Managed Care Contracting:
Volatility and Persistence of Value-Based Payments & Risk Transfer

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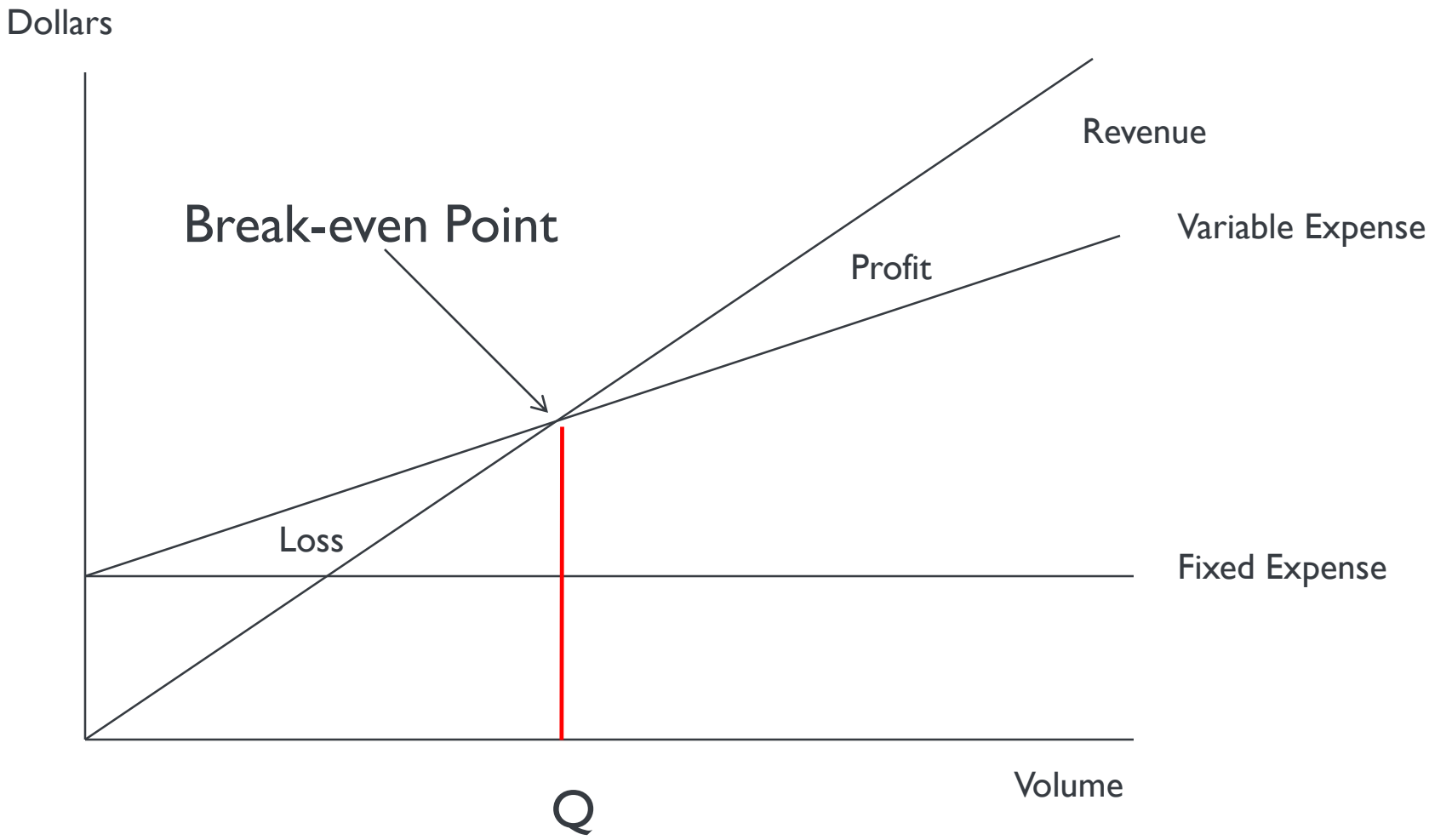
Agenda

- Introduction
- Background / Relevant Literature
- Value Based Purchasing (VBP) Program
- Sample, Framework, & Analysis
- Results
- Transfer of Risk

Health Expenditures

1960		2016
• NHE = $28 billion • US GDP = $526 billion • $148 / person or 5.2% of GDP	69.9 X	• NHE = $3.337 trillion • US GDP = $10.348 trillion • $10,348 / person or 17.9% of GDP
• $12,700 average price of new home	25.74 X	• $327,000 average price of new home
• $2,600 average price of a car	12.9 X	• $33,560 average price of a car
• $5,315 average salary	9.1 X	• $48,642 average salary

Profitability Under FFS



COUNTRY RANKINGS

Top 2*
Middle
Bottom 2*

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING (2013)	4	10	9	5	5	7	7	3	2	1	11
Quality Care	2	9	8	7	5	4	11	10	3	1	5
Effective Care	4	7	9	6	5	2	11	10	8	1	3
Safe Care	3	10	2	6	7	9	11	5	4	1	7
Coordinated Care	4	8	9	10	5	2	7	11	3	1	6
Patient-Centered Care	5	8	10	7	3	6	11	9	2	1	4
Access	8	9	11	2	4	7	6	4	2	1	9
Cost-Related Problem	9	5	10	4	8	6	3	1	7	1	11
Timeliness of Care	6	11	10	4	2	7	8	9	1	3	5
Efficiency	4	10	8	9	7	3	4	2	6	1	11
Equity	5	9	7	4	8	10	6	1	2	2	11
Healthy Lives	4	8	1	7	5	9	6	2	3	10	11
Health Expenditures/Capita, 2011**	$3,800	$4,522	$4,118	$4,495	$5,099	$3,182	$5,669	$3,925	$5,643	$3,405	$8,508

Notes: * Includes ties. ** Expenditures shown in $US PPP (purchasing power parity); Australian $ data are from 2010.
Source: Calculated by The Commonwealth Fund based on 2011 International Health Policy Survey of Sicker Adults; 2012 International Health Policy Survey of Primary Care Physicians; 2013 International Health Policy Survey; Commonwealth Fund *National Scorecard 2011;* World Health Organization; and Organization for Economic Cooperation and Development, *OECD Health Data, 2013* (Paris: OECD, Nov. 2013).

Source: The Commonwealth Fund - **Mirror, Mirror on the Wall, 2014 Update: How the U.S. Health Care System Compares Internationally**

Health Care System Performance Rankings

	AUS	CAN	FRA	GER	NETH	NZ	NOR	SWE	SWIZ	UK	US
OVERALL RANKING	**2**	**9**	**10**	**8**	**3**	**4**	**4**	**6**	**6**	**1**	**11**
Care Process	2	6	9	8	4	3	10	11	7	1	5
Access	4	10	9	2	1	7	5	6	8	3	11
Administrative Efficiency	1	6	11	6	9	2	4	5	8	3	10
Equity	7	9	10	6	2	8	5	3	4	1	11
Health Care Outcomes	1	9	5	8	6	7	3	2	4	10	11

Source: Commonwealth Fund analysis.

E. C. Schneider, D. O. Sarnak, D. Squires, A. Shah, and M. M. Doty, *Mirror, Mirror: How the U.S. Health Care System Compares Internationally at a Time of Radical Change,* The Commonwealth Fund, July 2017.

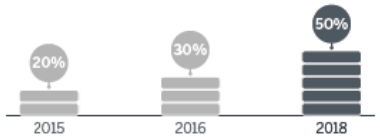
THE FIELD GUIDE TO

Medicare Payment Innovation

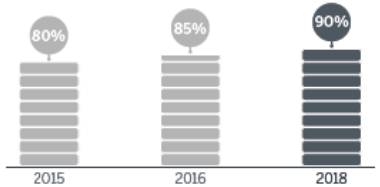
CMS is deploying an array of voluntary and mandatory payment innovation programs to accelerate the transition to accountable payment models. This field guide details the 12 highest profile programs as of November 2015. Learn how these programs disrupt the traditional fee-for-service business model.

HHS's PAYMENT GOALS

Percentage of Medicare Payments Tied to Alternative Payment Models



Percentage of Medicare Payments Tied to Quality or Value



PAYMENT PROGRAM KEY

Change Accelerator
Provides funding, training, and peer networking to support local delivery system innovation; ultimately seeks to identify and disseminate best practices

Pay-for-Performance
Rewards or penalizes providers for performance against select quality and cost metrics; often focuses on safety, outcomes, and patient satisfaction measures

Bundled Payment
Establishes a single price for a comprehensive episode of care, often spanning the care continuum; modifies the incentives of fee-for-service economics

Total Cost of Care
Holds providers accountable for the overall quality and total cost of care for patient populations over time; eliminates the volume-based incentives of fee-for-service economics

Health Care Payment Learning and Action Network

- HHS-sponsored collaborative of public- and private-sector health care stakeholders focused on accelerating the transition to alternative payment models
- Designed to support HHS's Better, Smarter & Healthier initiative and achieve payment transformation goals

608 Organizations supporting the network and its objectives

Disruption to Fee-for-Service Business Model
Voluntary
CY 2015

Comprehensive Primary Care Initiative

- Multi-payer program providing primary care practices with monthly care management payments to support practice transformation; practices are eligible to share in Medicare savings
- CMS is partnering in four-year program with primary care practices, commercial payers, and state health insurance plans in seven regions
- Initiative focuses on improving five primary care functions: care management, access, care planning, patient engagement, and care coordination

475 Primary care practices participating in the program

Disruption to Fee-for-Service Business Model
Voluntary
FY 2013

Hospital Value-Based Purchasing Program

- Pay-for-performance program creating differential hospital inpatient payment rates based on success against patient safety, outcomes, patient satisfaction, and spending efficiency measures
- Holds providers accountable for either absolute success or improvement against established performance measures via withhold/payback structure
- Payment withhold began at 1% in 2013, increases by 0.25% annually until reaching 2% in 2017

2% Hospital inpatient Medicare payment at risk when fully implemented in 2017

Disruption to Fee-for-Service Business Model
Mandatory
FY 2013

Hospital Readmissions Reduction Program

- Reimbursement penalty targeting hospitals with excessive 30-day readmission rates for select clinical conditions
- Penalty based on readmissions for six conditions: heart failure, myocardial infarction, pneumonia, chronic obstructive pulmonary disease, total hip arthroplasty, and total knee arthroplasty
- May include additional conditions in the future

3% Hospital inpatient Medicare payment at risk

Disruption to Fee-for-Service Business Model
Mandatory
FY 2013

Hospital-Acquired Condition Reduction Program

- Reimbursement penalty targeting hospitals with comparatively more frequent hospital-acquired conditions and infections
- Penalty based on performance in two domains: patient safety and hospital-acquired infections
- Imposes 1% reimbursement penalty on hospitals in the top quartile of patients with hospital-acquired conditions

25% Hospitals mandated to face the penalty

Disruption to Fee-for-Service Business Model
Mandatory
FY 2015

Merit-Based Incentive Payment System

- Medicare Physician Fee Schedule methodology that incorporates EHR Incentive Program, Physician Quality Reporting System, and Value-Based Payment Modifier
- Performance measures evaluate providers in four categories: quality, resource use, electronic health record use, and clinical practice improvement activities
- Providers may opt out by participating in alternative payment model track that offers additional incentives

9% Physician Medicare payment at risk when fully implemented in 2022

Disruption to Fee-for-Service Business Model
Mandatory
CY 2019

Bundled Payments for Care Improvement Initiative

- Center for Medicare and Medicaid Innovation (CMMI) program offering providers four bundled payment models for treating Medicare fee-for-service beneficiaries
- Models vary by scope of service included, duration, minimum discount required, and use of either prospective or retrospective bundling methodology
- All four models enable hospitals to gainshare with physicians

2K+ Organizations participating in the program

Disruption to Fee-for-Service Business Model
Voluntary
CY 2012

Comprehensive Care for Joint Replacement Model

- CMMI program creating mandatory bundled payments with up to 3% episode discount for lower extremity joint replacement procedures in 67 select markets
- Retrospective bundled payment model holds hospitals accountable for episodes of care extending 90 days post-discharge; bundle includes all related Part A and Part B services
- Hospitals may enter into financial arrangements with other providers—including physicians and post-acute care providers—to share downside risk and/or upside rewards

789 Hospitals required to participate in the program

Disruption to Fee-for-Service Business Model
Mandatory
CY 2016

Oncology Care Model

- CMMI program seeking to improve the quality, coordination, and efficiency of care for oncology patients receiving chemotherapy across six-month episodes of care
- Multi-payer model design encourages private payers to join physician practices in the program
- Physician practices receive fee-for-service payments, monthly per-beneficiary care management fees, and shared savings payments for reducing total Medicare spending on oncology patients

$960 Per-beneficiary care management fee for six-month episode of care

Disruption to Fee-for-Service Business Model
Voluntary
CY 2016

Medicare Shared Savings Program

- Program enabling providers to form accountable care organizations (ACOs) that serve Medicare fee-for-service beneficiaries
- Establishes financial accountability for the quality and total cost of care for an attributed population of at least 5,000 Medicare beneficiaries
- Offers three tracks that feature varying levels of financial risk, bonus opportunity, and flexibility in program design

352 ACOs participating in the program

Disruption to Fee-for-Service Business Model
Voluntary
CY 2012

Pioneer ACO Model

- CMMI program offering an advanced path for providers to form ACOs that serve Medicare fee-for-service beneficiaries; 16 of the original 32 participants remain in the program
- Offers greater financial risk and reward, as well as more flexibility, than the Medicare Shared Savings Program's Tracks 1 and 2
- First CMMI program to receive approval for expansion to the full Medicare program; features of the Pioneer ACO Model were included in the Medicare Shared Savings Program's new Track 3

$384M Total savings generated by Pioneer ACOs, 2012–2013

Disruption to Fee-for-Service Business Model
Voluntary
CY 2012

Next Generation ACO Model

- CMMI program offering advanced population health managers higher levels of risk and reward than the Medicare Shared Savings Program and the Pioneer ACO Model
- Participants must choose between two risk arrangements—shared risk or full risk—that feature shared savings/loss rates between 80% and 100%
- Program offers flexibility in payment structure; ACOs select one of three different payment models for 2016, with capitation becoming a fourth option in 2017

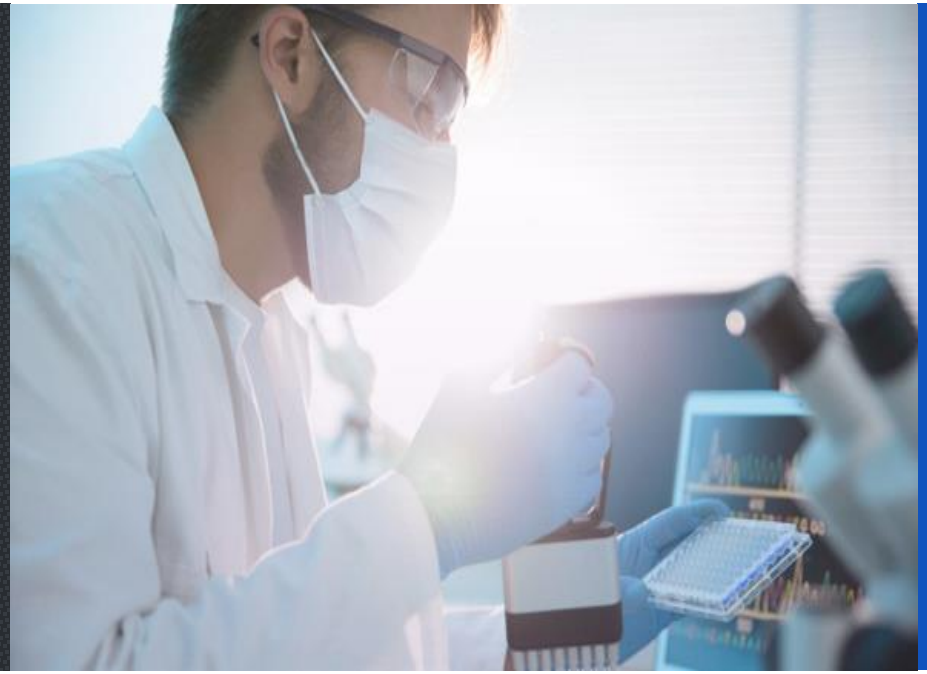
15–20 Organizations expected to participate in 2016

Disruption to Fee-for-Service Business Model
Voluntary
CY 2016

Source: Advisory Board (advisory.com/hcab/paytransformation)

Background & Context

- ACA (2010) & Deficit Reduction Act (2005) pushed hospitals (Medicare IPPS) toward pay-for-performance (P4P)
- Hospital VBP Program
  - Patient experience, clinical process of care, outcomes, efficiency



- Voluntary participation starting in 2012
  - Budget neutral
  - Incremental adjustments of up to 2% (2017)
- Hospital profit margins very thin with estimates between 2 – 5%
  - Differences by ownership, location and teachings status

How persistent are VBP adjustments? How much volatility is inherent in the payments?

- What components of the VBP adjustment are driving the variation?
- If you receive a positive adjustment in one year how likely are you to hold on to that positive adjustment in the following year?

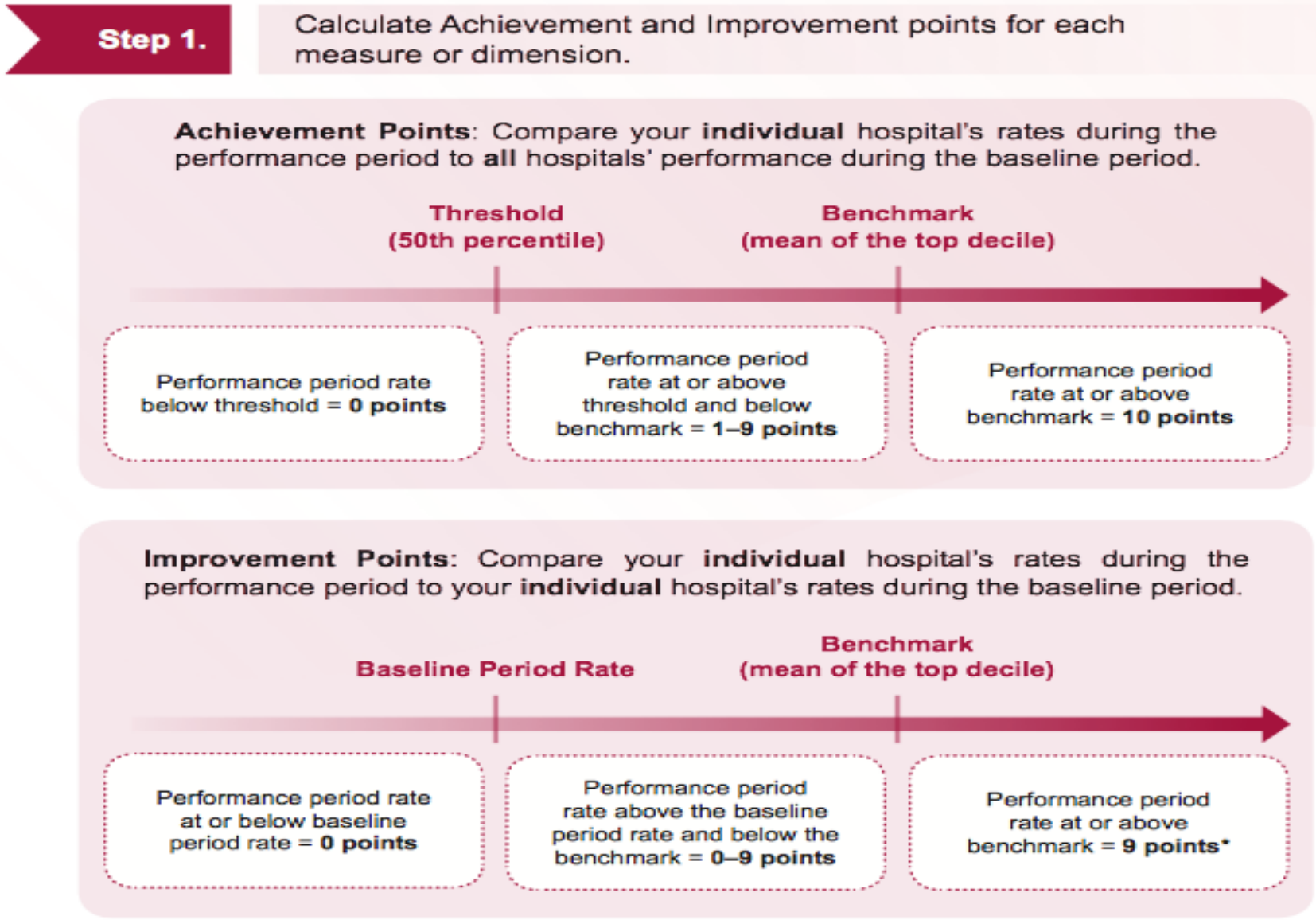
Co-Investigators: Steven Howard, PhD, Kevin Broom, PhD, Kenton Johnston, PhD, Travis Englund

Relevant Literature

- Conclusions from prior P4P literature are mixed
  - No difference in health outcomes
  - Documented improvements in composite measures of quality (attributed to improvements in financial incentives)
- Financially, P4P have been cost effective but successful programs have been narrow and targeted
- HVBP limited relationship with cost & quality

	VBP Components	2013	2014	2015	2016
Patient Experience (HCAHPS)	Nurse communication	30%	30%	30%	25%
	Doctor communication				
	Responsiveness of staff				
	Pain management				
	Communication of medicine instructions				
	Hospital cleanliness and quietness				
	Discharge Information				
	Overall rating				
Clinical Process of Care Measures	Fibrinolytic therapy within 30 min of hospital arrival (Acute Myocardial Infarction)	70%	45%	20%	10%
	Primary PCI received within 90 min of hospital arrival (Acute Myocardial Infarction) (Discontinued for 2016)				
	Discharge instructions for patients (Heart Failure) (Discontinued for 2016)				
	Blood cultures performed in ED prior to initial antibiotic (Pneumonia) (Discontinued for 2016)				
	Initial antibiotic selection for CAP in immunocompetent patient (Pneumonia)				
	Prophylactic antibiotic received within 1 hr prior to surgical incision (Healthcare-Associated Infections) (Discontinued for 2016)				
	Prophylactic antibiotic selection for surgical patients (Healthcare-Associated Infections)				
	Prophylactic antibiotics discontinued within 24 hrs after surgery end time (Healthcare-Associated Infections)				
	Cardiac surgery patients w/controlled 6 AM postoperative serum glucose (Healthcare-Associated Infections) (Discontinued for 2016)				
	Post-operative urinary catheter removal on post-operative day 1 or 2 (New in 2014)				
	Surgery patients on a beta blocker prior to arrival who received a beta blocker during the perioperative period (Surgical Care Improvement)				
	Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hrs prior to surgery to 24 hrs after surgery (Surgical Care Improvement)				
	Surgery patients w/recommended venous thromboembolism prophylaxis ordered (New in 2014 - Discontinued in 2015)				
	Influenza Immunization (New in 2016)				
Outcome Measures	Acute myocardial infarction 30-day mortality rate		25%	30%	40%
	Heart failure 30-day mortality rate				
	Pneumonia 30-day mortality rate				
	Composite patient safety indicator (New in 2015)				
	Central Line-Associated Bloodstream Infections (New in 2015)				
	Catheter-Associated Urinary Tract Infection (New 2016)				
	Surgical Site Infection: • Colon • Abdominal Hysterectomy (New 2016)				
Efficiency	Medicare spending per beneficiary			20%	25%
	Potential Medicare IPPS adjustment to base rate	**1.00%**	**1.25%**	**1.50%**	**1.75%**

How is Total Performance Score Calculated?



Source: CMS ICN 907664 Sept 2015

How is Total Performance Score Calculated?

Example: In FY 2017, the Clinical Care – Process subdomain has 3 measures.

Measure	Achievement Points	Improvement Points
A	6	8
B	9	4
C	4	7

Measure A		Measure B		Measure C		Domain Score
8	+	9	+	7	=	24

Step 3. Normalize the domain score.

(Domain Score (from Step 2)	÷	10 x Number of Measures in Domain)	x			Normalized Score
24		10 x 3		100	=	80

Source: CMS ICN 907664 Sept 2015

Participating Hospitals

All 2,547 hospitals that have reported data from 2013-2016.

- Local service area attributes, operating performance, financial statements, & quality metrics sourced from the Medicare Cost Reports (Form 2552-10).

- Performance on VBP purchasing pulled directly from CMS VBP

Acute Care Hospitals Participating in Hospital VBP program	2,547
Urban Location	1,886 (74%)
Teaching Affiliation	742 (29%)
System Affiliation	1,184 (46%)
NFP	1,620 (63%)
IO	712 (28%)

Measures of Volatility

Relative risk (RR) of receiving a positive adjustment given a positive adjustment in the prior year.

-Exposure: Positive adjustment

-Control: Negative adjustment

RR of 1 means the facility is just as likely to receive a negative adjustment as a positive adjustment.

Calculated across timeframe of sample.

	Standard Deviation	Coefficient of Variation
Overall Score	10.74	
Patient Experience	8.56	0.247
Clinical Processes of Care	12.19	0.23
Outcomes	16.11	0.422
Efficiency	22.12*	1.19*

* Excludes facilities where no efficiency score is calculated by CMS in both 2015 & 2016

Relative risk ratio of receiving a positive adjustment given a positive adjustment in the prior year	
2013-2014	3.159
2014-2015	1.499
2015-2016	1.012

Measures of Persistence

Dynamic panel model (time series analysis) with time-invariant fixed effects (ownership, location, teaching status)

-Robust clustering of standard errors at the facility level to account for within-facility correlation (Huber- White estimator)

-Within and between group estimates

Adjustment standardized by potential adjustment in any given year

$$Standardized\ Adjustment_{it} = Intercept + \beta_n \text{ Standardized Adjustment}_{i(t-1)} + \beta_n \text{ Vector of time invariant hospital characteristics + error}$$

Typically used in stock valuation, earnings smoothing literature

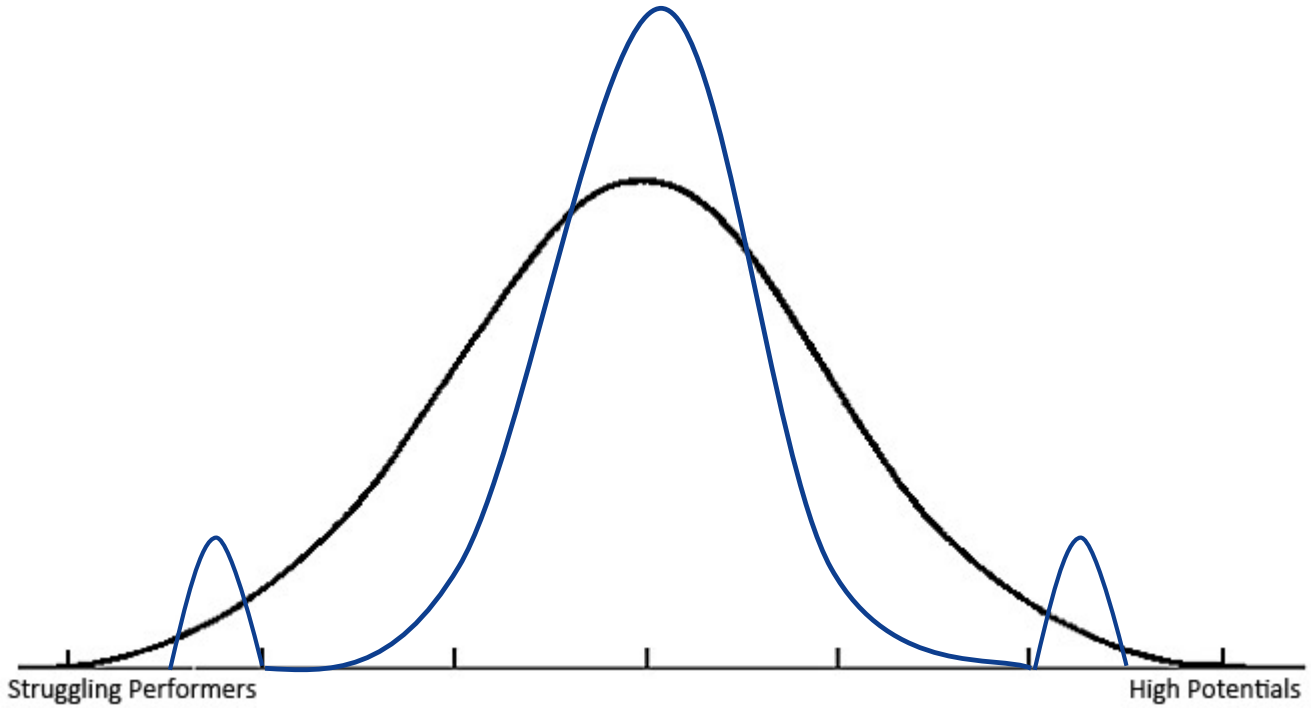
2013-2016 Results

	Within Group Estimates w/ Fixed Effects				Between Group Estimates w/ Fixed Effects			
	Parameter Estimate	Standard Error	T-value	P-value	Parameter Estimate	Standard Error	T-value	P-value
Intercept	0.02558	0.000063	405.4	<.0001	0.076282	0.00541	14.11	<.0001
Prior year score	0.13527	0.015989	8.46	<.0001	0.890304	0.0112	79.82	<.0001
System affiliation					-0.01298	0.00456	-2.85	0.0045
Not-For-Profit					0.016326	0.00455	3.59	0.0003
Teaching					-0.02617	0.00512	-5.11	<.0001
Urban					-0.06468	0.00527	-12.26	<.0001
		R-Squared		0.6256		R-Squared		0.7338

Discussion

- Average adjustment centered on zero
- VBP adjustments are expense neutral
  - Benchmarked against other participants
  - Improvements may not be rewarded; moving targets
- MSPB may run counter to performance on quality metrics
  - Traditional Donabedian literature (quality costs money | some improvements in quality are not worth the investment | money does not buy quality)
- Too many metrics are driving adjustments
  - Value of any particular is minimal
  - High cost of adherence
- Limited differentiation
- “Winners” don’t stay winners; losers don’t stay losers

2016 HVBP Distribution



Incentive Payment Range (+/-)	Number of Hospitals Receiving this Range
>$1,000,000	420
$950,001 to $1,000,000	34
$900,001 to $950,000	37
$850,001 to $900,000	41
$800,001 to $850,000	60
$750,001 to $800,000	49
$700,001 to $750,000	57
$650,001 to $700,000	80
$600,001 to $650,000	74
$550,001 to $600,000	91
$500,001 to $550,000	97
$450,001 to $500,000	117
$400,001 to $450,000	138
$350,001 to $400,000	135
$300,001 to $350,000	161
$250,001 to $300,000	170
$200,001 to $250,000	198
$150,001 to $200,000	224
$100,001 to $150,000	261
$50,001 to $100,000	326
$1 to $50,000	254
$0 to $0	1

	VBP Components	2017	2018	2019	2019
Person & Community Engagement (HCAHPS)	Nurse communication	25%	25%	25%	25%
	Doctor communication				
	Responsiveness of staff				
	Pain Management (Discontinued in 2018) | Care Transition (Added in 2018)				
	Communication of medicine instructions				
	Hospital cleanliness and quietness				
	Discharge Information				
	Overall rating				
Clinical Process of Care Measures	MORT-30-AMI	30%	25%	25%	25%
	MORT-30-HF				
	MORT-30-PN				
	THA/TKA Complications (Added in 2019)				
	Influenza Immunization (Added in 2016 | Removed in 2018)				
	Fibrinolytic therapy within 30 min of hospital arrival (Acute Myocardial Infarction | Removed 2018)				
	PC-01: Elective delivery prior to 39 weeks gestation (Added 2017 | Moved to Safety 2018)				
Safety	CDI: Collostridium Difficile Infection (New 2017)	20%	20%	25%	25%
	CAUTI: Catheter-associated urinary tract infection				
	CLABSI: Central line-associated bloodstream infection				
	MRSA: Methiceillin-resistant Staphylococcus Aureus Bacteria (New 2017)				
	SSI: Surgical site infection colon surgery and abdominal hysterectomy				
	PC-01: Elective delivery prior to 39 weeks gestation (Moved from Clinical to Safety 2018)				
	PSI-90: Patient safety for selected indicators (Discontinued in 2019)				
Efficiency	MSPB-1: Medicare spending per beneficiary	25%	25%	25%	25%
	Potential Medicare IPPS adjustment to base rate	**2.00%**	**2.00%**	**2.00%**	**2.00%**

Measures of Volatility

Relative risk (RR) of receiving a positive adjustment given a positive adjustment in the prior year.

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Calculated across timeframe of sample.

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2013-2014	3.159
2014-2015	1.499
2015-2016	1.012

Relative risk ratio of receiving a positive adjustment given a positive adjustment in the prior year	
2016-2017	1.688*

*95% CI (1.5912 to 1.7918)
P<0.0001

Risk Transfer

Strong movement from payers to transfer health status, medical care, and objective (underwriting) risk

- Health Status: probability of falling ill and/or seeking care
- Medical Care: costs associated with the provision of care
- Underwriting: Δ between estimated and realized costs

Willingness to assume risk should be predicated on the associated risk premium.

Are providers and systems sufficiently trained or resourced to influence health status risk?

Are shared savings programs, HVBP adjustments, etc. sufficient to serve as the associated risk premium?

Questions?

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