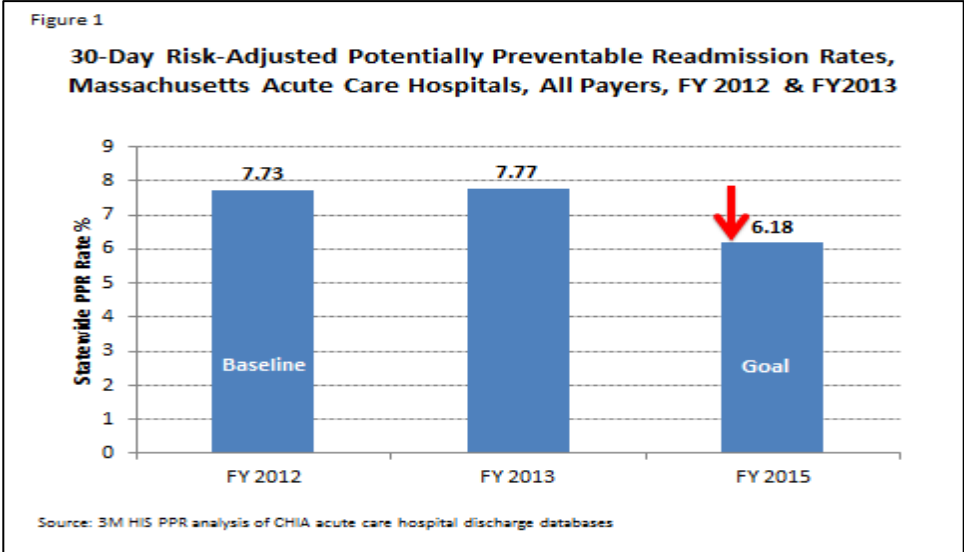


Massachusetts Hospitals Statewide Performance Improvement Agenda Report

MHA Board-approved Quality & Safety Goal January 2013
Reduce Preventable Readmissions by 20% by 2015

All-Payer Potentially Preventable Readmissions



The rate of **All-Payer 30-day Potentially Preventable Readmissions (PPRs)** was essentially unchanged in FY 2013 (OCT 2012 – SEP 2013) in Massachusetts acute care hospitals compared to the prior baseline year, according to a recently completed analysis of hospital discharge data conducted by 3M Health Information Systems on behalf of MHA (Fig.1). Two additional studies of FY 2014 and FY 2015 discharge data will be conducted when available to measure progress and results in meeting the 20% reduction goal.

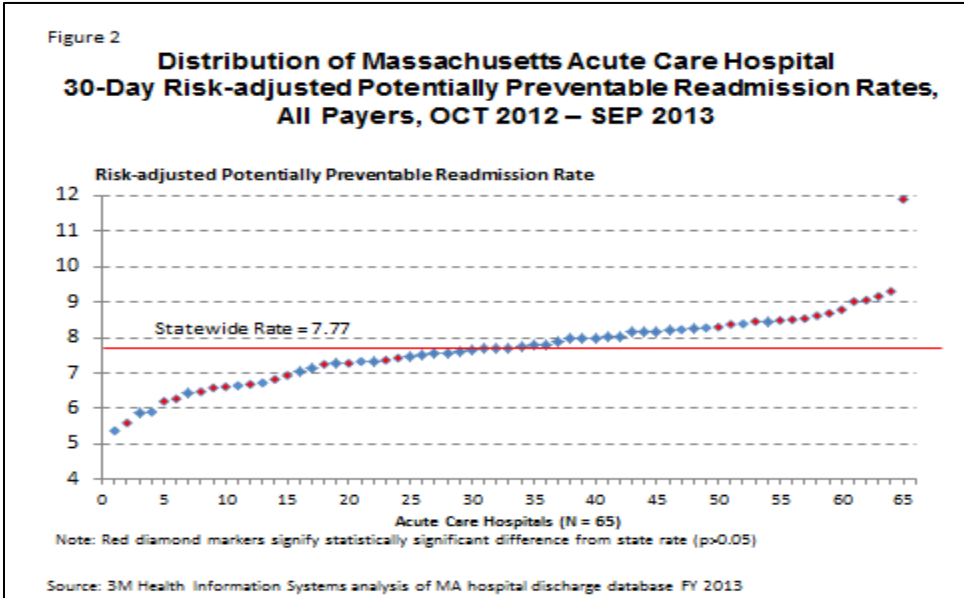


Figure 2 displays the range of PPRs for the 65 acute care hospitals analyzed. The range, excluding one unusually high value, goes from about 5.4% to about 9.3%.

While the all-payer PPR analysis is a comprehensive and appropriate measure for evaluating overall statewide hospital performance in meeting the 20% reduction goal, it is also important to monitor other readmission measure data to provide context and insights about longer-term readmission trends and performance of Massachusetts hospitals relative to hospitals across the country. A number of these measures are updated regularly and promoted on public hospital report card websites and shape public and policymaker perceptions about Massachusetts hospitals. The measures are discussed below.

Medicare 30-Day Risk-Standardized Readmission Measures

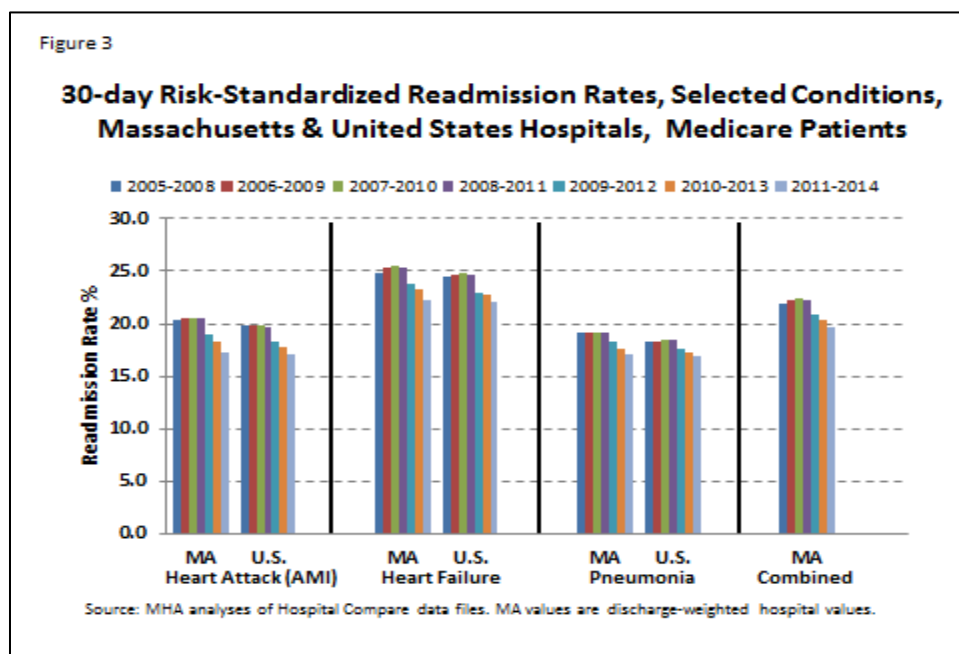


Figure 3 displays Massachusetts and United States aggregate data over seven three-year periods (each year/period covers July through June) for **risk-standardized, all-cause 30-day readmission rates for Medicare patients hospitalized with a principal diagnosis of heart attack (acute myocardial infarction), heart failure, and pneumonia**. The readmission rates are for patients discharged alive to a non-acute care setting. The estimates are produced from Medicare claims and enrollment data using sophisticated statistical modeling techniques that adjust for patient-level risk factors and account for the clustering of patients within hospitals. The rates account for readmissions to any other hospital, not just the same hospital. The data are updated annually and published at the Hospital Compare website. The analysis also employs techniques to remove planned readmissions.

The chart illustrates several points. In both Massachusetts and the United States, readmission rates for these conditions increased slightly or were unchanged over the first four three-year measure periods. Commencing in the period ending 2012 and continuing in 2013 and 2014, rates declined distinctly in both Massachusetts and the United States. Rates for all three measures were slightly higher in Massachusetts than the United States, ranging from 1.2% higher for pneumonia to 1.8% higher for AMI in the period ending in 2014.

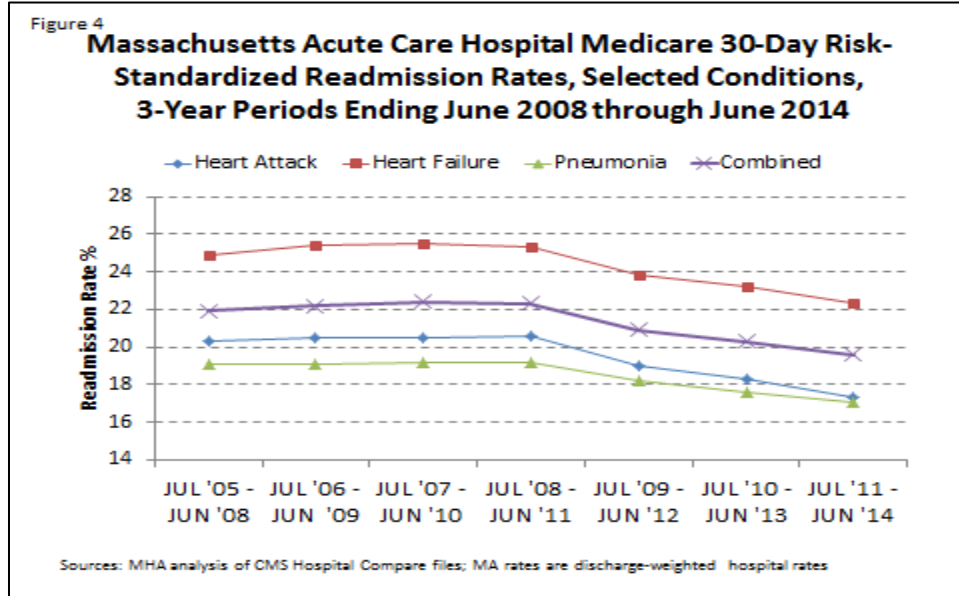
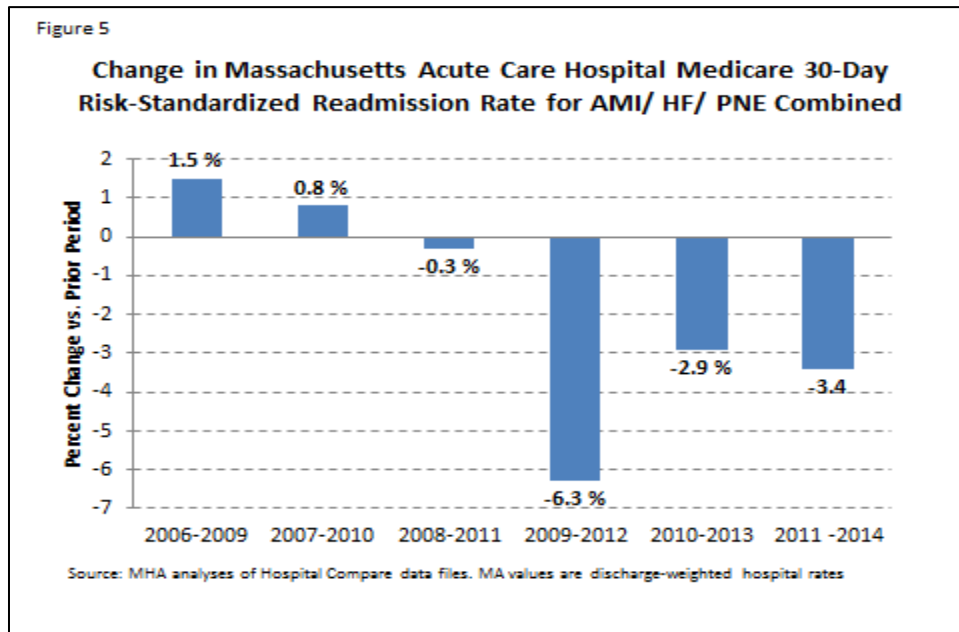
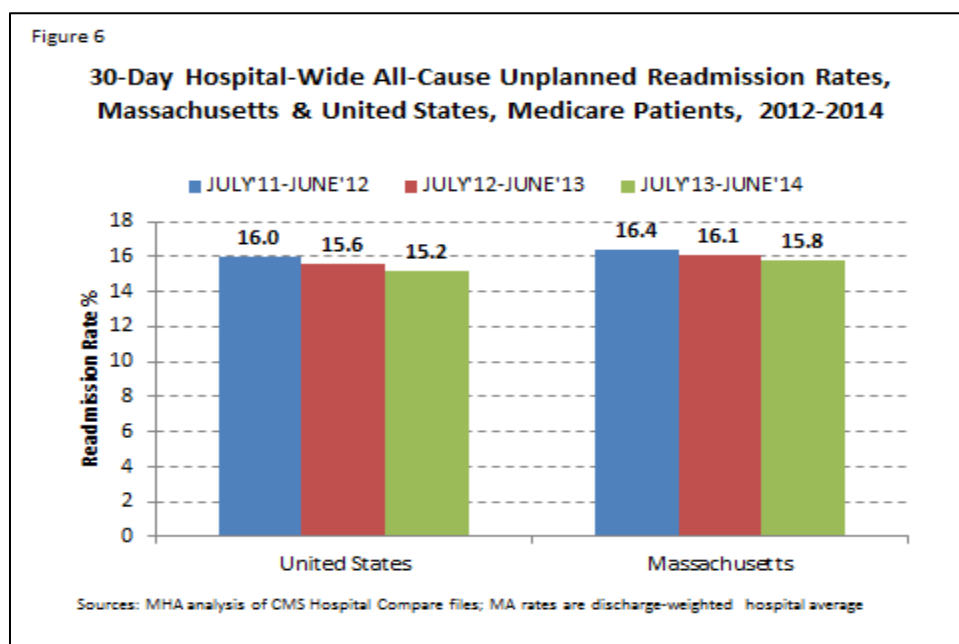


Figure 4 magnifies the changes in the rates for the three conditions and the combination of all three, illustrating the rates of decline in 2012 through 2014. Figure 5, below, displays the rate of change in the combined measure for all periods since reporting began.



The rate of decline in the periods ending in 2013 and 2014 slowed to about half the rate of decline for the period ending 2012, perhaps signaling that future reductions will be more difficult to achieve.

Figure 6 below displays the first three years of data for the **30-Day Hospital-Wide All-Cause Unplanned Readmission (HWR) Rate for Medicare Patients** for acute care hospitals in Massachusetts the U.S.



This new measure, also published on Hospital Compare, provides a more comprehensive picture of readmissions than the condition-specific measures discussed earlier, covering nearly all patient diagnoses/procedures. The measure also provides a more current picture of readmissions because it requires only one-year of data to have sufficient statistical power to use in comparing hospitals. The HWR rates dropped in Massachusetts (down 1.8%) and the U.S. (down 2.5%) in 2013 and again in 2014 (down 1.9% and 2.6% respectively) for a cumulative decline of 3.7% in Massachusetts and 5.0% in the U.S. from 2012 to 2014. The Massachusetts rate stood 3.9% higher than the U.S. rate in 2014.

Data for all Medicare 30-day risk-standardized readmission measures for Massachusetts and the U.S. for all time periods/years that have been reported are included in the appendix at the end of this report.

Medicare 30-Day Unadjusted All Cause Readmission Measures

CMS has developed data for evaluating geographic variation in the utilization and quality measures for the Medicare fee-for-service (FFS) population, aggregated in a Geographic Variation Public Use File that has demographic, spending, utilization, and quality indicators at the state, hospital referral region (HRR) level, and county level. The data files and methodology are described and may be found at http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Medicare-Geographic-Variation/GV_PUF.html. The files provide a rich data set that extends from federal fiscal year (FFY) 2007 through FFY 2013 and contain data on Medicare beneficiaries that were not enrolled in a Medicare Advantage plan and were not enrolled Part A only or Part B only.

Figure 7 below displays **30-day unadjusted all cause readmission rates for Medicare FFS beneficiaries of all ages** in Massachusetts and the U.S. from 2007 through 2013. Rates declined since 2008 for both and at an accelerating pace, particularly since 2011. The pace of reduction was more rapid in Massachusetts, reducing the spread in readmission rates of Massachusetts over the U.S. from 8.1% in 2008 to 2.3% in 2013

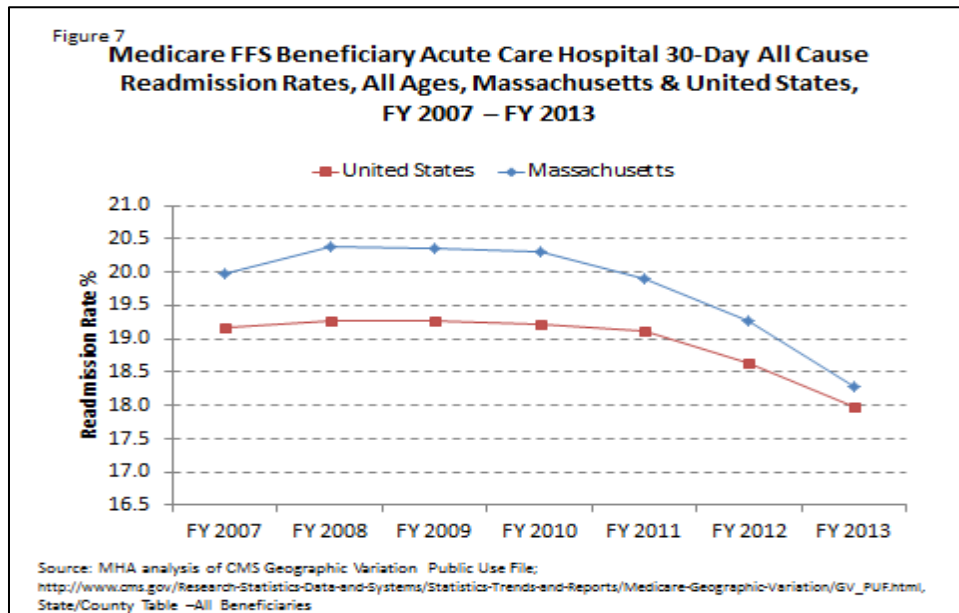
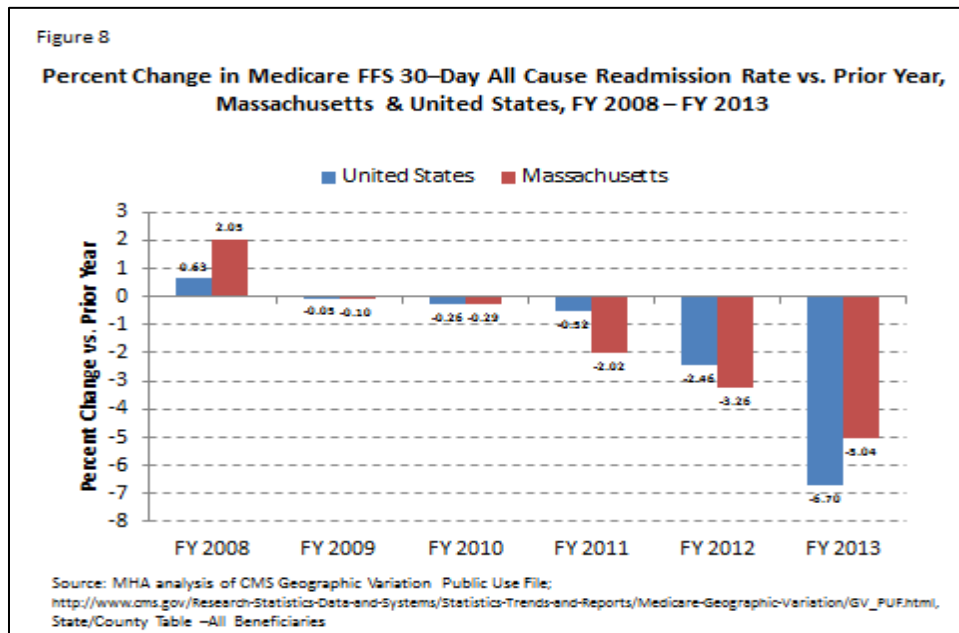


Figure 8 displays the rates of change in readmission rates in both Massachusetts and the U.S. versus the prior year from 2008 through 2013. Rates dropped for five consecutive years, and more rapidly in Massachusetts in four of the five years until 2013 when the U.S. dropped by 6.7% versus 5.0% in Massachusetts. The rate of decline continued to accelerate in both Massachusetts and the U.S. through 2013.



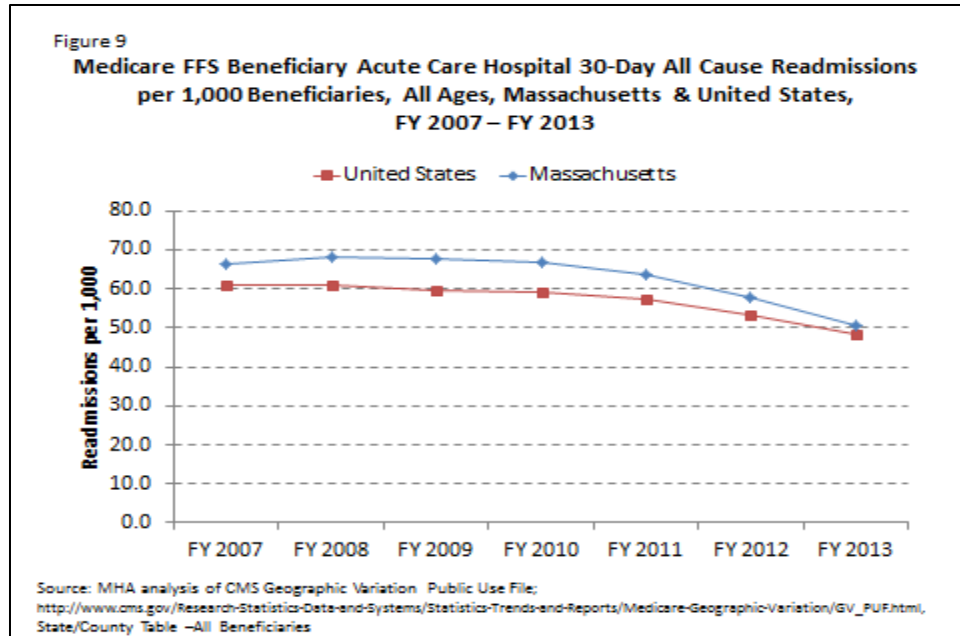


Figure 9 presents **30-day all cause readmissions per 1,000 Medicare fee-for-service beneficiaries of all ages** in Massachusetts and the U.S. from 2007 through 2013. As with readmission rates, the number of readmissions per 1,000 beneficiaries dropped for five consecutive years in both Massachusetts and the U.S., and at a continuously accelerating pace.

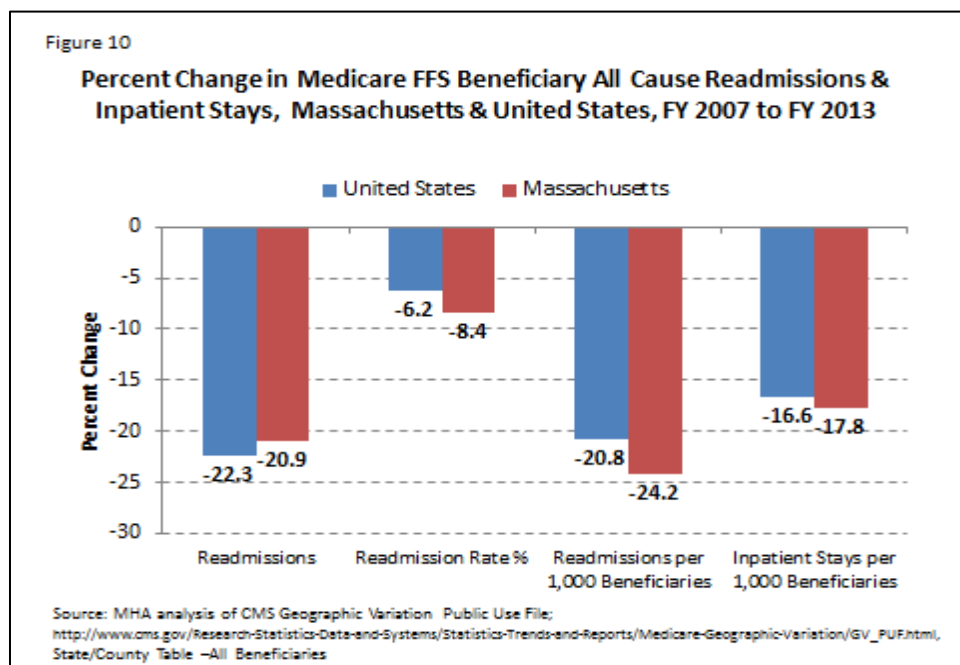


Figure 10 summarizes changes in readmission measures in Massachusetts and the U.S. from 2007 to 2013 for Medicare FFS beneficiaries. The number of readmissions and the number of readmissions per 1,000 FFS beneficiaries dropped by more than 20% for both areas. The data suggest a virtuous cycle whereby fewer inpatient stays helped lead to fewer readmissions by reducing the opportunities for readmissions, and a lower readmission rate in turn reduced the number of inpatient stays.

All-Payer 30-Day Hospital-Wide All-Cause Unplanned Readmissions

Trend data on 30-day all-payer readmissions using the HWR measure specifications for patients age 18 and over was published by the Massachusetts Center for Health Information and Analysis (CHIA) in June 2015 (<http://www.chiamass.gov/hospital-wide-adult-all-payer-readmissions-in-massachusetts-2011-2013>).

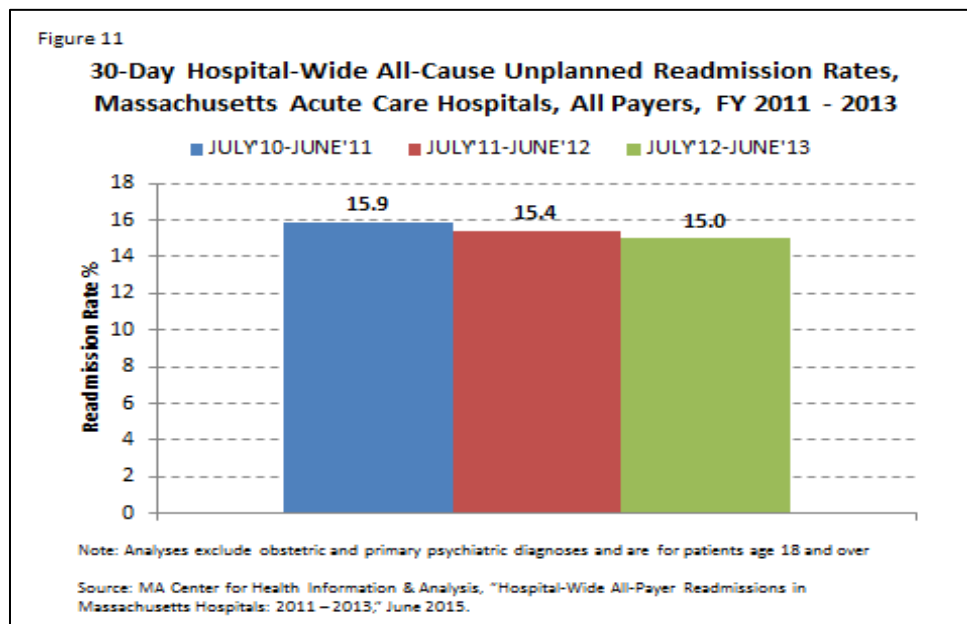


Figure 11 displays the CHIA analysis findings for 12-month periods ending in June of 2011, 2012, and 2013. All-Payer HWR rates dropped from 15.9% in 2011 to 15.4% in 2012 (down 3.1%) and again in 2013 to 15.0% (down 2.6% from 2012), for a total decline of 5.6% since 2011.

Why Are Medicare Readmission Rates Declining? Improved Care or Accounting Artifact?

CMS analysts first reported in 2013^{*} on their finding and projections of a decline in national Medicare readmissions in 2012. They cautioned that the reasons for the reductions were unclear, but speculated that it **could have been caused by care improvements incentivized by payment reforms such as the Medicare Readmission Reduction Program which imposed financial penalties on hospitals (beginning in October 2012) judged to have high rates of excess readmissions and other initiatives aimed at reducing avoidable readmissions, or by substitution of post-discharge observation stays, ED visits, or care in other non-inpatient settings for inpatient acute care hospital stays.** Subsequent announcements from CMS[†] reported an 8.0% decrease in Medicare fee-for-service 30-day readmissions from a 2010 baseline through 2013, which it attributed to the Affordable Care Act and “...*strong, diverse public-private partnerships, active engagement by patients and families, and a wide range of aligned federal programs and initiatives.*”

^{*} Gerhardt, G. and others, “Medicare Readmission Rates Showed Meaningful Decline in 2012,” Medicare & Medicaid Research Review March 2013:Volume 3, Number 2 pp. E1-E11

[†] U.S. Department of Health & Human Services, “New HHS Data Shows Major Strides Made in Patient Safety, Leading to Improved Care and Savings,” May 7, 2014

While it may not be possible to attribute and measure the impact of all factors affecting readmission rates with precision, it is probably too early to dismiss the role of observation visits, in which short stays in the hospital are classified and paid for as outpatient visits rather than inpatient admissions.

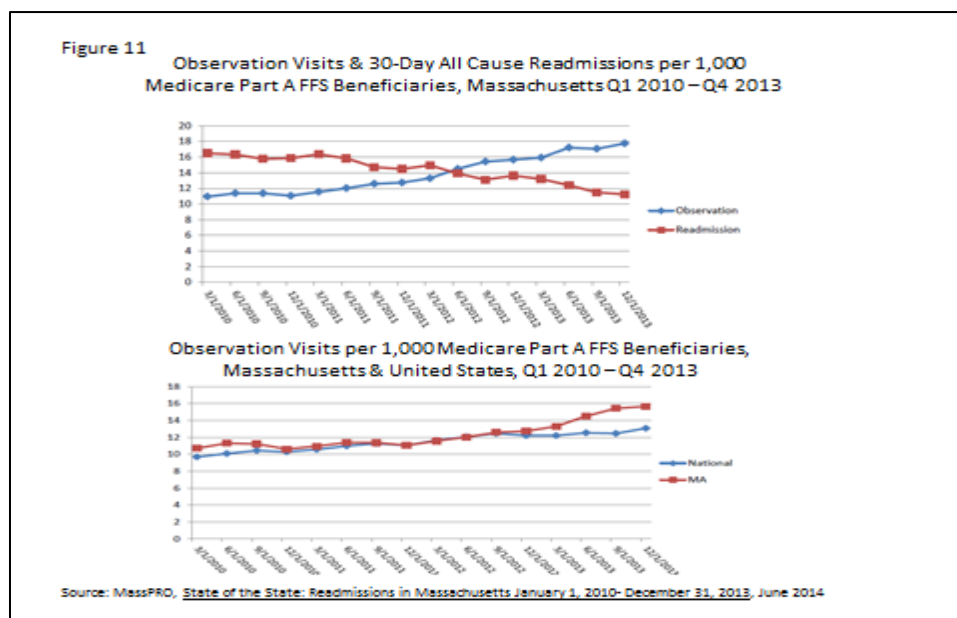


Figure 11 displays 30-day all cause readmissions and observation visits per 1,000 Medicare FFS beneficiaries in Massachusetts, along with observation visits per 1,000 Medicare FFS beneficiaries in both Massachusetts and the U.S. The rates of change in Massachusetts beneficiary observation visits and readmissions were near mirror images of each other, and the rate of increase in observation visits in Massachusetts clearly outpaced the rate of growth in the U.S. from mid-2012 through the end of 2013. Both findings would be consistent with the narrowing spread between Massachusetts and U.S. readmission rates and readmissions per 1,000 beneficiaries documented in this report.

Summary

All-payer 30-day Potentially Preventable Readmission (PPR) rates were unchanged in Massachusetts acute care hospitals in FY 2013 versus the baseline year, FY 2012. This measure will continue to be monitored through FY 2015 to gauge success against the MHA board-approved goal to reduce preventable admissions by 20% by 2015.

Medicare 30-day risk-standardized readmission measures, reported for various specific conditions going back to multi-year care periods beginning in 2005-2008 dropped distinctly in both Massachusetts and the U.S. for the first time when 2012 data was reported, and continued to drop with the addition of 2013 and 2014 data, though more slowly than in 2012. A new and more comprehensive measure, the 30-day Hospital-Wide All-Cause Unplanned Readmission (HWR) Rate, was introduced beginning with 12-month data ending in June 2012, and dropped in both Massachusetts and the U.S. in 2013 and 2014, for a cumulative decline of 3.7% in Massachusetts and 5.0% in the U.S. from 2012 to 2014. These measures are calculated using claims data for Medicare fee-for-service beneficiaries and use techniques to remove certain planned readmissions from the analyses.

Medicare 30-day unadjusted all cause readmission measures for fee-for-service beneficiaries of all ages have declined in Massachusetts and the U.S. every year beginning with FFY 2008 through FFY 2013, and at an accelerating pace, particularly since FFY 2011. Massachusetts readmission rates went from 8.1% above U.S. rates in 2008 to 2.3% above in 2013. Readmissions per 1,000 beneficiaries dropped for five consecutive years in both Massachusetts and the U.S., and at a continuously accelerating pace. Readmissions and readmissions per 1,000 beneficiaries dropped more than 20% from FFY 2007 to FFY 2013 in both Massachusetts and the U.S.

All-Payer 30-Day Hospital-Wide All-Cause Unplanned Readmission rates in Massachusetts dropped from 15.9% in FY 2011 to 15.4% in FY 2012 (down 3.1%) and again in FY 2013 to 15.0% (down 2.6% from 2012), for a total decline of 5.6% since FY 2011.

The **decline in Medicare readmissions may have been caused by care improvements** incentivized by payment reforms such as the Medicare Readmission Reduction Program and other initiatives aimed at reducing avoidable readmissions, **or by substitution of post-discharge observation stays**, ED visits, or care in other non-inpatient settings for inpatient acute care hospital stays. Evidence indicates that Medicare observation visits in Massachusetts grew at about the same rate as the decline in readmissions, and more rapidly than the growth in observation visits nationwide.

Appendix

		Massachusetts						
		Medicare 30-Day Risk Standardized Readmission Rate						
		Patient Weighted Average						
Condition		JUL'05-JUN'08	JUL'06-JUN'09	JUL'07-JUN'10	JUL'08-JUN'11	JUL'09-JUN'12	JUL '10-JUN '13	JUL '11-JUN '14
Heart Attack		20.3	20.5	20.5	20.6	19.0	18.3	17.3
	% change vs. prior period	NA	1.1	-0.2	0.7	-7.8	-3.7	-5.5
Heart Failure		24.9	25.4	25.5	25.3	23.8	23.2	22.3
	% change vs. prior period	NA	1.9	0.6	-1.0	-5.9	-2.5	-3.9
Pneumonia		19.1	19.1	19.2	19.2	18.2	17.6	17.1
	% change vs. prior period	NA	0.0	0.7	-0.1	-5.2	-3.3	-2.8
Combined		21.9	22.2	22.4	22.3	20.9	20.3	19.6
	% change vs. prior period	NA	1.5	0.8	-0.3	-6.3	-2.9	-3.4
Elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)		NR	NR	NR	NR	5.2	4.9	4.5
	% change vs. prior period	NA	NA	NA	NA	NA	-5.8	-8.2
Hospital-wide all- cause unplanned readmission (HWR)*		NR	NR	NR	NR	16.4	16.1	15.8
	% change vs. prior period	NA	NA	NA	NA	NA	-1.8	-1.9
COPD		NR	NR	NR	NR	NR	21.8	20.9
	% change vs. prior period	NA	NA	NA	NA	NA	NA	-4.1
STROKE		NR	NR	NR	NR	NR	13.8	13.2
	% change vs. prior period	NA	NA	NA	NA	NA	NA	-4.3
CABG		NR	NR	NR	NR	NR	NR	14.3
		United States						
		Medicare 30-Day Risk-Standardized Readmission Rate						
		Patient Weighted Average						
Condition		JUL'05-JUN'08	JUL'06-JUN'09	JUL'07-JUN'10	JUL'08-JUN'11	JUL'09-JUN'12	JUL '10-JUN '13	JUL '11-JUN '14
Heart Attack		19.9	19.9	19.8	19.7	18.3	17.8	17.0
	% change vs. prior period	NA	0.0	-0.5	-0.5	-7.1	-2.7	-4.5
Heart Failure		24.5	24.7	24.8	24.7	23.0	22.7	22.0
	% change vs. prior period	NA	0.8	0.4	-0.4	-6.9	-1.3	-3.1
Pneumonia		18.2	18.3	18.4	18.5	17.6	17.3	16.9
	% change vs. prior period	NA	0.5	0.5	0.5	-4.9	-1.7	-2.3
Combined		21.2	21.4	NA	NA	NA	NA	NA
	% change vs. prior period	NA	0.9	NA	NA	NA	NA	NA
Elective primary total hip arthroplasty (THA) and/or total knee arthroplasty (TKA)		NR	NR	NR	NR	5.4	5.2	4.8
	% change vs. prior period	NA	NA	NA	NA	NA	-3.7	-7.7
unplanned readmission (HWR)*		NR	NR	NR	NR	16.0	15.6	15.2
	% change vs. prior period	NA	NA	NA	NA	NA	-2.5	-2.6
COPD		NR	NR	NR	NR	NR	21.8	20.2
	% change vs. prior period	NA	NA	NA	NA	NA	NA	-7.3
STROKE		NR	NR	NR	NR	NR	13.3	12.7
	% change vs. prior period	NA	NA	NA	NA	NA	NA	-4.5
CABG		NR	NR	NR	NR	NR	NR	14.9
Sources: MHA analysis of CMS 30-day readmission; U.S. data from CMS Hospital Compare data file for same periods; U.S. Combined AMI/HF/PN from AHA analyses in AHA RPB SPIA report and AHA Strategic Plan 2011-2013 p.6 and note 4								
*Note: All-cause readmission data period is 12-months (JUL-JUN) ending in last listed year								