

2016 RURAL HOSPITAL REPLACEMENT FACILITY STUDY



Prepared by:



Scope and Purpose

- Determine the impact associated with a new facility using the experiences of critical access hospitals (CAH) that have been replaced
- Eligibility criteria:
 - In new facility and operating for at least 12 months by January 1, 2016
 - Had CAH designation prior to replacement
 - Replaced patient care areas
 - Two-track approach used to identify eligible CAHs:
 - Candidates identified by State Office of Rural Health and State Hospital Association representatives
 - Cost report analysis to determine all CAHs with significant increase in capital costs
 - Verified replacement through hospital website or other news publications



Scope and Purpose

- New for 2016 Study (compared to 2011 study)
 - **58** new CAHs included (51% increase)
 - **100% sample size (172 out of 172)**
 - CAHs post-replacement experience
 - 2005: 20 with one year; 11 two years; 8 three years
 - 2011: 114 with one year; 93 two years; 69 three years
 - 2016: 172 with one year; 167 two years; 159 three years; 144 with four years; 129 with five years; 115 with six years; 97 with seven years; 70 with eight years; 44 with nine years; and 37 with ten years
 - New analyses
 - Expanded study to include up to 10 years of post-replacement experience
 - Comparing experiences between facilities replaced before economic recession (Pre-2006), during economic recession (2006-2010), and after passage of Affordable Care Act (2011-2015)
 - HCAHPs and Core Measures performance for replacement facilities compared to other CAHs



Study Process

- Data
 - Three years pre-replacement and 1-10 years post-replacement
 - Service volumes: Discharges, patient days, adjusted patient days
 - Operating efficiency: Gross FTEs, and FTEs and operating expense per adjusted patient day
 - Financial performance: Total margin, EBIDA, days cash and investments on hand
- Data sources
 - www.costreportdata.com
 - Lucky Dog
 - AHA Guides 2005-2016
 - American Hospital Directory
 - Eligible CAH websites
 - State Office of Rural Health representatives



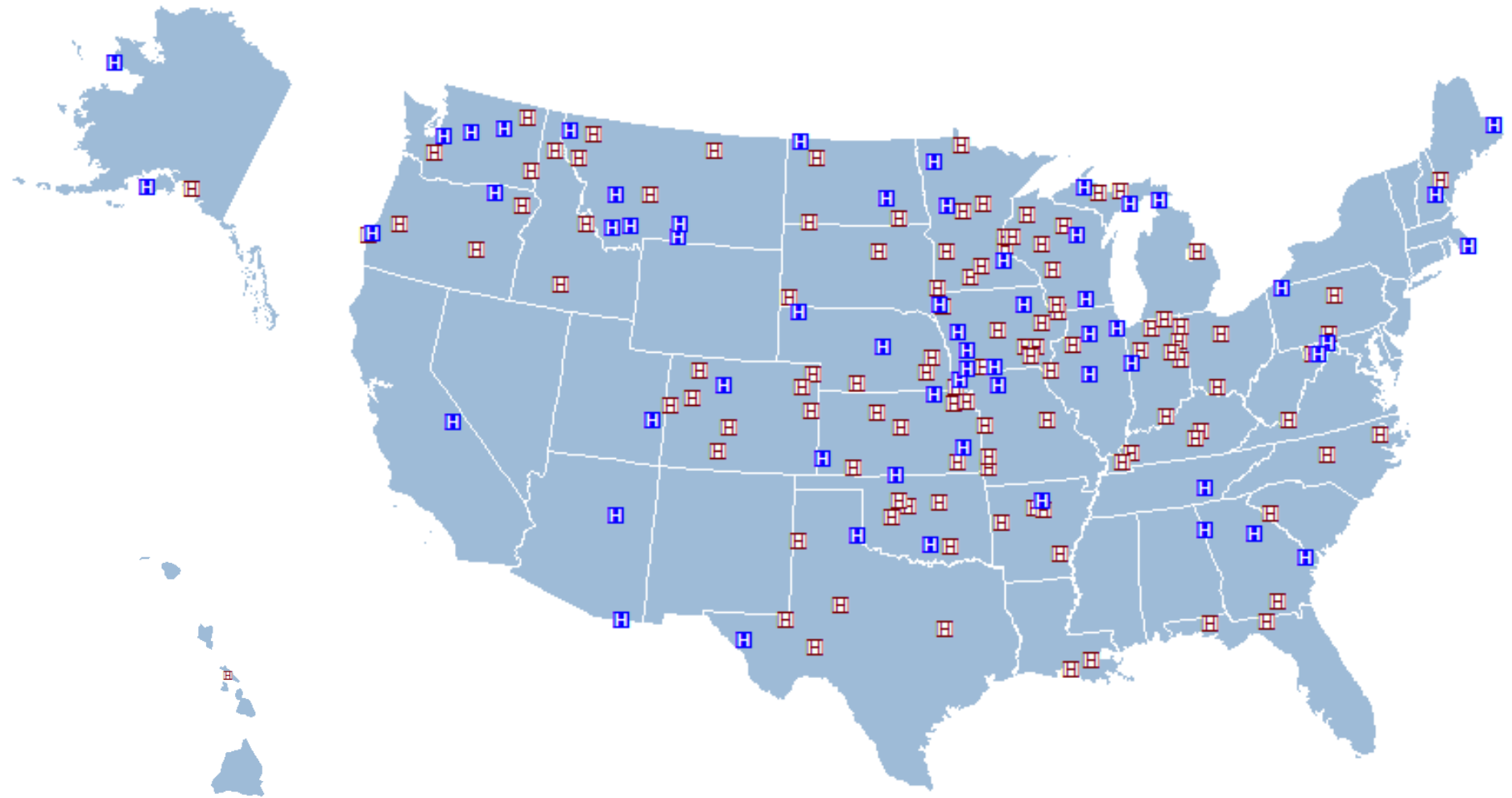
Study Process

- Hospital Information
 - Retrieved data from filed Medicare cost reports
 - Reviewed historical financial and utilization data
- Limitations
 - Study did not control for differences in:
 - Management team experience
 - Third-party payments
 - Market demographics




2016 Study Replacement Facilities (n=58)

Previous Years Study Replacement Facilities (n=114)



 2016 Study Replacement Facilities

 Previous Years Study Replacement Facilities

Study Years 1-7: Takeaways

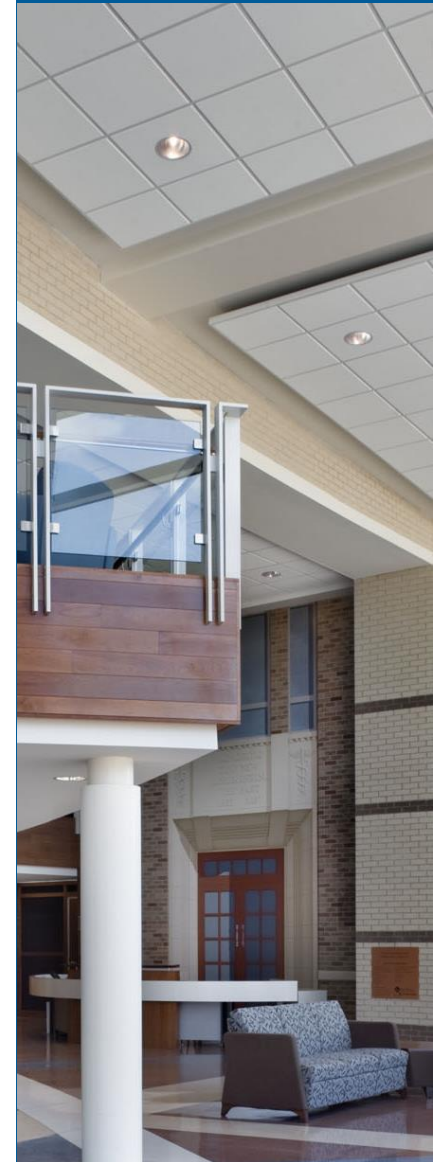
- CAHs reported mixed results in the growth of services, with earlier replacements (pre-2006) experiencing higher growth than more recent replacement facilities (2006-2010)
 - 62% reported growth in patient days in the first year following replacement
 - For all years following replacement, hospitals reported average annual growth in total volume of 3.9%
- Most hospitals increased gross FTEs to accommodate higher patient volume and/or expanded services
 - Median increase in year 1: 6.3%
 - For all years following replacement, hospitals reported average annual growth of 2.7% in total FTEs
- Hospitals offset FTE increases with gains in efficiency
 - 70% of hospitals exhibited lower FTEs per adjusted average daily census in year 1
 - For all years following replacement, hospitals reported average annual efficiency gains of 0.76%



Study Years: 1-7 Takeaways

- Total Margin varied significantly among CAHs both before and after replacement
 - Year One: Median (2.1%)
 - Year Two: Median (0.2%)
 - Year Three: Median (0.3%)
- As we added more hospitals to the study, EBIDA remained positive in post replacement years

	Post-Replacement Median EBIDA		
	Year 1	Year 2	Year 3
2009 Study	14.2%	14.0%	11.5%
2010 Study	12.7%	14.0%	11.7%
2011 Study	11.5%	12.7%	11.8%



2016-2017 Environmental Overview

- Implementation of Affordable Care Act well underway
 - Transition toward value-based payment
 - Accountable Care Organization developments, insurance reform, and quality focus impact on rural markets
 - Inpatient volumes continue to decline
 - Provider competition to create value in line with Triple Aim
- MACRA implementation and reporting in 2017 with non-compliance penalties starting in 2019
 - Pressure on physician practices to consolidate/align
- Proliferation of high-deductible health plans
 - Transitioning patient to consumer
- Agreed-upon quality measures increasing competition among providers

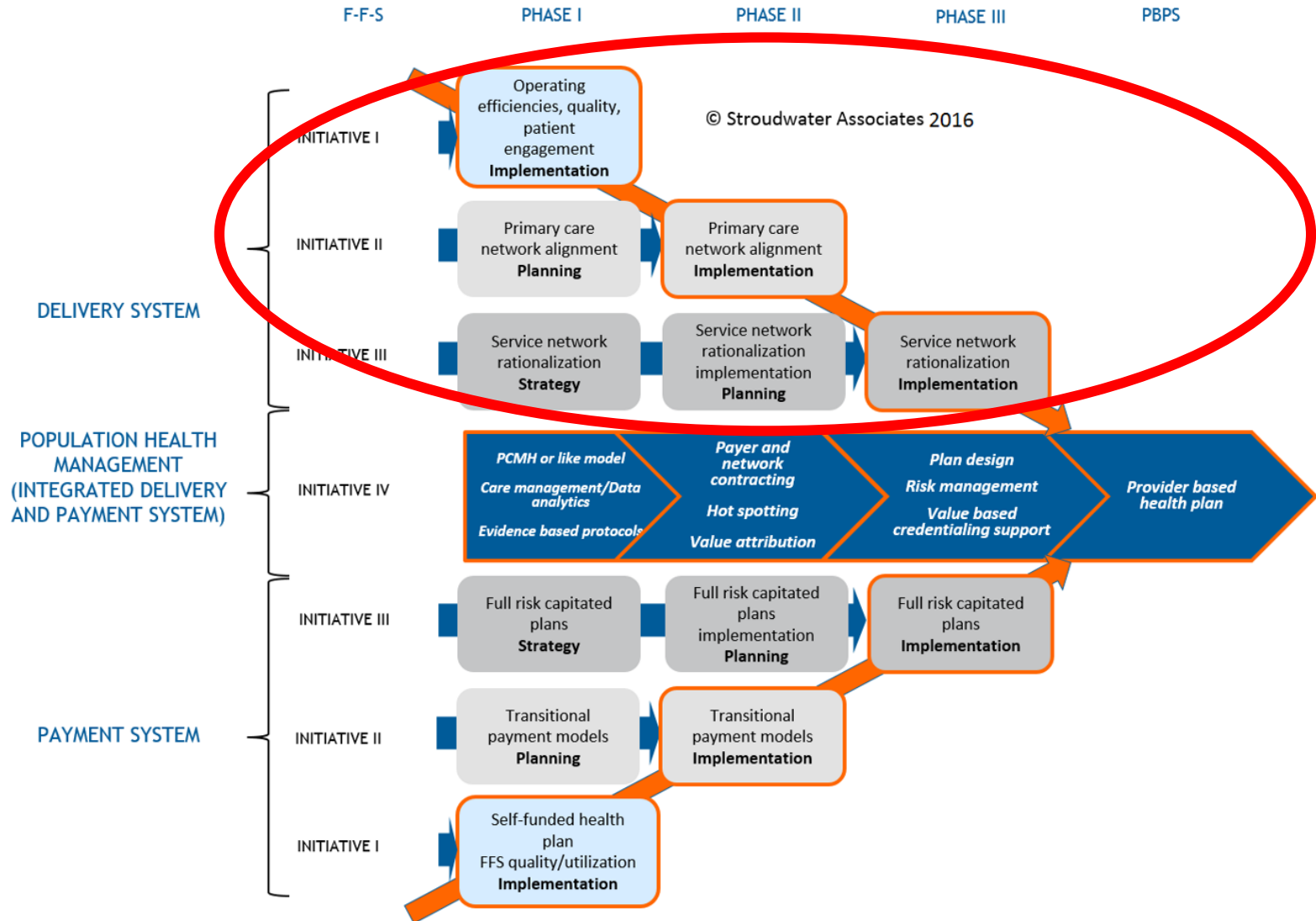
COMMUNITY MEMORIAL HOSPITAL
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Transitioning Environment

- Facility investment important component of delivery system transformation



2016 Findings



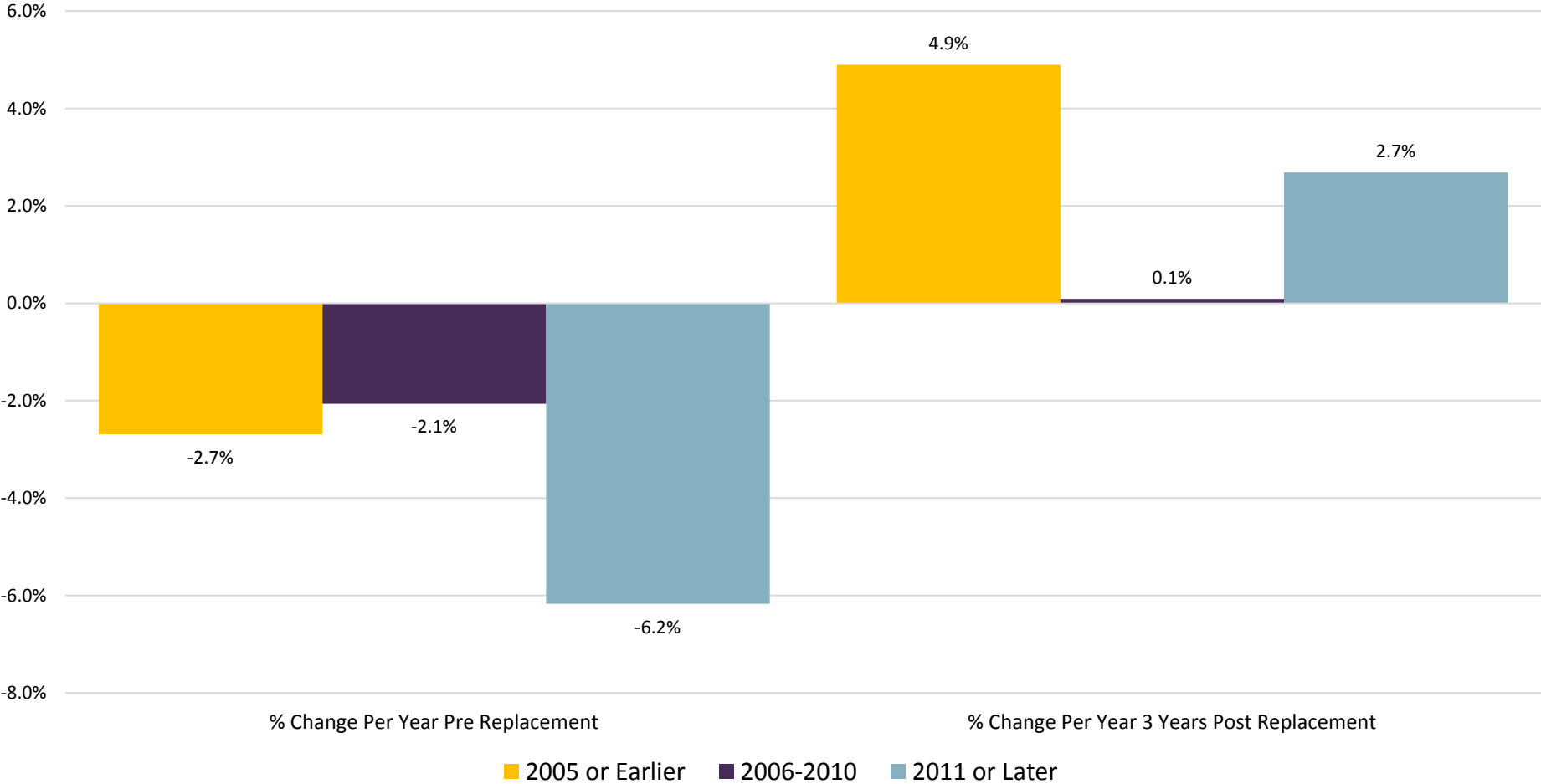
Percentage Change in Patient Days

Percent Change in Patient Days by Year Pre and Post Replacement



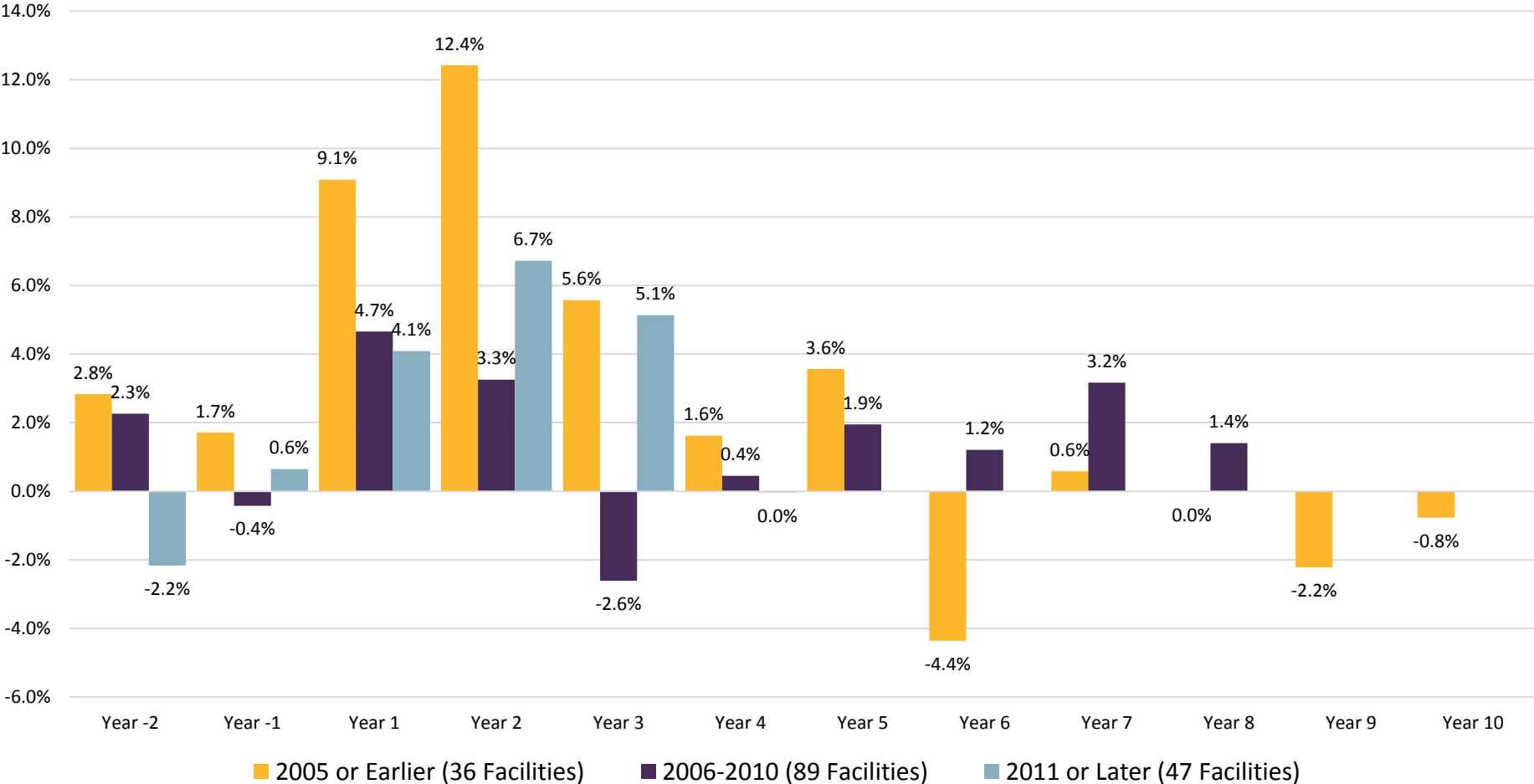
Pre v. Post Comparison: Percentage Change in Patient Days

Median Annual Percentage Change in Patient Days for Three Years Post Replacement 159 Hospitals with At Least Three Years Post Replacement Data



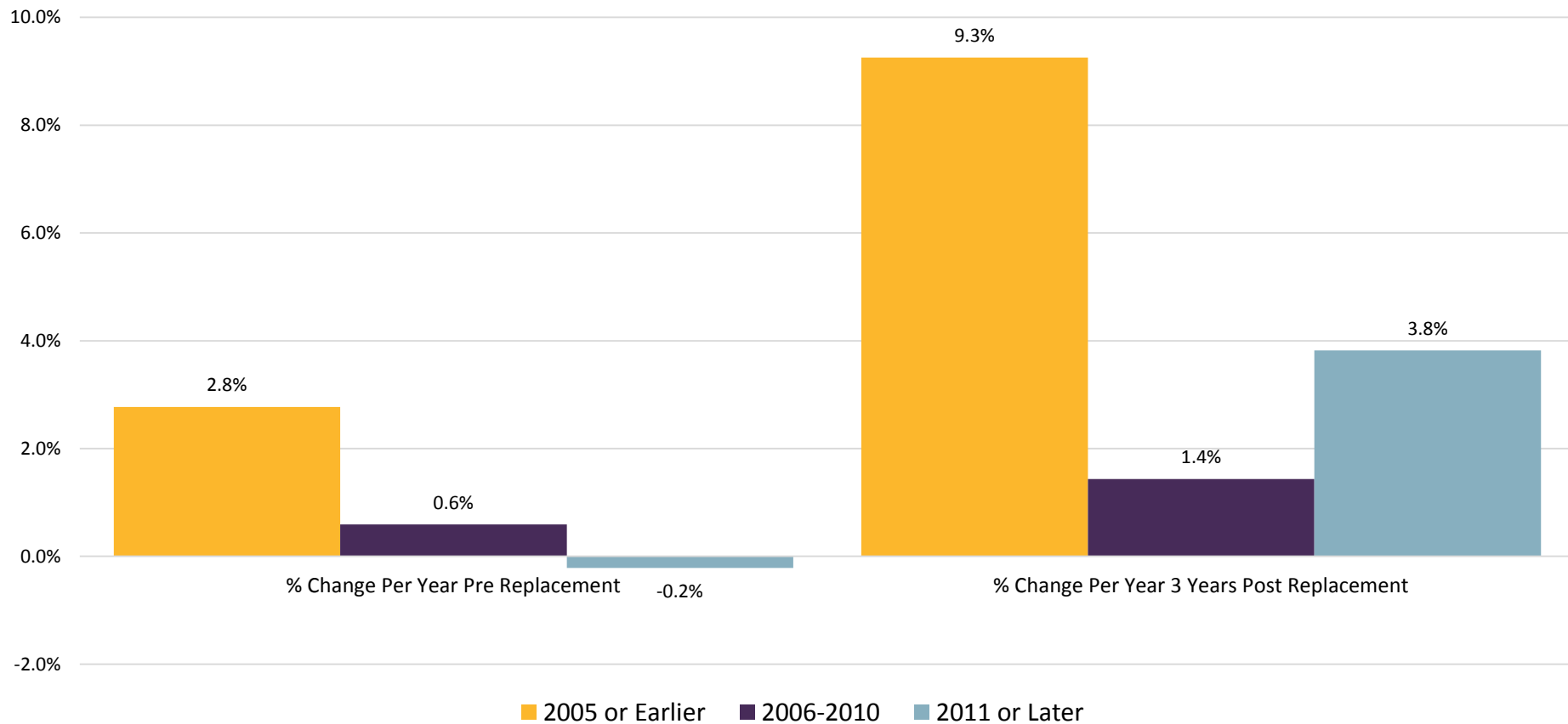
Percentage Change in Adjusted Patient Days

Percent Change in Adjusted Patient Days by Year Pre and Post Replacement



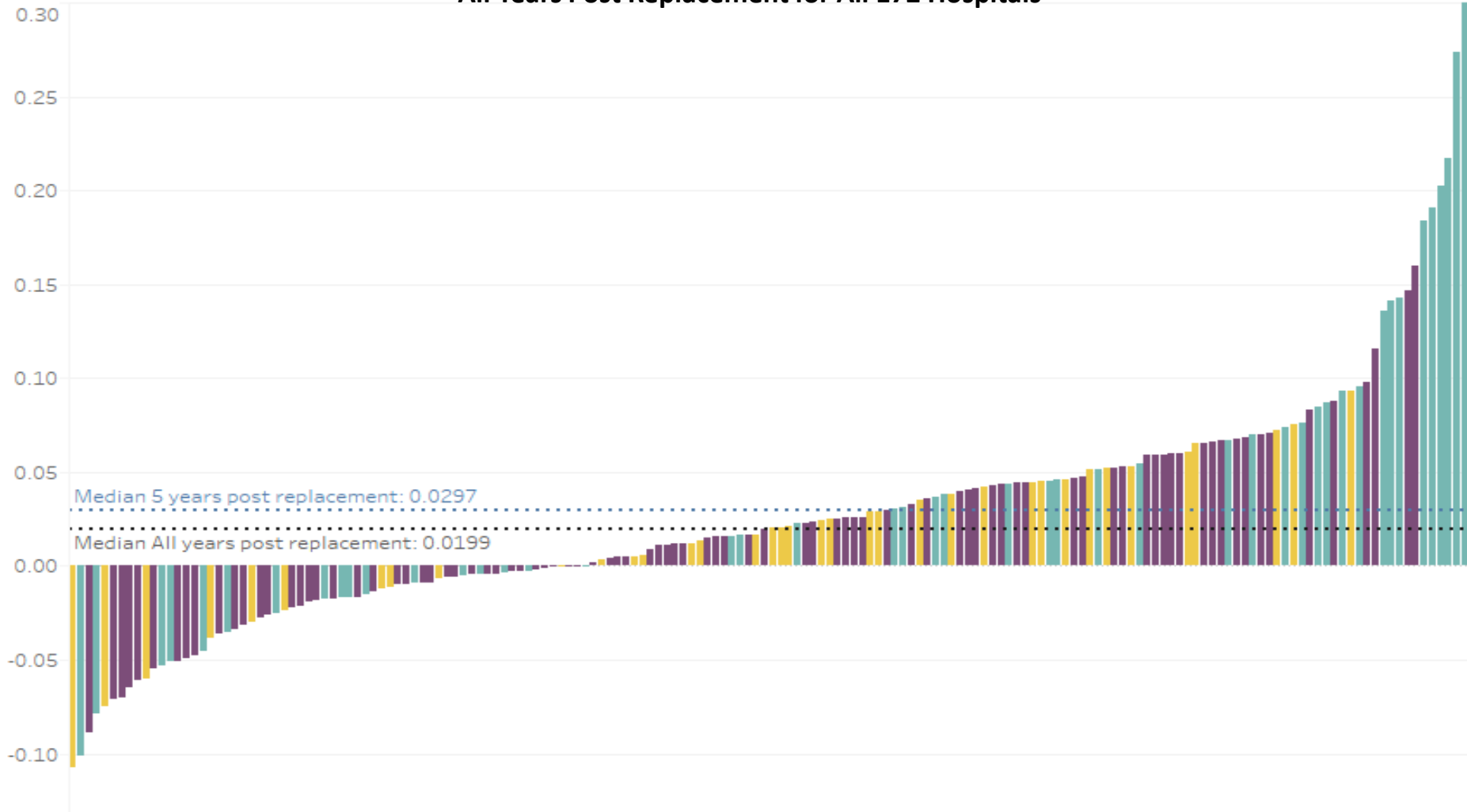
Pre v. Post Comparison: Percentage Change in Adjusted Patient Days

Median Annual Percentage Change in Total Volume (Adj. Pt Day) for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data



Adjusted Patient Days Post Replacement

Median Annual Percentage Change in Total Volume (Adj. Pt Day)
All Years Post Replacement for All 172 Hospitals



Change in Volume Takeaways

- Median performance growth for CAHs post replacement
 - Earlier replacements experienced higher growth
 - 2011 or Later Cohort experienced wider spread between pre and post replacement

Average annual growth rate for the three-year period pre and post replacement	Hospitals Replaced 2005 or Earlier		Hospitals Replaced 2006-2010		Hospitals Replaced 2011 or later	
	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement
Acute and Swing Bed Days	-2.7%	4.9%	-2.1%	0.1%	-6.2%	2.7%
Adjusted Patient Days (APD)	2.8%	9.3%	0.6%	1.4%	-0.2%	3.8%

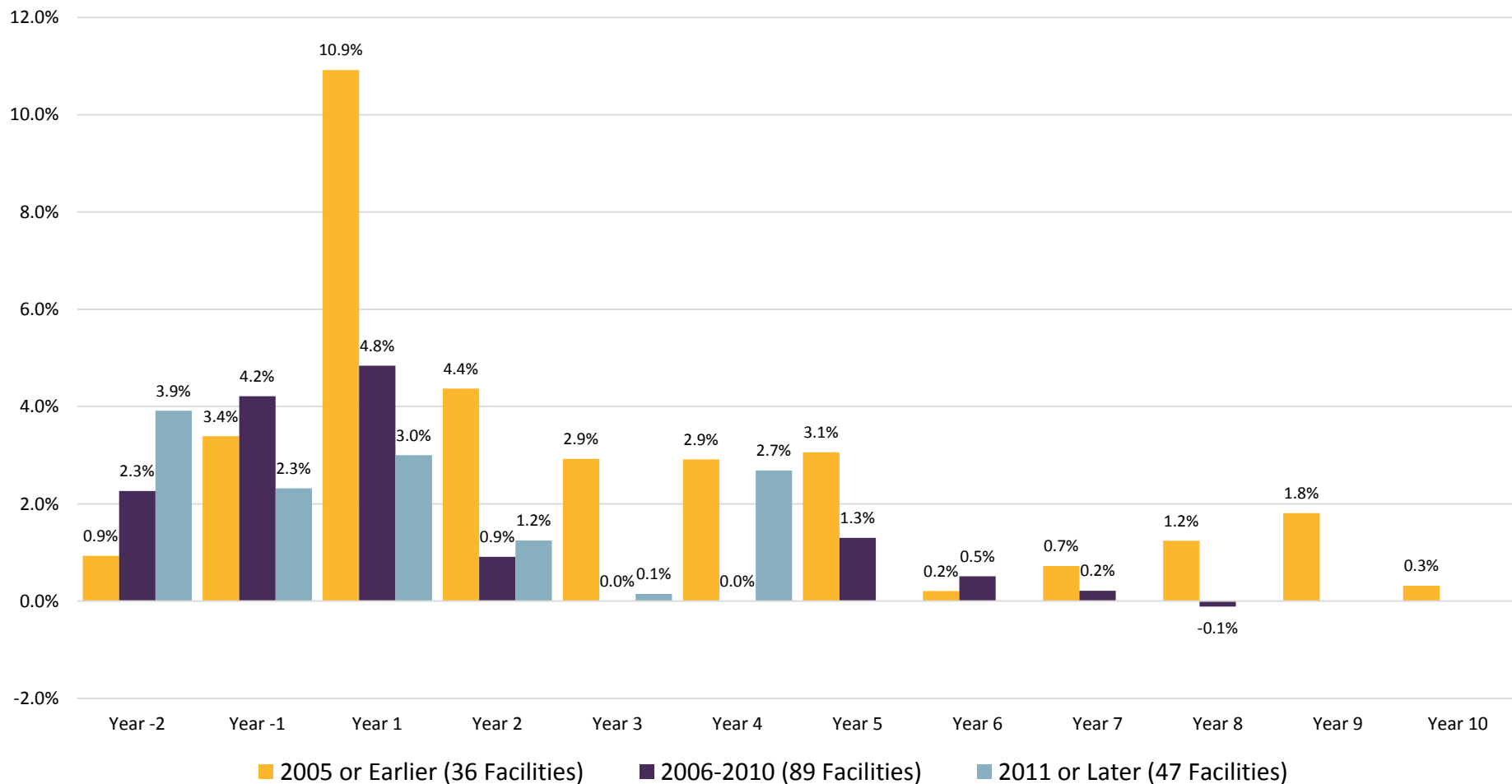
- Not all individual CAHs experienced volume gains post replacement

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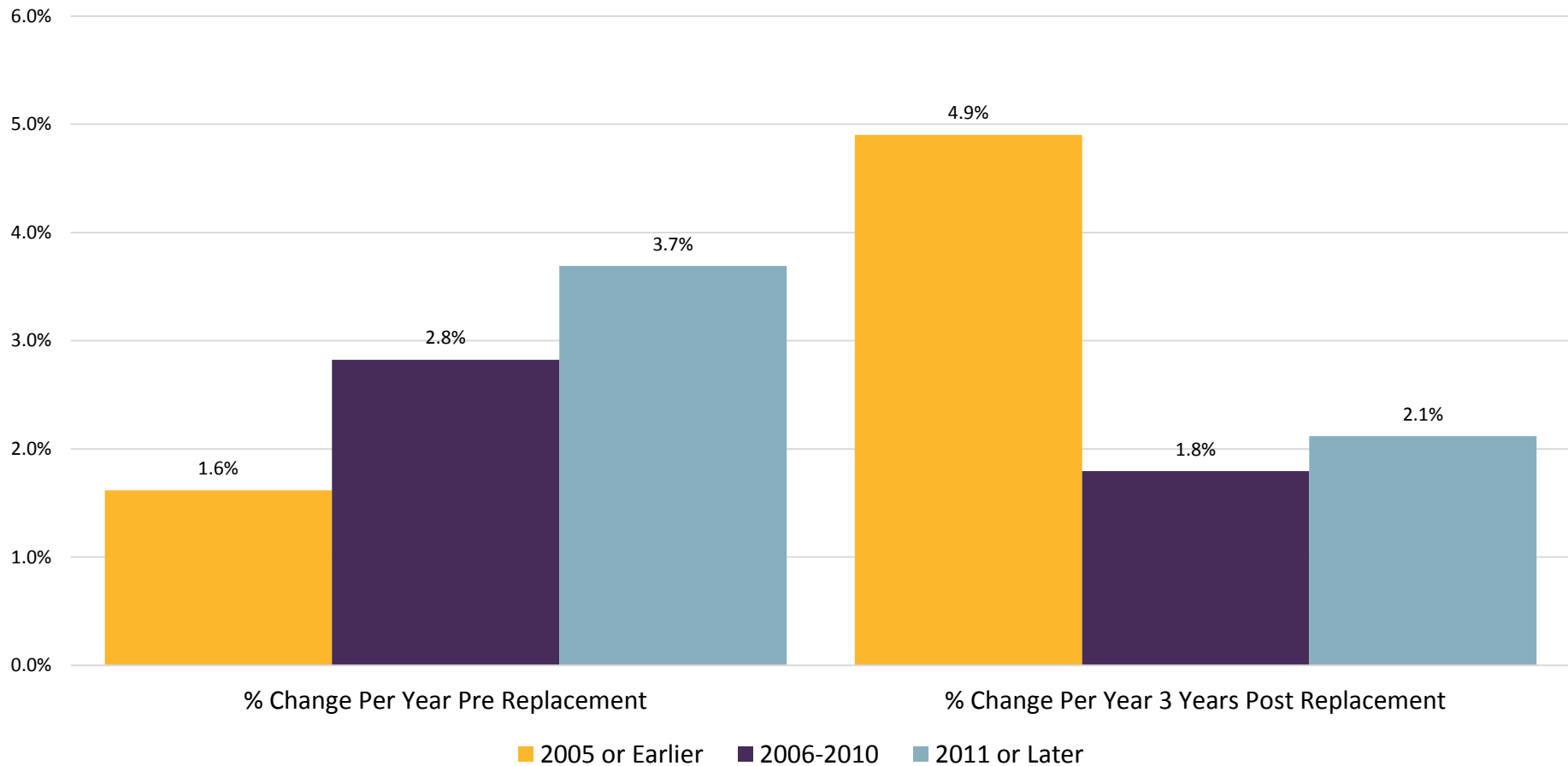
Percentage Change in Staffing (FTEs)

Percent Change in Staffing by Year Pre and Post Replacement



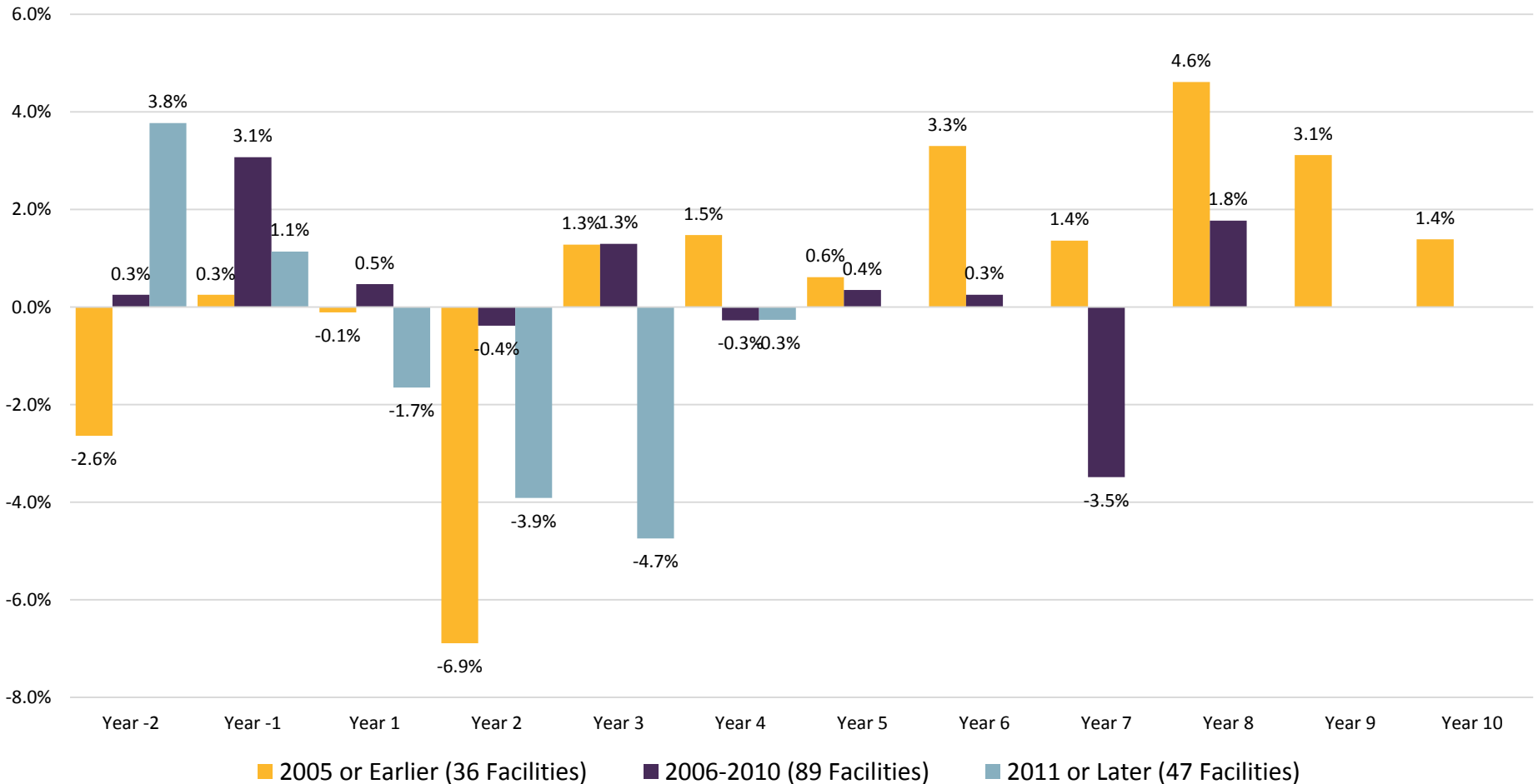
Pre v. Post Comparison: Percentage Change in Staffing (FTEs)

**Median Annual Percentage Change in Staffing for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data**



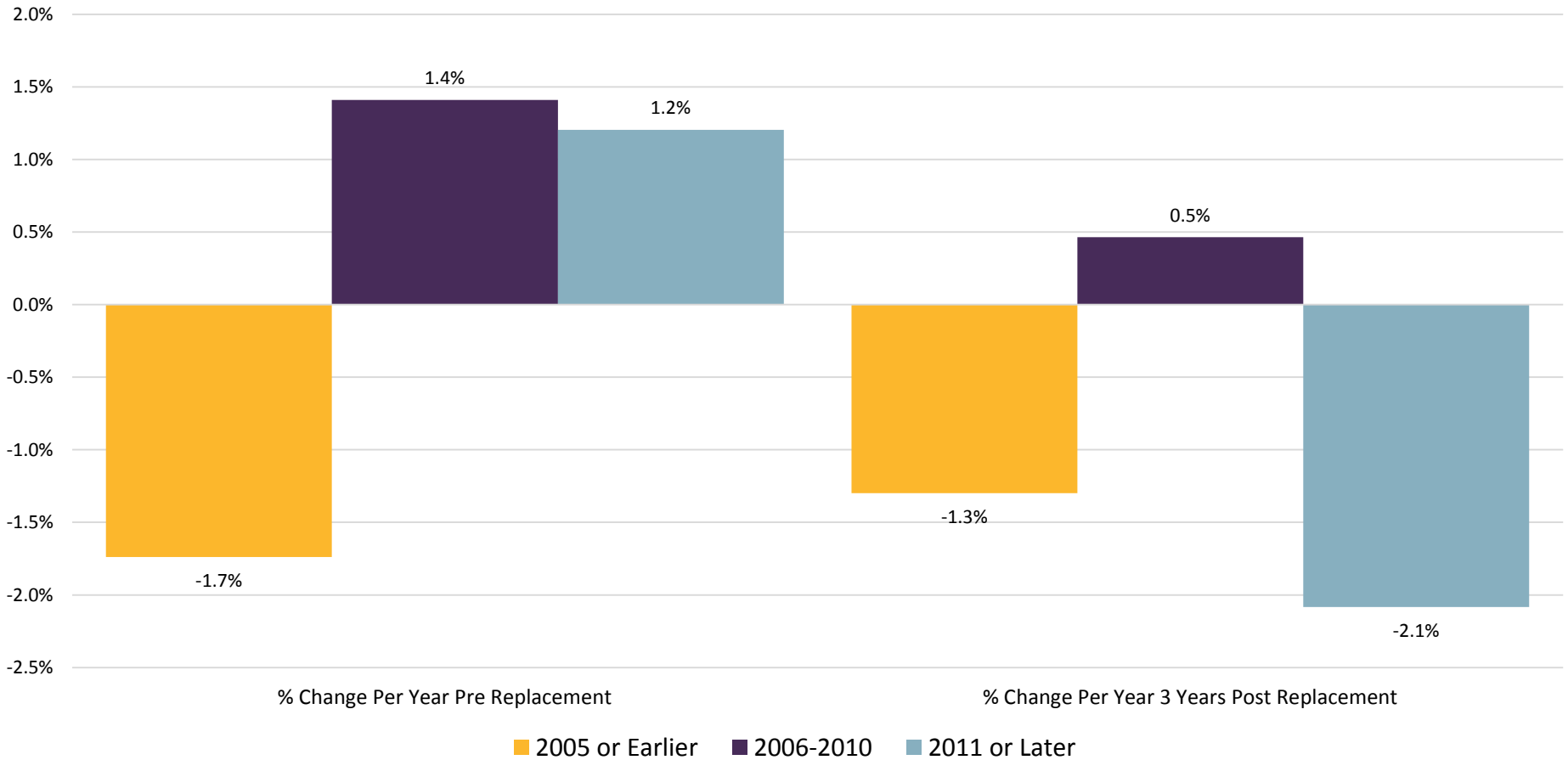
Percentage Change in FTEs per Adjusted Patient Day

Percent Change in Staffing Efficiency By Year Pre and Post Replacement



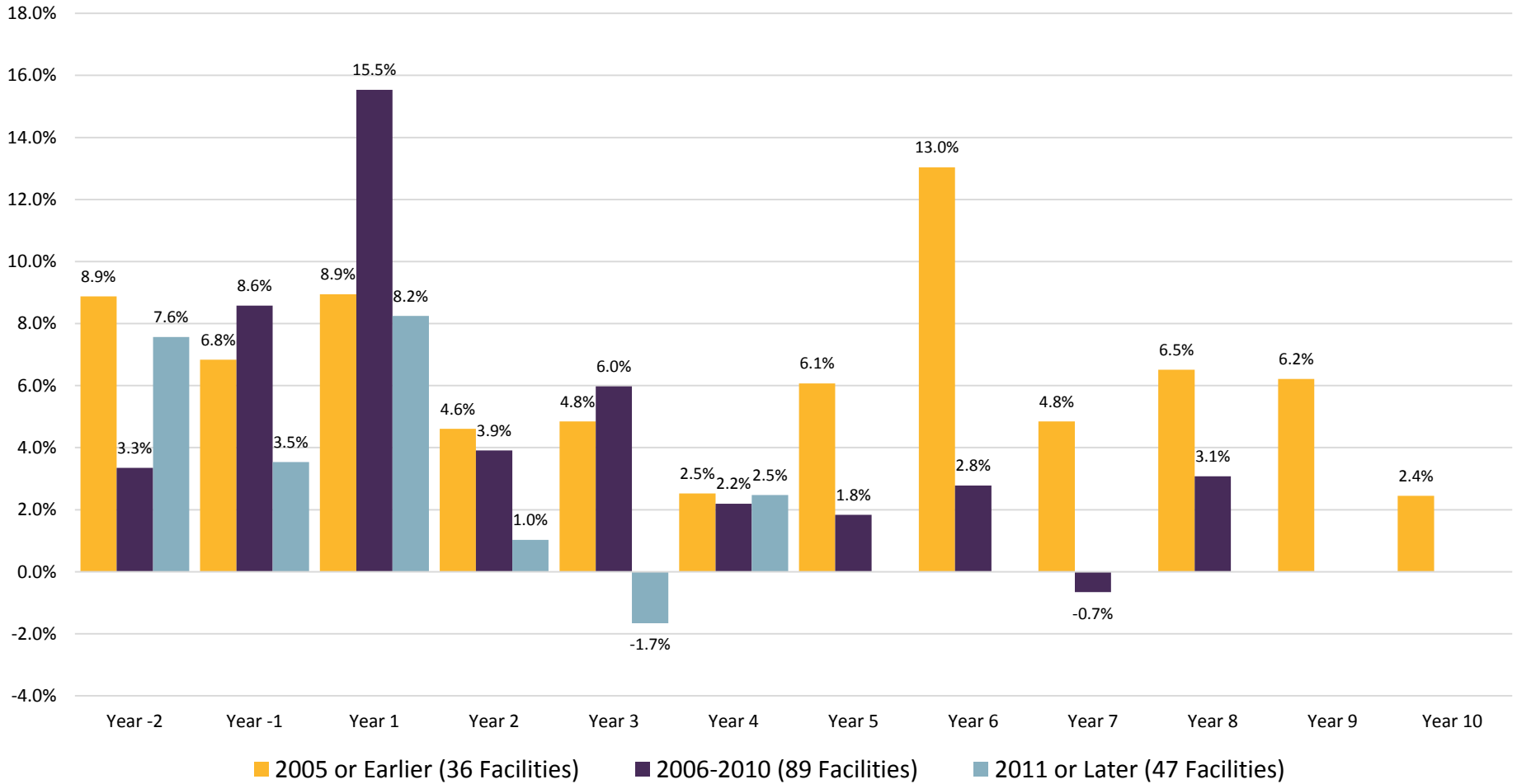
Pre v. Post Comparison: Percentage Change in FTEs per Adj. Patient Day

**Median Annual Percentage Change in Staffing Efficiency for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data**



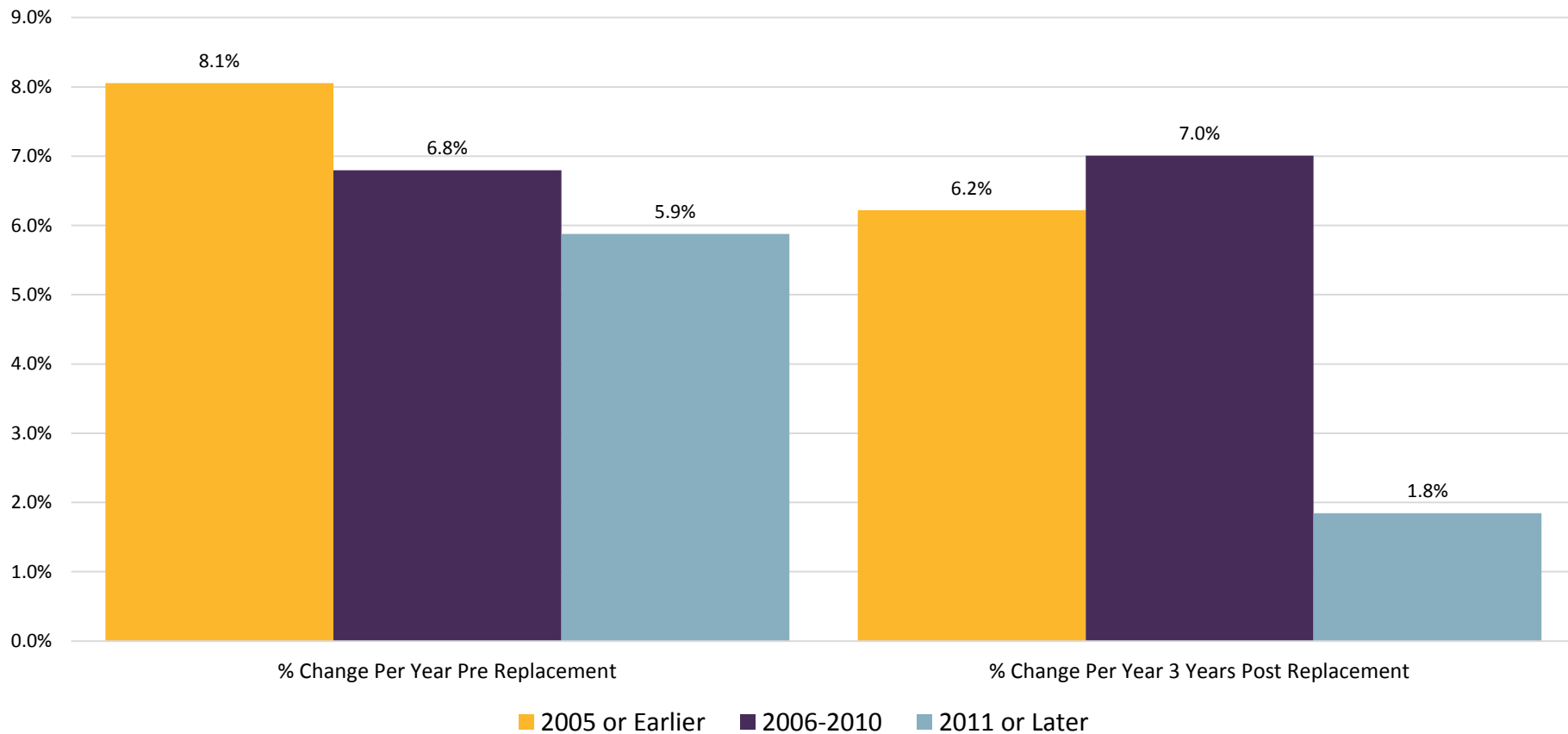
Percentage Change in Operating Expense per Adjusted Patient Day

Percent Change in Operating Expense per Unit of Service by Year Pre and Post Replacement



Pre v. Post Comparison: Percentage Change in Op. Exp. per Adj. Pt. Day

Median Annual Percentage Change in Operating Expense per Unit of Service for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data



Change in Operating Efficiency Takeaways

- 2011 or Later Cohort had greatest improvement in operating efficiencies post replacement
 - *Hypothesis: New facilities increased emphasis on design efficiencies*

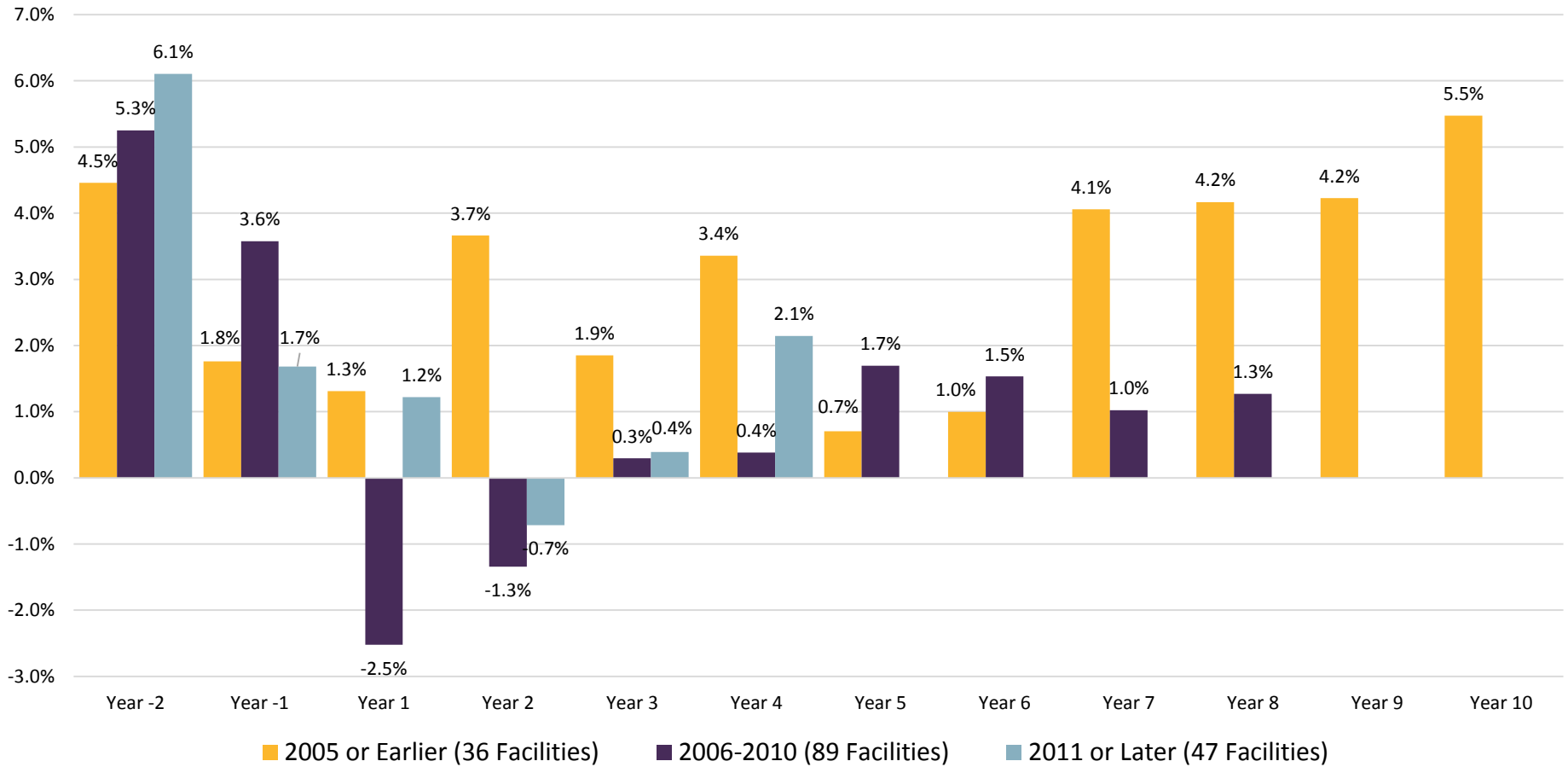
Average annual growth rate for the three-year period pre and post replacement	Hospitals Replaced 2005 or Earlier		Hospitals Replaced 2006-2010		Hospitals Replaced 2011 or Later	
	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement
FTEs	1.6%	4.9%	2.8%	1.8%	3.7%	2.1%
FTEs per Adjusted Patient Day	-1.7%	-1.3%	1.4%	0.5%	1.2%	-2.1%
Operating Expense per Adjusted Patient Day	8.1%	6.2%	6.8%	7.0%	5.9%	1.8%

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ALASKA



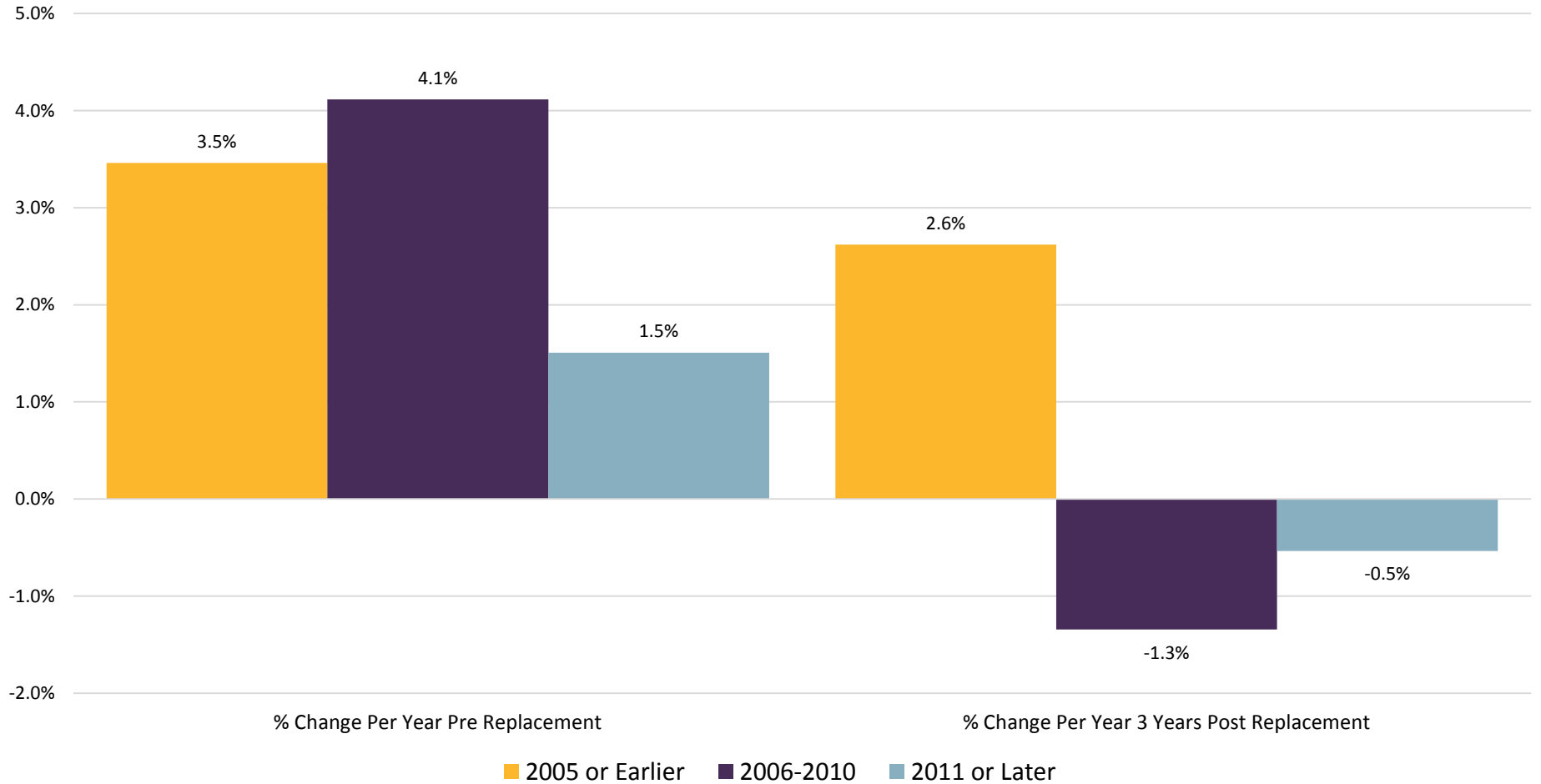
Total Margin by Year

Total Margin by Year Pre and Post Replacement



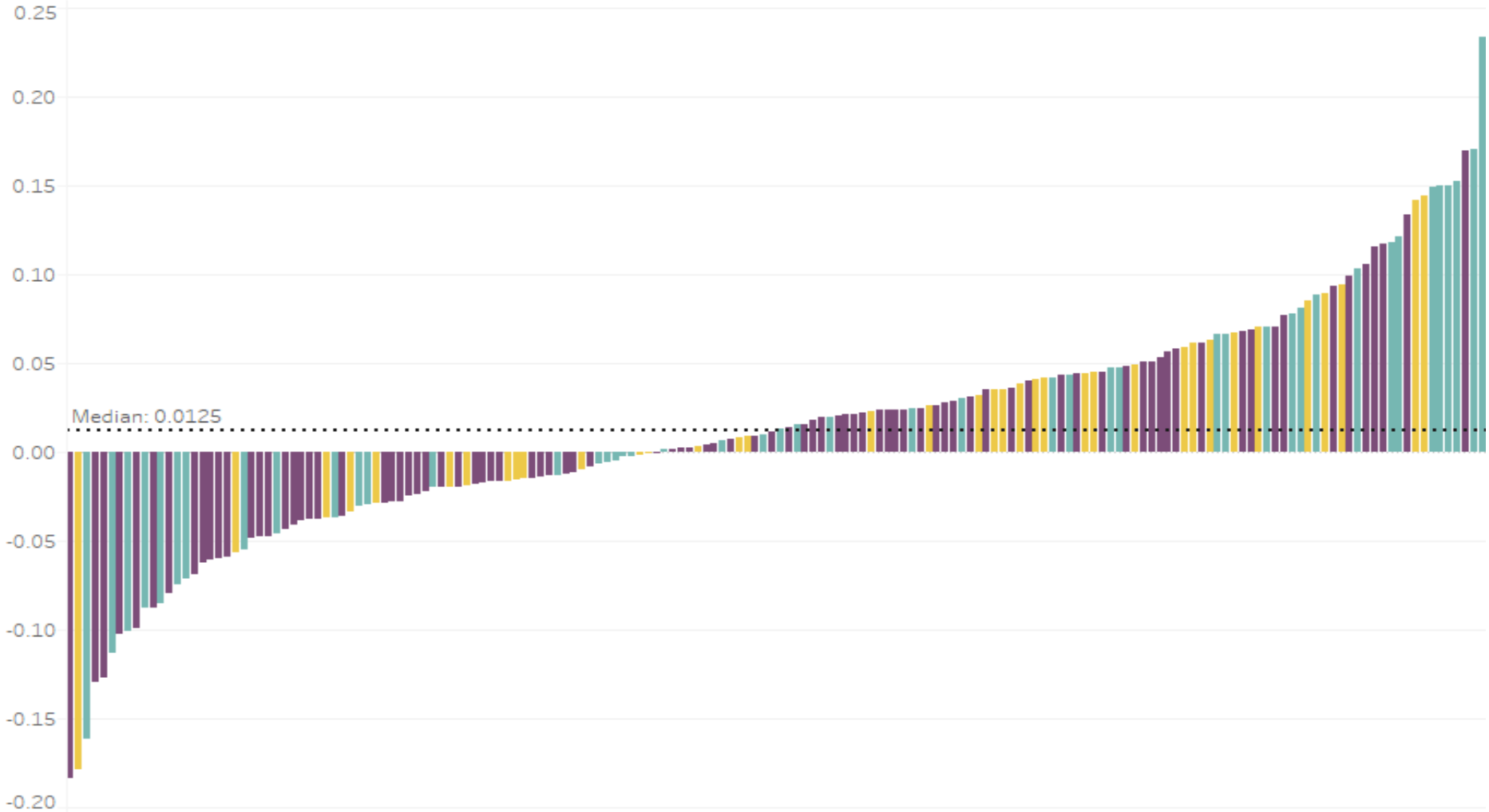
Pre v. Post Comparison: Total Margin

**Median Total Margin for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data**



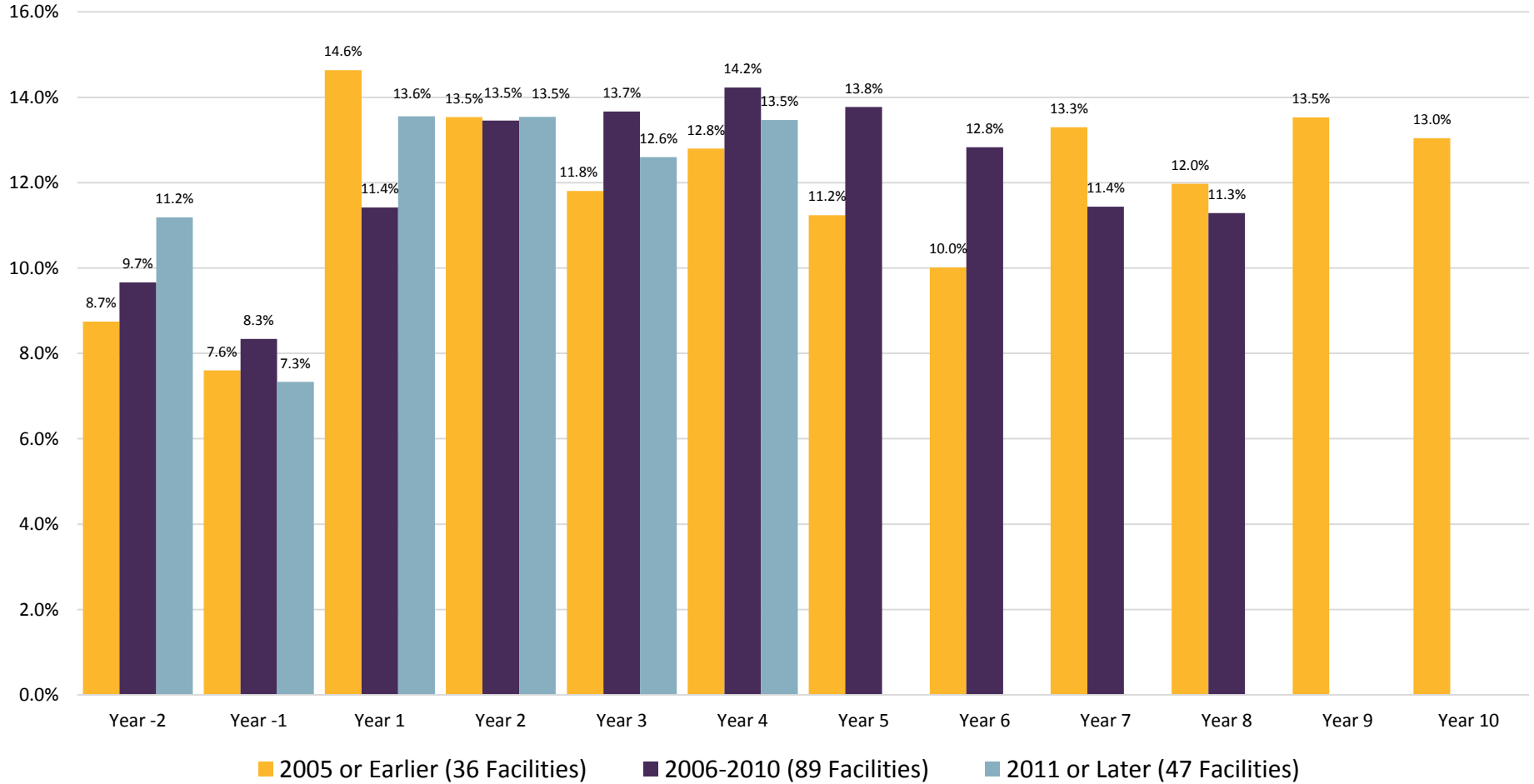
Total Margin Post Replacement

**Median Annual Percentage Change in Total Margin
All Years Post Replacement for All 172 Hospitals**



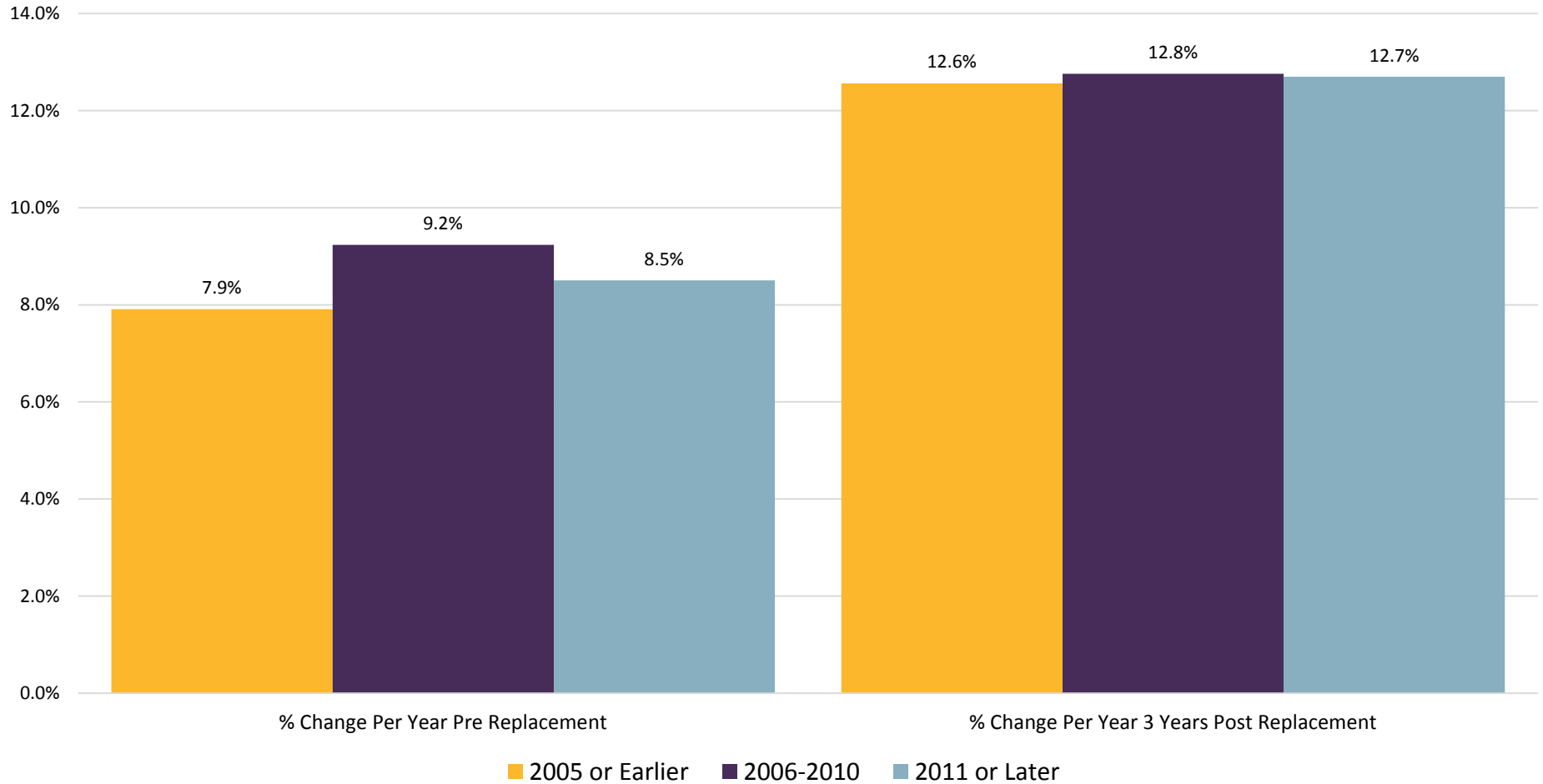
EBIDA by Year

EBIDA Margin By Year Pre and Post Replacement



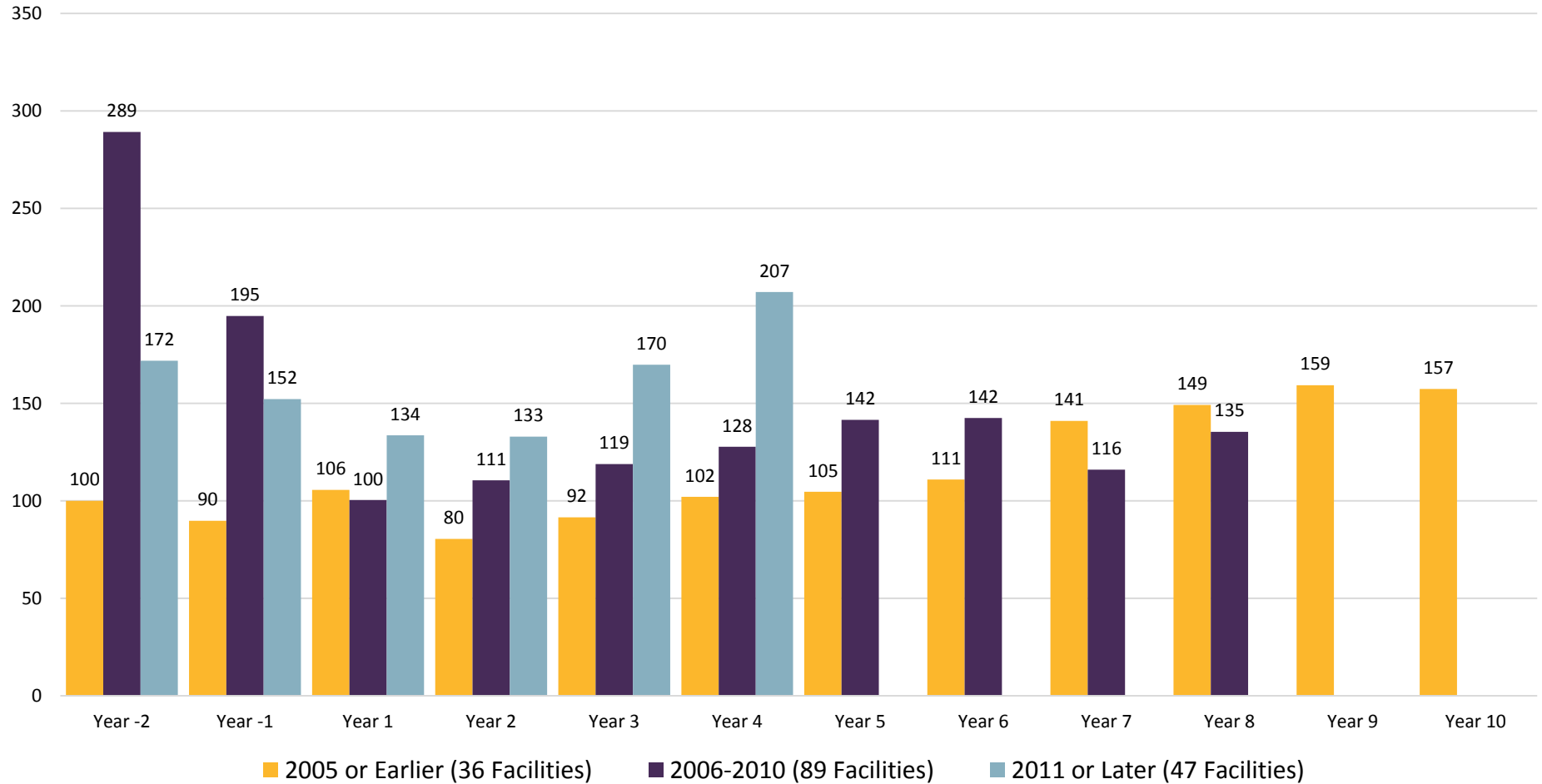
Pre v. Post Comparison: EBIDA by Year

**Median EBIDA Margin for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data**



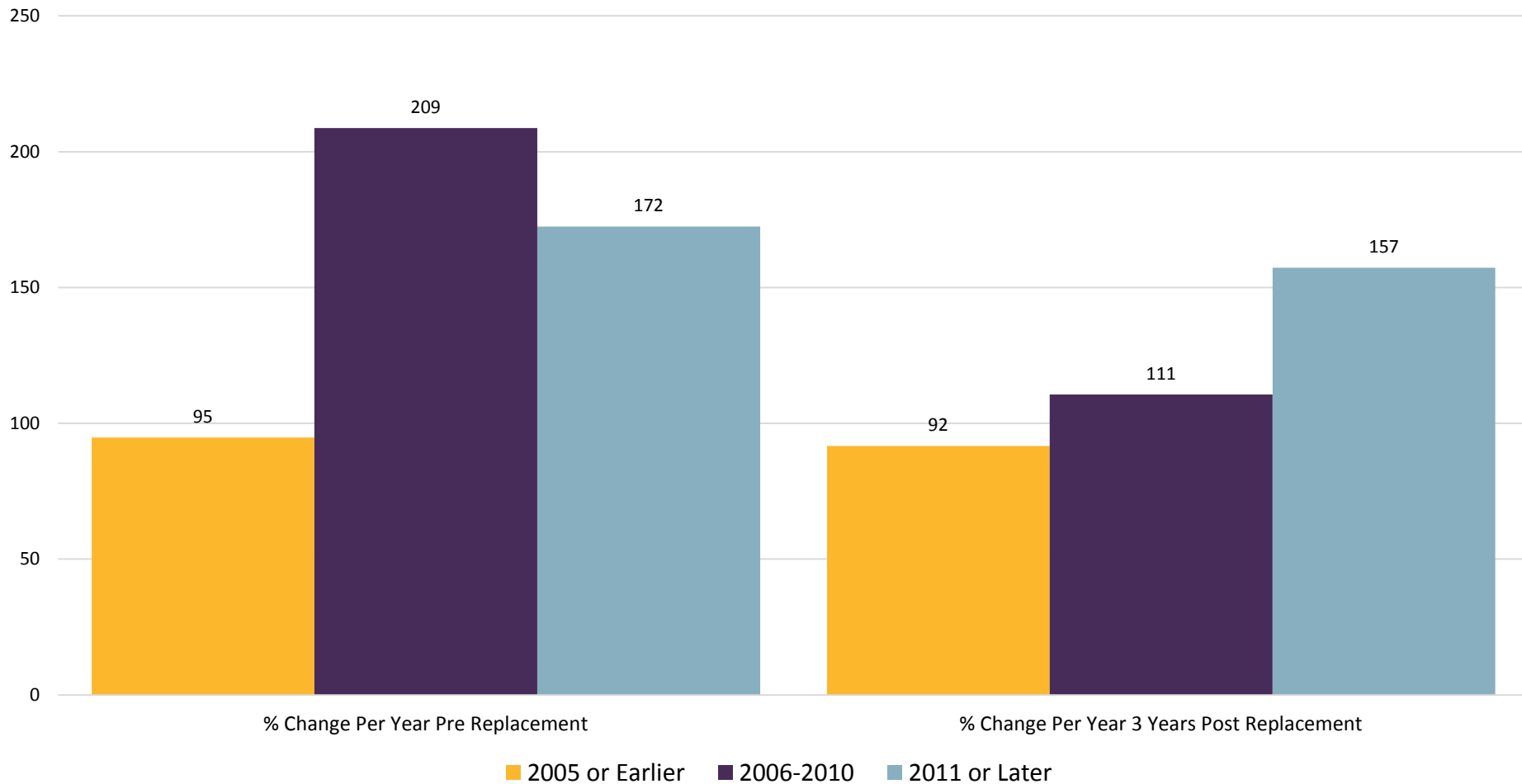
Days of Cash and Investments on Hand

Days of Cash and Investments on Hand by Year Pre and Post Replacement



Pre v. Post Comparison: Days of Cash and Investments on Hand

**Median Days of Cash and Investments on Hand for Three Years Post Replacement
159 Hospitals with At Least Three Years Post Replacement Data**



Profitability Takeaways

- Median total margin fell within the three years after replacement
 - Total margin improved beginning in year 2 and continued, due to increased volume and operating efficiencies
- The median of facilities saw significant increases in EBIDA margins and lower cash levels following replacement
 - Cash position improved beginning in year 2 and continued

Average annual growth rate for the three-year period pre and post replacement	Hospitals Replaced 2005 or Earlier		Hospitals Replaced 2006-2010		Hospitals Replaced 2011 or Later	
	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement	Pre Replacement	Post Replacement
Total Margin	3.5%	2.6%	4.1%	-1.3%	1.5%	-0.5%
EBIDA Margin	7.9%	12.8%	9.2%	12.8%	8.5%	12.7%
Days of Cash and Investments on Hand	95	92	209	111	172	157

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Quality - HCAHPS Scores

- Hospital Consumer Assessment of Healthcare Providers and Systems survey (HCAHPS) developed in partnership between the Centers for Medicare & Medicaid Services (CMS) and the Agency for Healthcare Research and Quality (AHRQ)
- Participation for CAH replacement hospitals is similar to CAHs nationally
 - Approximately 80% of all CAHs reported HCAHPS results
 - 90% of participating CAH replacement hospitals reported HCAHPS results (154 out of 172 study participants)
- Limited to post-replacement analysis, as there is no pre-replacement HCAHPS data for most facilities

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HCAHPS Performance: Replacement CAHs vs. All CAHs

	Doctor Communication	Nurse Communication	Pain Management	Staff Responsiveness	Medication Education	Care Transition
Median - Study Participants	86	83	74	76	69	56
Median - All CAHs Reporting	86	83	74	76	69	55

	Cleanliness	Quietness	Overall Rating	Discharge Planning	Would Recommend
Median - Study Participants	82	70	77	88	76
Median - All CAHs Reporting	80	67	76	88	74

2016 Study Facilities have equal or better performance than All CAHs reporting for all HCAHPS.

Core Measures: Replacement CAHs vs. All CAHs

	Median time for pts being admitted to IP	Median time from decision of admit to IP status for ED Discharges	Median Throughput time for ED Discharges	Door to Diagnostic Evaluation	ED Patient Left without Being Seen
	ED_1b Minutes	ED_2b Minutes	OP_18b Minutes	OP_20 Minutes	OP_22 #
2016 study facilities	198	48	103.5	17.5	1
All CAHS	200	50	104.0	18.0	1

	Median Time to Fibrinolysis	Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival	Median Time to Transfer to Another Facility for Acute Coronary Intervention	Aspirin at Arrival	Median Time to ECG
	OP_1 Minutes	OP_2 %	OP_3b Minutes	OP_4 %	OP_5 Minutes
2016 study facilities	NA	NA	45.0	98	8
All CAHS	26	77	55.5	98	7

	Median Time to Pain Management fro Long Bone Fracture	Immunization for influenza
	OP_21 Minutes	IMM_2 %
2016 study facilities	44	95
All CAHS	44	93

2016 Study Facilities have equal or better performance than All CAHs reporting in all measures except Median Time to ECG

Conclusions



Conclusions

- Overall growth in services post replacement
 - Pre-replacement medians averaged market conditions
 - However, not all facilities experienced service growth
- Newer facilities support improved operating efficiencies
 - Overall increase in total FTEs, with each FTE on average used more efficiently in supporting patient volume
- Older facilities, years 6 – 10, show continued improvement in total margin; thus recognizing positive investment opportunity
- Median cash and investments on hand improved over time after initial facility replacement
- Average higher quality scores for replaced facilities
- New facilities appear to address Triple Aim by increasing efficiencies and improving quality while transitioning away from the sick/inpatient care delivery model





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