



Cardiovascular Market Report—2010

Impact on Program Economics and Demand for Services
Under the New Rules of Health Care Reform

Cardiovascular Roundtable

Executive Director

Brian Contos

Contributing Consultants

Nicholas Bartz

Nailah Jinnah, MBA

Dana Pfenninger, MPH

Lead Designer

Karyn Lance

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Cardiovascular Market Report—2010



*Impact on Program Economics and
Demand for Services Under the New
Rules of Health Care Reform*

CARDIOVASCULAR ROUNDTABLE

6

Road Map for Discussion

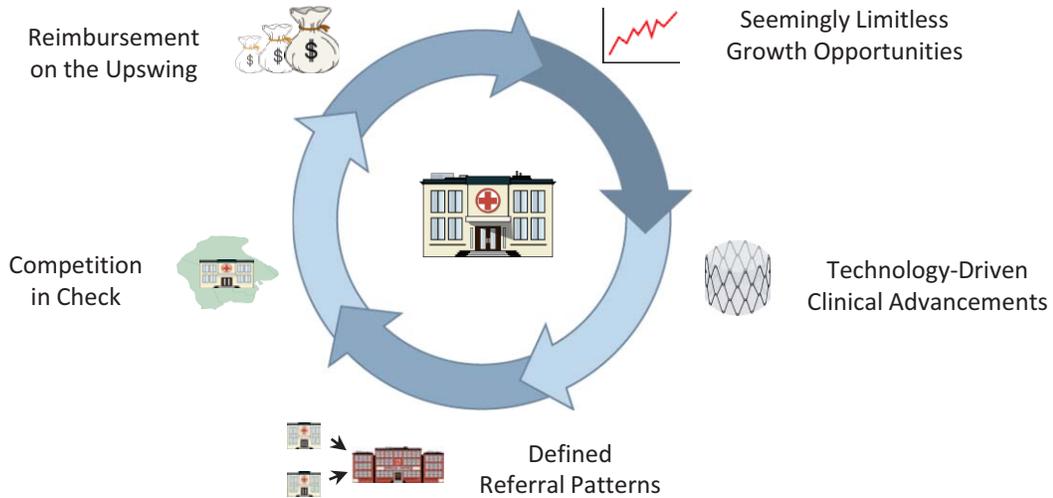


- I** Business Under Pressure
- II** Health Care Policy Update
- III** Payment Horizon Scan
- IV** Emerging Drivers of Demand
- V** Coda: Rising to the Challenge

Remembering the Golden Era

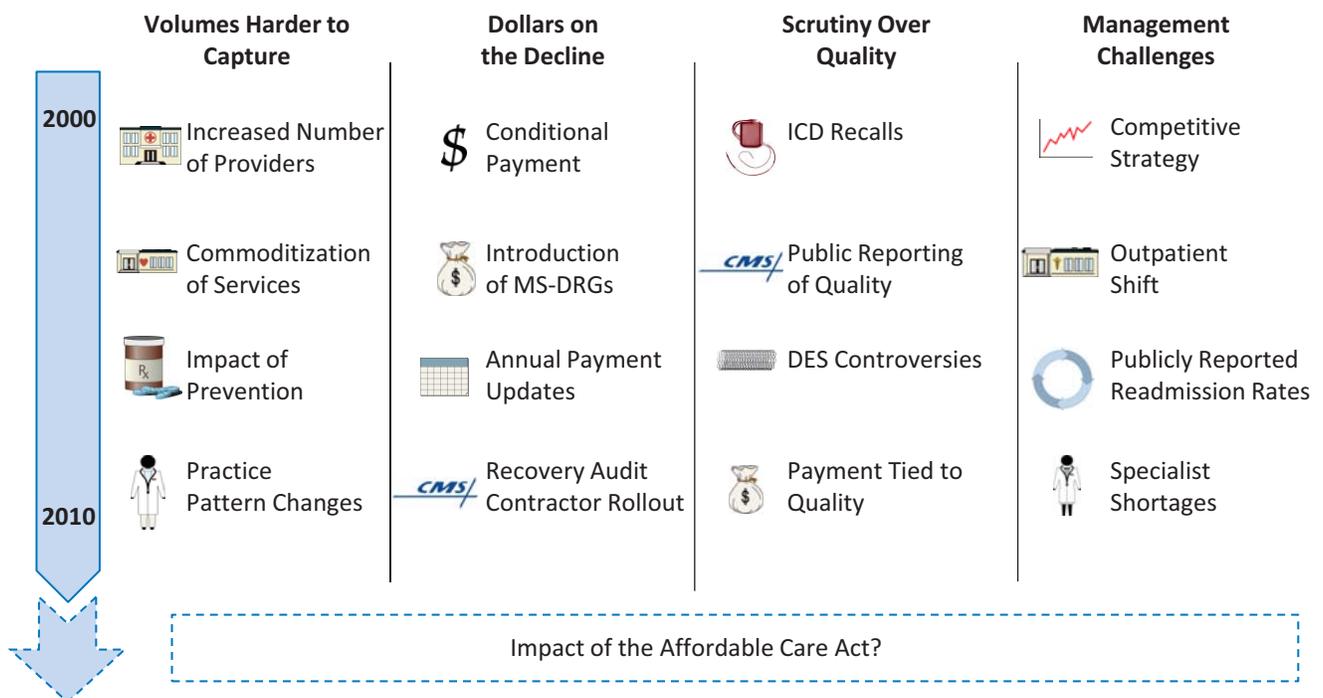
Palpable Enthusiasm for CV Services, Circa 2000

Self-Propelling Mechanism of Success



What a Difference a Decade Makes

Recent Events Leading Us to Re-evaluate Our Identity

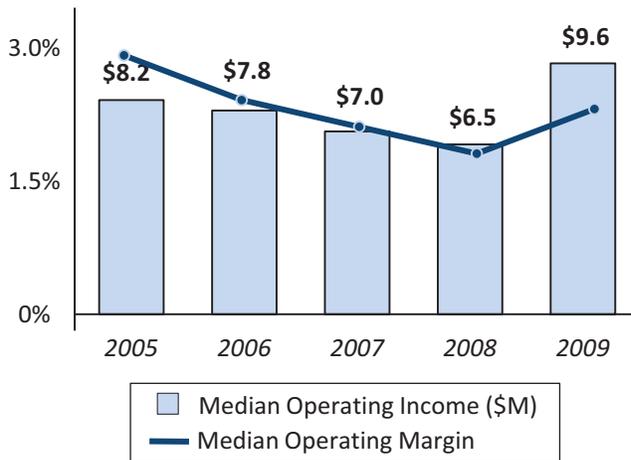


Mixed Message on Emergence from the Downturn

Median Operating Margins Rebound in 2009...

Median Operating Income and Margins

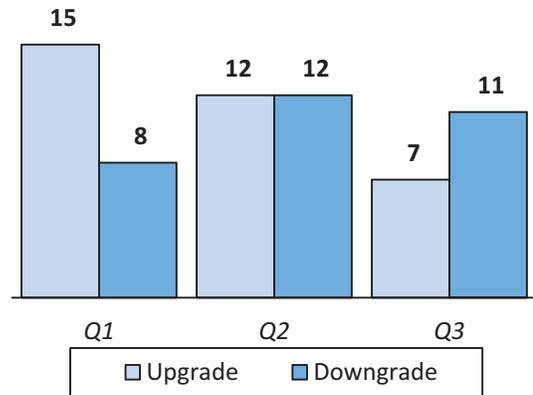
Not-for-Profit Hospitals, 2004-2009



...But Bond Ratings Offer Discouraging Outlook

Moody's Credit Ratings

Not-for-Profit Hospitals, Q1-Q3 2010



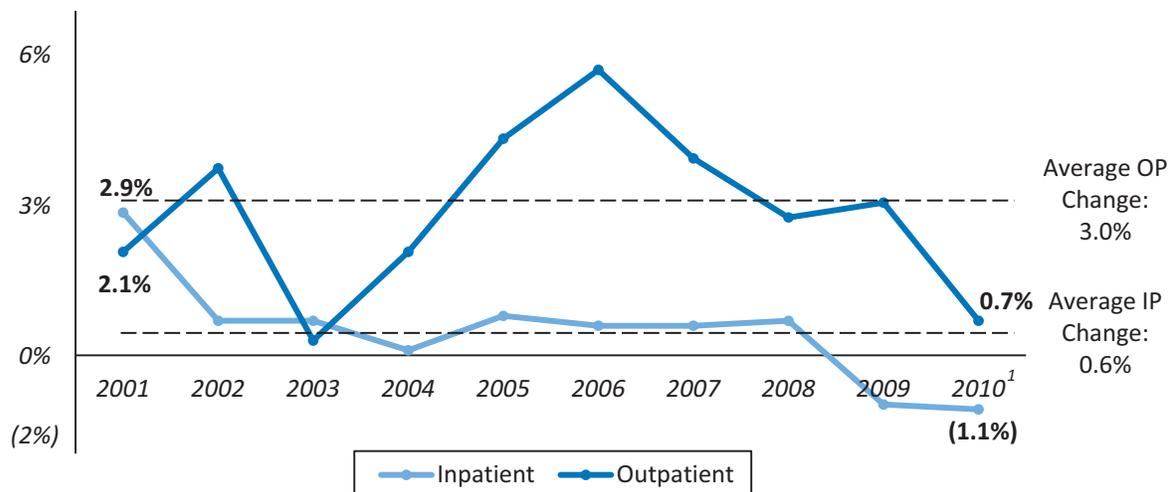
Source: "Not-for-Profit Healthcare Medians for Fiscal Year 2009 Show Improvement Across All Major Ratios and All Rating Categories," Moody's U.S. Public Finance, August 2010; AHA News, available at: www.ahanews.com, accessed on October 15, 2010; Cardiovascular Roundtable research and analysis.

Anemic Admissions Persist

Even with Improved Margins, Size of Business Contracting

Annual Change in Total Hospital Admissions

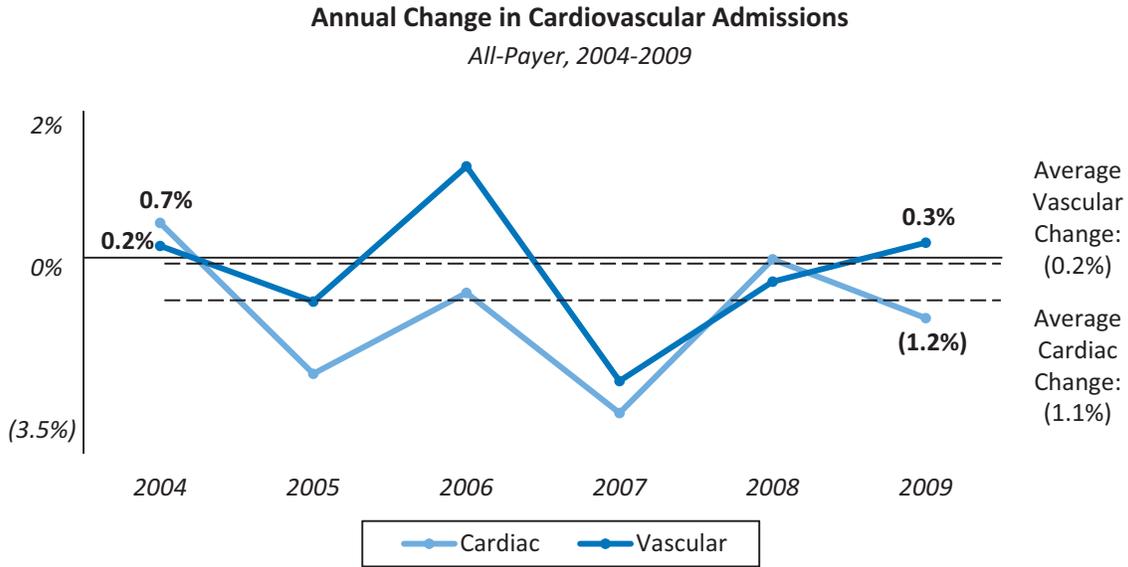
All-Payer, 2001-2010



¹ Through August 2010.

CV Trends Especially Worrisome

Inpatient Business Continues Multi-Year Regression

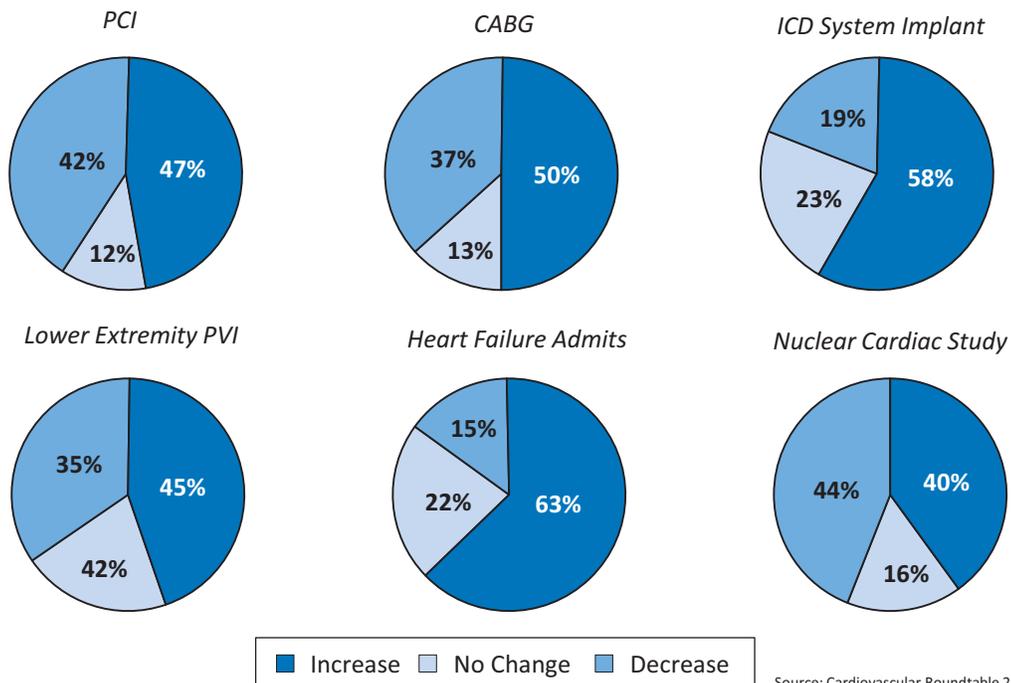


Filling the Critical Time Void

Encouraging Growth/Decline Split

Volume Growth Outweighing Declines in Roundtable Survey

Change in Volumes Between First Half of 2009 and First Half of 2010



Assessing the Degree of Change

Change in Volumes Between First Half of 2009 and First Half of 2010

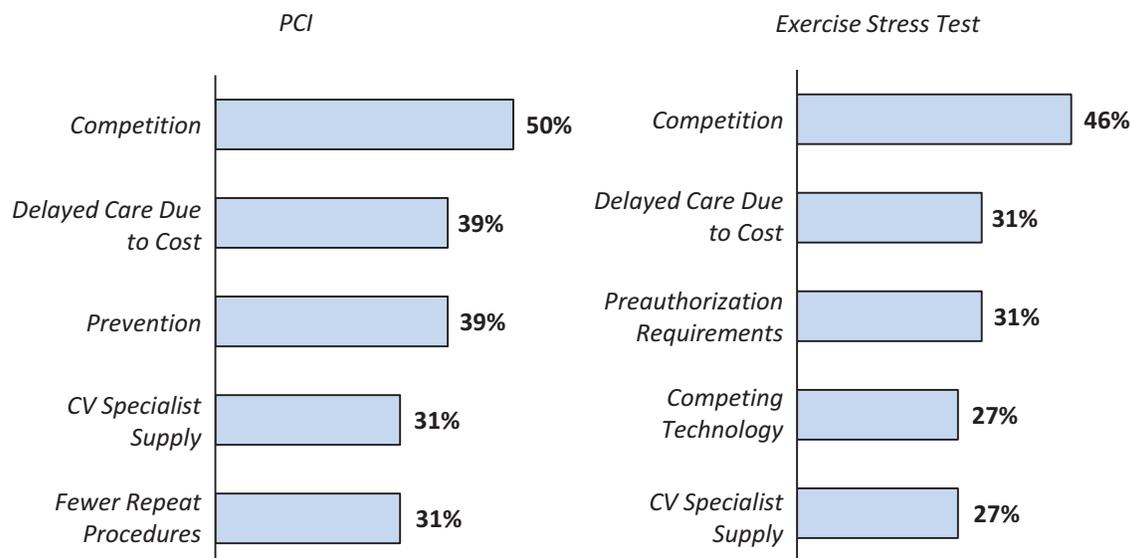
Procedure	Up 9% or More	Up 3%-8%	Change of 2% or Less	Down 3%-8%	Down 9% or More
PCI	32.4%	11.8%	17.6%	11.8%	26.5%
ICD System Implant	38.7%	12.9%	32.3%	9.7%	6.5%
Ablation	37.9%	10.3%	31.0%	10.3%	10.3%
CABG	23.3%	20.0%	23.3%	10.0%	23.3%
Valve Surgery	28.6%	14.3%	35.7%	7.1%	14.3%
Lower Extremity Intervention	48.3%	6.9%	24.1%	3.4%	17.2%
AAA Repair	14.8%	22.2%	40.7%	11.1%	11.1%
Carotid Endarterectomy	30.4%	17.4%	39.1%	4.3%	8.7%
Carotid Stent	12.0%	12.0%	56.0%	0.0%	20.0%
Heart Failure Admission	40.7%	22.2%	33.3%	3.7%	0.0%
Echocardiogram	44.4%	18.5%	14.8%	14.8%	7.4%
Exercise Stress Test	30.8%	23.1%	23.1%	11.5%	11.5%
Nuclear Cardiac Study	28.0%	16.0%	20.0%	4.0%	32.0%
Diagnostic Cath	24.2%	15.2%	18.2%	24.2%	18.2%

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Source: Cardiovascular Roundtable 2010 Volume Survey; Cardiovascular Roundtable research and analysis.

Competition and Economic Hardship at the Root

Drivers Identified as a Top-Three Reason for Change in Volume¹



¹ Respondents instructed to pick top three drivers for each procedure or service.
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Source: Cardiovascular Roundtable 2010 Volume Survey; Cardiovascular Roundtable research and analysis.

Drivers Behind Recent CV Volume Changes

Drivers Identified as a Top-Three Reason for Change in Volume¹

Driver	PCI	ICD Implant	CABG	PVI	Heart Failure	Exercise Stress
Competition	50%	46%	58%	65%	31%	46%
CV Specialist Supply	31%	50%	35%	42%	23%	27%
PCP Supply	12%	15%	12%	12%	23%	19%
Delayed Referral	8%	15%	8%	12%	12%	19%
Competing Technologies	12%	12%	39%	23%	19%	27%
Fewer Repeat Procedures	31%	4%	19%	8%	19%	0%
Efforts to Reduce Readmissions	8%	4%	4%	0%	39%	0%
Delaying Care Due to Cost	39%	23%	8%	35%	23%	31%
Preauthorization Requirements	15%	15%	8%	12%	12%	31%
Prevention	39%	8%	27%	8%	23%	19%
Marketing Efforts	4%	15%	8%	19%	0%	23%
Regional Outreach	19%	31%	31%	15%	35%	15%
Technology Acquisition	4%	31%	12%	35%	12%	8%
Change in Capacity	15%	8%	15%	12%	15%	15%

¹ Respondents instructed to pick top three drivers for each procedure or service.
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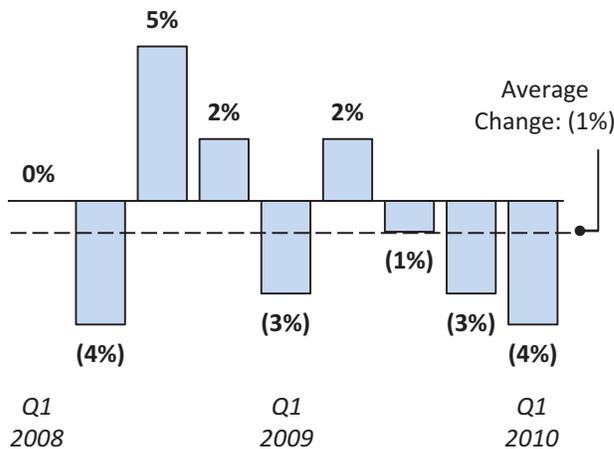
Source: Cardiovascular Roundtable 2010 Volume Survey; Cardiovascular Roundtable research and analysis.

Overall Office Visit Volatility but Cardiology Steady

Economic Woes Impacting Visits Seemingly Less Severe for Cardiology

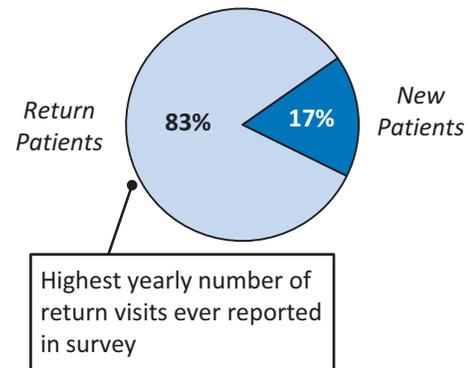
Quarterly Change in Total Physician Office Visits

First Quarter 2008 to First Quarter 2010



Cardiology Offices Remaining Busy

2009 Cardiologist Patient Visits, n=2,043 Average¹



Additional Survey Findings

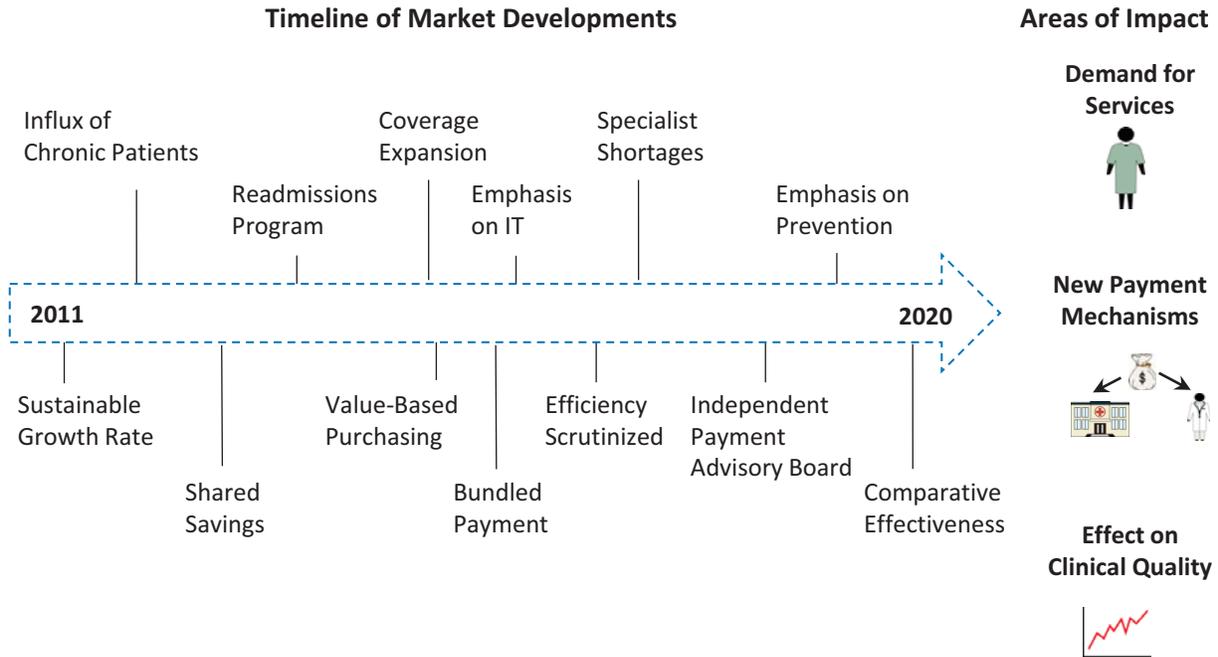
- 5% increase in nuclear studies in 2009
- Lowest rate of treadmill stress tests in 10 years
- Highest level of stress echos ever reported

¹ Data reflect findings from MedAxiom survey of cardiology practices.
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Source: "Health Care Facilities and Services Health Care Providers," Deutsche Bank, June 23, 2010; Cardiovascular Roundtable research and analysis.

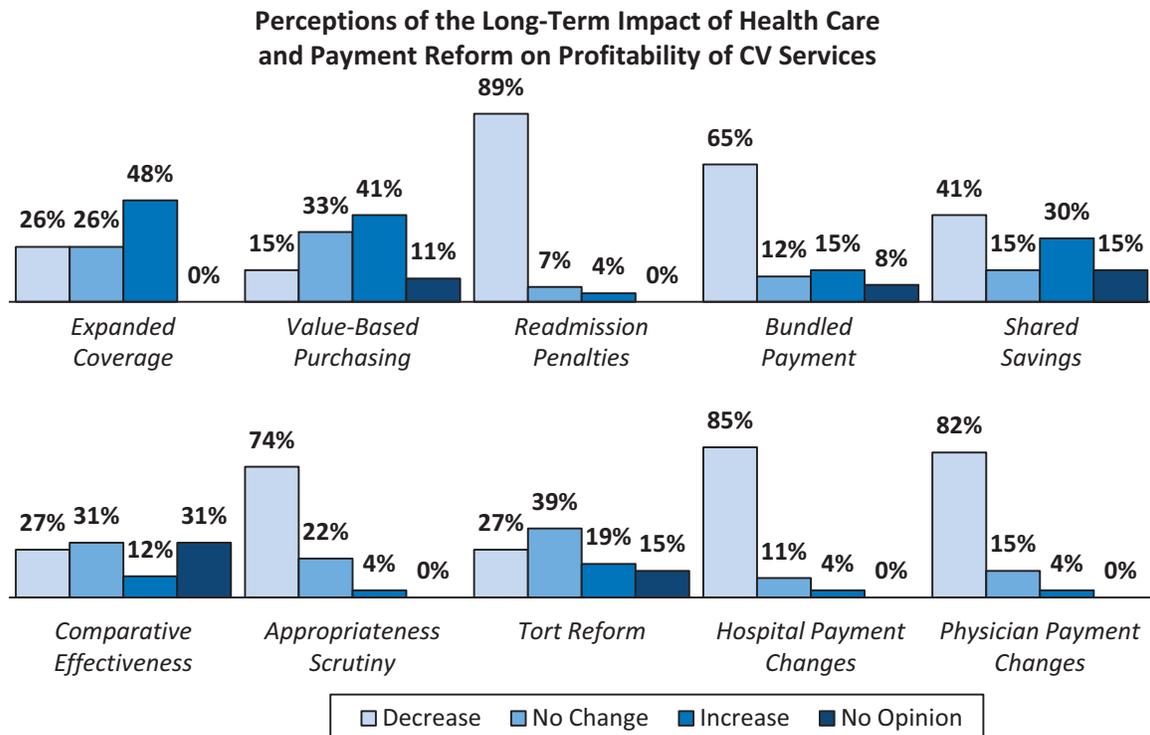
Greater Uncertainty Looming

Market Pressures, Reform Introducing Significant Ambiguity



Perceptions of the Future

Roundtable Members Share Their Thoughts on Reform Initiatives





Road Map for Discussion

I Business Under Pressure

II Health Care Policy Update

III Payment Horizon Scan

IV Emerging Drivers of Demand

V Coda: Rising to the Challenge

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A System in Need of Reform

US Ranking Last in Health Care Performance



	AUS	CAN	GER	NETH	NZ	UK	US
Overall Ranking (2010)	3	6	4	1	5	2	7
Quality of Care	4	7	5	2	1	3	6
Effective Care	2	7	6	3	5	1	4
Safe Care	6	5	3	1	4	2	7
Coordinated Care	4	5	7	2	1	3	6
Patient-Centered Care	2	5	3	6	1	7	4
Access	6.5	5	3	1	4	2	6.5
Cost-Related Problem	6	3.5	3.5	2	5	1	7
Timeliness of Care	6	7	2	1	3	4	5
Efficiency	2	6	5	3	4	1	7
Equity	4	5	3	1	6	2	7
Long, Healthy, Productive Lives	1	2	3	4	5	6	7
Health Expenditures/Capita, 2007	\$3,357	\$3,895	\$3,588	\$3,837 ¹	\$2,454	\$2,992	\$7,290

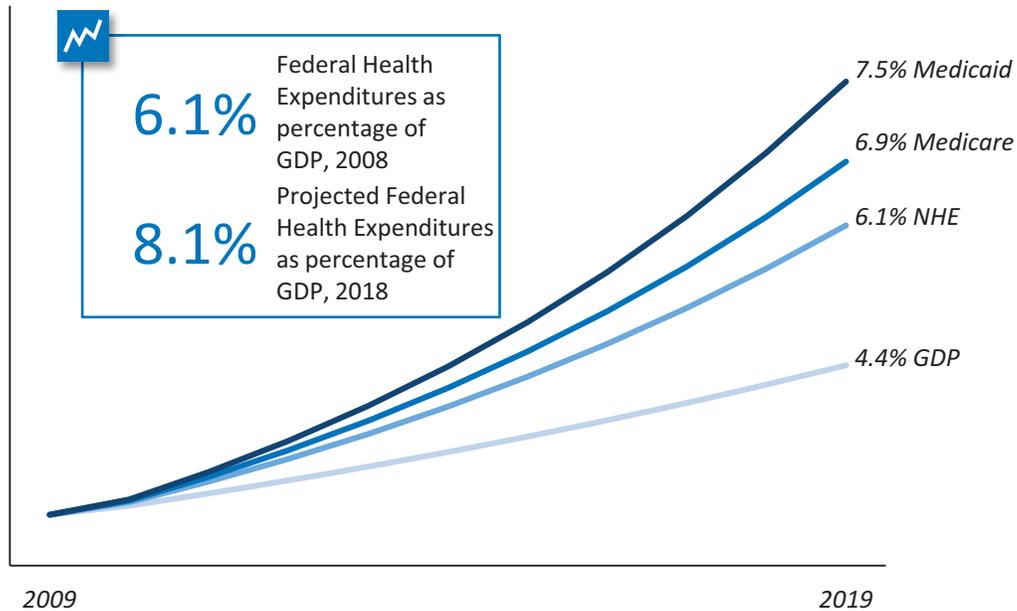
¹ Estimated.

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Source: The Commonwealth Fund, "Mirror, Mirror on the Wall," June 2010; Cardiovascular Roundtable research and analysis.

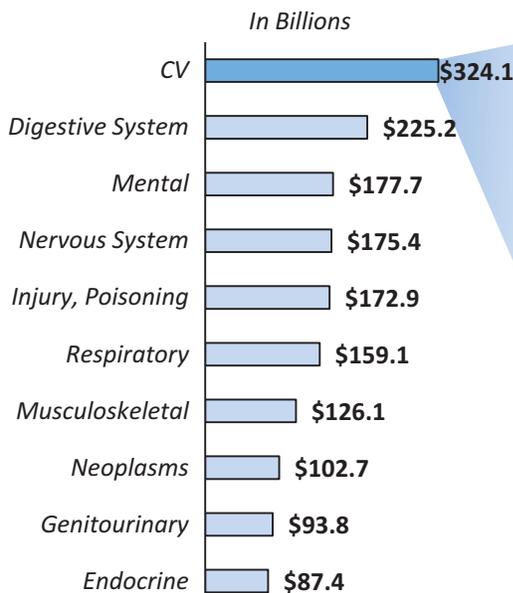
The Problem in Brief

Projected Average Annual Growth Rates
2009-2019

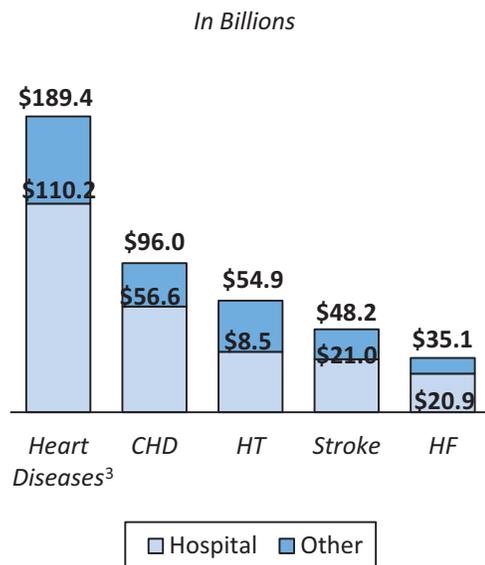


CVD Heavily Contributing to the Burden

Direct Costs¹ of Leading Diagnostic Groups, 2010



Direct Costs of CVD and Stroke, 2010²



¹ Estimates include cost of physicians, labor, professionals, hospitals, nursing home, medications, home health, medical durables.

² Does not add up because of rounding and overlap.

³ Includes CHD, HF, part of hypertension, cardiac dysrhythmias, rheumatic heart disease, cardiomyopathy, pulmonary heart disease, ill-defined "heart" disease.

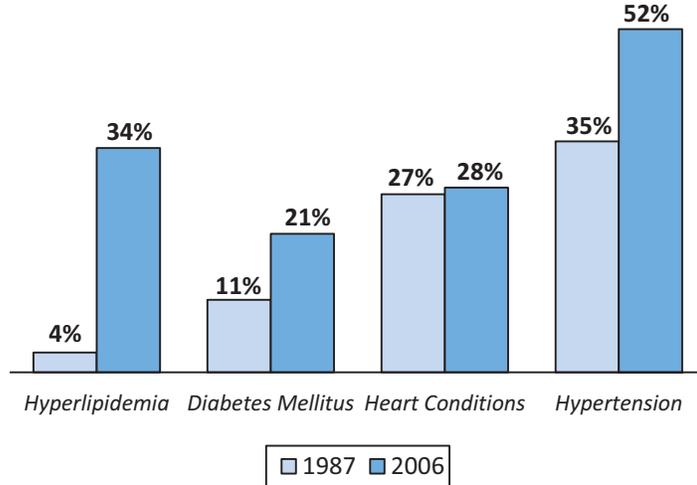
An Older, Sicker Population Coming Down the Pike

Baby Boomers, Co-morbid Patients Worsening the Problem

13% Americans who are aged 65 and older in 2008, 35 million people

20% Americans who are aged 65 and older in 2030, 70 million people

Prevalence of the Top Health Conditions Among Medicare Beneficiaries

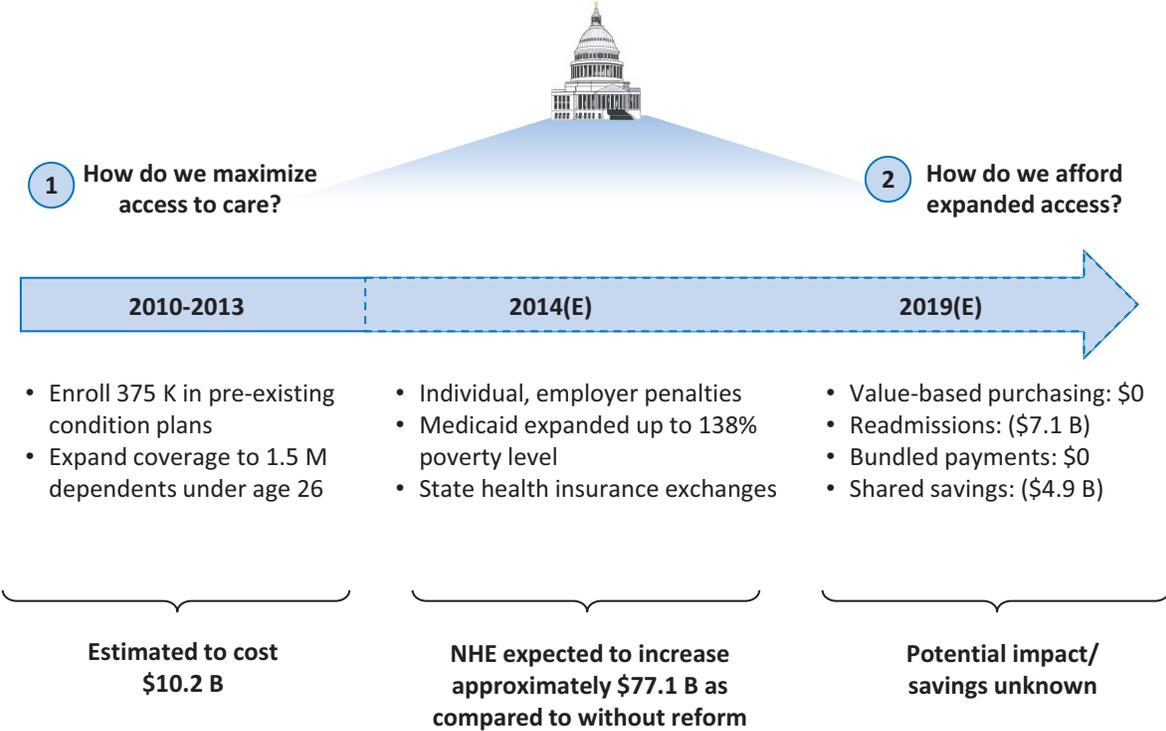


Enter Health Care Reform

Year	Coverage Expansion	Financing	Delivery System Reform
2010	<ul style="list-style-type: none"> Coverage for dependent children through age 26 Prohibition on denying coverage for children with pre-existing conditions Small business subsidies to provide coverage to employees High-risk pools for those denied coverage 	<ul style="list-style-type: none"> Tanning salon tax takes effect Productivity and market basket adjustments to DRG updates 	<ul style="list-style-type: none"> Patient-centered outcomes research Community transformation grants Gainsharing, global payment demos
2011	<ul style="list-style-type: none"> Five-year opt-in long-term care program begins 10% bonus payment to PCPs through 2015 	<ul style="list-style-type: none"> Medicare Advantage payments restructured 	<ul style="list-style-type: none"> Center for Medicare and Medicaid Innovation launched
2012		<ul style="list-style-type: none"> First industry fees take effect Medicare Advantage bonuses take effect 	<ul style="list-style-type: none"> Medicare shared savings Program (ACOs) Hospital readmission reduction program Independence at home demo
2013	<ul style="list-style-type: none"> Medicaid payments to PCPs set at 100% Medicare rate for CY2013-2014 	<ul style="list-style-type: none"> New Medicare tax takes effect Passive income tax takes effect Excise tax on medical devices takes effect 	<ul style="list-style-type: none"> Bundled payment pilot begins Hospital value-based purchasing
2014	<ul style="list-style-type: none"> Health benefit exchanges created Individual, employer mandates take effect Medicaid expanded to 133% of FPL 	<ul style="list-style-type: none"> Individual, employer penalties take effect DSH payment adjustments take effect 	<ul style="list-style-type: none"> Independent Payment Advisory Board begins submitting recommendations
2015	<ul style="list-style-type: none"> Physician value-based purchasing 		<ul style="list-style-type: none"> Payment adjustment for hospital-acquired conditions takes effect Readmissions penalties potentially expanded
2016		<ul style="list-style-type: none"> Individual, employer penalties rise 	<ul style="list-style-type: none"> Bundled payment potentially expanded
2018	<ul style="list-style-type: none"> Excise tax on "Cadillac" health plans 		

The Reform Paradox

Allowing Access Before Correcting Budget Problem

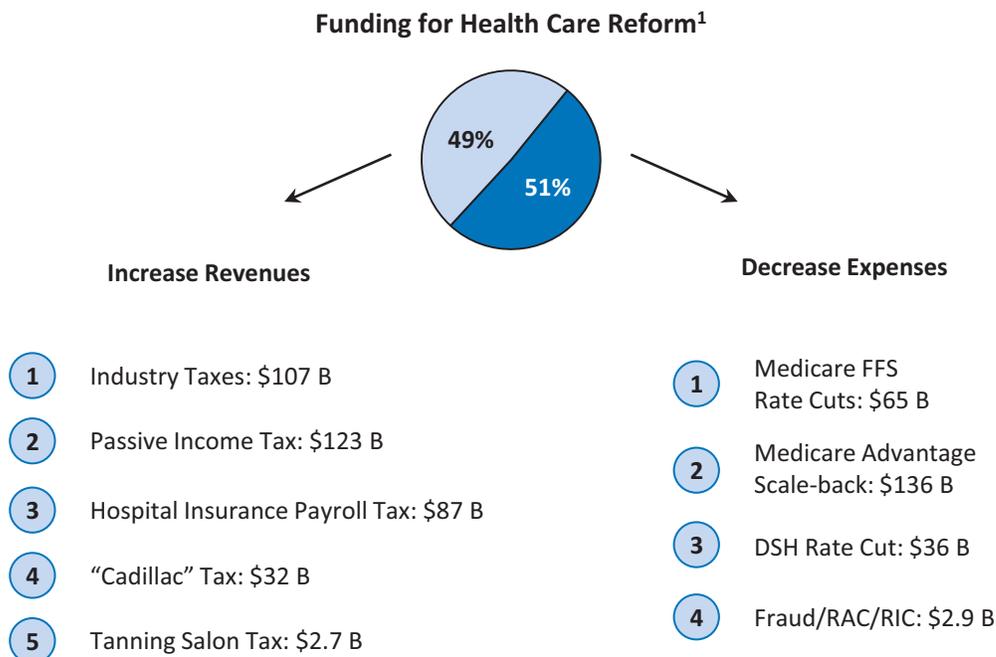


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Source: Congressional Budget Office; Sisko A, et al., *Health Affairs*, 2010(29):1-9; Cardiovascular Roundtable research and analysis.

Fees, Rate Cuts Helping to Finance Reform...

...But Leaving Much to Providers

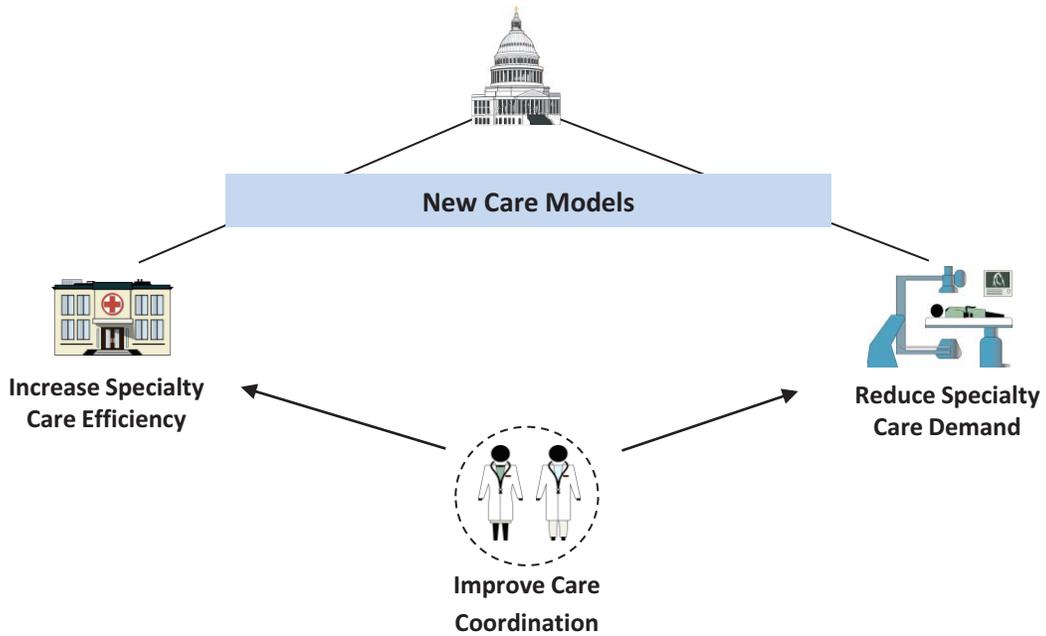


¹ Components listed here are only a sampling of all provisions in legislation, and therefore totals of each list do not reflect percentages in pie chart.

Source: US House of Representatives, "Amendment in the Nature of a Substitute to H.R. 4872," March 18, 2010; US Senate, "The Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act," December 24, 2009; Cardiovascular Roundtable research and analysis.

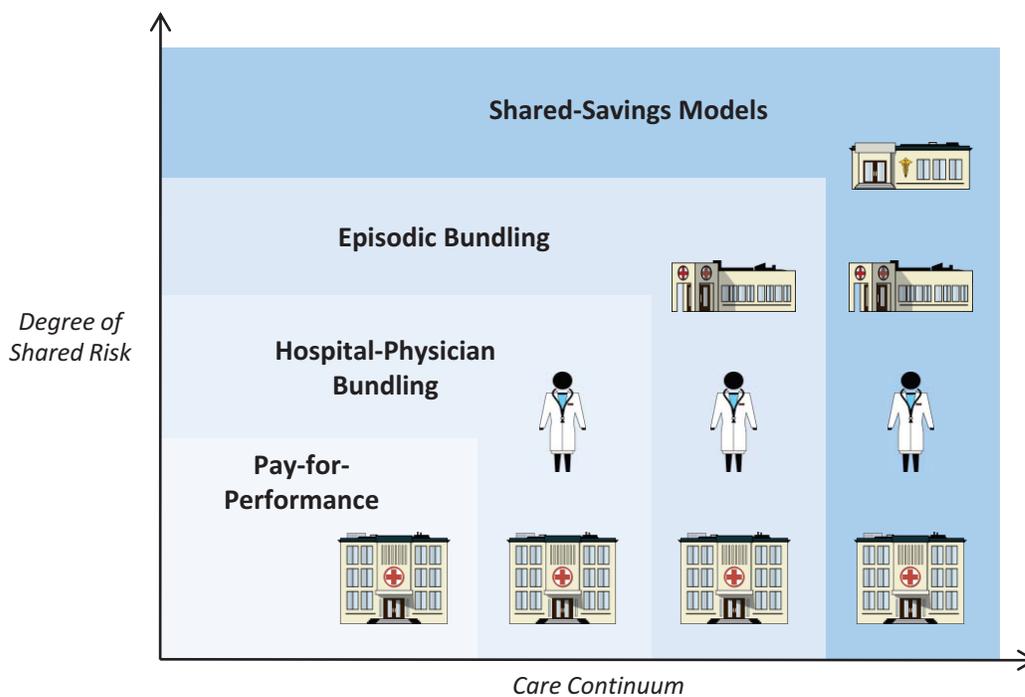
Reorganizing Care Delivery to Bend the Cost Curve

Specialty Care in the Crosshairs of Reform



Toward Accountable Care

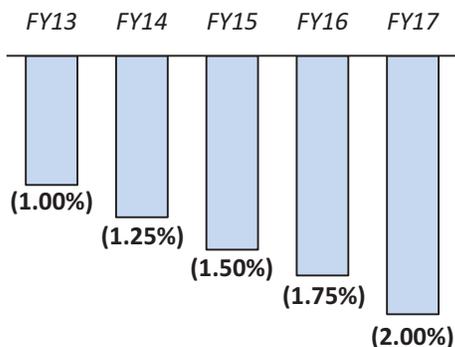
Building Accountability through Experiments in Payment



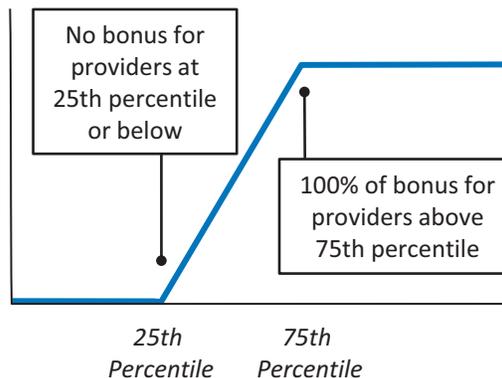
Tying Payment to Quality

Giving P4P Some Teeth in Value-Based Purchasing

Reductions to Providers' Medicare IPPS Payment



Bonus Paid on Sliding Scale Based on Provider Performance
Illustrative Incentive Structure



¹ Hospital Consumer Assessment of Healthcare Providers and Systems.
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Source: Affordable Care Act; Cardiovascular Roundtable research and analysis.

Providing Additional Detail on Metrics, Payment

Final VBP Design

Select Metrics

FY 2013 (13 Metrics Total)

Acute Myocardial Infarction

- Percent of Heart Attack Patients Given Fibrinolytic Medication Within 30 Minutes Of Arrival
- Percent of Heart Attack Patients Given PCI Within 90 Minutes Of Arrival

Heart Failure

- Percent of Heart Failure Patients Given Discharge Instructions

Healthcare-Associated Infections

- Cardiac Surgery Patients with Controlled 6AM Postoperative Serum Glucose

Surgical Care Improvement

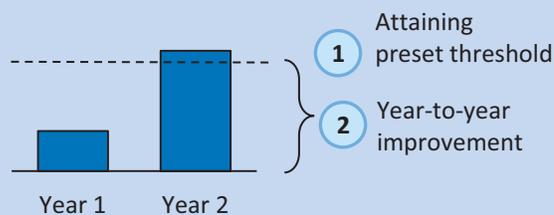
- Surgery Patients on a Beta Blocker Prior to Arrival That Received a Beta Blocker During the Perioperative Period
- Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered
- Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours Prior to Surgery to 24 Hours After Surgery

FY 2014 Finalized Metrics (13 Metrics Total)

- AMI 30-Day Mortality Rate
- HF 30-Day Mortality Rate

Payment Calculation

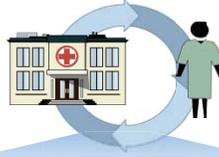
Two Potential Methods for Receiving Bonus



- Reporting period July 1, 2011 through March 31, 2012
- Each measure scored against achievement or improvement, whichever is higher
- Scores combined to reflect three "domain" scores (clinical process of care, patient experience of care, and outcomes); domain scores weighted
- Total Performance Score (TPS) aggregates scores across all domains
- TPS translated into payout based on linear function

Penalizing Excessive Readmissions

Demystifying the Hospital Readmissions Reduction Program



Clarifying the Terms

Assessing Financial Impact

Targeted Conditions	"Readmission" Defined	Payment Penalty	Estimated Savings
 <p>FY2013</p> <ul style="list-style-type: none"> Heart Failure AMI Pneumonia <p>FY2015 (Potential)</p> <ul style="list-style-type: none"> CABG PTCA Other Vascular COPD 	 <ul style="list-style-type: none"> Calculates "excessive readmission rate" All-cause, observed vs. expected rate Based on prior year's performance 	 <p>Base operating DRG¹ reduced in one of two ways:</p> <ul style="list-style-type: none"> Adjustment factor calculated as percentage of revenue paid for excessive readmissions divided by total revenue Floor of 1% in FY2013, 2% in FY2014, 3% in FY2015 	 <ul style="list-style-type: none"> CMS expected to save \$7.1 B through 2019

¹ Prior to IME or DSH adjustments.
 Note: Policy subject to change based on the Secretary's discretion.
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Source: Affordable Care Act; Cardiovascular Roundtable interviews and analysis.

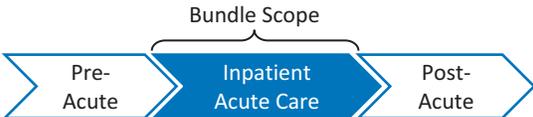
Bundling Payments

Combining Physician, Hospital Payments

Medicare Bundled Payment Programs

Inpatient Bundling

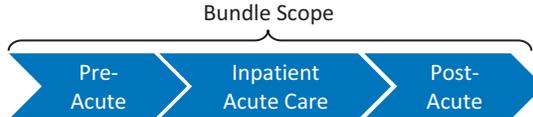
Program in Brief: Acute Care Episode Demonstration



- Medicare Part A and Part B payments combined for services delivered during inpatient stay
- Payments bundled for 28 cardiac, 9 orthopedic DRGs
- Five sites participating in demonstration
- Discounting payment 1-5%

Episodic Bundling

Program in Brief: National Pilot Program on Payment Bundling



- Medicare payments combined for services during and up to three days before, 30 days after inpatient stay
- Target up to 10 conditions that are high-volume, high variation in readmission rates, high post-acute care costs
- Program to begin in 2013 and run five years; extension possible after 2016

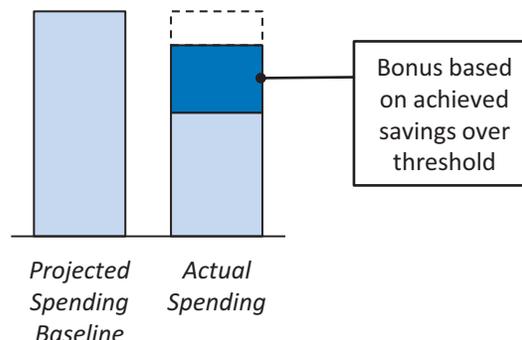
Rewarding Voluntary Accountable Care Organizations

Introducing Total Cost Management Incentives

Accountable Care Organizations (ACO)
Collaborate on Quality and Cost
 Medicare Shared Savings Program



Bonus Payments Based on Achieved Savings
 Projected Spending Indexed to 100



Shared Savings in Brief

- Shared savings awarded to voluntary ACOs beginning January, 2012
- Covers Medicare parts A and B
- Physicians may establish ACOs separately or in conjunction with hospitals; minimum 5,000 Medicare beneficiaries assigned to ACO, three-year commitment
- Projected savings of \$4.9 B by 2019; shared-savings calculation not yet determined; HHS Secretary may utilize other reimbursement models

Aiming to Reduce Reliance on Specialty Services

Medical Home Changing the Game by Managing Care Upfront

CMS (Finally) Launching Medical Home Demo
 One of Three Federal Demonstrations



Demonstration in Brief: Multi-payer Advanced Primary Care Practice Demonstration

- Proposals due August 2010
- Anticipated launch date in late 2010 or early 2011
- Aims to reduce unjustified variation in utilization and expenditures; improve the safety, effectiveness, timeliness, and efficiency of health care; increase the ability of beneficiaries to participate in decisions concerning their care; increase the evidence-based delivery of care
- Payments to participating providers not expected to exceed \$10 per participating beneficiary per month

The Meaning of Accountable Care

Rewarding a New Set of Performance Metrics

Strategic Incentive Changes Under Accountable Care

Performance Category	Fee-for-Service Imperatives		Accountable Care Imperatives
Utilization 	Maximize volumes of procedures with strongly positive contribution margins	➔	<ul style="list-style-type: none"> Limit inpatient utilization to high-margin acute-care services Minimize inappropriate or duplicative care delivery Triage both acute and chronic care services to low-cost sites of care
Expense Management 	Control expenses associated with DRGs or case rates	➔	<ul style="list-style-type: none"> Standardize care pathways across care continuum Streamline acute care episodic costs Develop economies of scale across continuum for all growth service lines
Quality, Clinical Outcomes 	Adhere to limited P4P initiatives; comply with process-based core measures	➔	<ul style="list-style-type: none"> Minimize preventable readmissions via integration with all post-acute care services Proactively manage chronic illness to prevent low-margin inpatient utilization Evaluate cost-effectiveness, efficiency of care

CV Services Disproportionately Affected by Reform

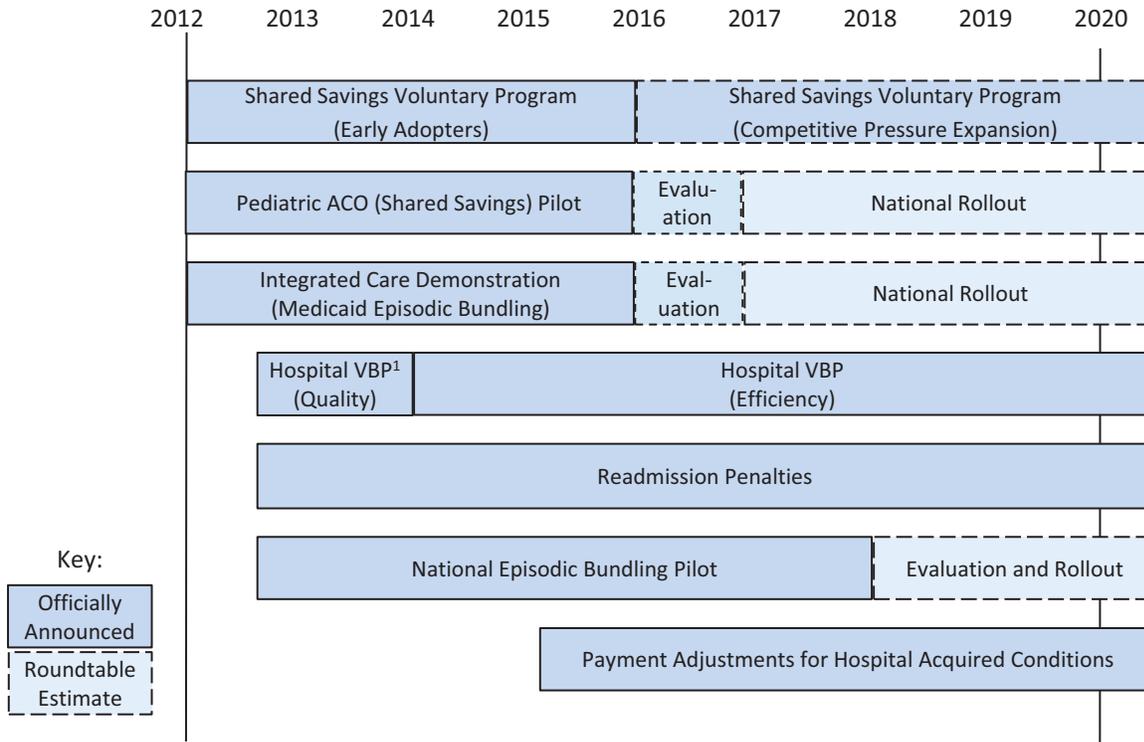
Assessing the Impact of Select Initiatives

	Value-Based Purchasing	Readmissions Policies	Bundled Payment	Medical Homes, Prevention	Shared Savings	Comparative Effectiveness
						
	Half of final metrics are CV-focused	FY 2013: 2 of 3 metrics CV; FY 2015: 5 of 7 metrics CV	ACE demo: 28 of 37 metrics are cardiac; national pilot focuses on 10 conditions	CV chronic conditions may be managed by PCPs (e.g. HF, HT, CAD)	PGP demo focus on HF, HT, CAD (of 5 chronic conditions); quality metrics in shared savings disproportionately CV	Number of CV technologies and therapies rank fourth of 29 categories
Relative Impact on CV Services ¹						

¹ Estimated; Circle represents degree of impact from low (no shading) to high (fully shaded).

From Pilot to Policy?

CMS's Timeline for Accountable Payment Rollout



1 Value-based purchasing.
 2 Accountable care organization.
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Source: Centers for Medicare and Medicaid Services; Cardiovascular Roundtable research and analysis.

Full Effects Debated

Skeptics, Antagonists Pushing Back on Reform Rollout

1 Suits Over Individual Mandate

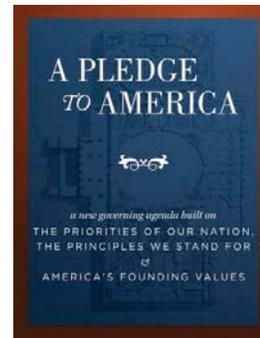
Virginia, Florida judges ruling individual mandate unconstitutional

2 Newly Republican House

Republicans voting to repeal reform; 2012 presidential election may impact rollout

3 Delayed Implementation

In first six months of implementation, HHS missed seven deadlines



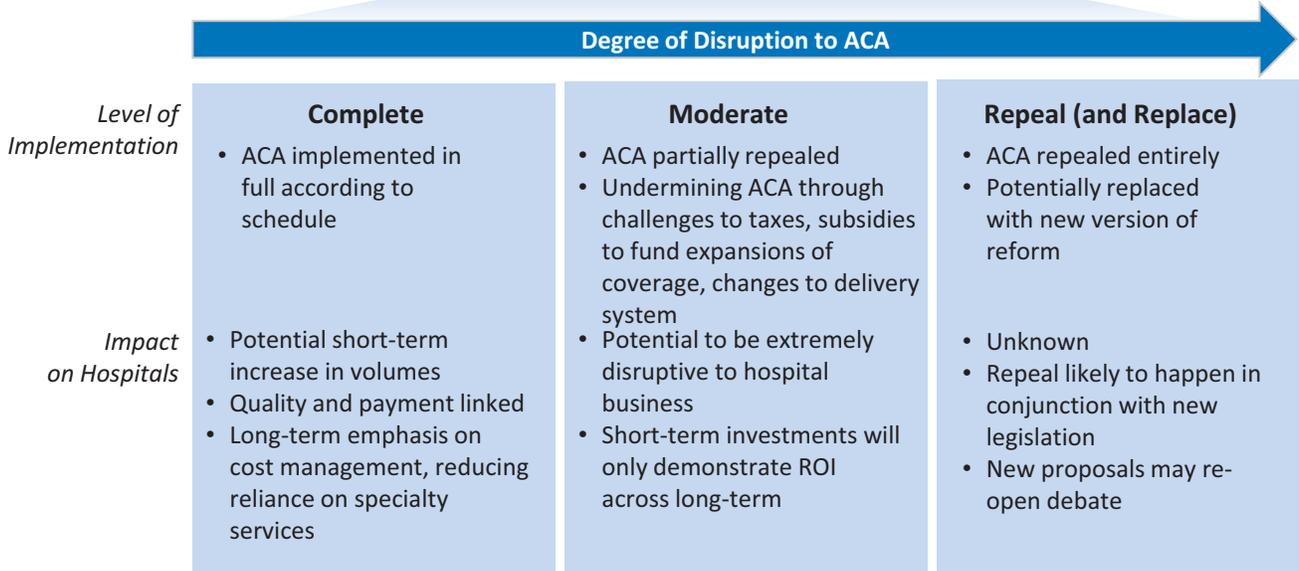
- GOP released "A Pledge to America," 48-page document outlining alternate measures of reform
- Suggests repealing and replacing ACA¹
- Proposes to enact medical liability reform, allow purchase of insurance over state lines, strengthen physician-patient relationship, ensure access to patients with pre-existing conditions
- Possible efforts include defunding reform, dismantling reform into several components, delaying implementation, disapproving regulations, delegating to the states

1 Affordable Care Act.
 © 2010 The Advisory Board Company – 22321A

Source: Turner GM, "Putting the Brakes on ObamaCare," *WSJ*, August 25, 2010; http://www.cbsnews.com/8301-503544_162-20017335-503544.html; "A Pledge to America," available at: <http://pledge.gop.gov/resources/library/documents/pledge/a-pledge-to-america.pdf>, accessed October 4, 2010; Cardiovascular Roundtable research and analysis.

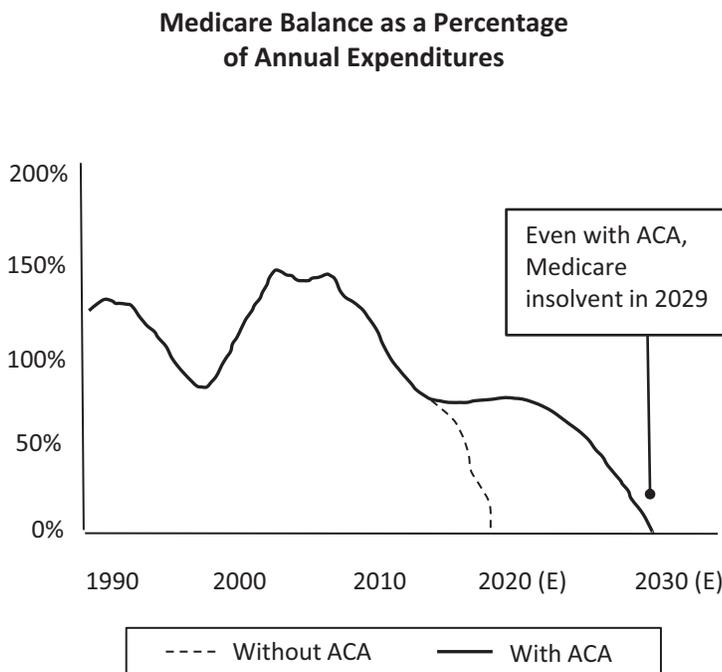
Possibility for Half-Hearted Implementation Remains

Three Avenues for Reform Implementation



Despite Reform, Care Transformation Dire

Reform Only Extending (Not Eliminating) Medicare Insolvency



Core Tenets Required



Careful Cost Management



Improved Quality of Care



Operating at Highest Efficiency



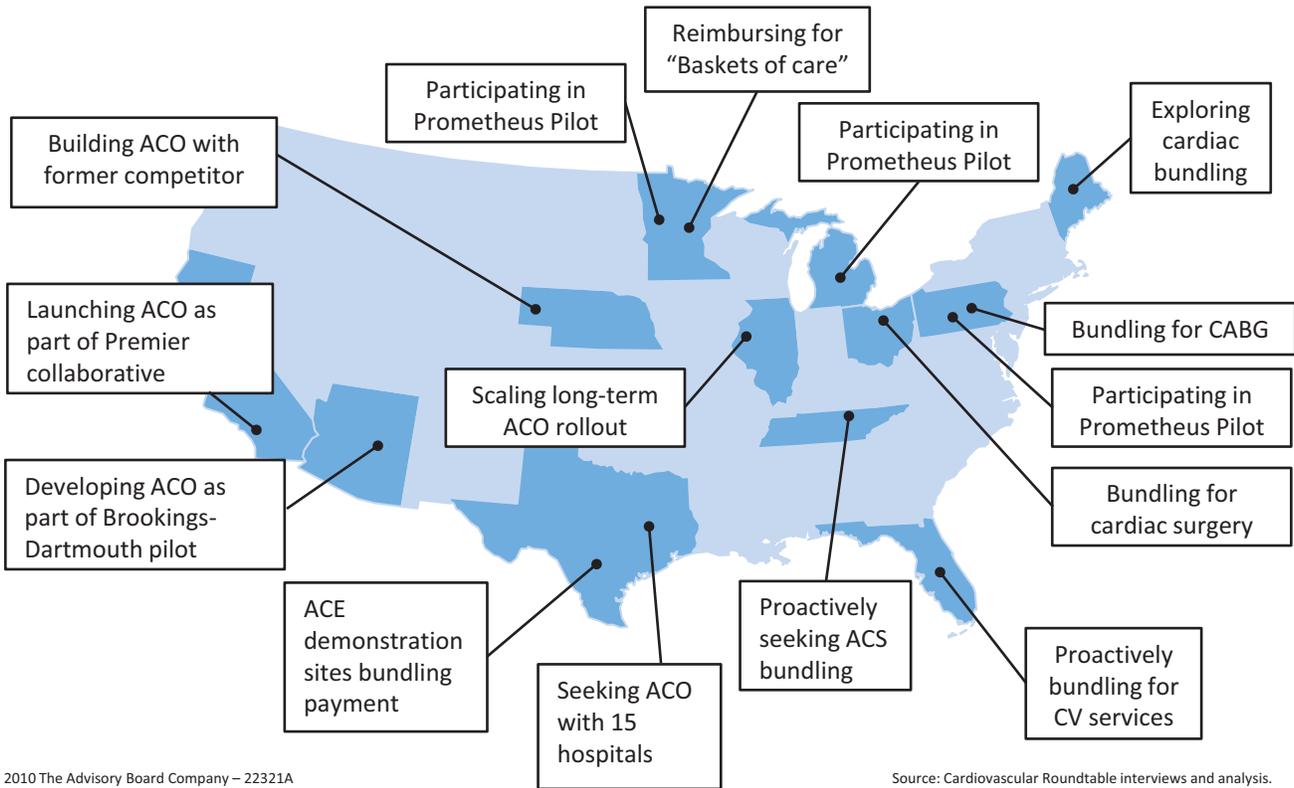
Coordination of Care



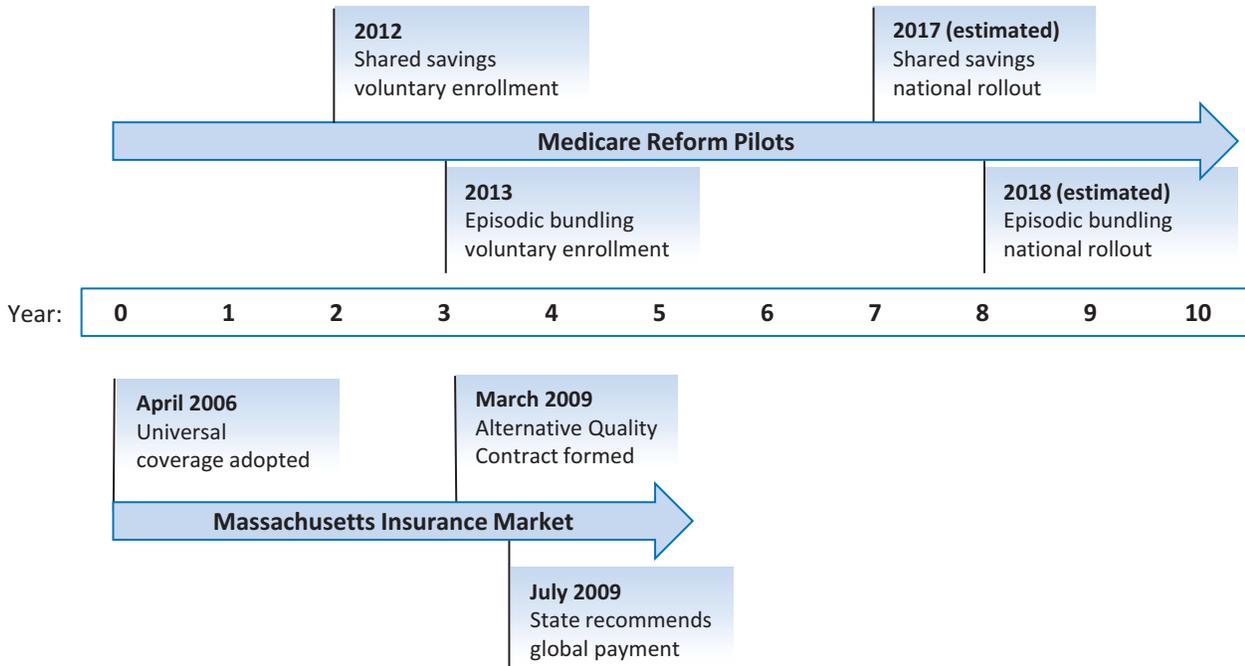
Eliminating Waste

Grassroots Efforts Already Underway

Not Waiting for Reform Mandate

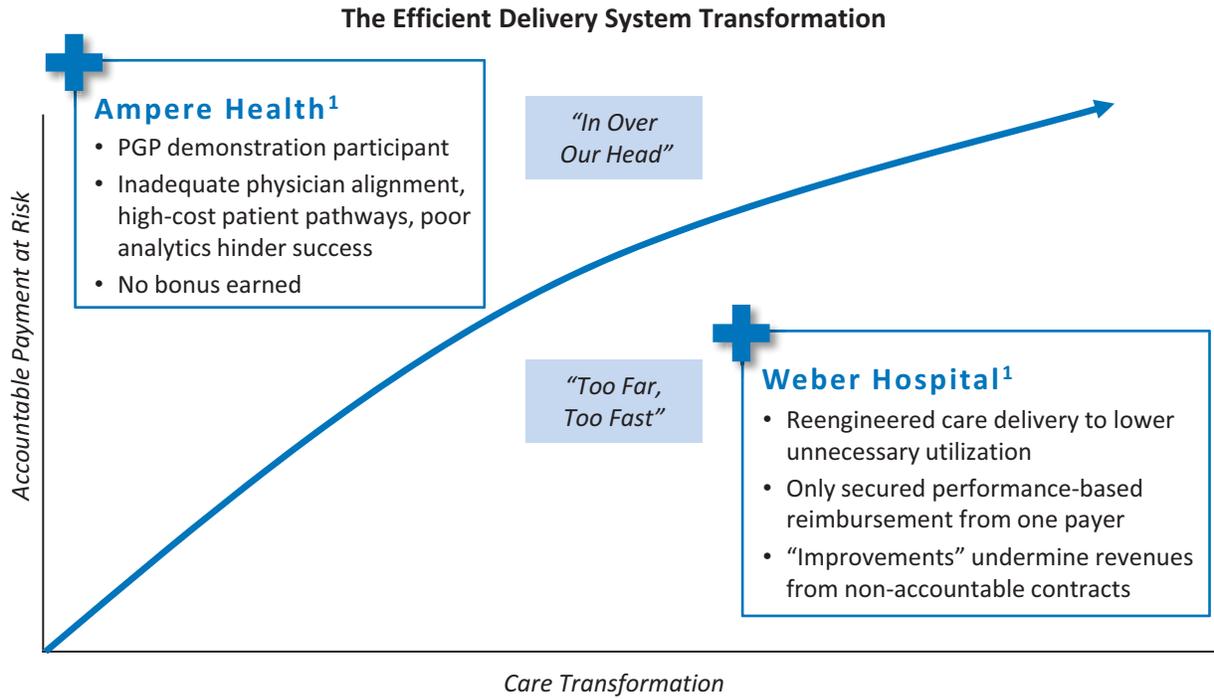


Local Markets May Tip Faster than National Rollout



Walking a Tightrope for Transformation

Financing, Care Delivery Must Evolve at Same Pace



¹ Pseudonym.
© 2010 The Advisory Board Company – 22321A

Source: Cardiovascular Roundtable research and analysis.

Nearing a Fork in the Road

Assessing Strategic Options

Strategic Alternatives for Hospitals in Emerging Accountable Care Environment

Hospitals Must Cement Relevance in New Value-Based Marketplace

<p style="text-align: center;">Build the Accountable Care Enterprise</p>  <ul style="list-style-type: none"> • Lay the groundwork for stronger hospital-physician integration • Create new incentives with payers • Collaborate with primary care physicians • Engage in care coordination and patient engagement 	<p style="text-align: center;">Seek Affiliation with Accountable Entity</p>  <ul style="list-style-type: none"> • Evolve strategy for relevance to accountable care enterprises • Identify partners to foster transition to the accountable care environment • Build affiliations with new partner organizations as necessary 	<p style="text-align: center;">Secure Alternative Role in the Market</p>  <ul style="list-style-type: none"> • Recognize opportunities to become lowest cost or most specialized provider of specific services in the market • Invest in desired, specialized service lines; scale back commoditized services
---	--	---

Imperatives for Success in Accountable Care

	Enhanced Value	Right-Sized Demand	Physician Alignment	Principled Growth Strategy	Multidisciplinary Care
					
Today	<ul style="list-style-type: none"> Minimize costs Inflect quality of care Prepare for VBP, readmissions penalties 	<ul style="list-style-type: none"> Uncover areas of underutilization Reduce unnecessary waste 	<ul style="list-style-type: none"> Incentivize referrals, volume generation Strengthen ties with specialists, PCPs 	<ul style="list-style-type: none"> Grow highly profitable services 	<ul style="list-style-type: none"> Encourage coordination across physicians, sites of care, and across time
Future	<ul style="list-style-type: none"> Develop an efficient care delivery system Direct patients to high quality, low cost sites of care 	<ul style="list-style-type: none"> Eliminate unnecessary procedures Reduce reliance on specialty services Provide high-value treatments 	<ul style="list-style-type: none"> Enfranchise in standardization, cost reduction, utilization control Partner to develop business strategy 	<ul style="list-style-type: none"> Invest in chronic disease management, prevention and wellness 	<ul style="list-style-type: none"> Collaborative, patient-driven care across the continuum

Road Map for Discussion



I Business Under Pressure

II Health Care Policy Update

III Payment Horizon Scan

IV Emerging Drivers of Demand

V Coda: Rising to the Challenge

Pivotal Players Shaping the Future of CMS

Berwick, Gilfillan Tasked to Execute on Health Care's Transformation

Meet Don Berwick and Richard Gilfillan



Don Berwick, MD
Administrator, CMS



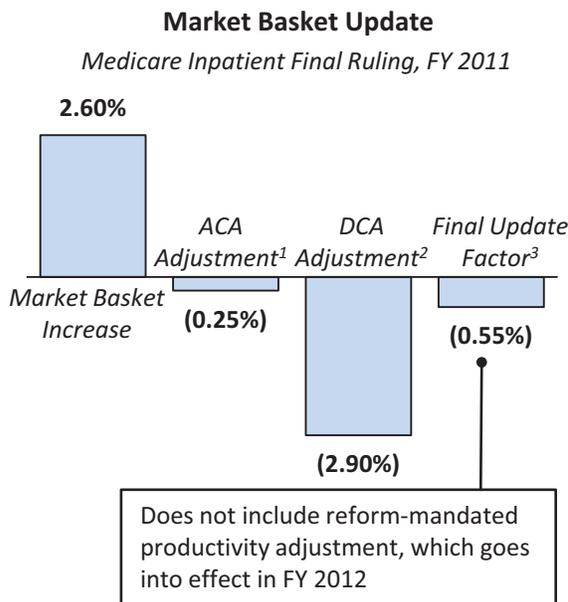
Richard Gilfillan, MD
Acting Director, CMS
Innovation Center

- Most recently president of the Institute for Healthcare Improvement
- Professor at Harvard Medical School, School of Public Health
- Vision for reforming healthcare through improved patient experience, health of populations, and reduced costs
- Vision may be accelerated by global budget caps, accountability for health status, standardized measures of care, shared savings
- Innovation Center created as part of Affordable Care Act to test innovative payment and service delivery models to reduce expenditures while enhancing quality
- Since August 2010, directed CMS performance-based payment policy
- Previously with Geisinger Consulting Services; advised clients on accountable care organizations, medical homes, bundled payment
- Past president and CEO of Geisinger Health Plan

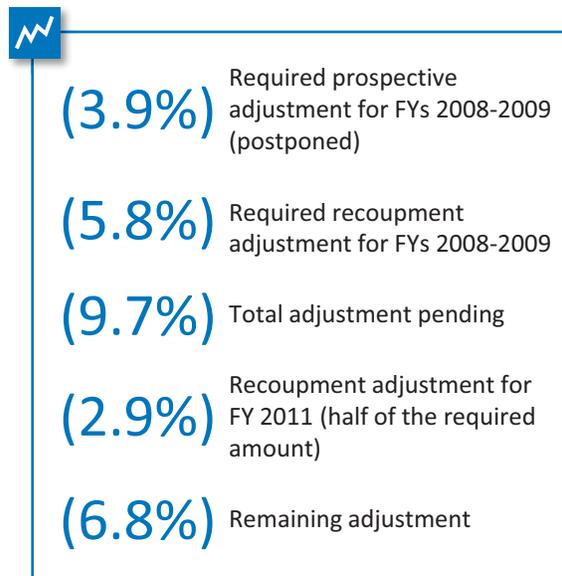
Inpatient Payment

First Net-Negative Inpatient Update in Years

After Several-Year Delay, CMS Finally Recouping Overpayments



MS-DRG Documentation and Coding Adjustment Details

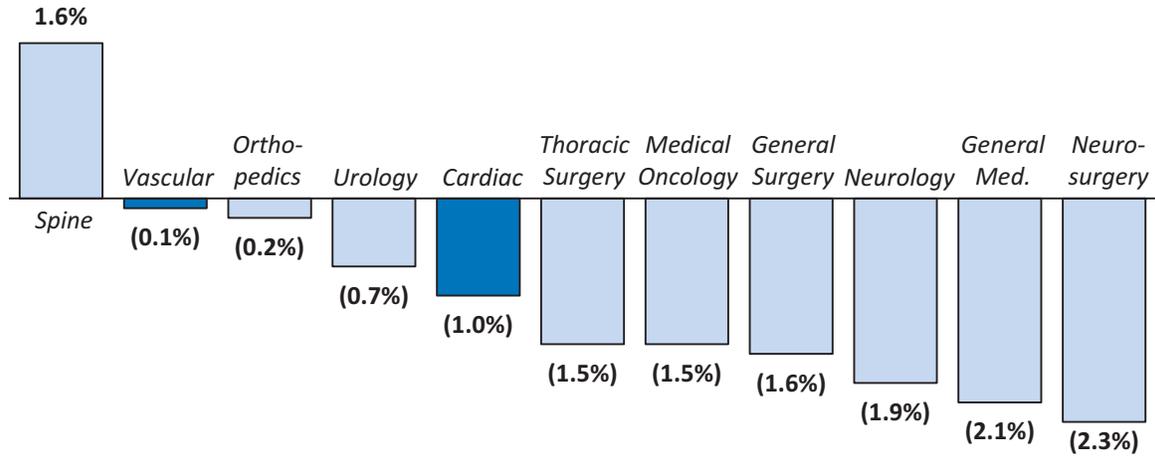


1 Affordable Care Act required a 0.25% market basket reduction.
 2 Documentation and coding adjustment to recoup portion of estimated excess spending in FYs 2008 and 2009 due to changes in hospital coding that did not reflect increases in patient severity of illness.
 3 Estimated figure; actual update rate reflects other provisions of the final rule; CMS estimates an average change in payment of (0.4%) for hospitals.

Modest Decrease in Payment for CV Services

Heart and Vascular Services on Better End of the Scale

Medicare Inpatient Payment Changes
Final Ruling, 2011 Versus 2010



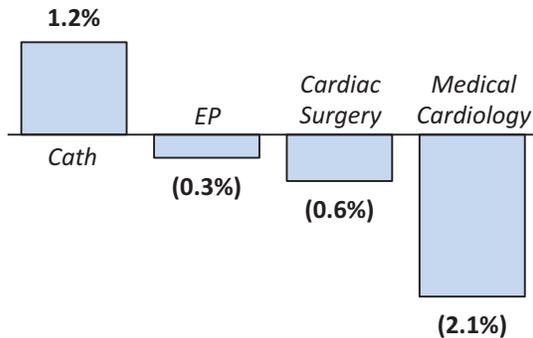
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Source: Inpatient Prospective Payment System Final Ruling for 2011, CMS; Cardiovascular Roundtable research and analysis.

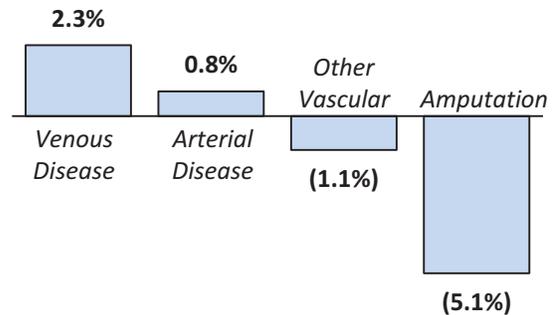
Mixed News for Sub Service Lines

Wide Disparity Across Distinct Business Units

Medicare Inpatient Cardiology Payment Changes
Final Ruling, 2011 Versus 2010



Medicare Inpatient Vascular Payment Changes
Final Ruling, 2011 Versus 2010



Inpatient Payment Changes for Select Services

Service	Change
CABG	0.6%
Valve Surgery	(1.8%)
PCI	1.2%
ICD Implants	(0.8%)

Service	Change
Heart Failure	(2.6%)
Carotid Endarterectomy	0.9%
Carotid Stent	3.3%
Peripheral Intervention	0.6%

Note: Please see Appendix for a full list of MS-DRG changes.
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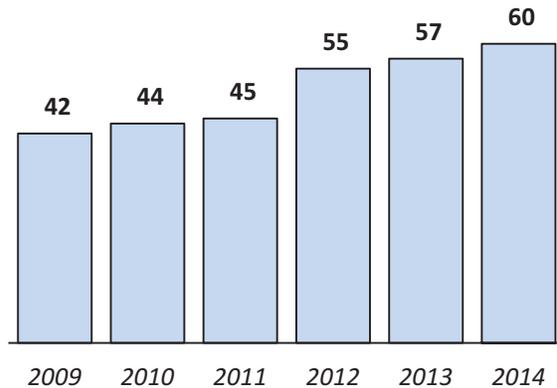
Source: Inpatient Prospective Payment System Final Ruling for 2011, CMS; Cardiovascular Roundtable research and analysis.

IP Quality Measures Continue to Expand

CMS Finalizes New Measures Through FY 2014

Inpatient Quality Measures for Payment Determination

FYs 2009-2014



Inpatient Measures in Brief

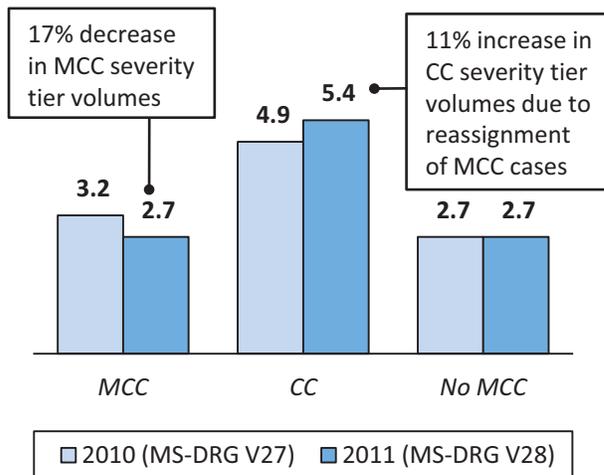
- 2% reduction to market basket for failure to successfully report quality measures
- No new CV-specific metrics until FY 2013 (adds one)
- Registry-based measures (including ICD, cardiac surgery, and stroke) discussed in ruling, however none finalized
- CMS seeking comments on numerous candidate CV metrics for future years
- While CMS finalized measures out to FY 2014, additional measures may be proposed, finalized in future rule-making sessions

Renal Code Downgrade May Reduce Payment

Policy Suggests Greater Scrutiny Over Diagnosis Assignment

Estimated Impact of “Unspecified Acute Renal Failure” Code Severity Tier Shift

Distribution of 2009 Medicare Discharges (in Millions) by Severity Tier



Renal Failure Code Change

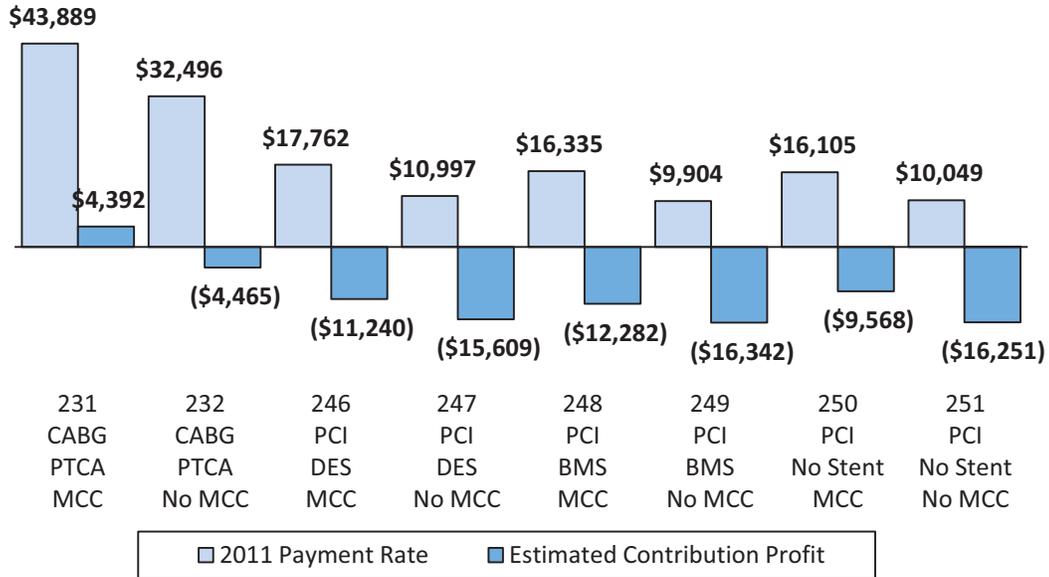
- Acute renal failure diagnosis code 584.9 downgraded from a major complication and comorbidity (MCC) to a complication and comorbidity (CC)
- CMS analysis revealed facilities often apply the code incorrectly, resulting in overpayment
- Any case qualifying for a higher severity level (higher payment) MS-DRG solely on basis of 584.9 will receive the payment associated with the CC MS-DRG tier
- Commenters believe change will reduce average total payment by two percent; however this is likely an overestimate
- Policy suggests CMS much more closely analyzing diagnoses associated with higher-paying MS-DRGs

Perc Valve Procedure Gets Code, MS-DRG Mapping

New ICD-9 Code Assignment Hints at Tough Economics Ahead

MS-DRG Mapping and Estimated Contribution Profit for Percutaneous Mitral Valve Repair

Reflects ICD-9 Procedure Code 35.97

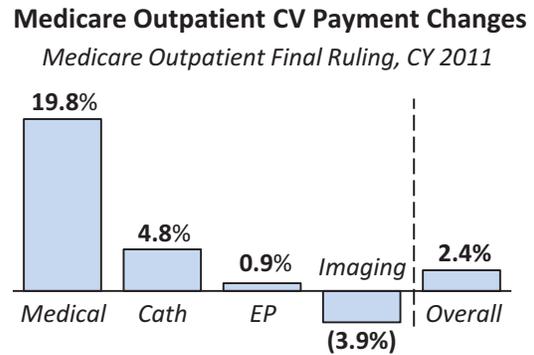
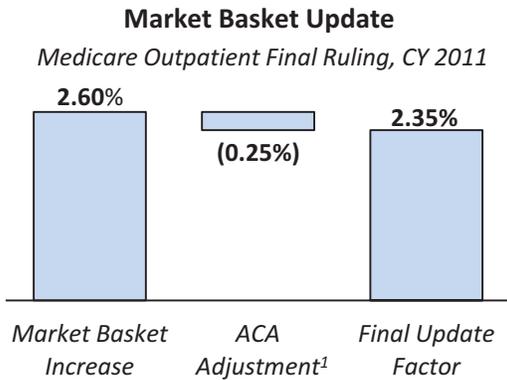


1 Assumes 2009 contribution profit with an incremental \$20,000 in direct cost.

Outpatient Payment

Outpatient Update More Encouraging

Positive Market Basket and CV Adjustments for 2011



Outpatient Payment Changes for Select Services

APC	Service	Change
80	Diagnostic Cath	1.6%
95	Cardiac Rehab	79.4%
100	Cardiac Stress Test	1.3%
229	Transcath Intravasc Shunt	22.4%

APC	Service	Change
377	Level II Cardiac Imaging	(2.0%)
656	PCI w Drug Eluting Stent	(2.5%)
697	Level I Echo wo Contrast	(19.7%)
8000	EP Evaluation/Ablation	6.6%

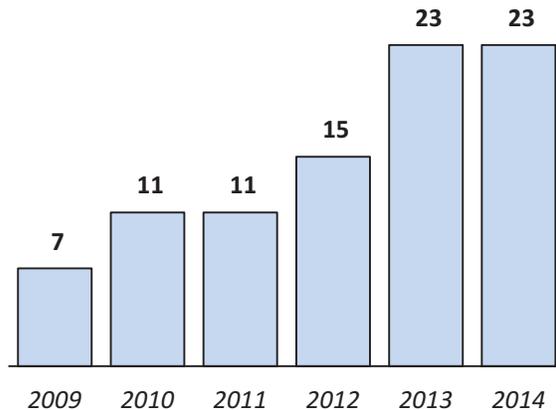
1 Affordable Care Act required a 0.25% market basket reduction. Note: Please see Appendix for a full list of APC changes.

Doubling of Outpatient Measures Across Three Years

New Measures Include Focus on Efficiency and Care Coordination

Outpatient Quality Measures for Payment Determination

CYs 2009-2014



Outpatient Measures in Brief

- 2% reduction to market basket for failure to successfully report quality measures
- CY 2012 adds one cardiac imaging-related measure for low-risk, non-cardiac surgery procedures
- Proposed ED troponin testing measure for FY 2012 finalized for FY 2013 period
- CMS seeking comments on numerous candidate CV metrics for future years
- While CMS finalized measure out to FY 2014, additional measures may be proposed, finalized in future rule-making sessions

Offering Clarity on Supervision Rules

1



Three Types of Supervision to Consider

- General: Clinician does not need to be present
- Direct: General policy for outpatient payment; clinician must be on campus
- Personal: Clinician is present in the room with the patient
- 2009 ruling provided a restatement, clarification of requirements

2



Qualifying Clinicians to Administer Supervision

- 2010 ruling clarified which physicians could directly supervise patients
- 2011 re-states that non-physician practitioners may supervise services that they may perform under their state license and scope of practice, hospital privileges
- May include PAs, NPs, clinical social workers, etc.

3



Eliminating Physical Boundary Stipulation

- Proposed rule indicated that for direct supervision, clinician may be anywhere on the hospital campus (which replaced "in the hospital" language); final rule removes all reference to boundaries of physical location
- Still, supervising clinician must be immediately available to provide assistance if needed

4



Switching from Direct to General Supervision

- 2011 rule identifies non-surgical, extended duration therapeutic services that entail a significant monitoring component, may extend for considerable time, require direct supervision initially but general supervision thereafter
- Observation care included in list of services

Continued Concern with Three-Day Rule

Burden of Proof on Hospital to Show Services Are Unrelated

Legislative Policies Governing the Three-Day Rule



Omnibus Budget Reconciliation Act of 1990

- Enacted November 5, 1990
- Amended the statutory definition of operating costs of inpatient hospital services to include cost of services furnished prior to admission
- Must bill as part of the inpatient stay all diagnostic services provided within three days (prior to) of admission and non-diagnostic services related to the inpatient admission
- “Related to” defined as having an exact diagnosis match between inpatient and outpatient services



Preservation of Access to Care for Medicare Beneficiaries and Pension Relief Act of 2010

- Enacted June 25, 2010
- Statutory change adopts a new definition for “other services” (non-diagnostic)
- All non-diagnostic services must be billed with inpatient admission unless hospital can demonstrate services are unrelated to admission
- Includes services provided by hospital or any entity wholly owned or operated by hospital
- CMS expected to release specific instructions on how hospitals can meet the requirement



\$2.6 B Part B Medicare savings in CY 2011

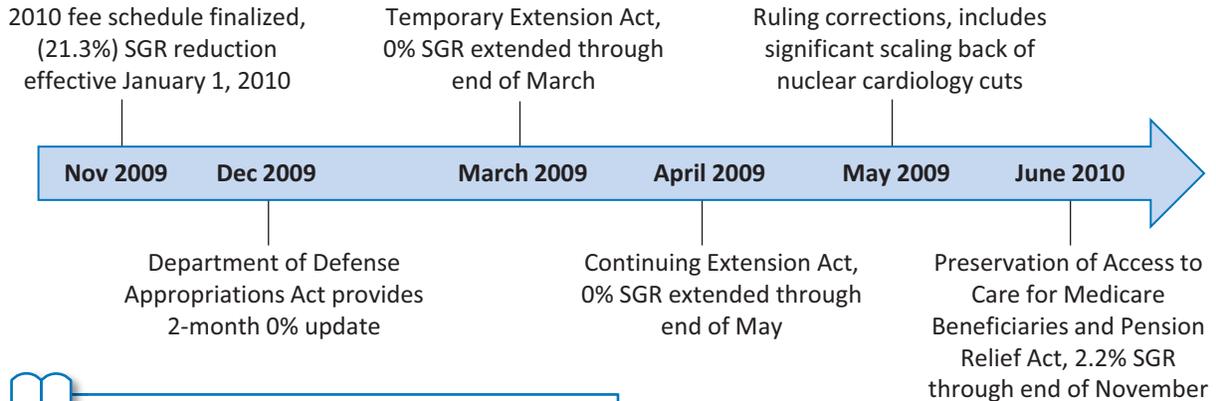
\$0.5 B Beneficiary savings in CY 2011

Physician Fee Schedule

Tumultuous Year for Physicians

SGR Uncertainties Creating Upheaval for Our Physicians

Six Updates Across Eight Months for SGR¹



SGR in Brief

Developed in 1997 as part of Balanced Budget Act; sets spending targets with aim of incentivizing physicians to restrain growth of services, modify mix of services; goal to keep spending at or below GDP growth

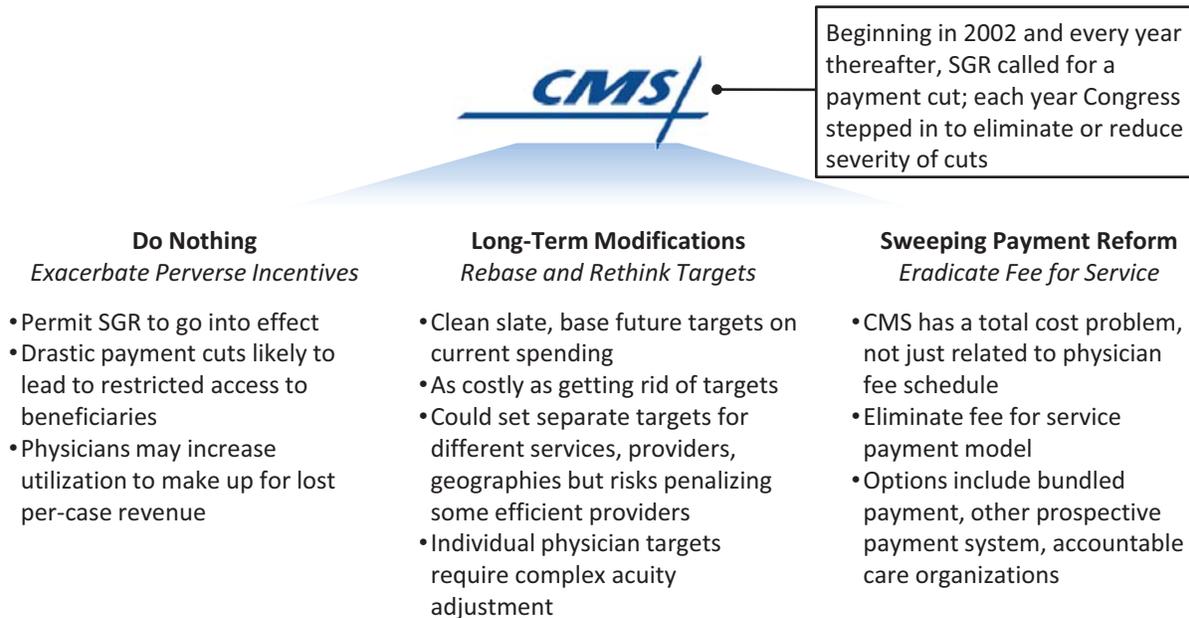


\$330 B Cost to sustain payment rates at 2009 level from 2011 through 2020

No Easy Fix for SGR

Contemplating Options for Addressing the SGR Debacle

Three Overall Strategies Before CMS



Note: On November 10, 2010, the National Commission on Fiscal Responsibility and Reform (a bipartisan debt-reduction commission appointed by President Obama) released a proposal that would replace anticipated steep physician payment cuts with more modest, unspecified reductions through 2015; the report included several strategies for erasing the SGR debt

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Source: "Drastic Doc Fix Proposed by Federal Debt Commission," Medscape, available at: www.medscape.com, accessed on November 10, 2010; *Health Affairs*, June 2010; Cardiovascular Roundtable research and analysis.

A Small Reprieve for Cardiology

Correction of Technical Mistakes Returns Some Imaging Payment

2010 Corrections to Medicare Physician Fee Schedule for Nuclear Cardiology Procedures

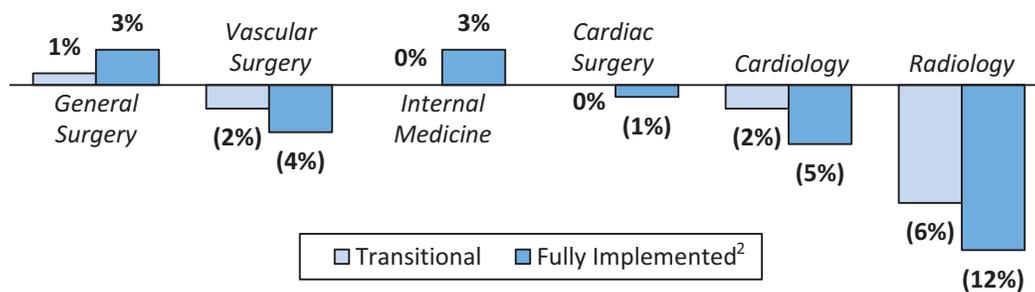
2010 CPT	Description	2009 CPT Crosswalk	Year	Professional	Technical	Global	Change (2010 Fix)
78451	MPI SPECT ¹ , single, wall motion, EF ²	78464, 78478, 78480	2009	\$104	\$280	\$384	44%
			Initial 2010	\$67	\$156	\$223	
			Final 2010	\$68	\$252	\$320	
78452	MPI SPECT, multiple, wall motion, EF	78465, 78478, 78480	2009	\$124	\$470	\$594	18%
			Initial 2010	\$79	\$301	\$380	
			Final 2010	\$80	\$369	\$449	
78453	Heart muscle image, planar, single	78460	2009	\$44	\$142	\$186	42%
			Initial 2010	\$49	\$145	\$194	
			Final 2010	\$50	\$226	\$276	
78454	MPI, planar, multiple	78461	2009	\$68	\$147	\$211	109%
			Initial 2010	\$65	\$122	\$187	
			Final 2010	\$66	\$325	\$391	

¹ Myocardial perfusion imaging single photon emission computed tomography.
² Ejection fraction.

Physician Fee Update Unfavorable to CV Specialists

2011 Final Ruling Translating Into Negative Adjustment

Estimated Impact of 2011 Physician Fee Schedule Changes by Specialty¹



2011 Physician Fee Schedule in Brief

- SGR cut of minus 24.9% (includes avoided 2010 SGR cuts); conversion factor of 25.5217; 2011 cut averted by passage of Medicare and Medicaid Extenders Act of 2010
- CMS rebasing the medical economic index (MEI) to 2006 baseline (previously a 2000 baseline); MEI used in conjunction with the SGR to update the fee schedule
- Second of four-year phase-in for new calculation of indirect practice expense relative value units (RVUs), which entails blending the new (and contentious) AMA Physician Practice Information Survey (PPIS) data with previous Socioeconomic Monitoring System (SMS) and supplemental data

¹ Includes changes associated with relative value units, multiple procedure reduction policy adoption, medical economic index rebasing; does not include the SGR reductions.

² Transitional and fully implemented refer to four-year phase-in for indirect practice expense RVU calculation; 2011 reflects the second year of the phase-in.

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Source: Physician Fee Schedule Final Ruling for 2011, CMS; Cardiovascular Roundtable research and analysis.

Spotlight on Key Cardiovascular CPTs

Change in Medicare Payment for Select Cardiovascular CPT Codes¹

Final Ruling, 2011 Versus 2010

CPT	Description	2010 Final ²	2011 Final (per Ruling) ³	2011 Final (0% SGR) ⁴	Change (per Ruling Scenario)	Change (0% SGR Scenario)
33208	Insertion Pacemaker	\$566	\$418	\$556	(26%)	(2%)
33430	Replace Mitral Valve	\$2,940	\$2,210	\$2,943	(25%)	0%
33533	CABG, Arterial, Single	\$1,882	\$1,492	\$1,986	(21%)	6%
37205	Peripheral Stent	\$468	\$344	\$458	(27%)	(2%)
92980	Coronary Stent	\$837	\$656	\$874	(22%)	4%
93015	Stress Test	\$95	\$70	\$93	(26%)	(2%)
93650	Ablate Heart Dysrhythmia	\$595	\$467	\$622	(22%)	4%
93306	Echo, Spectral/ Color Flow Doppler (Global)	\$244	\$176	\$234	(28%)	(4%)
93306	Echo, Spectral/ Color Flow Doppler (TC)	\$172	\$125	\$166	(28%)	(4%)
93306	Echo, Spectral/ Color Flow Doppler (26)	\$72	\$51	\$68	(29%)	(5%)
78452	SPECT, Multiple (Global)	\$449	\$360	\$479	(20%)	7%
78452	SPECT, Multiple (TC)	\$368	\$302	\$402	(18%)	9%
78452	SPECT, Multiple (26)	\$81	\$58	\$78	(28%)	(4%)

¹ Payment reflects professional payment (modifier 26) unless otherwise indicated as technical (modifier TC) or global rate.

² Includes a 2.2% update to the SGR through Dec. 31, 2010 (36.062 Conversion Factor).

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³ Includes minus 24.9% cumulative SGR update (CY 2010-2011); 25.522 Conversion Factor.

⁴ Assumes a 0% SGR change for 2010 and 2011 (33.9764

Conversion Factor) based on passage of Medicare and Medicaid Extenders Act of 2010.

Source: Physician Fee Schedule Final Ruling for 2011, CMS; Cardiovascular Roundtable research and analysis.

Not Reversing Course on Cutting Consult Codes

2010 Consult Code Elimination Leads Specialists to Curb Care

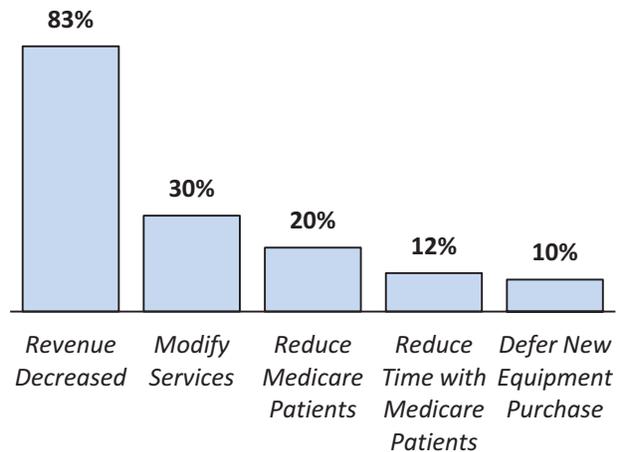


Policy in Brief: Elimination of Consult Codes

- 2010 Physician Fee Schedule Final Ruling eliminated consult codes, shifting dollars to evaluation and management (E/M) codes
- CMS justified change based on simplification of documentation requirements for consults (thus reducing the burden of billing), data indicating high rate of inappropriate consult code billing due to confusion over differences between referral, consultation, transfer of care
- Previous consult codes map to various E/M codes for inpatient, outpatient ED, physician office care
- Payment difference of approximately 20-30 percent depending on consult scenario
- CMS estimates no greater than minus 3 percent impact for any one specialty

Physicians Limiting Exposure to Medicare

Survey of AMA and 17 Specialist Societies, n=7,781



Source: Physician Fee Schedule Proposed Ruling for 2011, CMS; "Consultation Codes Survey Top Line Report," American Medical Association, June 25, 2010; Cardiovascular Roundtable research and analysis.

Mapping Consult Code Changes

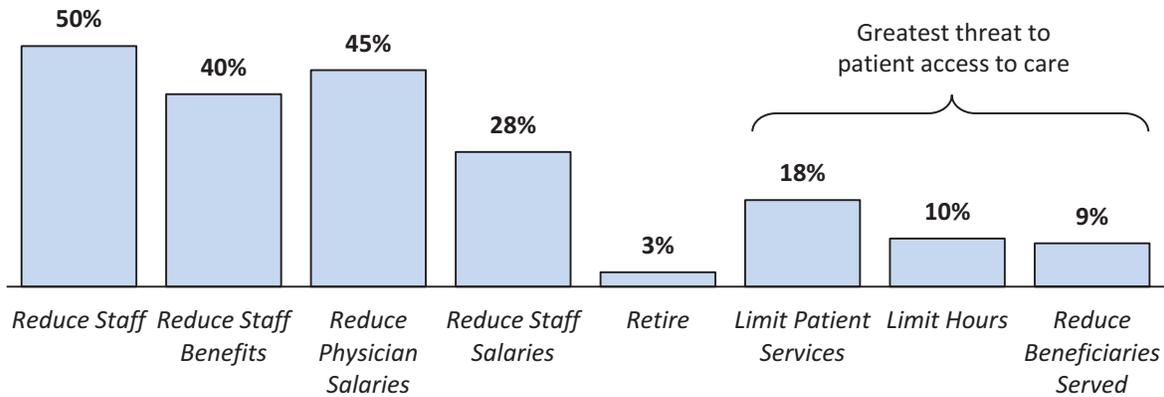
Service Type	Consult Code	Typical Time (Min)	CMS E/M Code Map	Typical Time (Min)
Inpatient Services	99251	20	99221	30
	99252	40	99221	30
	99253	55	99221	30
	99254	80	99222	50
	99255	110	99223	70
Outpatient in Emergency Department	99241	15	99281	N/A
	99242	30	99281/99282	N/A
	99243	40	99283	N/A
	99244	60	99284	N/A
	99245	80	99285	N/A
Office Visit, New patient	99241	15	99201	10
	99242	30	99202	20
	99243	40	99203	30
	99244	60	99204	45
	99245	80	99205	60
Office Visit, Established Patient	99241	15	99212	10
	99242	30	99213	15
	99243	40	99214	25
	99244	60	99214/99215	40
	99245	80	99215	40

Source: "2010 Medicare Consultation Changes," HCPro, March 2010; Cardiovascular Roundtable research and analysis.

Cardiologists Taking Action in Light of Payment Cuts

Turning to Cost Cutting, Restricted Access to Maintain Margins

Cardiology Practice Activities to Reduce Costs in Responses to Medicare Payment Cuts



2010 ACC Practice Census in Brief

- Survey included responses from 2,413 practices across the United States
- Indicated that over half of practices have undertaken some form of cost cutting in direct relation to recent Medicare payment cuts, with staff cuts as the first line of defense
- Survey responses raise concerns over access for Medicare beneficiaries, private practice viability

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Source: "2010 ACC Practice Census," American College of Cardiology, 2010; Cardiovascular Roundtable research and analysis.

More Regs, Not (Yet) Abolishment of Self Referral

MedPAC Advising Congress on a Number of Options

Proposals Include Payment Cuts, Specific Conditions for Utilization

Suggestions from June 2010 MedPAC Report to Congress

Recent Self-Referral Regulations	
✓	Self-referral disclosure requirements
✓	Accreditation for designated imaging services
✓	Per-click leasing abolishment



- 1 Exclusion from in-office exception unless provided on the same day
- 2 Exclusion from in-office exception unless services do not require advance scheduling or patient prep
- 3 Exclusion from in-office exception unless physicians in the group meet clinical integration requirements
- 4 Reduced payments for self-referred tests
- 5 Bundled payments for self-referred tests with larger episode of care



Relevance to Cardiology

- Cited 2010 pilot study by ACC Foundation/United Healthcare finding 15% of nuclear studies were inappropriate
- Nuclear cardiology, echo represent gray zone: while often performed during patient clinic visit, degree of urgency unclear

Note: No specific recommendations were made pertaining to self referral, thus no voting occurred during this MedPAC session.

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Source: "Services Provided Under the In-Office Ancillary Exemption to the Physician Self-Referral Law," MedPAC, available at: <http://www.medpac.gov>, accessed on May 26, 2010; Cardiovascular Roundtable research and analysis.

Road Map for Discussion



I Business Under Pressure

II Health Care Policy Update

III Payment Horizon Scan

IV Emerging Drivers of Demand

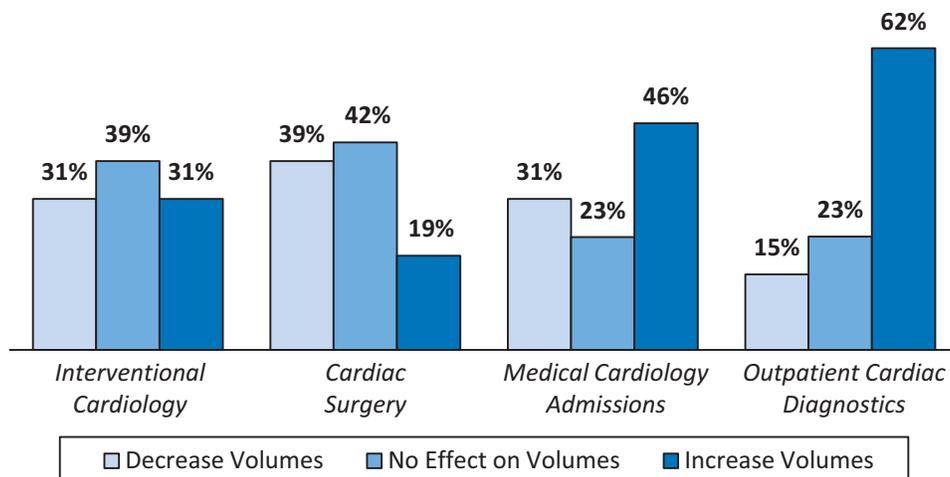
V Coda: Rising to the Challenge

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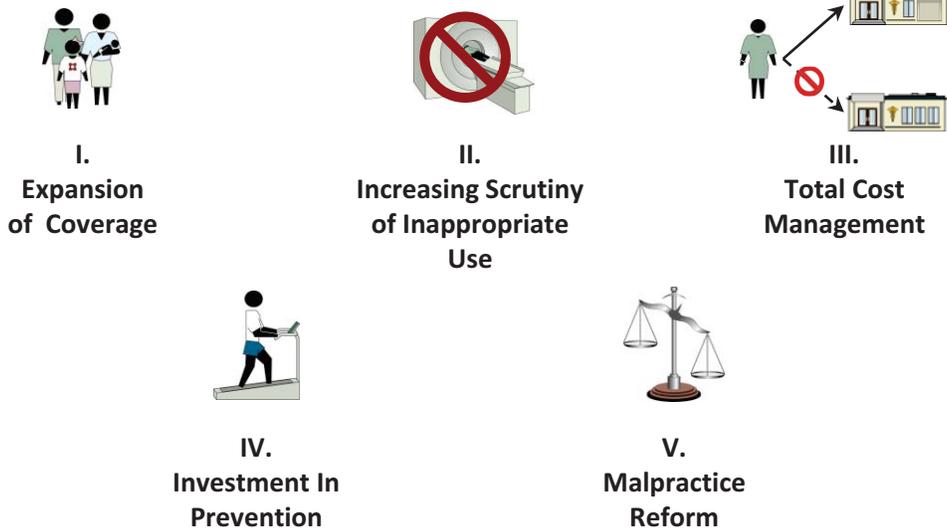
No Clear Picture in Sight

Widespread Disagreement Over Volume Impact of Healthcare Reform

Healthcare Reform's Affect On Volumes Over Next Five Years
2010 Cardiovascular Roundtable Volumes Trend Survey



Analyzing the Forces of Future Growth



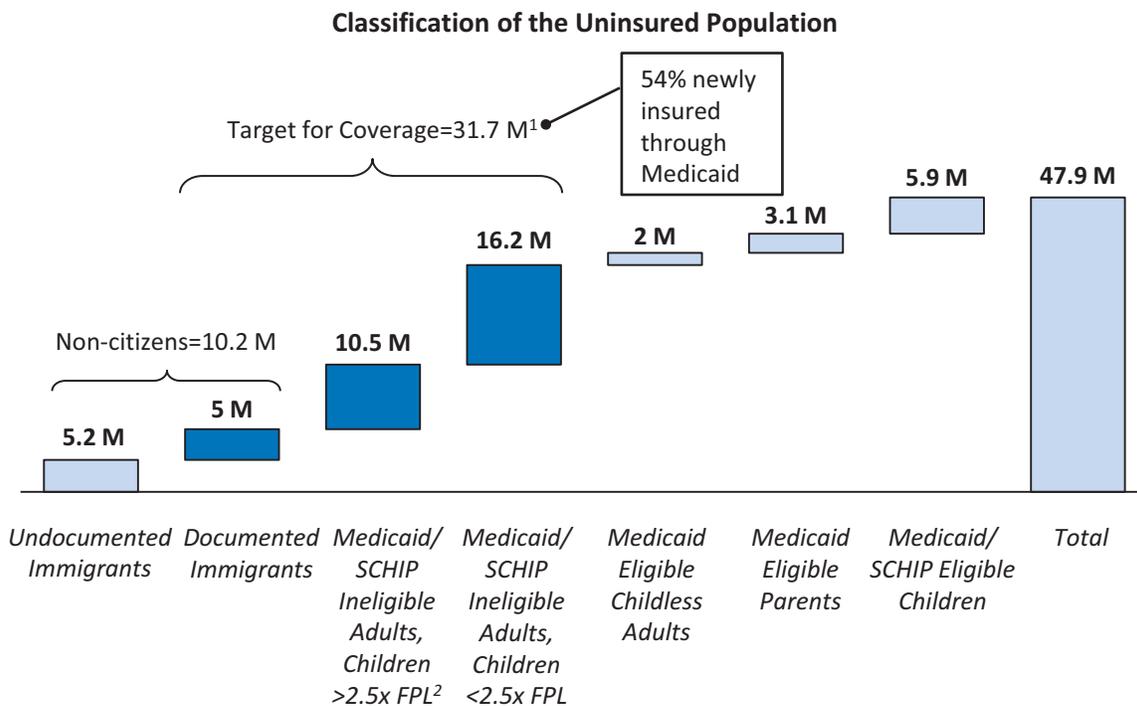
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Source: Cardiovascular Roundtable research and analysis.

Driver 1: Expansion of Coverage

Profile of the Uninsured

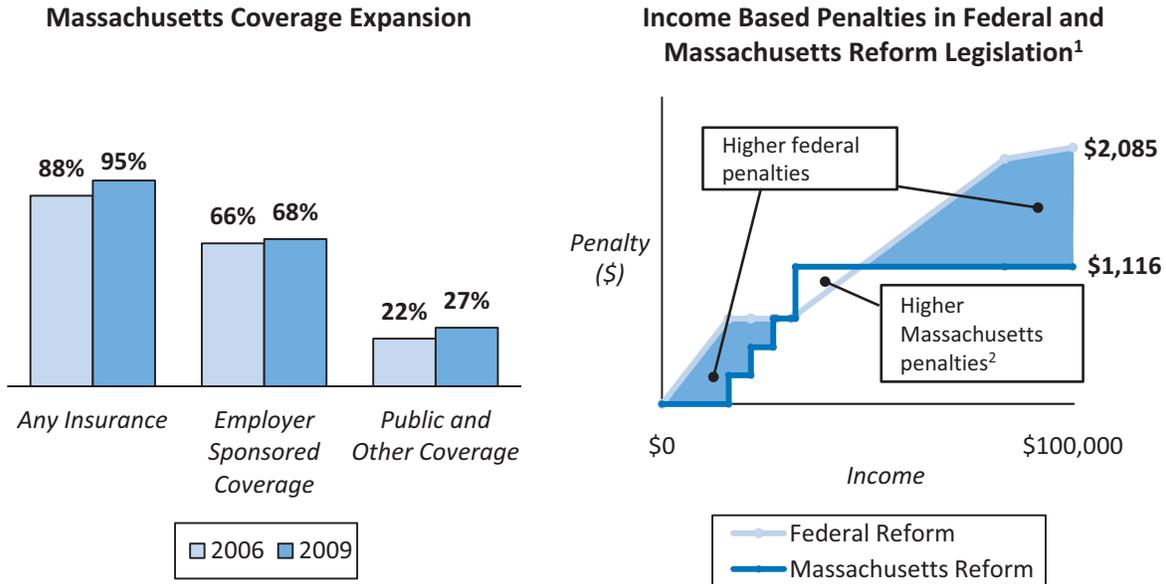
Targeting Populations Currently Ineligible for Public Assistance



¹ CMS Office of the Actuary estimates that 34 million uninsured will become insured.
² Federal poverty level.

Strong Compliance Expected

Higher Penalties Will Likely Improve on Massachusetts' Results



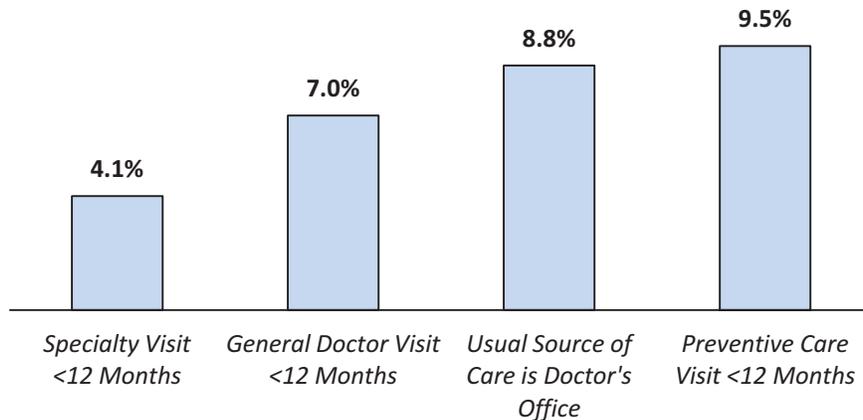
1 Federal penalties for failing to obtain health insurance as of 2016 for individuals over 26 years of age.
 2 For individuals over 26 earning between \$27,085 and \$48,290 annually.
 © 2010 The Advisory Board Company – 22321

Source: Massachusetts Health Connector, available at: <https://www.mahealthconnector.org>, accessed September 20, 2010; Congressional Research Service, available at: http://bingaman.senate.gov/policy/crs_privhins.pdf, accessed September 20, 2010; Cardiovascular Roundtable research and analysis.

Enhancing Demand for Physician Services

Growth in Healthcare Utilization in Massachusetts Adults

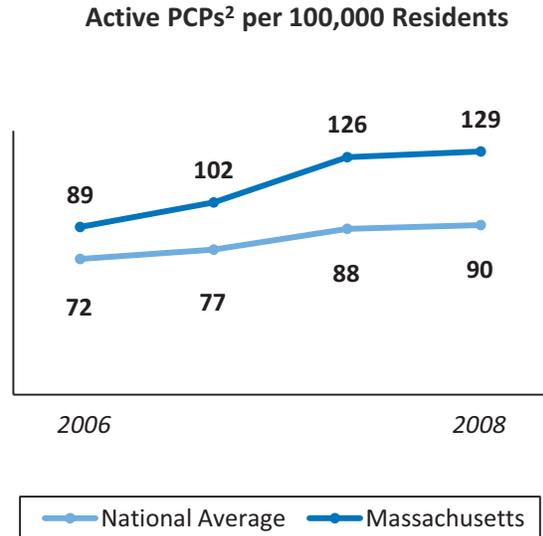
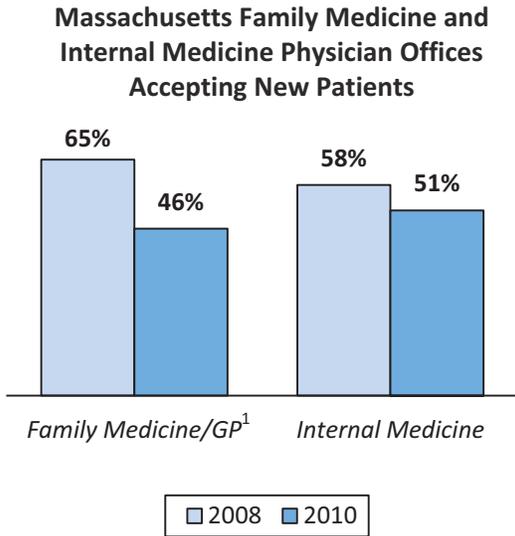
Change Based on Self-Reported Data, 2006-2009



Source: S. K. Long, "Health Reform in Massachusetts, an Update as of Fall 2009," *Urban Institute*, available at: <http://bluecrossfoundation.org/~media/Files/Publications/Policy%20Publications/060810MHR2009FINAL.pdf>, accessed September 20, 2010; DHCFP Massachusetts Hospital Discharge Data; Cardiovascular Roundtable interviews and analysis.

Expansion Highlighting Structural Deficits

Primary Care Strain Expected on National Scale

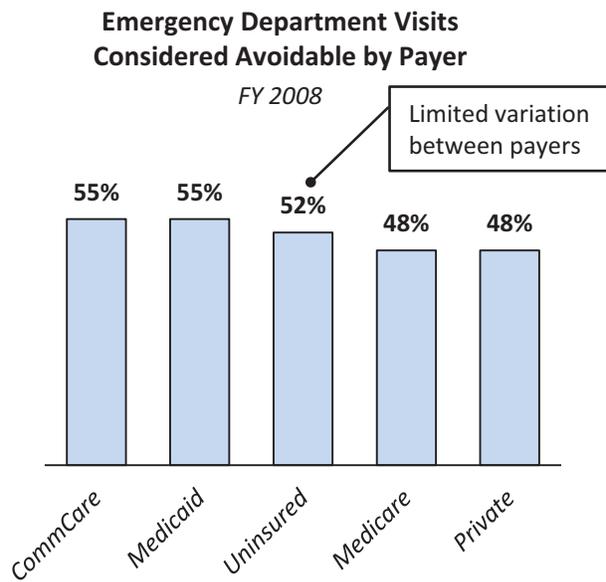
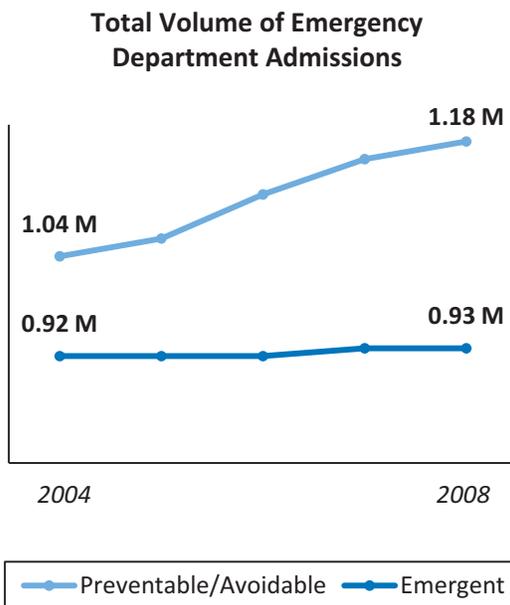


1 General practitioners.
 2 Primary care physicians.
 © 2010 The Advisory Board Company – 22321A

Source: Massachusetts DHCFP, "Primary Care in Massachusetts: An Overview of Trends and Opportunities, July 2010," available at: http://www.mass.gov/EeoHHS2/docs/dhcfp/r/pubs/10/primary_care_report_in_massachusetts.ppt, accessed September 20, 2010; Massachusetts Medical Society, "Physician Workforce Study," October 2010; Cardiovascular Roundtable research and analysis.

PCP Access Deficits Crowding the ED

Preventable Admissions Driving ED Growth in Massachusetts

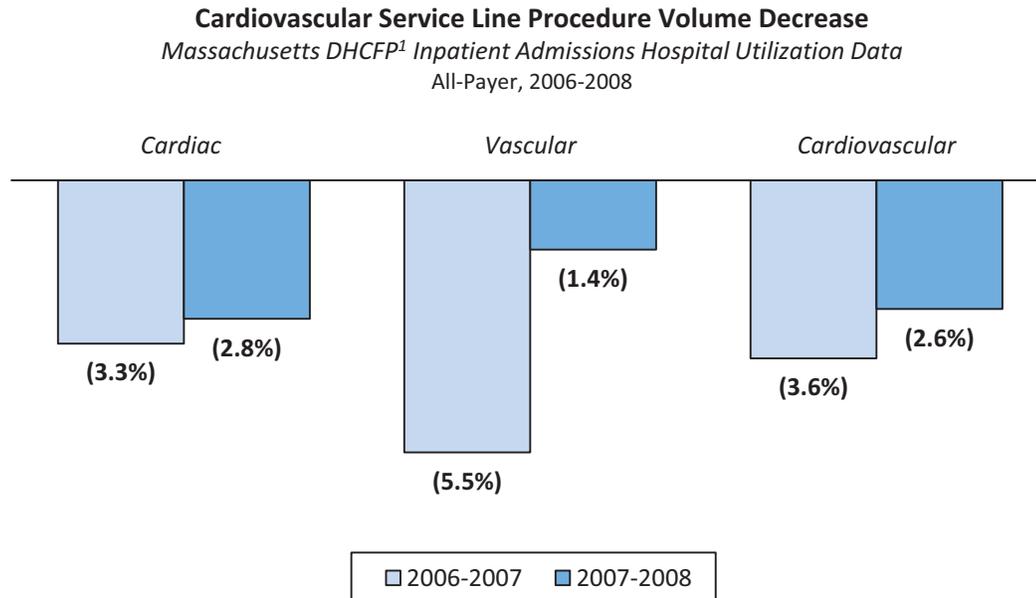


© 2010 The Advisory Board Company – 22321A

Source: Massachusetts DHCFP, "Preventable/Avoidable Emergency Department Use in Massachusetts Fiscal Years 2004 to 2008, July 2010," available at: http://www.mass.gov/EeoHHS2/docs/dhcfp/r/pubs/10/preventable_avoidable_ed_use_2004_2008.ppt, accessed September 20, 2010; Cardiovascular Roundtable research and analysis.

Expanded Coverage Buttressing Contracting Market?

Massachusetts Inpatient Volumes Showing Some Resilience



¹ Division of Health Care Finance and Policy.
 © 2010 The Advisory Board Company – 22321A

Source: DHCFP, Hospital Summary Utilization Data, 2006-2008, available at: <http://www.mass.gov/?pageID=eohhs2agencylanding&L=4&L0=Home&L1=Government&L2=Departments+and+Divisions&L3=Division+of+Health+Care+Finance+%26+Policy&sid=Eeohhs2>, accessed October 7, 2010; Cardiovascular Roundtable research and analysis.

Driver 2: Increasing Scrutiny of Inappropriate Use

Inappropriate Utilization in the Spotlight

Regulators Taking a Close Look at Appropriateness

Maryland Cardiologists Under Fire For Unnecessary Utilization

- A Maryland cardiologist was accused earlier this year of implanting "unnecessary stents" in 585 patients over a two-year period
- State officials expanded investigation to include other hospitals, doctors who may also have performed "a suspiciously high number of invasive cardiac stent procedures."



Legislators Reviewing Guidelines

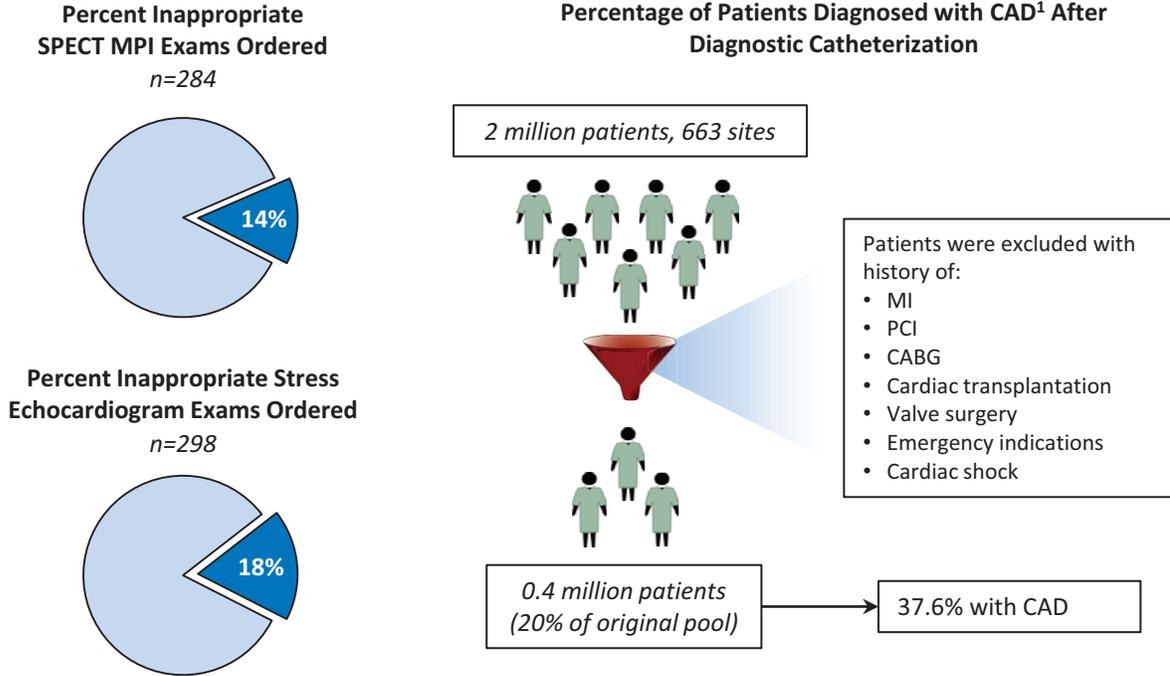
- As a result, Maryland's Secretary of Health John Colmers met with cardiologists representing the ACC¹ and SCAI² to discuss new guidelines, appropriateness criteria, and peer-review processes for cath labs to ensure physicians are stenting patients appropriately
- The U.S. Senate Finance Committee has also launched an investigation

¹ American College of Cardiology.
² Society for Cardiovascular Angiography and Interventions.
 © 2010 The Advisory Board Company – 22321A

Source: Bishop, "Maryland Investigation Targets Second Hospital," *The Baltimore Sun*, September 22, 2010; Cardiovascular Roundtable interviews and analysis.

Evidence of Widespread Inappropriate Utilization

Cardiology Increasingly Under the Microscope

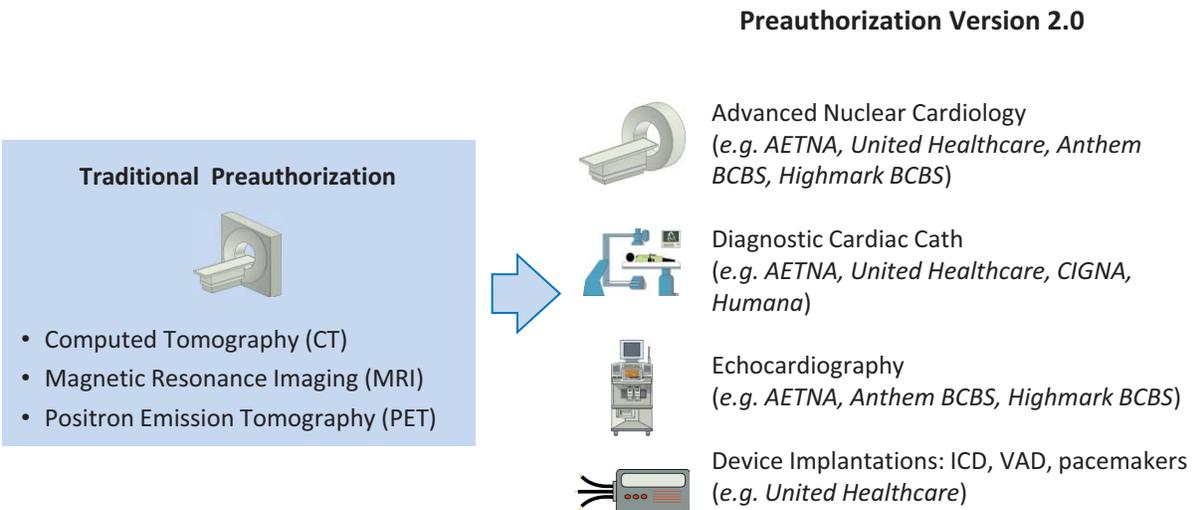


¹ Coronary artery disease.
© 2010 The Advisory Board Company – 22321A

Source: Patel et al., *New England Journal of Medicine*, 2010, 362:886-895; Gibbons, *Journal of the American College of Cardiology*, 2008, 51: 1283-1289; Cardiovascular Roundtable research and analysis.

Payers Flexing Their Muscles

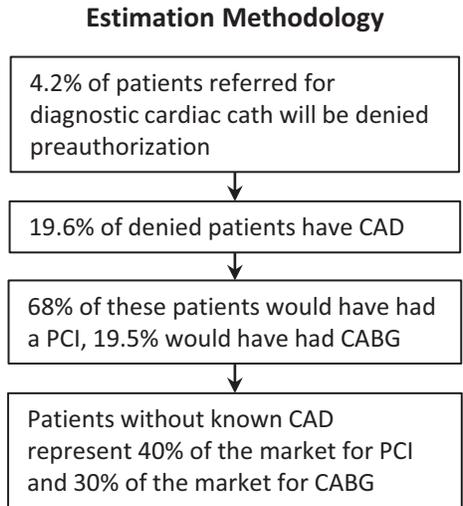
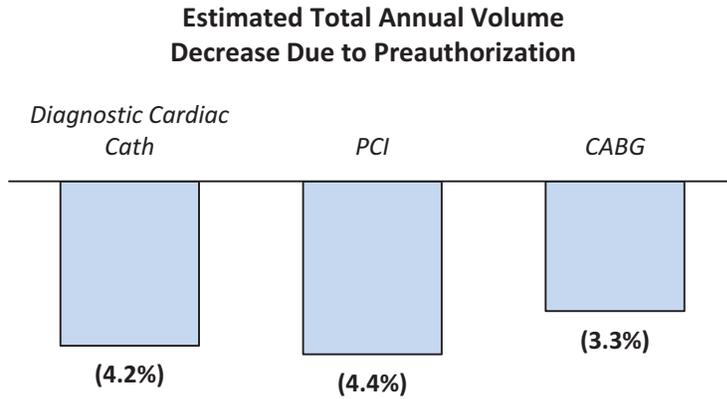
Preauthorization Moving Into Uncharted Territory



Source: Cardiosource, "Health Plans Expanding Imaging Notification Requirements," June 30 2010; Humana, "Medicare Advantage Preauthorization and Notification List," January 24th 2010; Priority Health, Medical Policy No. 91410-R8, October 2008; Cardiovascular Roundtable research and analysis.

Modeling the Impact

Estimated Impact of Diagnostic Cath Preauthorization



Cardiovascular Roundtable 2010 Volume Survey
74% Think that increased scrutiny over procedure appropriateness will decrease long-term profitability

Preauthorization of Diagnostic Cath Volumes Analysis
 For full analysis see Appendix

Preauthorization's Broad Impact

Deterring Initial Referrals



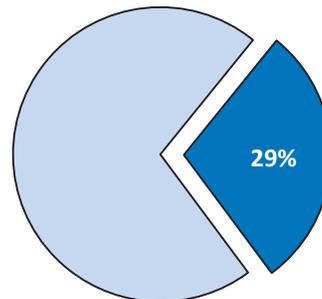
Hawthorne Effect
 Transparency into ordering behavior causing physicians to rethink ordering marginally appropriate tests



Logistical Burden
 Administrative burden of obtaining preauthorization increases physician costs, may lead to decrease in tests ordered

Blocking Unjustified Requests

CareCore National, SPECT-MPI Referral Requests Not Authorized, Commercial US Payer 2007



Some Hospitals Considering a Proactive Approach

Two Advisory Opinions Comment on Preauthorization Assistance

Lending Some Legitimacy to the Practice



May 6, 2010,
August 31, 2010



Two Opinions in Brief

- Both opinions address proposals by imaging providers to offer free preauth services to patients and physicians
- Both concluded that while service may violate anti-kickback, the OIG would not issue sanctions if set criteria are met

Conditions for Avoiding Sanctions

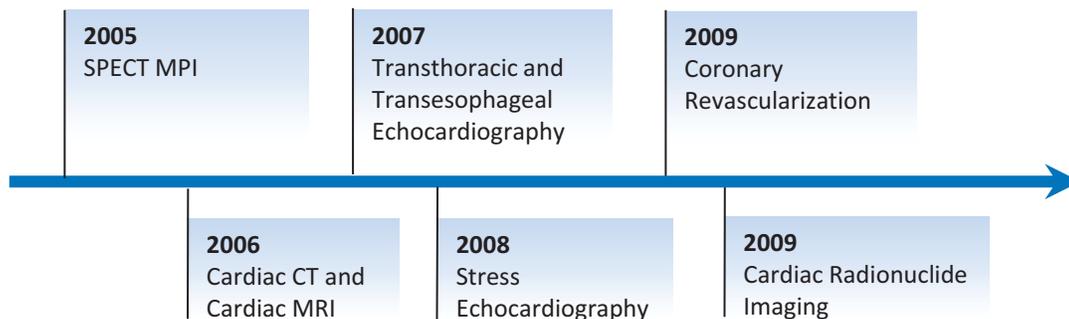
✓	Services offered to all physicians and patients
✓	No money changes hands between provider and physician
✓	Pre-authorization service operates transparently
✓	No explicit or implicit arrangements with any referring physicians in connection with the proposed arrangement

Source: Health and Human Services Office of Inspector General, Advisory Opinion 10-04, available at: <http://oig.hhs.gov/fraud/advisoryopinions/opinions.asp>, accessed May 16, 2010; Cardiovascular Roundtable interviews and analysis.

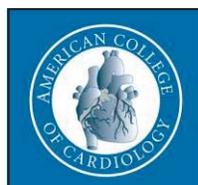
Societies Encouraging Physician Responsibility

Providing Guidelines for Appropriate Use

Publishing More Appropriate Use Criteria Each Year



Offering Education and Support



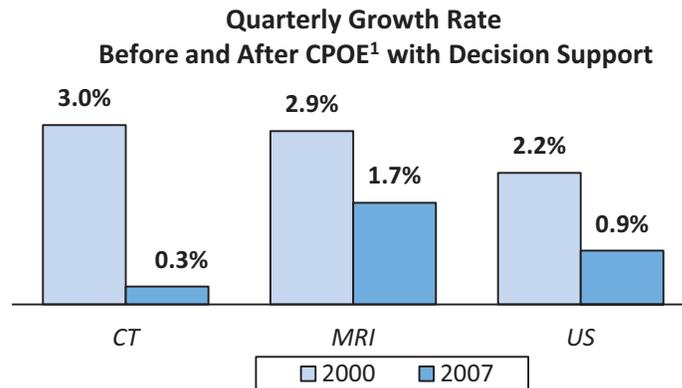
ACC's Imaging in FOCUS Program

- Provides online tool for assessment of order appropriateness for radionuclide Imaging
- Helps develop and support intervention plans for improving order appropriateness

Source: Appropriate Use Criteria, JACC, 2009, available at: http://content.onlinejacc.org/cgi/collection/appropriateness_criteria, accessed October 12, 2010; Imaging in FOCUS, CardioSource, available at: <http://www.cardiosource.org/science-and-quality/quality-programs/imaging-in-focus.aspx>, accessed October 4, 2010; Cardiovascular Roundtable interviews and analysis.

Decision Support Positioned as an Alternative

Examining the Results from Massachusetts General Hospital



Case in Brief: Massachusetts General Hospital

- 900-bed academic medical center in Boston, MA, owned and operated by Partners Healthcare
- Designed, implemented a computerized ordering and scheduling system for outpatient imaging beginning 2001
- Since 2004, requesting physicians have been provided with computerized decision support on the basis of indications provided.
- Physicians' performance is tracked, and senior clinicians counsel physicians with many low-scoring examinations

¹ Computerized physician order entry.
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Source: Siström CL, et al., *Radiology*, 2009, 251, 147-155; Cardiovascular Roundtable research and analysis.

Despite Successes, Slow to Gain Traction

Payers Reluctant to Accept DS¹ as Alternative to Preauthorization

Reasons Cited by Payers for Rejecting Decision Support

- ✓ Implementation cost and time a significant barrier
- ✓ Payers reluctant to be first in market to “rock the boat”
- ✓ Payers need critical mass of adopting providers to avoid incurring administrative costs for overseeing multiple systems
- ✓ Preauthorization simply more effective: gives higher ROI even though it is more expensive than decision support
- ✓ Relationship between payers and RBMs stable, comfortable
- ✓ Payers fear major customers (e.g. large employers) will not accept system with 0% denial rate

Unlikely to Change Anytime Soon

“What providers don’t understand, and I tell them this repeatedly, is that whatever a health plan is going to do, they need to do it across their entire service area. They can’t carve out a couple hospitals or a couple imaging centers. From an IT perspective, it’s a nightmare.”

VP Sales
Decision Support Vendor

¹ Decision support.
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Source: Cardiovascular Roundtable interviews and analysis.

Some Potential Catalysts for DS on the Horizon

- 2-year decision support demonstration
- Up to six conveners, 200-1,000 physicians per convener
- Preference for primary care and cardiology practices
- 11 procedures under review, including SPECT myocardial perfusion imaging exams



CMS Appropriate Imaging Demonstration



Affordable Care Act

- ACO demonstration projects, movement towards medical home build business case for decision support as incentives align to reduce costs through appropriate ordering

- Imaging e-Ordering Coalition along with other affected physician societies (e.g. ACC, ASE¹) independently lobbying for decision support
- Promoting health IT-enabled decision support for diagnostic imaging in lieu of RBM³ utilization
- Attempting to integrate decision support into major EHRs

Independent Lobbying



CENTER FOR
DIAGNOSTIC IMAGING

Meaningful Use Criteria



- Hospitals must adopt certified EHR² technology, using EHRs "meaningfully" in care delivery, and reporting clinical quality measures to be eligible for incentives/avoid penalties
- Imaging decision support tools can potentially help hospitals meet definition of meaningful use, avoid penalties for non-compliance

1 American Society of Echocardiographers.
2 Electronic health records.
3 Radiology benefit manager.
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Source: Centers for Medicare and Medicaid Services, "The Medicare Imaging Demonstration," accessed February 13, 2010; Imaging Technology News, "Imaging e-Ordering Coalition to Form Policy on Imaging Exams," accessed February 13, 2010; Cardiovascular Roundtable interviews and analysis.

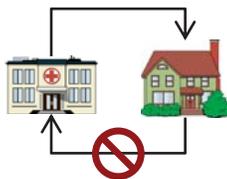
Driver 3: Total Cost Management

Building a New Playing Field

Government Prioritizing Appropriate Utilization

1

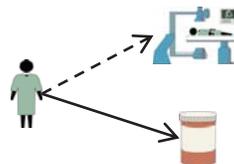
Readmission Avoidance



- Reform readmissions penalties begin FY2013, targeting HF, AMI with potential to expand to CABG, PTCA, COPD¹
- Hospital Compare reporting all-cause 30-day readmission rates for HF, AMI

2

Shared Savings Programs Rewarding Avoidance



- Focus on reducing total treatment costs driving procedure avoidance or substitution
- Shared savings voluntary program beginning 2012

3

Comparative Effectiveness Research Supporting Informed Decision Making



- Comparative effectiveness research defining optimal treatment paths
- Educated patients, providers, payers selecting highest value treatments

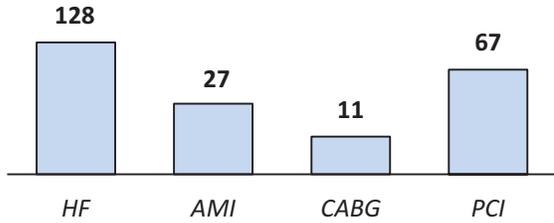
1 Chronic obstructive pulmonary disease.
© 2010 The Advisory Board Company – 22321A

Source: Centers for Medicare and Medicaid Services; Cardiovascular Roundtable research and analysis.

Evaluating the Impact of Reducing Repeat Admissions

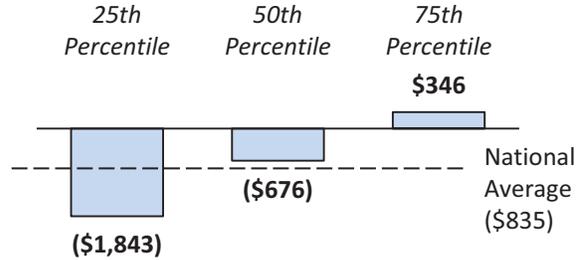
Losing Volumes, but Many Unprofitable

Average Yearly Preventable Readmission Volumes for a Typical Hospital¹

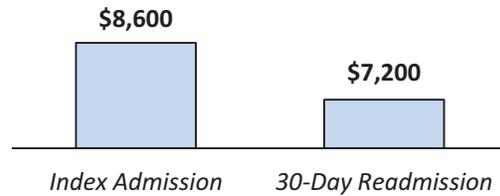


Penalties Begin	2013	2013	2015	2015

Inpatient Heart Failure Net Profit by Percentile Medicare 2008



Average Medicare DRG Payment²



¹ Estimate based on an average 450 heart failure admissions annually, with 18.6% preventable 30-day readmissions, an average 300 AMI admissions annually, with 15.1% 30-day preventable readmissions, and an average 225 CABG admissions annually, with 10.6% preventable 30-day admissions, an average 600 PCI admissions annually, with 11.1% 30-day preventable readmissions, and an average 115 other vascular admissions annually, with 18% preventable 30-day admissions.

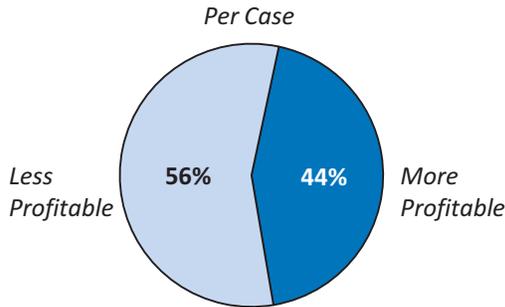
² 2005 dollars.
© 2010 The Advisory Board Company – 22321A

Source: MedPAC, June 2007; Krumholz HM, et al., *Circulation*, 2009, 2:407-413; Kim MH, et al., AHRQ, available at : <http://www.ahrq.gov/about/annualmtg07/0928slides/schoen/Schoen-17.html>, accessed October 5, 2010; Jencks S, et al., *New England Journal of Medicine*, 2009, 360:1418-1428; Mulvaney, *Healthcare Financial Management Association*, 2009, 63, 9:32-4; Cardiovascular Roundtable interviews and analysis.

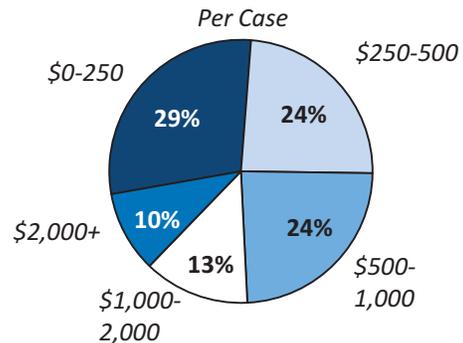
Shared Savings Upending the Volume-Profit Link

Half of MS-DRGs More Profitable to Hospital When Avoided in ACO

Percentage of MS-DRGs More Profitable When Avoided



Distribution of More Profitable MS-DRGs by Opportunity Amount



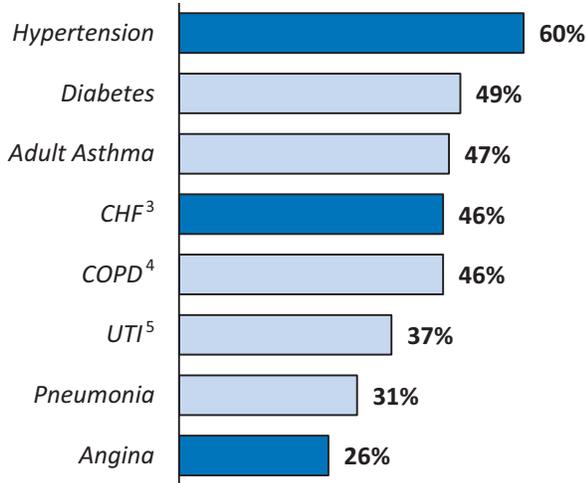
Analysis in Brief

- Compares average hospital contribution profit for all MS-DRGs with hospital shared-savings opportunity
- Shared savings set at 80% of avoided MS-DRG payment
- Assumes 50% split of shared-savings bonus with physician group
- Examines only Medicare part A revenue, physician component not included
- Profitability determined irrespective of actual necessity of care

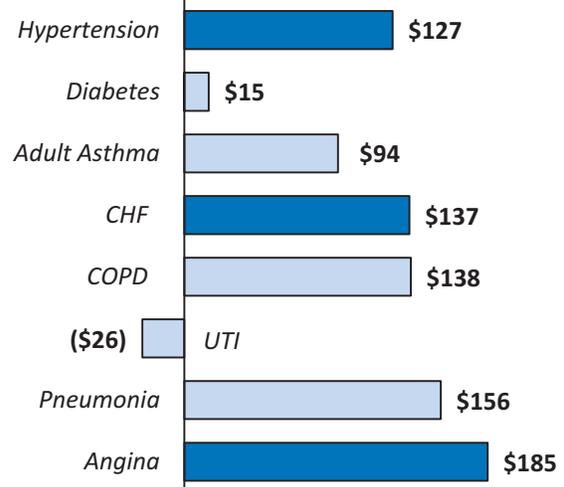
Examining the Maximum Opportunity

Estimated Reductions in Preventable Admissions in Well Managed Care System

Percentage of Admissions Considered Preventable by AHRQ¹



Shared-Savings Bonus Over Contribution Profit²



1 Agency for Healthcare Research and Quality.
 2 Additional revenue beyond contribution profit per case; savings set at 80% of Medicare revenue per case split 50% for MS-DRGs 304, 305, 637-639, 202, 203, 291-293, 190-192, 689, 690, 193-195, 311; all values reflect weighted average by volume for each diagnosis.
 3 Congestive heart failure.
 4 Chronic obstructive pulmonary disease.
 5 Urinary tract infection.
 © 2010 The Advisory Board Company – 22321A

Source: Fitch K, "Ambulatory Care Sensitive Admissions," Milliman Research, January 2009, available at: <http://www.nybgh.org/pdfs/ambulatorycare.pdf>, accessed November 15, 2010; Cardiovascular Roundtable research and analysis.

Reduced Demand Not Just Theoretical

Chronic Care Management Programs Decreasing Utilization

Institution	Strategy	Volume Change
 Billings Clinic	<ul style="list-style-type: none"> Invested in data management, chronic care management Reworked clinical process 	 <p>35-43% Decrease in all-cause admissions</p>
 Indiana University Medical School GRACE ¹ Trial	<ul style="list-style-type: none"> Provided 2 years home-based care management to low-income seniors Developed multidisciplinary geriatric teams, including nurse practitioner, PCP, social workers 	 <p>41% Reduction in hospitalization rate for GRACE participants</p>
 Marshfield Clinic	<ul style="list-style-type: none"> Provided dosage management services to patients taking anti-clotting drug warfarin Ensured dosages were adjusted properly 	 <p>44% Reduction in hospitalization rate (for patients on anti-coagulation therapy)</p>

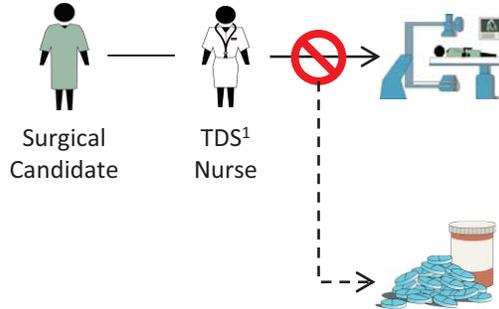
1 Geriatric Resources for Assessment and Care of Elders.
 © 2010 The Advisory Board Company – 22321A

Source: Government Accountability Office, "Care Coordination Programs Used in Demonstration Show Promise, but Wider Use of Payment Approach May Be Limited," February 2008; Cardiovascular Roundtable research and analysis.

Payers Redirecting Patients to Less Costly Therapies

Targeting Highly Variable Clinical Pathways

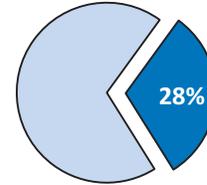
OptumHealth Care Solutions Treatment Decision Support Program



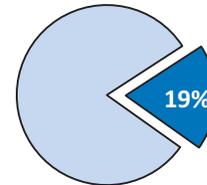
Targeted Conditions

- Benign uterine conditions
- Benign prostate disease
- Prostate cancer
- Breast cancer
- CAD: CABG and angioplasty
- Obesity: bariatric surgery
- Hip, knee replacement
- Back pain

Treatment Shift Rate 2007-2008, n=5,335



Proportion of Savings from Treatment Shifts Attributable to CV Conditions



¹ Treatment decision support.
© 2010 The Advisory Board Company – 22321A

Source: OptumHealth Care Solutions, "White Paper, Treatment Decision Support: Informed Decision Making Generates Health Care Value," 2010; Cardiovascular Roundtable research and analysis.

OptumHealth Treatment Decision Support Program



Case in Brief: OptumHealth Treatment Decision Support Program

- Service provided to over 58 million individuals through contracts with employers, health plans, and public sector entities
- Proactively identifies patients diagnosed with one of nine targeted conditions with highly variable treatment pathways
- Specialized nurses involve patients in shared decision making focusing on evidence-based treatment guidelines, risks, benefits of treatment options
- Primary focus is to assist patients in selecting optimal procedure, highest quality and lowest cost provider
- Study of 5,355 program participants over one year showed \$14.4 million savings from patients switching to lower cost treatments, \$0.3 million savings from patients selecting lower cost providers

Source: OptumHealth Care Solutions, "White Paper, Treatment Decision Support: Informed Decision Making Generates Health Care Value", 2010; Cardiovascular Roundtable research and analysis.

Minimizing Treatment Variability

Emerging Comparative Effectiveness Research Giving Firmer Guidance

PCI vs. CABG



The Synergy between PCI and Cardiac Surgery (SYNTAX) Study

2006
Serruys, et al.

Aim: Compares PCI and CABG in patients with previously untreated three-vessel or left main CAD, or both

Result: Initially failed to support CABG inferiority to PCI; analysis of long-term outcomes continues

Catheter Ablation vs. Drug Therapy



Rhythm Control and Stroke Prevention Strategies for Patients with Atrial Fibrillation

2010
Ollendorf, et al.

Compares established and emerging strategies for rhythm control and stroke prevention in patients with CHA¹

Secondary catheter ablation superior to anti-arrhythmic drug alone for maintaining normal heart rhythm

PCI vs. CABG



ACC-STS Collaboration on Comparative Effectiveness of Revascularization Strategies (ASCERT) Study

2010 (findings pending)
Weintraub, et al.

Compares the effectiveness of PCI and CABG for the treatment of stable coronary artery disease

Analysis incomplete, final data collection was completed June 2010

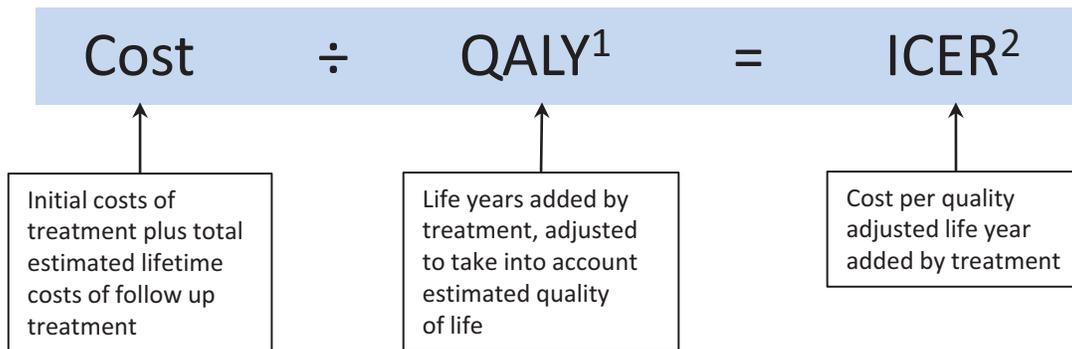
Source: Serruys et al., *New England Journal of Medicine*, March 2009, 360:961-972; Institute for Clinical and Economic Review, "Rhythm Control and Stroke Prevention Strategies for Patients with Atrial Fibrillation," September 24, 2010, available at: http://www.icer-review.org/index.php/index.php?option=com_docman&task=doc_download&gid=145&Itemid=, accessed October 13, 2010; National Cardiovascular Data Registry, "About The ASCERT™ Study," available at: <http://ascert.acc.org/>, accessed October 13, 2010; Cardiovascular Roundtable research and analysis.

¹ Common heart arrhythmia.
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Lurking in the Shadows

Cost Effectiveness Research Potentially Guiding Value Based Decisions

Determining Treatment Cost Effectiveness



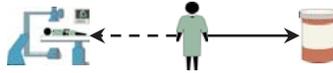
Potential Applications of Cost Effectiveness Research



Coverage Decisions



Tiered Co-payment Structures



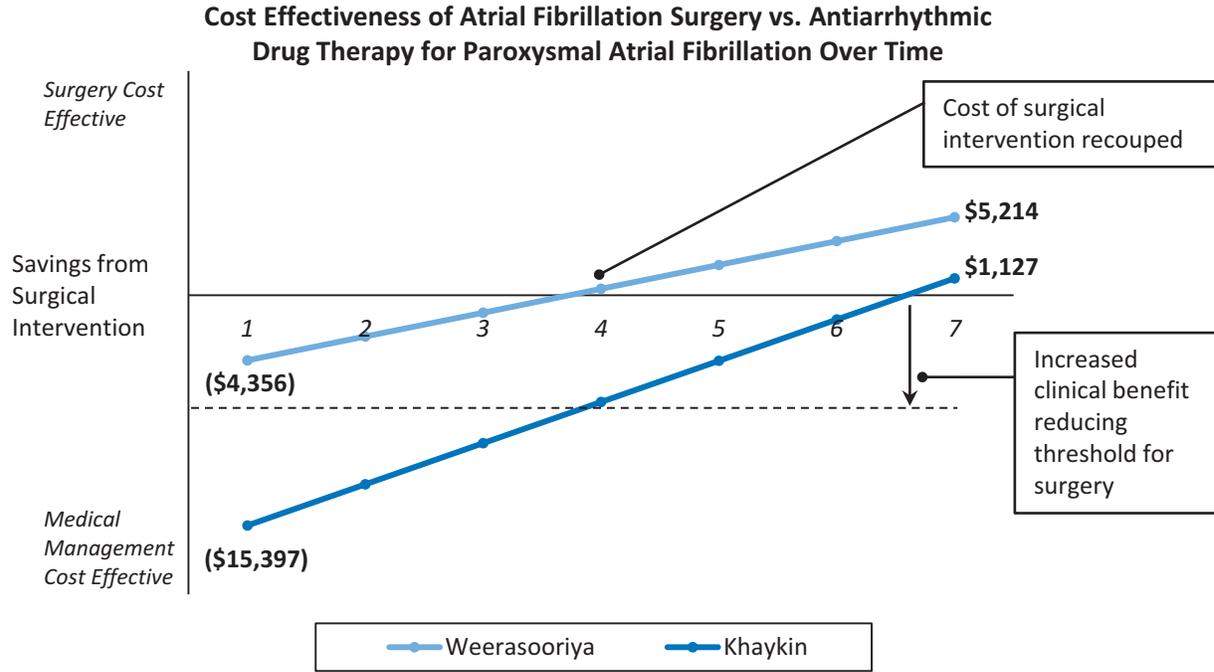
Educating Patients on Treatment Options

¹ Quality adjusted life years.
² Incremental cost effectiveness ratio.
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Source: Cardiovascular Roundtable research and analysis.

Cost-Effective For How Long?

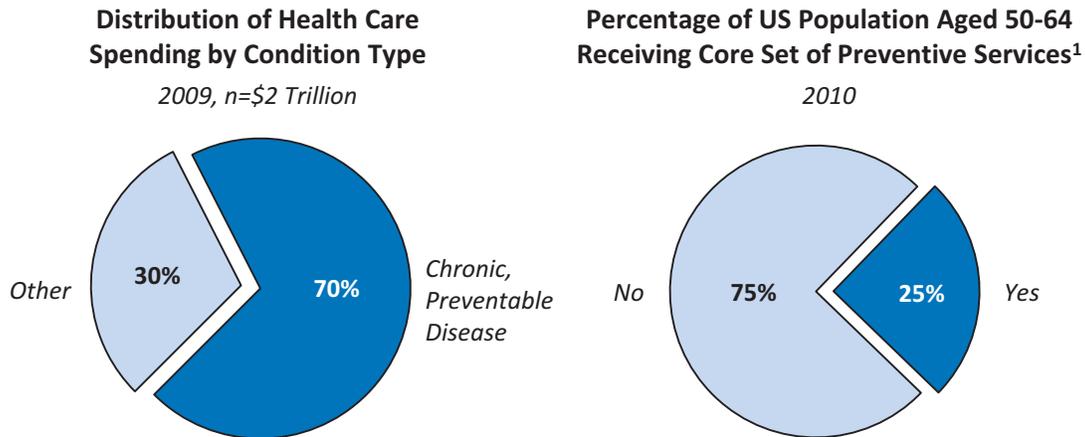
Implications of Research Dependent on Time Horizon



Source: Weerasooriya R et al., *Pacing and Clinical Electrophysiology*, 2003, 26:292-4; Khaykin Y, et al., *Journal of Cardiovascular Electrophysiology*, 2007, 18(9):907; Cardiovascular roundtable research and analysis.

Driver 4: Investment in Prevention

Preventative Medicine Far From Gold Standard



¹ Preventive services include but are not limited to: breast cancer screening, cervical cancer screening, colorectal cancer screening, cholesterol screening, influenza vaccinations, pneumococcal vaccinations; counseling for smoking, binge drinking, obesity, high blood pressure, moderate depressive symptoms, and physical inactivity.

Source: Asch S, et al., *New England Journal of Medicine*, 2006, 354: 11; Trust for America's Health, "Bending the Cost Curve," 2009; Centers for Disease Control and Prevention, available at: <http://www.cdc.gov>, accessed November 11, 2010; Cardiovascular Roundtable research and analysis.

Eliminating Financial Barriers to Prevention



ACA Requiring Insurers to Provide Some Preventive Services Free

- Final bill mandates coverage and eliminates cost-sharing for any preventive service recommended with a grade “A” or “B” by the USPSTF¹
- CMS has stated it will not incorporate USPSTF risk and age qualifying criteria in determining Medicare coverage and cost-sharing, offering approved preventive services to all beneficiaries

Preventive Screening	USPSTF Approved	Qualifying Criteria
Abdominal Aortic Aneurysm	✓	Men, 65 to 75, who have smoked
High Blood Pressure	✓	Adults 18 and older
Lipid Disorder Screening	✓	High risk men and women over 20
Carotid Artery Stenosis	✗	None
Peripheral Arterial Disease	✗	None
Coronary Heart Disease ²	✗	None

1 United States Preventive Services Task Force.

2 Routine screening with resting electrocardiography, exercise treadmill test, or electron-beam computed tomography.

© 2010 The Advisory Board Company – 22321A

Source: USPSTF, Guide to Clinical Preventive Services, 2010-2011, accessed September 28 2010; Pub.L. 111-148, 124 Stat. 119, H.R. 3590, enacted March 23, 2010; AARP, Improvements to Medicare’s Preventive Services under Health Reform, available at: <http://assets.aarp.org/rgcenter/ppi/health-care/fs180-preventive.pdf>, accessed September 28, 2010; Cardiovascular Roundtable research and analysis.

Increased Funding For Preventive Programs

Expanding Access



15,000
New primary care providers for provider shortage areas



\$11 Billion
For the construction and refurbishment of Community Health Centers



\$15 Billion
To create the Prevention and Public Health Fund, distributing grants annually for community based education, screening and prevention programs



Affordable Care Act

Incentivizing Wellness

\$200 Million
Assist employers in building wellness programs for their workplace staff



Premium Discounts
The ACA permits group health plans to give reductions of up to 30% of the cost of premiums to employees who commit to certain reasonable health and wellness criteria



Reform Further Incentivizing Prevention

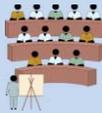
Putting a Spotlight on Primary Care Coordination

PCP Reimbursement Adjustment



2011 PFS¹ providing 10% bonus in Medicare payments to eligible primary care physicians

Primary Care Education Grants



ACA providing grants to medical teaching institutions that plan, develop, operate a teaching program in field of family medicine, internal medicine or general pediatrics

Support For Patient Centered Medical Homes



The Centers for Medicare and Medicaid Innovation piloting several PCMH² demonstration programs, including:

- Establishment of community-based health teams to support small-practice medical homes by assisting primary care practitioners in chronic care management, including patient self-management activities
- Primary care extension programs to educate and support primary care practices in delivery of medical home services
- Increased funding to primary care education programs that educate medical students on the Patient Centered Medical Home

¹ Physician Fee Schedule.
² Patient centered medical home.
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Source: The Patient Protection and Affordable Care Act, Pub. L. No. 111-148, Sec. 2705; CMS, CY 2011 Physician Fee Schedule, July 2010; Cardiovascular Roundtable research and analysis.

Impacting Cardiovascular Specialists

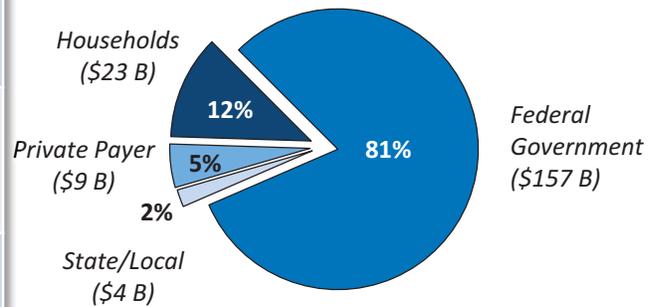
Prevention, Coordinated Care Reducing Hospital Volumes

Patient Centered Medical Homes Reducing Hospital Admissions

PCMH Pilot	Results
Seattle Group Health Cooperative	<ul style="list-style-type: none"> • 29% reduction in ER visits • 11% reduction in ambulatory sensitive care admissions
Geisinger Health System's ProvenHealth Navigator	<ul style="list-style-type: none"> • 14% reduction in total hospital admissions
Genesee Health Plan HealthWorks	<ul style="list-style-type: none"> • 50% decrease in ER visits • 15% fewer inpatient hospitalizations
Johns Hopkins Guided Care	<ul style="list-style-type: none"> • 24% reduction in total hospital inpatient days • 15% fewer ER visits

Long-Term Primary Care, Coordination Reducing Expenditures

Distribution of 10 Year Savings

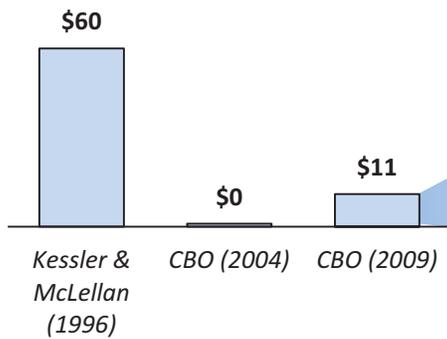


Source: Patient Centered Primary Care Collaborative, "The Outcomes of Implementing Patient-Centered Medical Home Interventions," August 2009; Commonwealth Fund, available at: http://www.commonwealthfund.org/usr_doc/Schoen_bendingthecurve_1080.pdf, September 2008; MedPAC, June 2008, available at: http://www.medpac.gov/documents/Jun08_EntireReport.pdf; Cardiovascular Roundtable research and analysis.

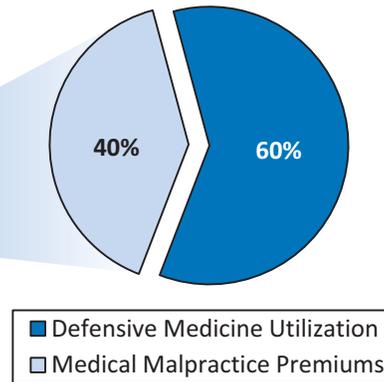
Potential Waste Hard to Pin Down

Many Predicting Big Savings in Defensive Overutilization

Estimates of Overall Healthcare Savings from Comprehensive Tort Reform
In Billions



Components of 2009 CBO¹ Tort Reform Savings Estimate
n=\$11 Billion

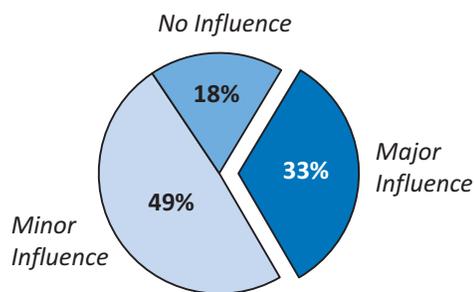


¹ Congressional Budget Office.
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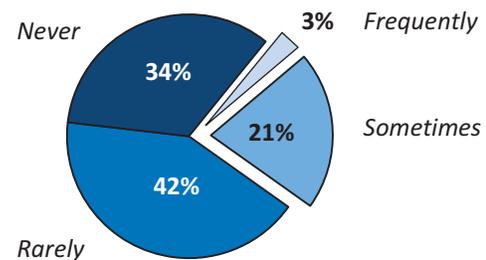
Source: RAND Compare, Analysis of Medical Malpractice, available at: <http://www.randcompare.org/analysis-of-options/analysis-of-medical-malpractice#spending>, accessed September 28, 2010; Cardiovascular Roundtable research and analysis.

Physicians Reporting Significant Defensive Practice

Influence of Defensive Medicine on Physician Decision Making When Ordering Tests and Procedures
n=285



Cardiologists Recommending Cardiac Cath for Defensive Purposes
n=598



Source: RMFStrategies, "Annual Benchmarking Report on Medical Malpractice Risks in Surgery," 2009; HealthLeaders Media, "2010 Physician Leaders Industry Survey," 2010; *Circulation*, "Variation in Cardiologist's Propensity to Test and Treat: Is it Associated with Regional Variations in Utilization," April 2010; Cardiovascular Roundtable interviews and analysis.

Reform's Impact on Volumes Difficult to Quantify

Study	Area Studied	Variable	Estimated Impact
Smith-Bindman, McCulloch, et al., 2010	Diagnostic imaging rates for head trauma	Aggregate number of tort reform laws	↓ ↓
Cotet, 2010	Surgery, hospital admissions, emergency care, outpatient visits	Non-economic damage caps	↓ ↑
Thomas, Ziller, Thayer, 2010	Overall healthcare costs	Decreased medical malpractice insurance premiums	↓
Lakdawalla, Seabury, 2008	Hospital expenditures, medicare expenditures	Reduced average jury awards for malpractice verdicts	↓ ↓
Dhankhar, Khan, and Bagga, 2007	Acute myocardial infarction	Decreased medical liability	↑

Impact



Source: Smith-Bindman M, et al., *American Journal of Emergency Medicine*, 2010; Cotet A, "Tort Reform and the Demand for Medical Care: Evidence from State-by-State Variation in Non-Economic Damages Caps," February 2010; Dhankhar P, Khan M, Bagga S, *Journal of Empirical Legal Studies*, 2007, 4: 163-183; Lakdawalla and Seabury, "The Welfare Effects of Medical Malpractice Liability," RAND Corporation, 2008; Thomas, Ziller, Thayer, *Health Affairs*, 2010, 29, 9:1578-1584; Cardiovascular Roundtable research and analysis.

National Tort Reform Remains Uncertain

Three Initiatives Currently Under Consideration

<p>Demonstration Projects <i>ACA, Section 10607</i></p>	<p>State Tort Reform Grants <i>President's 2012 Budget</i></p>	<p>HEALTH Act <i>House Judiciary Committee</i></p>
<ul style="list-style-type: none"> • \$50 million in grants for state demonstrations focusing on alternatives to malpractice litigation • \$3 million grant awarded to NY state for medical liability reform demonstration program focusing on judge-directed arbitration 	<ul style="list-style-type: none"> • Includes \$250 M in grants to assist states in rewriting malpractice laws • Funds can be used to develop the following: <ul style="list-style-type: none"> • Health courts • Early disclosure programs • Legal defense for providers who follow evidence-based practice, use EMRs • Changes to rules that result in higher awards • Funds not permitted to be used to introduce caps on jury awards 	<ul style="list-style-type: none"> • Passed by the House Judiciary Committee, passage through House, Senate pending • Caps non-economic damages at \$250 K • Eliminates joint and several liability • Sets the statute of limitations for filing a claim at a maximum of 3 years, exceptions for injured children • Limits attorney contingency fees

Source: Pub.L. 111-148, 124 Stat. 119, H.R. 3590, enacted March 23, 2010; U.S. Office of Management and Budget, "Fiscal Year 2012: Budget of the U.S. Government," Washington DC, 2011; House of Representatives, Committee on the Judiciary, H.R.5: "Help Efficient, Accessible, Low-cost, Timely Healthcare (HEALTH) Act of 2011," 112th Cong., 1st sess., 2011; Cardiovascular Roundtable research and analysis.

Incremental Value Dependent on Current State Laws

Many Proposed National Reforms Already Enacted

Type of Reform	Description	Prevalence
Damages Limitations	Limits on the non-economic or punitive damages awarded for culpability	36 states have at least some limits on non-economic or punitive damages; limits vary from \$250,000 to \$1 million
Elimination of Joint and Several Liability	Legal and financial responsibility for a claim must be shared proportionally among all responsible parties	37 states have eliminated the application of joint and several liability in most cases
Decreased Statute of Limitations	Claims must be brought within a predetermined time frame	Majority of states have a statute of limitations of less than 3 years
Limits on Attorney Fees	Limits the amount attorneys may charge as a set fee, or as a percentage of any payout	23 states have legislated limits on attorney fees, though significant variation in limits
Admission of Collateral Source Benefits	Other sources of financial remuneration to a victim, such as health insurance, may be deducted from damages awarded	31 states allow or enforce the deduction of collateral benefits from a plaintiff's damages

Source: Ronen Avraham, "Database of State Tort Law Reforms," *The University of Texas School of Law*, April 2010; Cardiovascular Roundtable research and analysis.

University of Michigan Not Waiting for Reform to Pass

Early Disclosure Tackling Inefficiencies of Malpractice System

The University of Michigan Medical Error Disclosure Program

Current Malpractice Environment Leading to Negative Outcomes



Defensive attitude to treatment pathways



Lack of openness about incidents and consequent inability to learn from mistakes



High profile malpractice court cases and outsized settlements



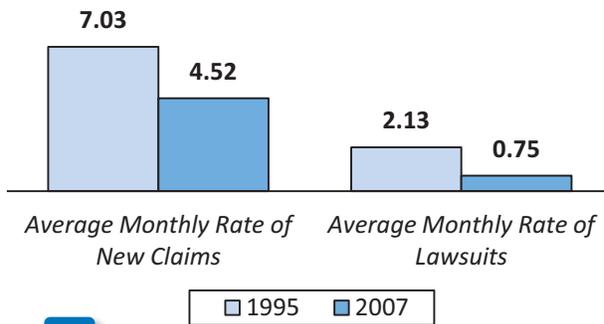
Low proportion of legitimate claims compensated

- 1 Early Disclosure**
 - Early notification of incidents encouraged through convenient reporting mechanisms, e.g. online tools
 - Patients, lawyers notified immediately
- 2 Full Incident Analysis**
 - Thorough investigation conducted, input from relevant staff and clinical experts solicited
 - Root cause analysis identifies systemic failures, operator errors
- 3 Principled Compensation, Strong Defense**
 - Fair compensation provided promptly
 - If institution not at fault, claims defended vigorously
- 4 Continuous Quality Improvement**
 - Quality improvement hard wired once root cause identified
 - Results of investigation disseminated to encourage system-wide improvement

Source: University of Michigan Health System, Ann Arbor, MI; Cardiovascular Roundtable interviews and analysis.

Institution-Led Reform Paying Off

Lawsuits and Claims at University of Michigan Health System Per 100,000 Patients



Other Program Benefits



Continuous Quality Improvement



Improved Clinician-Patient Relationship



Reduction in Defensive Medicine

Focusing On Providing The Best Care

"I really believe that we have turned the conversation away from the fear of litigation to understanding that it's not about claims at all, it's about being the best caregiver you can be. I think that our institution now believes that we'll handle our claims in an ethical way, but more importantly we'll learn from it."

*Richard Boothman,
University of Michigan Health System, Chief Risk Officer*

Source: Kachalia, et al., *Annals of Internal Medicine*, 2010, 153,4:213-221; Emily Paulsen, "The Philosophy Behind Michigan's 'I'm Sorry' Program," *Hospital Impact*, February 2010, available at: http://www.hospitalimpact.org/index.php/2010/02/04/the_philosophy_behind_michigan_s_i_m_sor, accessed October 14, 2010; Cardiovascular Roundtable interviews and analysis.

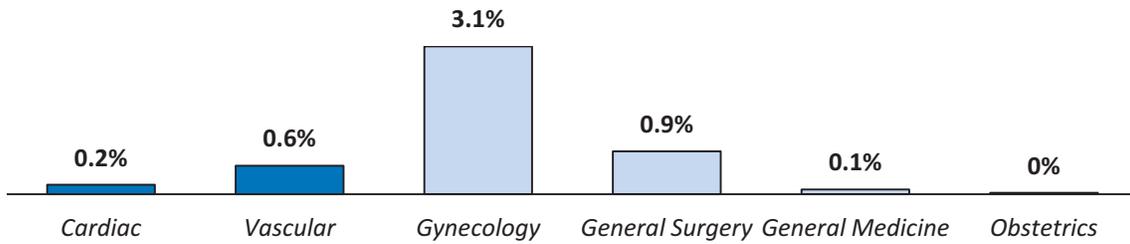
The University of Michigan Health System

Case in Brief: The University of Michigan Health System

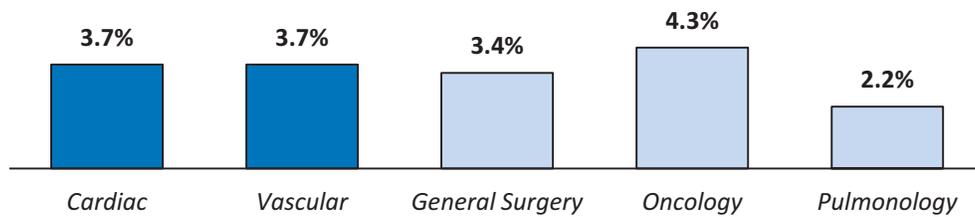
- 960 bed, self-insured academic medical center in Ann Arbor, MI
- Redesigned its medical claims process in 2001 with open disclosure at its core
- Runs a risk-management center that thoroughly investigates all reported incidents and proactively compensates any injured party
- Has seen total monthly liability costs decrease by 59% since 2001, legal defense costs decline by 61%, case filings drop significantly, and overall quality throughout the system improve incrementally

Volume Impacts of Coverage Expansion

Inpatient Service Line Growth in 2019 Due to Expanded Coverage¹



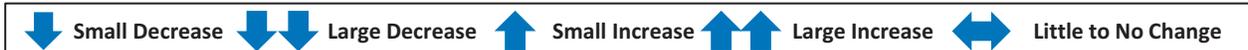
Outpatient Service Line Growth in 2019 Due to Expanded Coverage¹



¹ Percentages signify the impact in the year 2019 alone; the impact on utilization due solely to coverage expansion was estimated by assuming that the utilization patterns of the uninsured population would change due to increased access to care. The amount of this change was determined by comparing use rates for similar age groups of the uninsured to the insured, and assuming that approximately 25% of the difference would be eliminated in the next decade due to coverage expansion.

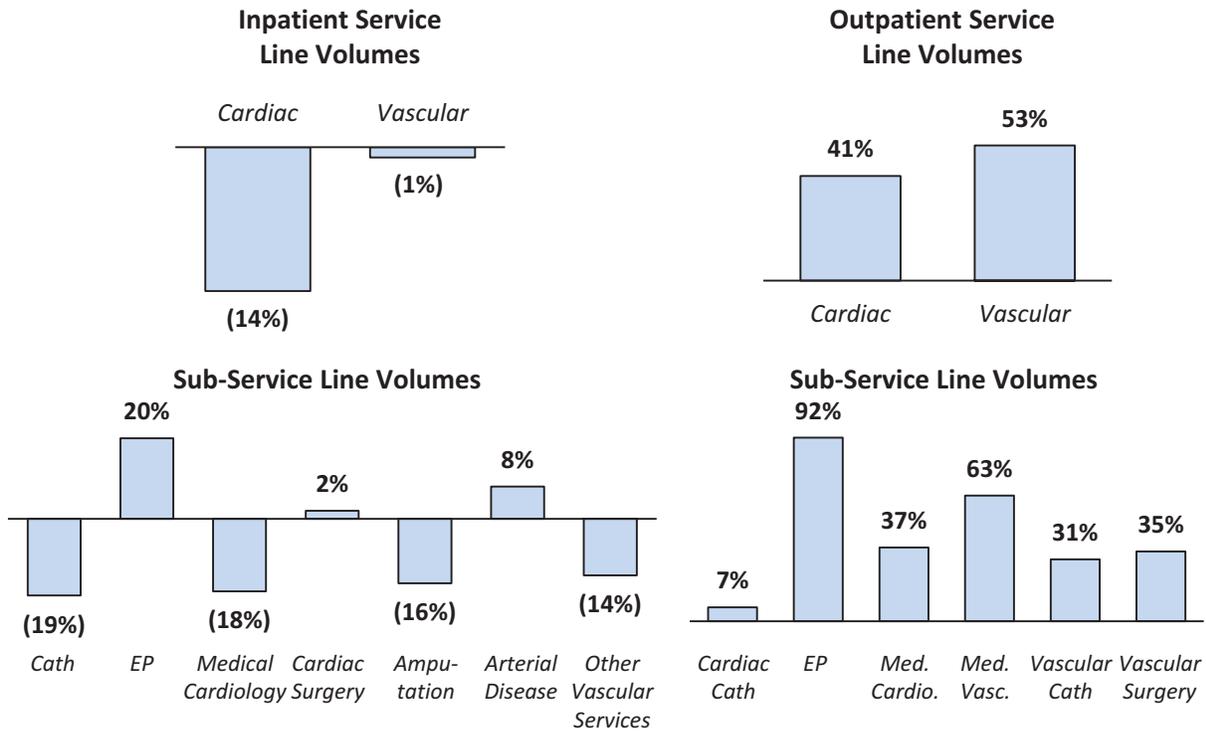
Drivers of Future CV Volume Demand, 10-Year Forecast

Service	Expanded Coverage	Increasing Scrutiny of Inappropriate Use	Total Cost Management	Focus on Prevention	Malpractice Reform	Roundtable Commentary
Medical Cardiology	↑	↔	↑↑	↑	↔	Aging and increasingly co-morbid population, increased focus on prevention and total cost management increasing demand
Cardiac Surgery	↔	↔	↓	↓	↔	Aging and increasingly comorbid population increasing demand, long term focus on total cost management and prevention may reduce some volumes
Cardiac Cath	↑	↓	↓	↓	↔	Scrutiny of inappropriate use, total cost management reducing incentive for procedures of marginal value; expanded coverage increasing short-term volumes
Non-Invasive Cardiac Imaging	↑	↓↓	↓	↔	↔	Declining office payments shifting volumes to hospital-based imaging; expanded coverage and investment in prevention driving short-term volumes
Vascular Interventions	↑	↔	↓	↓	↔	Expanded coverage providing short-term volume gains, total cost management and focus on prevention diluting long-term growth



A More Comprehensive View of Growth

Ten-Year Forecast Incorporating All Drivers of Demand



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Source: Cardiovascular Roundtable research and analysis.

Road Map for Discussion



- I Business Under Pressure
- II Health Care Policy Update
- III Payment Horizon Scan
- IV Emerging Drivers of Demand
- V Coda: Rising to the Challenge**

No Shortage of Challenges

Facing Unprecedented Market Pressures

- Effects of economic downturn still making an impact
- Difficult to capture new volumes
- Decline in inpatient admissions as business migrates outpatient



Economic Climate



Health Care Reform

- Pay-for-performance linking cost, quality
- Bundled payment demo underway; national pilot beginning in 2013
- Shared savings rewarding programs for total cost management in 2012

- Inpatient services: overall neutral impact; linking payment to quality
- Outpatient services: proposed ruling relatively positive; focusing on efficiency metrics
- Physician fee schedule: downward pressures on physician payment; SGR remains a wildcard

Payment Updates



Demand Forecasting



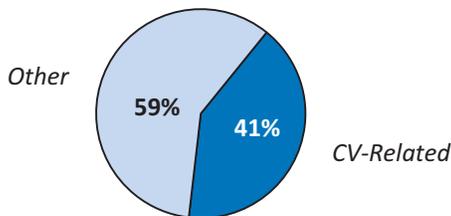
- Coverage expansion exacerbating capacity constraints
- Increasing scrutiny of inappropriate use
- Preauthorization on the horizon
- Prevention reducing downstream volumes
- Malpractice reform attracting attention

CV Services in Unique Place to Execute on Vision

Significant Opportunity to Inflect Change

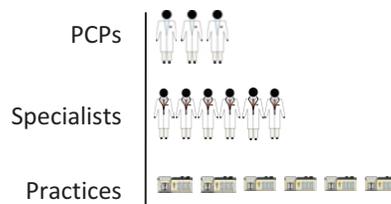
Readily Measurable Outcomes

Percentage of Metrics Currently Reported for RHQDAPU¹



Multidisciplinary Care Provision

Number of Providers Seeing CAD Patient



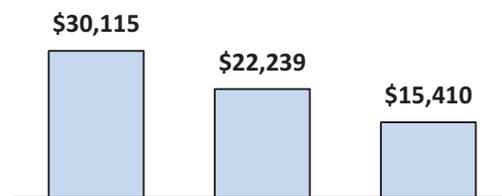
Plethora of Clinical Guidelines

Consensus Statements, Protocols Readily Available



Potential to Reduce Spend

Direct Costs, Defibrillator Implant w/o MCC²

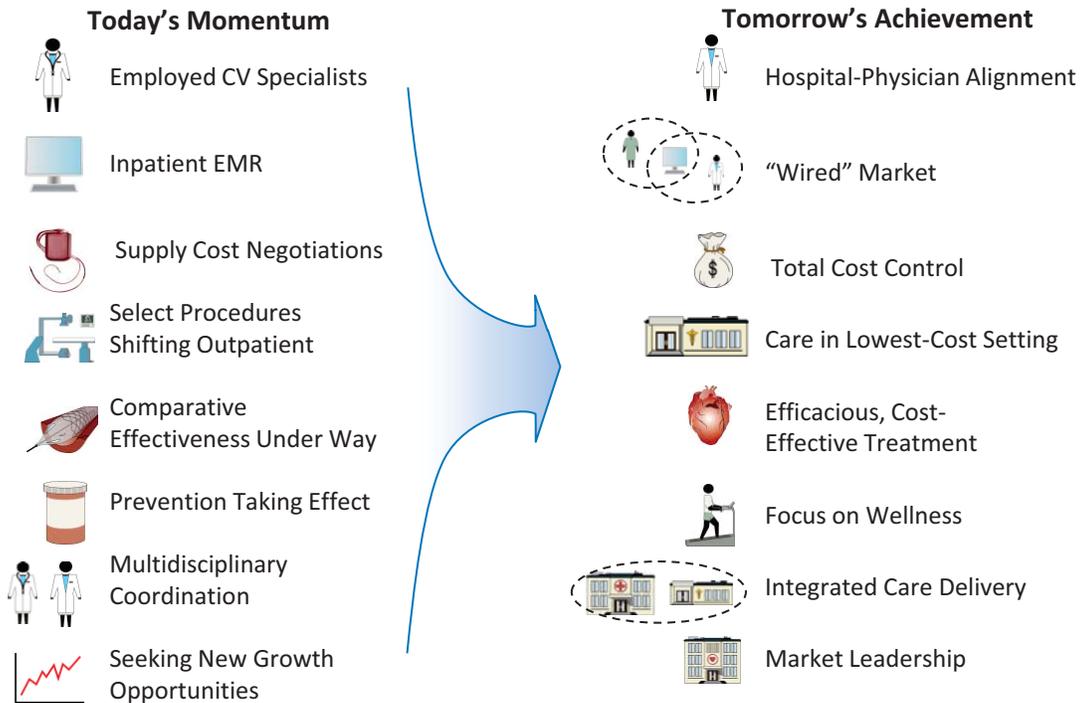


25th Percentile 50th Percentile 75th Percentile

¹ Reporting Hospital Quality Data for Annual Payment Update.
² MS-DRG 227.

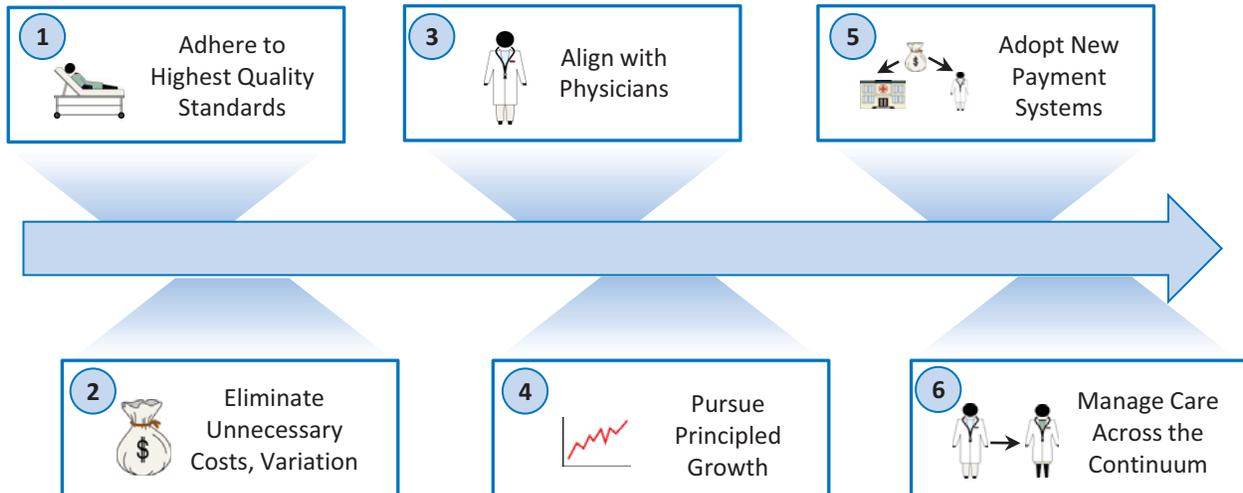
Not Starting from Square One

Multiple Elements of Reform Already Underway



Staging the Transition to Accountable Care

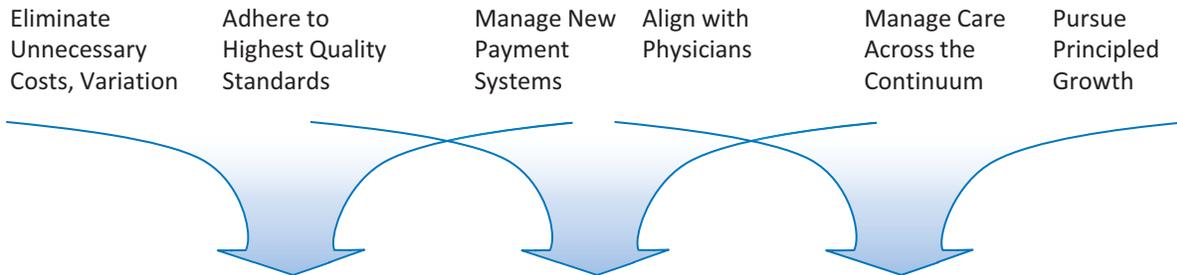
Imperatives for Program Success in the Coming Decade



Addressing Key Concerns

The Integrated Cardiovascular Enterprise

Prospering in an Era of Reform by Meeting New Performance Mandates and Improving Care Coordination



The New Economics of Quality
Lessons for Optimizing Clinical Efficacy and Cost Effectiveness in a New Era of Quality



Toward Efficient Care Collaboration
Strategies for Aligning with Physicians to Meet the Challenges of Accountable Care



The Outlook for Integrated Cardiovascular Services
Business Assessment for Multidisciplinary Procedures and Crossover Technologies



Cardiovascular Roundtable • The Advisory Board Company

2445 M Street, NW • Washington DC 20037

Telephone: 202-266-5600 • Facsimile: 202-266-5700 • www.advisory.com
