8%	80.5%	87.4%	89.3%	92.0%	23.2%

CMS Outcome Measures

CMS Outcome Measures

- CMS publicly reports risk-standardized, 30-day mortality and readmission measures for AMI, HF, and PN covering a 3 year rolling period. Most recent results are from July 1st 2008 to June 30th 2011.

- The 30-day readmission and mortality measures are based on Medicare fee-for-service patients and patients admitted to Veterans Administration hospitals, at least 65 years of age, with a principal diagnosis of AMI, HF, or PN.

- Measures are NQF-endorsed and comply with standards for publicly reported outcomes models set forth by the American Heart Association and the American College of Cardiology.
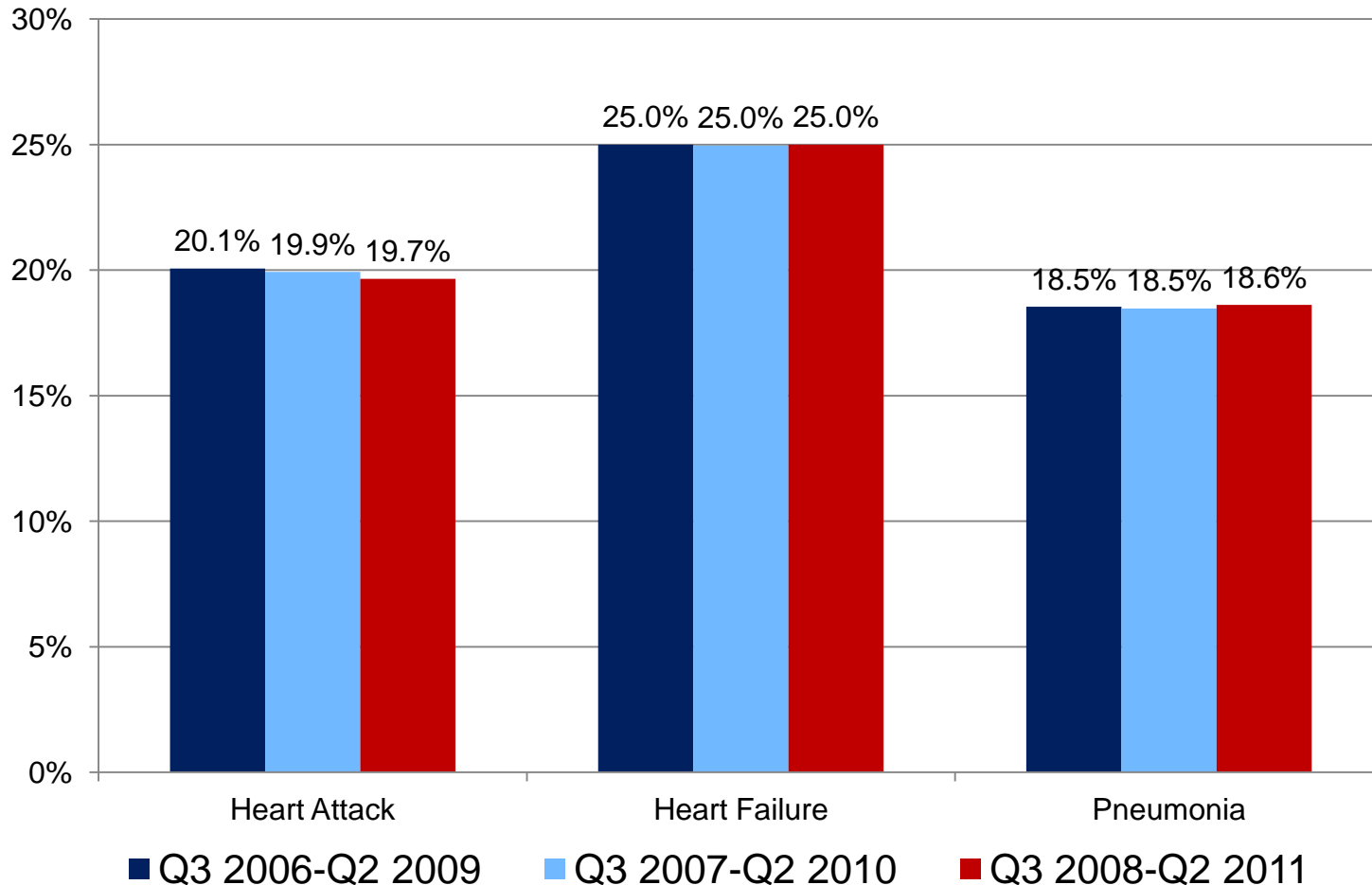
Pennsylvania Mortality Averages

CMS's mortality measures for PA have remained relatively steady over the three overlapping 3-year analysis periods.
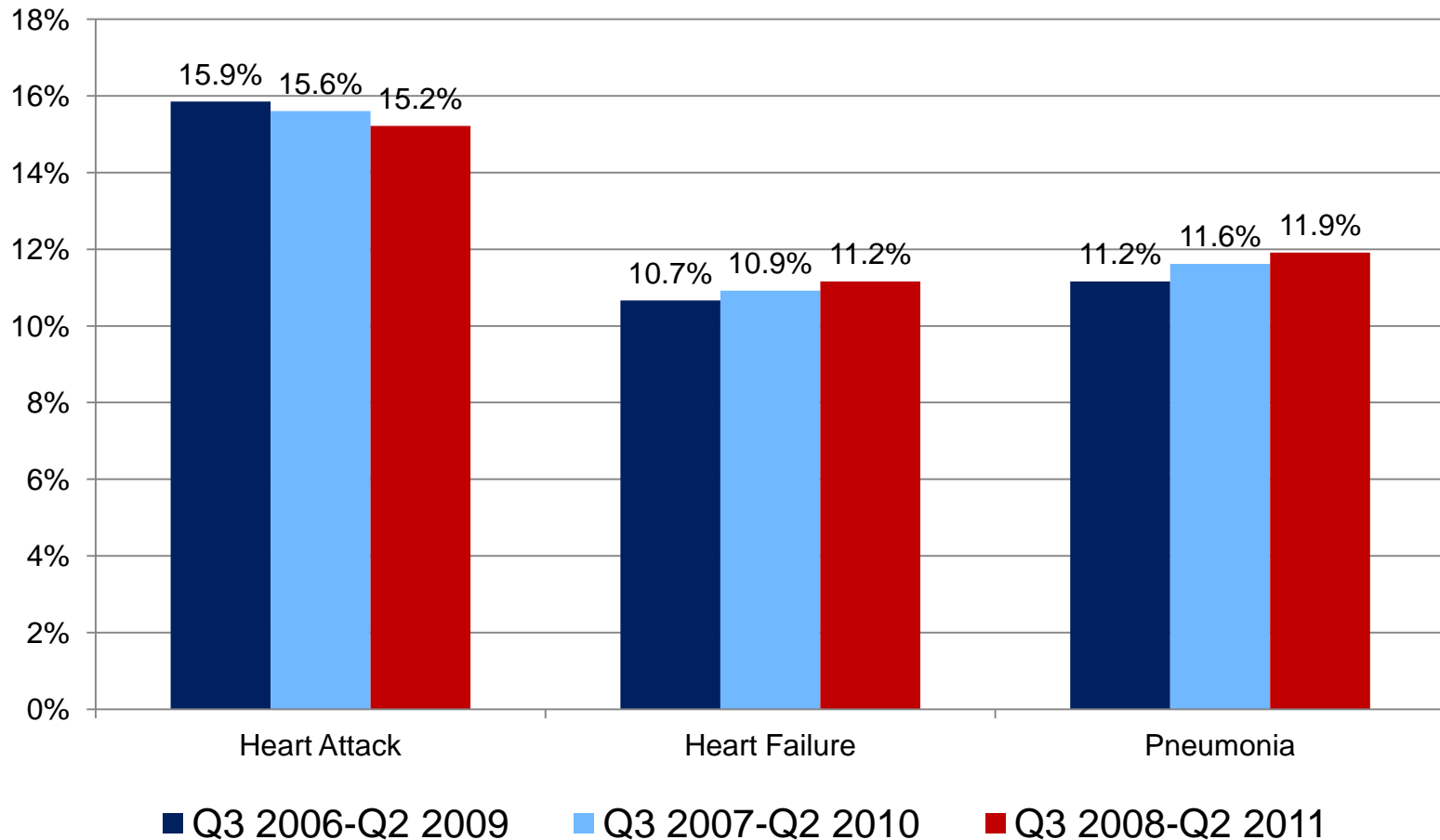
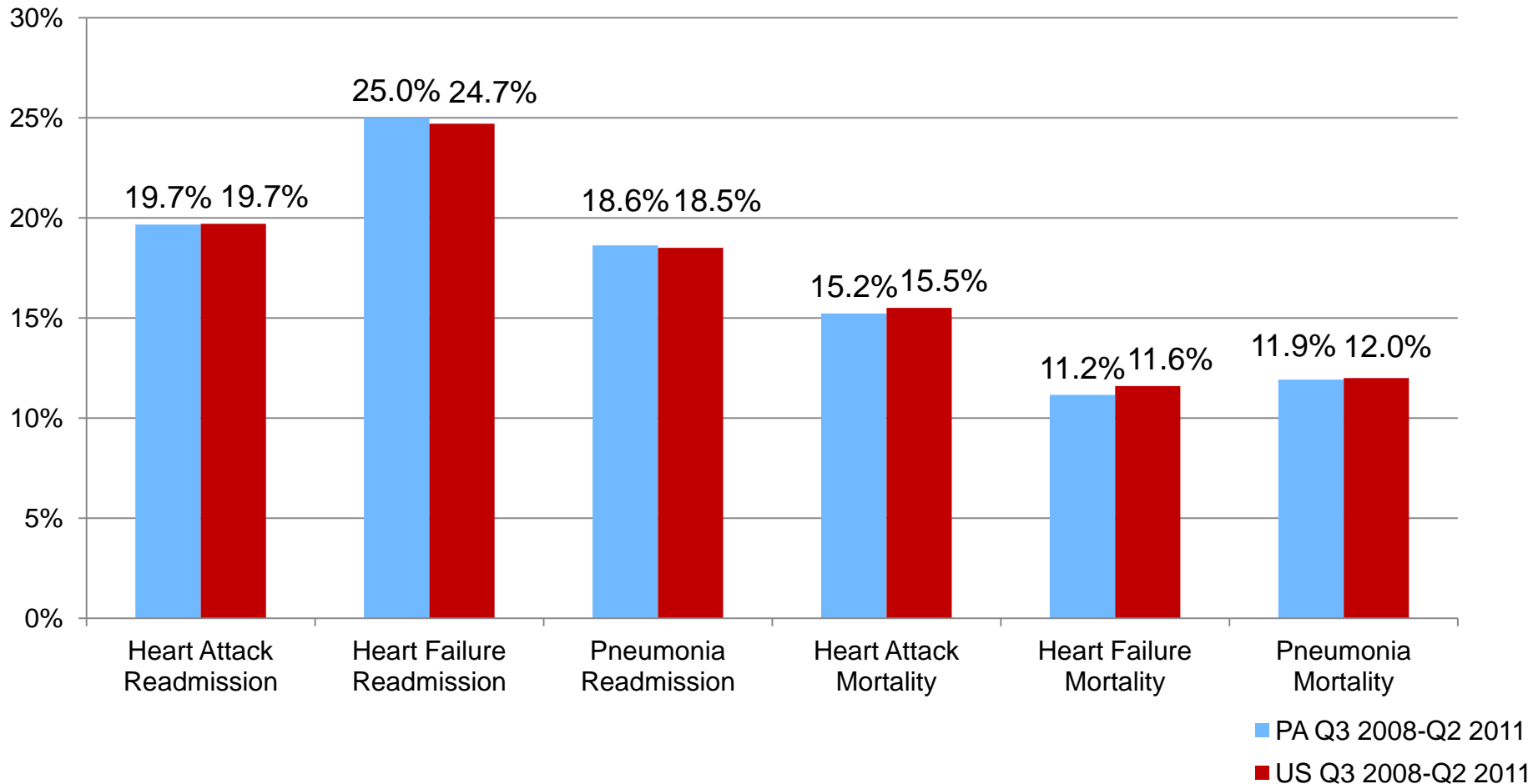# Pennsylvania Readmission Averages

CMS's readmission rates for PA have remained flat over the three overlapping analysis periods.

Chart legend:
- Q3 2006-Q2 2009
- Q3 2007-Q2 2010
- Q3 2008-Q2 2011

	Q3 2006-Q2 2009	Q3 2007-Q2 2010	Q3 2008-Q2 2011
Heart Attack	20.1%	19.9%	19.7%
Heart Failure	25.0%	25.0%	25.0%
Pneumonia	18.5%	18.5%	18.6%

Comparing PA and US Q3 2008-Q2 2011 Outcome Measure Averages

Pennsylvania readmission and mortality averages are comparable to national averages.

Legend: PA Q3 2008-Q2 2011, US Q3 2008-Q2 2011

Pennsylvania Hospitals Trend Analysis

Pennsylvania Averages

Performance Measure	Q3 2006-Q2 2009	Q3 2007-Q2 2010	Q3 2008-Q2 2011	Change from 2006-2011
Readmission Measures				
Heart Attack Readmission	20.1%	19.9%	19.7%	-0.4%
Heart Failure Readmission	25.0%	25.0%	25.0%	0%
Pneumonia Readmission	18.5%	18.5%	18.6%	0.1%
Mortality Measures				
Heart Attack Mortality	15.9%	15.6%	15.2%	-0.7%
Heart Failure Mortality	10.7%	10.9%	11.2%	0.5%
Pneumonia Mortality	11.2%	11.6%	11.9%	0.7%

Glossary of Measure Abbreviations

Glossary of Measure Abbreviations

Heart Attack Measures

- **AMI-1**: patients given aspirin at arrival
- **AMI-2**: patients given aspirin at discharge
- **AMI-3**: patients given ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)
- **AMI-5**: patients given beta blocker at discharge
- **AMI-8a**: patients given PCI within 90 minutes of arrival

Heart Failure Measures

- **HF-1**: patients given discharge instructions
- **HF-3**: patients given ACE inhibitor or ARB for left ventricular systolic dysfunction (LVSD)

Pneumonia Measures

- **PN-2**: patients assessed and given pneumococcal vaccination
- **PN-3a**: blood cultures for pneumonia patients in intensive care units
- **PN-3b**: patients whose initial emergency room blood culture was performed prior to the administration of the first hospital dose of antibiotics
- **PN-5c**: patients given initial antibiotic(s) within 6 hours after arrival
- **PN-6**: patients given the most appropriate initial antibiotic(s)
- **PN-6a**: initial antibiotic selection for CAP in immunocompetent – ICU patient
- **PN-6b**: initial antibiotic selection for CAP in immunocompetent – non ICU patient
- **PN-7**: patients assessed and given influenza vaccination

Glossary of Measure Abbreviations

Surgical Care Measures

- **SCIP-CARD-2**: surgery patients who were taking heart drugs called beta blockers before coming to the hospital, who were kept on the beta blockers during the period just before and after their surgery

- **SCIP-INF-1**: surgery patients who were given an antibiotic at the right time (within one hour before surgery) to help prevent infection

- **SCIP-INF-2**: surgery patients who were given the right kind of antibiotic to help prevent infection

- **SCIP-INF-3**: surgery patients whose preventive antibiotics were stopped at the right time (within 24 hours after surgery)

- **SCIP-INF-4**: heart surgery patients whose blood sugar (blood glucose) is kept under good control in the days right after surgery

- **SCIP-INF-9**: surgery patients whose urinary catheters were removed on the first or second day after surgery

- **SCIP-VTE-1**: surgery patients whose doctors ordered treatments to prevent blood clots after certain types of surgeries

- **SCIP-VTE-2**: patients who got treatment at the right time (within 24 hours before or after their surgery) to help prevent blood clots after certain types of surgery

Glossary of Measure Abbreviations

HCAHPS Measures

- **H-COMP-1**: nurses always communicated well

- **H-COMP-2**: doctors always communicated well

- **H-COMP-3**: patients always received help as soon as they wanted

- **H-COMP-4**: pain was always well controlled

- **H-COMP-5**: staff always explained medicines before giving them to patients

- **H-COMP-6**: patients were given information about what to do during their recovery at home

- **H-CLEAN-HSP**: rooms and bathrooms were always clean

- **H-QUIET-HSP**: rooms were always quiet at night

- **H-HSP-RATING**: patients who gave a rating of 9 or 10 overall out of 10

- **H-RECMND**: patients who would definitely recommend the hospital to family and friends