

Orlando Health Heart Institute
3rd Annual Symposium

**"Choosing Wisely
A Cardiovascular Perspective:
How Clinicians can Prepare for Their Future"**

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Disclosures

Senior Medical Officer, NCDR



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Choluteca Bridge, Honduras



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Message to HealthCare Providers: Prepare for the Future

Don't Get Caught Sleeping on the Tracks



What is Your Value & Worth?

The answer is not monetary, but what is your value and worth to...

1. Your Patients
2. Your Peers
3. Your Hospital System
4. The Payer(s)
5. The Government

We will be graded by them all.

**Your data will be critical to your success—
real and perceived.**



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HealthCare Provider Self-Awareness

5 Realities over next 5 Years

- 1. Know your Personal Data!!!!**
- 2. Certainty of Transparency & Public Reporting**
- 3. Accountability for Patient & Peer Satisfaction**
- 4. Accountability for Efficiency and Cost-Savings**
- 5. Accountability for Demonstration of Value**



Health Care Environment 2017-2020

MACRA

- Value Based Purch
 - Accountable Care Organizations
 - DOJ Fraud
 - Preauthorization
 - Efficiency
 - Bundled payments (capitation)
 - Utilization
 - Appropri
- ICD-10
 - Public Reporting
 - data profiling
 - MIPS
 - Payers Programs
 - Coverage determinations
 - exams

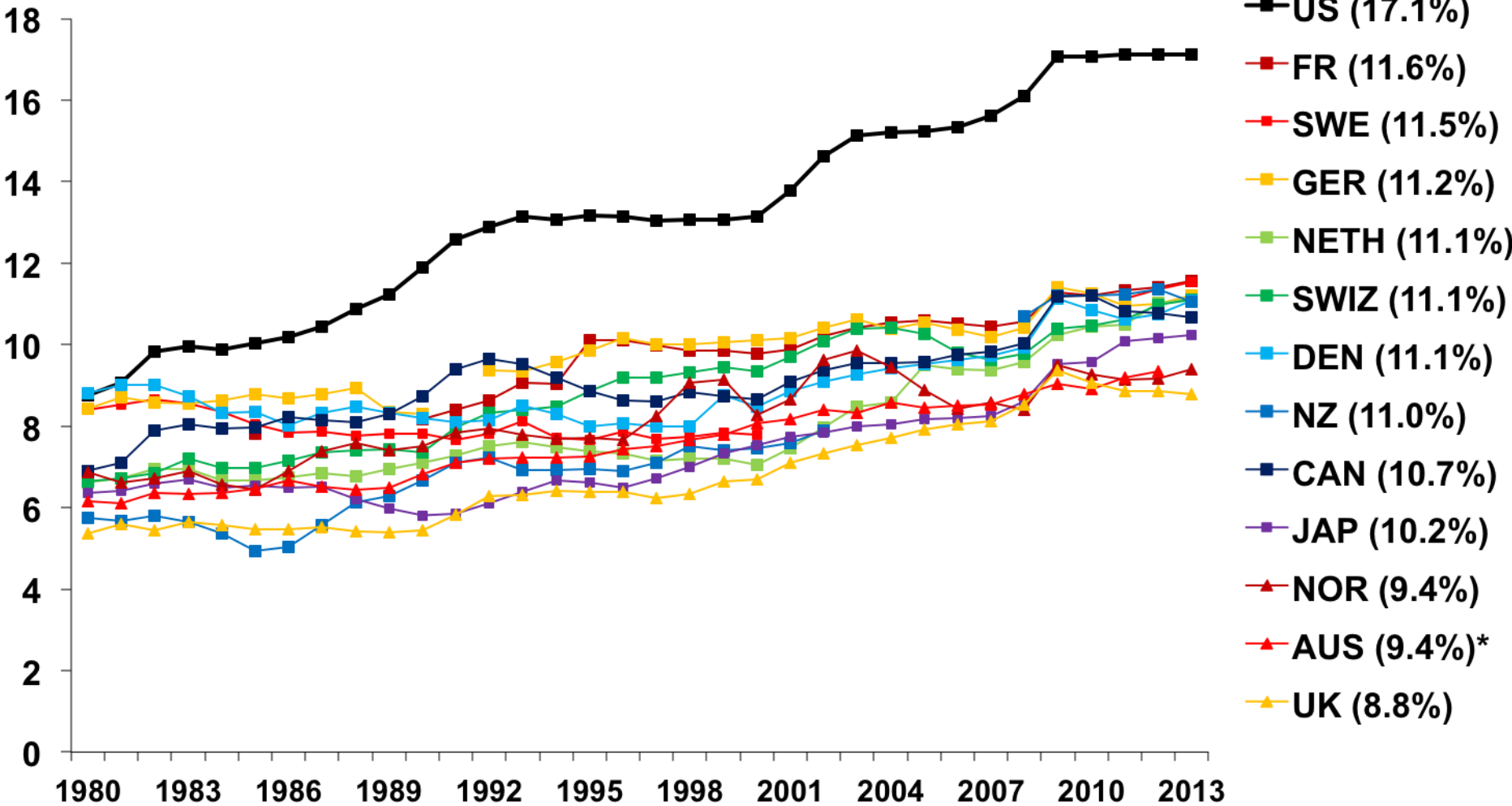
Merit Incentive Based Payment (MIPS)

**Alternative Payment Models (APMs)
Bundled Payments**

**Core Quality Measures Collaborative
CV Quality Measures**

Health Care Spending as Percent of GDP, 1980–2013

Percent



* 2012.

Notes: GDP refers to gross domestic product. Dutch and Swiss data are for current spending only, and exclude spending on capital formation of health care providers. Source: OECD Health Data 2015.

“Dead Last” Among Industrialized Nations

Quality, Access, Efficiency, Equity Health Lives

COUNTRY RANKINGS

- Top 2*
- Middle
- Bottom 2*

Commonwealth Fund



AUS CAN FRA GER NETH NZ NOR SWE SWIZ UK US

| | 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 |

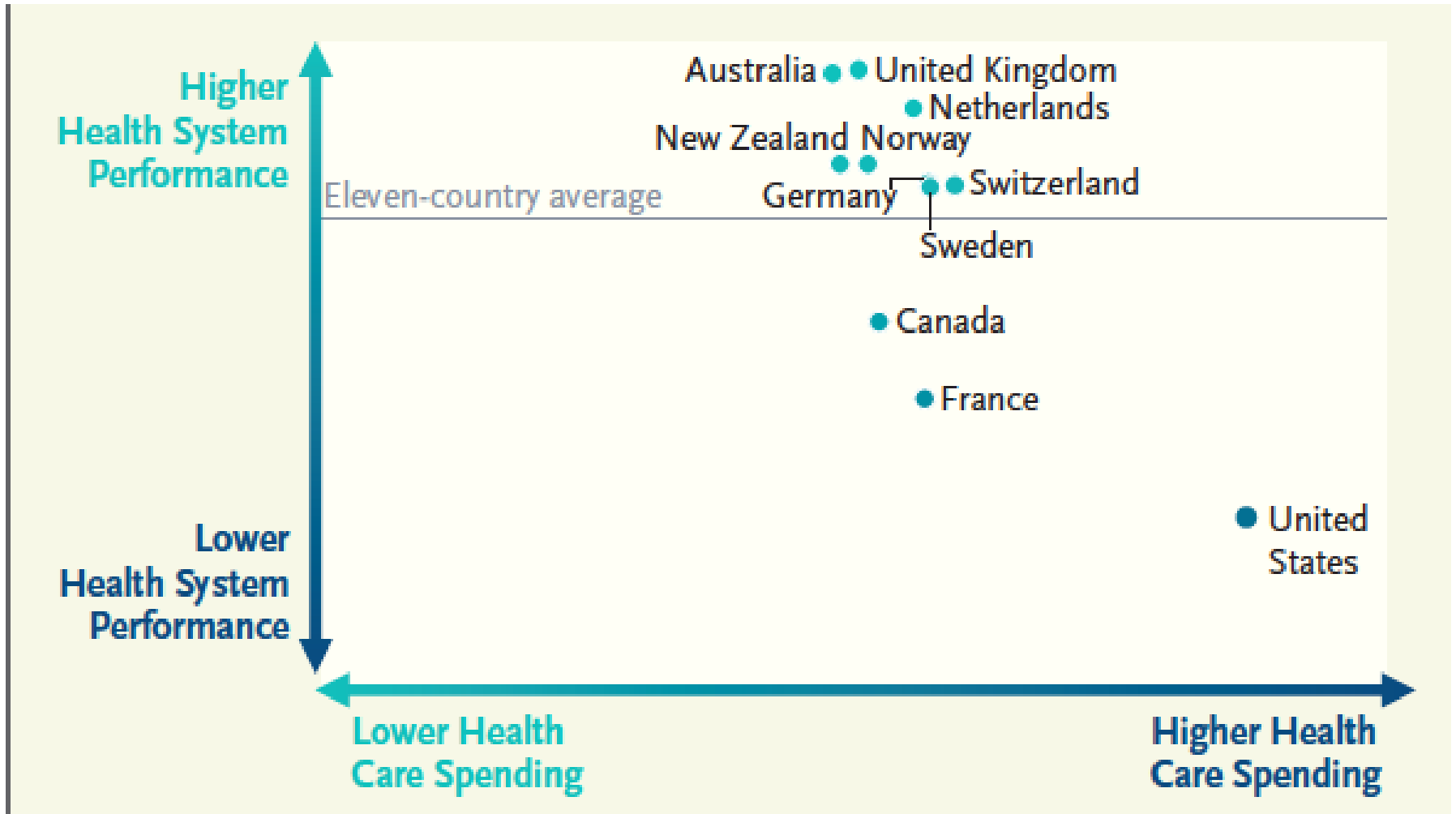
2017 Global Health Care Overall Performance Rankings

1. United Kingdom
2. Australia
3. Netherlands
4. New Zealand
4. Norway
6. Sweden
6. Switzerland
8. Germany
9. Canada
10. France
- 11. United States**

Source: [Commonwealth Fund](#)

Schneider et.al. Mirror, mirror 2017: International comparison reflects flaws and opportunities for better U.S. health care (<http://www.commonwealthfund.org/interactives/2017/July/mirror-mirror>).

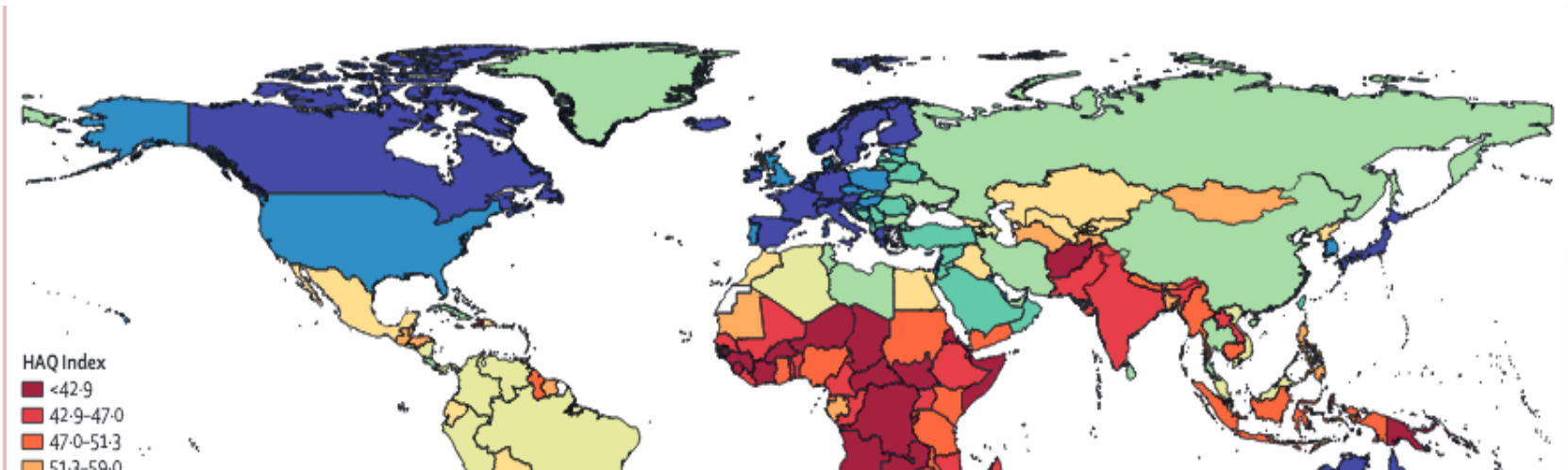
Relative Health Care System Performance and Spending in 11 High-Income Countries



Spending data are from the Organization for Economic Cooperation and Development for 2014

Health-Care Access & Quality Index

U.S. scored 80 (Bottom 2nd Decile=Estonia and Montenegro)



Lancet: Murray et.al., University of Washington, 2017

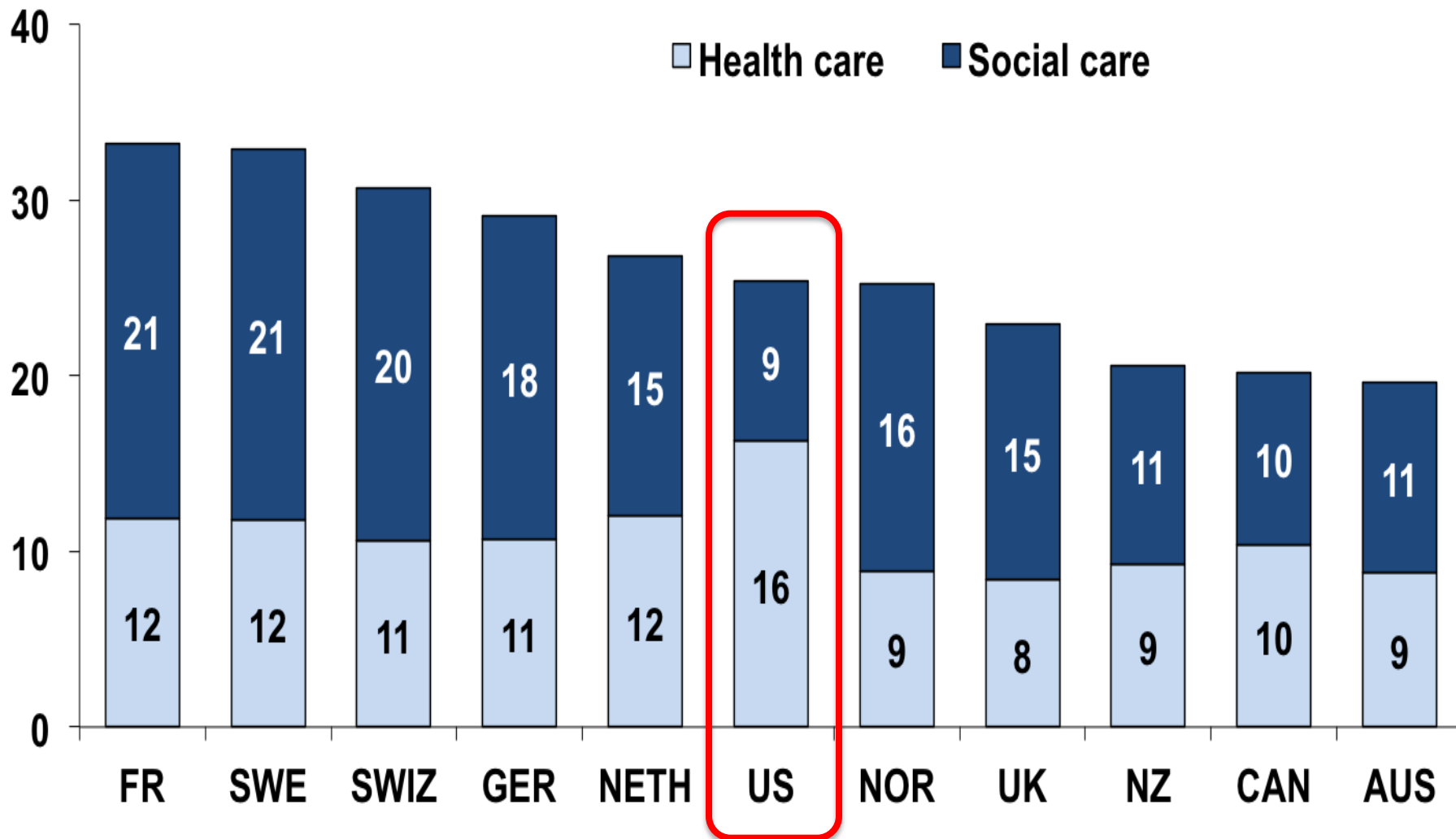
32 causes of death in 195 countries from 1990 to 2015

U.S.= “Almost failing grades” for 9 conditions:

ischemic heart disease, hypertensive heart disease, diabetes, lower respiratory infections, neonatal disorders, non-melanoma skin cancer, Hodgkin’s lymphoma, CKD and the adverse effects of medical Rx itself.

Health and Social Care Spending as a Percentage of GDP

Percent



Source: E. H. Bradley and L. A. Taylor, *The American Health Care Paradox: Why Spending More Is Getting Us Less*, Public Affairs, 2013.



The
COMMONWEALTH
FUND

IOM Estimated Sources of Excess Costs in Health Care (2009)

| Category | Sources | Estimate of Excess Costs |
|----------------------------------|---|--------------------------|
| Unnecessary Services | <ul style="list-style-type: none"> • Overuse—beyond evidence-established levels • Discretionary use beyond benchmarks • Unnecessary choice of higher-cost services | \$210 billion |
| Inefficiently Delivered Services | <ul style="list-style-type: none"> • [Redacted] | \$130 billion |
| Excess Administrative Costs | <ul style="list-style-type: none"> • [Redacted] | \$190 billion |
| Prices That Are Too High | <ul style="list-style-type: none"> • [Redacted] | \$105 billion |
| Missed Prevention Opportunities | <ul style="list-style-type: none"> • [Redacted] • Secondary prevention • Tertiary prevention | \$55 billion |
| Fraud | <ul style="list-style-type: none"> • All sources—payers, clinicians, patients | \$75 billion |

**\$800 Billion
of waste each year**

Changing the Healthcare Business Model

Healthcare is facing a classic “Curve One / Curve Two” shift in business models. Moving too early, or too late, has its own risks and rewards.

Curve One: Fee for Service

- Volume-driven
- Maximize unit price / volume
- Little reward for quality
- No incentives for coordination of care
- Regulatory disincentives to collaboration

Curve Two: Population Health

- Return to “managed” care
- Return of the “narrow network”
- Reward lower cost / higher quality
- Incentives to reduce utilization
- Coordination of care
- Lines blurred between payers and providers



Changing the Healthcare Business Model

Better too early than too late!!

Curve One: Fee for Service

Curve Two: Population Health

Ideal, but feasible?

Change too early...

Risk

- Loss of fee-for-service revenue

Reward

- Growth – covered lives
- Physician alignment

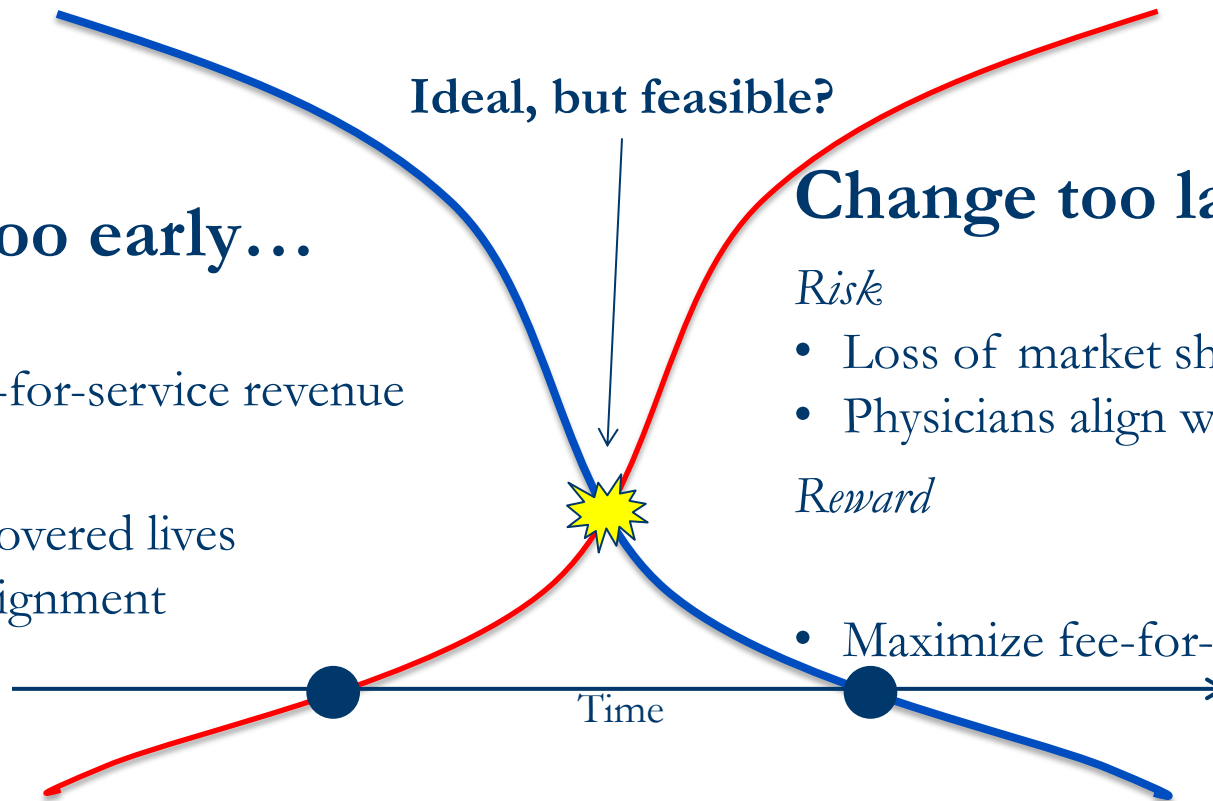
Change too late...

Risk

- Loss of market share
- Physicians align with competitors

Reward

- Maximize fee-for-service revenues



Moving from Volume to Value “A Foot in Each of Two Canoes”



How Will Health Care Change?

| Current | Future |
|---|--|
| Paper records/poor EMR integration | Interportable Electronic Health Records |
| Provider autonomy | Appropriate use; Formulary |
| Autocratic MD | Team based care |
| Evidence based medicine | Outcomes based care |
| Clinical 'giant' | Benchmarked data |
| Reputation | Public access and rankings |
| AMC and inpatient-centric | Coordination across settings |
| Few full service providers | Community tertiary care |
| Physician driven | Patient centered |
| Insensitive to cost | Cost accountability |
| Fee for service | P4P; Bundled; Tiered; APMs, Capitated?? |
| Hospital vs. MD | Accountable Care Organization |

Changing U.S. Healthcare Environment: Payment & Delivery Systems

Hospital Payment Systems

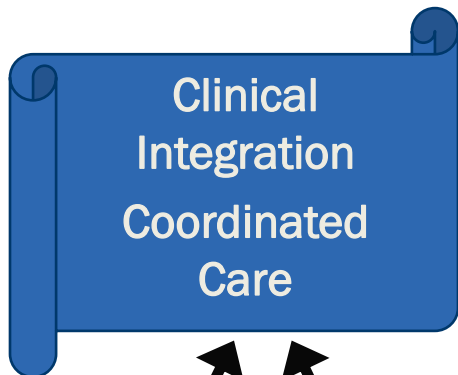
Capitation

Accountable Care Organizations

Bundled Payments
By Episode

Pay for Performance
(HAC/VBP/Readmits)
Pay for Reporting

Prospective Payment
System (DRG/APC)



Physician Payment Systems

Capitation

Accountable Care Organizations

Bundled Payments
By Episode

Pay for Performance
(PQRS / eRx)
Pay for Reporting

Fee For Service



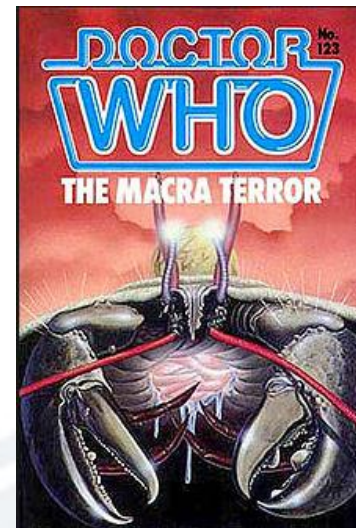
CMS's Quality Implementation

- Measure and publicly reporting providers' quality performance and cost of services provided
- Foster learning networks for quality improvement
- Create incentives for quality and value
- Set standards for providers that support quality improvement

Medicare Access & CHIP Reauthorization Act of 2015

“MACRA”

- Final ruling released October 14, 2016
- Policies implementing:
 - **Merit-Based Incentive Payment System (MIPS)**
 - **Advanced Alternative Payment Model (APM)**
participation

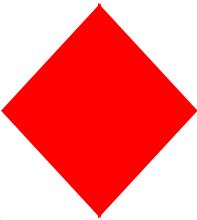


What MACRA Does

- Repeals the SGR formula
- Establishes a (modest) period of positive payment increases
- **Promotes the transition to quality-based payment (MIPS or APM pathways beginning in 2019)**
- Supports participation in eligible APMs
- Reauthorizes funding for CHIP
- **Expands use of Medicare data for transparency and quality improvement**
- **Development of quality measures**

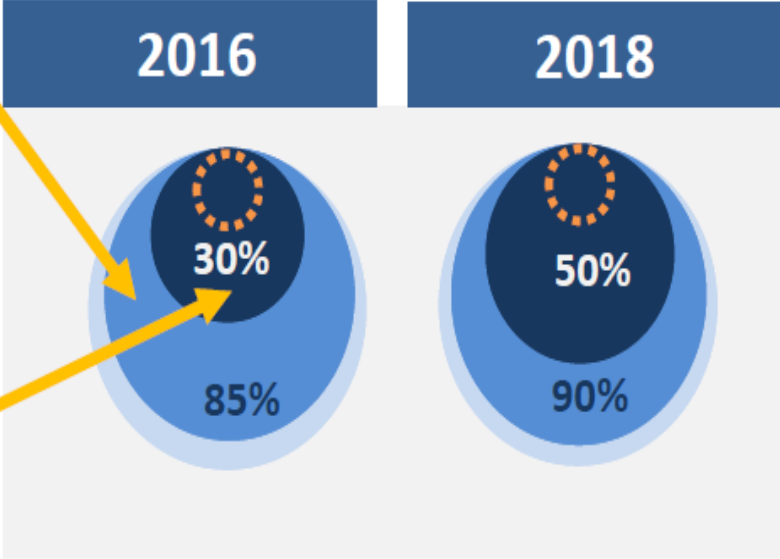
MACRA Goals for Tying Payment to Quality

The Merit-based Incentive Payment System helps to link fee-for-service payments to quality and value.



MIPS

New HHS Goals:



The law also provides incentives for participation in Alternative Payment Models via the bonus payment for Qualifying APM Participants (QPs) and favorable scoring in MIPS for APM participants who are not QPs.

APMs

- All Medicare fee-for-service (FFS) payments (Categories 1-4)
- Medicare FFS payments linked to quality and value (Categories 2-4)
- Medicare payments linked to quality and value via APMs (Categories 3-4)
- Medicare payments to QPs in eligible APMs under MACRA

**Quality & Efficiency:
How CMS Is Tracking the Cost
and Quality of Care That You
Deliver**



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2019 MIPS Composite Weighting

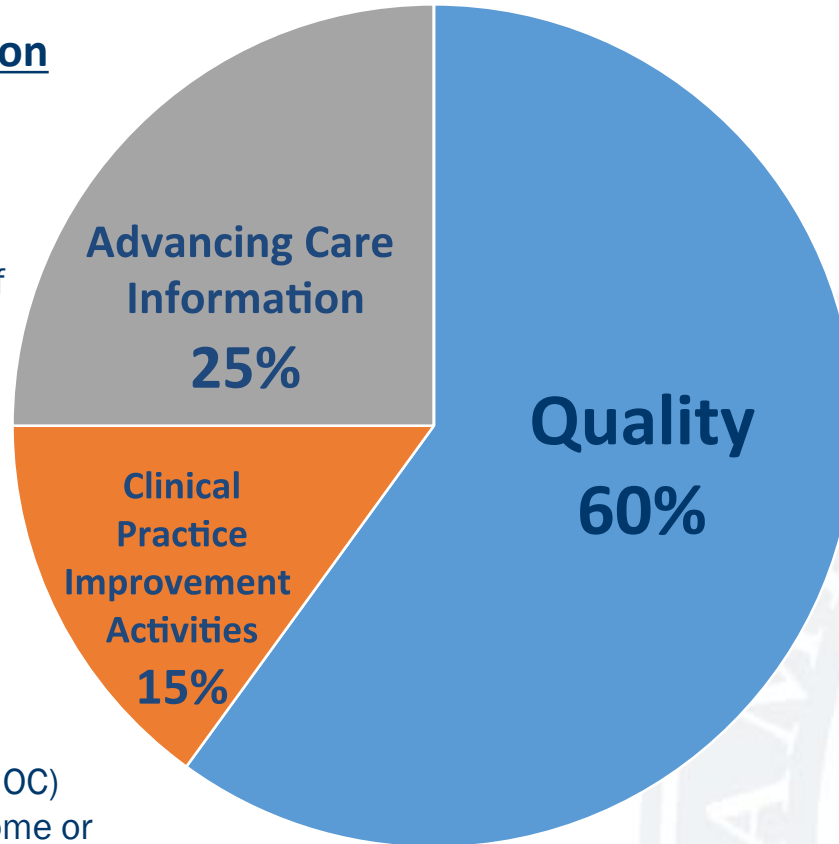
Merit-Based Incentive Payment System

Advancing Care Information

- Security Risk Analysis
- E-Prescribing
- Provide Patient Access
- Send Summary of Care
- Request/Accept Summary of Care
- Bonus: Registry Reporting

Clinical Practice Improvement

- Expanded Practice Access
- Population Management
- Care Coordination
- Beneficiary Engagement
- Patient Safety
- Practice Assessment (ex. MOC)
- Patient-Centered Medical Home or specialty APM



Quality

- Most PQRS measures
- QCDR (non-MIPS) measures
- Bonus: “High-priority measures”
 - Outcome, appropriate use, patient safety, efficiency, patient experience, care coordination

Resource Use (0%) will be incorporated into MIPS score (10%) in 2018 performance period



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Quality (60%)

Full Credit

- 6 quality measures, including 1 outcome measure or one specialty measure set

Can use MIPS and also non-MIPS measures from NCDR QCDR (CMS) certified and non-certified registries

- Points based on benchmark

- QCDR

Bonus Points

- “High Priority Measures collected in NCDR Registries: Outcomes and AUC
GAPS: PROMS-SAQ, Cost data

MIPS APM participants will report the quality measure requirements of their program

CV Measures for MIPS

Table. Cardiology Measure Set for Merit-Based Incentive Payment System and 2017 Performance Benchmarks

| Measure Name | Median (Submission Type), % ^a |
|---|--|
| Atrial fibrillation and atrial flutter: chronic anticoagulation therapy | 99.9 (claims); 69.6 (registry) |
| Cardiac stress imaging not meeting appropriate use criteria: preoperative evaluation in low-risk surgery patients | <0.01 (registry) |
| Cardiac stress imaging not meeting appropriate use criteria: routine testing after PCI | <0.01 (registry) |
| Cardiac stress imaging not meeting appropriate use criteria: testing in asymptomatic, low-risk patients | <0.01 (registry) |
| Advance care plan | 86.9 (claims); 75.0 (registry) |
| Closing the referral loop: receipt of specialist report | 18.2 (EHR) |
| Controlling high blood pressure | 72.8 (claims); 63.6 (registry); 68.3 (EHR) |
| CAD: ACE-I or ARB therapy—diabetes or LVSD | 78.9 (registry) |
| CAD: antiplatelet therapy | 87.5 (registry) |
| CAD: β -blocker therapy—prior MI or LVSD | 98.1 (EHR); 92.6 (registry) |
| Documentation of current medications in medical record | 99.9 (claims); 96.9 (registry); 95.4 (EHR) |
| HF: ACE-I or ARB therapy for LVSD | 85.0 (registry); 74.9 (EHR) |
| HF: β -blocker therapy for LVSD | 88.4 (registry); 78.3 (EHR) |
| IVD: use of aspirin or another antiplatelet | 91.3 (claims); 84.6 (registry); 75.0 (EHR) |
| Preventive care and screening: body mass index screening and follow-up plan | 66.4 (claims); 56.7 (registry); 37.2 (EHR) |
| Preventive care and screening: screening for high blood pressure and follow-up documented | 68.1 (claims); 62.1 (registry); 28.8 (EHR) |
| Preventive care and screening: tobacco use—screening and cessation intervention | 99.9 (claims); 92.6 (registry); 90.2 (EHR) |
| Preventive care and screening: unhealthy alcohol use—screening and brief counseling | 80.7 (registry) |
| Statin therapy for the prevention and treatment of cardiovascular disease | Not provided |
| Tobacco use and help with quitting among adolescents | 90.4 (registry) |

2013 Top Five PQRS Measures Reported by Cardiologists

Tobacco Use Screening/Cessation Intervention

Documenting Current Medications in the EHR

Aspirin in Ischemic Vascular Disease

Antiplatelet Therapy in Coronary Artery Disease

BP Management in Ischemic Vascular Disease

https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/PQRS/Downloads/2014_PQRS_Experience_Rpt.pdf



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Advancing Care Information (25%)

Full Credit

- Report 5 required measures for at least 90 days

Bonus Points

- Submit up to 9 additional measures for at least 90 days
 - **Clinical Data Registry Reporting**

| Required Measures |
|--------------------------------|
| Security Risk Analysis |
| E-Prescribing |
| Provide Patient Access |
| Send Summary of Care |
| Request/Accept Summary of Care |

Bonus Points for QCDR reporting

PINNACLE, Diabetes, later this year CathPCI
Pipeline: ICD, ACTION, PVI, and more

Clinical Practice Improvement Activities

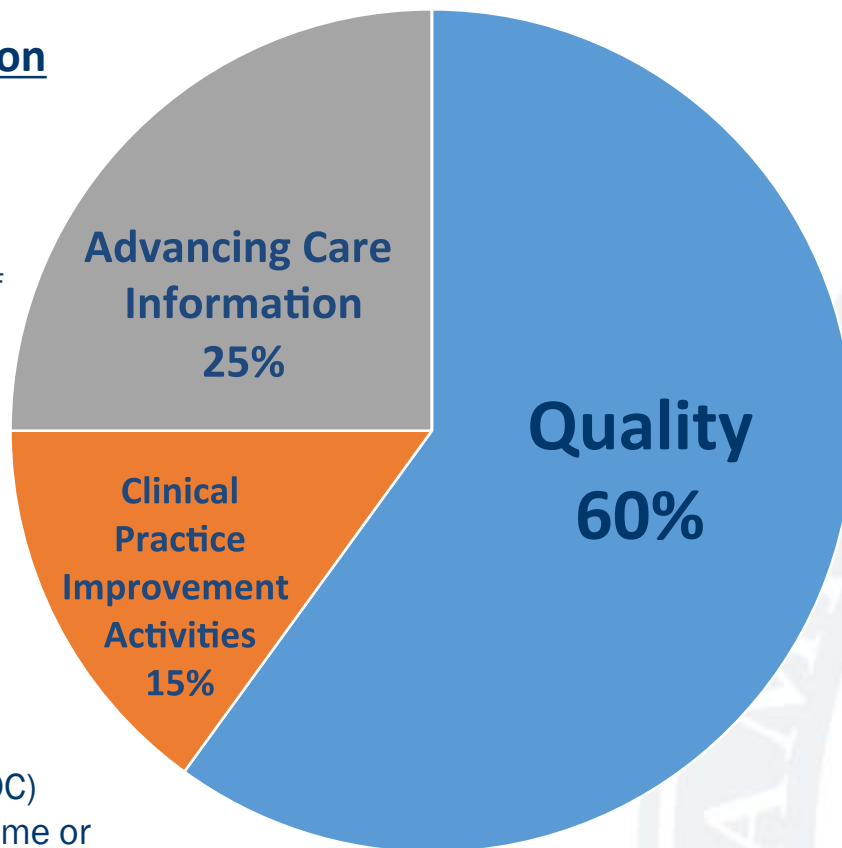
A Key Component of MIPS

Advancing Care Information

- Security Risk Analysis
- E-Prescribing
- Provide Patient Access
- Send Summary of Care
- Request/Accept Summary of Care
- Bonus: Registry Reporting

Clinical Practice Improvement

- Expanded Practice Access
- Population Management
- Care Coordination
- Beneficiary Engagement
- Patient Safety
- Practice Assessment (ex. MOC)
- Patient-Centered Medical Home or specialty APM



Quality

- Most PQRS measures
- QCDR (non-MIPS) measures
- Bonus: “High-priority measures”
 - Outcome, appropriate use, patient safety, efficiency, patient experience, care coordination

Resource Use (0%) will be incorporated into MIPS score (10%) in 2018 performance period



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Clinical Practice Improvement (15%)

Full Credit

- 4 medium-weighted activities or 2 high-weighted activities
- At least 90 days of participation in each activity

Bonus Points

- None

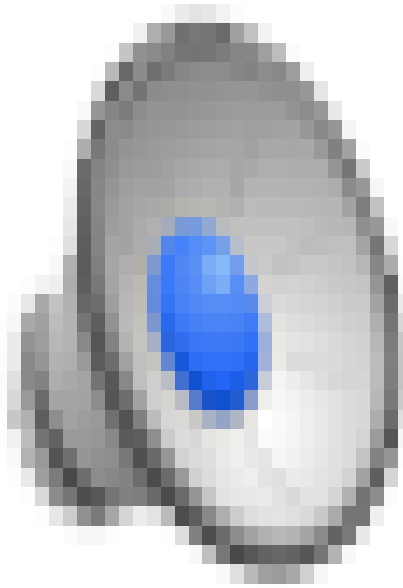
| Activity | Weight |
|--|--------|
| Participation in MOC Part IV | Medium |
| Participation in CMMI Models such as the Million Hearts Risk Reduction Model | Medium |
| Use of QCDR data for ongoing practice assessment and improvements | Medium |
| Use of decision support and standardized treatment protocols | Medium |

| Activity | Weight |
|--|--------|
| Participation in a systematic anticoagulation program | High |
| Participating in CAHPS or other supplemental questionnaire | High |

MIPS Quality and Cost Methodology

- CMS gets the data from a combination of clinician/group reported clinical quality measures via EHRs or **QCDRs/Registries, Consumer Assessment of Healthcare Providers & Systems (HCAHPS) survey** and CMS claims
- Cost is measured exclusively based on Part A and Part B CMS claims data- there is no clinician reporting

MIPS and Hospital Accountability for Patient Experience (HCAHPS) – “Doc Vader”



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When will MACRA affect my practice?

April 2016

- First proposed regulations

Jan 2017

- Start of first MIPS performance period

Jan 2019

- Start of first payment year under MACRA

Fall 2016

- Proposed regulations finalized

Jan 2018

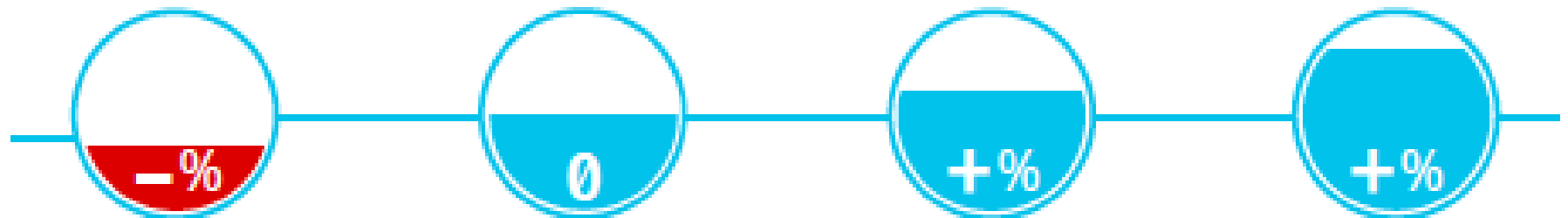
- Likely start of first APM performance period



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Depending on the Quality Payment Program you choose and the data submitted by March 31, 2018: your 2019 Medicare payments will be adjusted.....

Pick your pace in MIPS: If you choose the MIPS track of the Quality Payment Program, you have three options.



Don't Participate

Not participating in the Quality Payment Program: If you don't send in any 2017 data, then you receive a negative 4% payment adjustment.

Submit Something

Test: If you submit a minimum amount of 2017 data to Medicare (for example, one quality measure or one improvement activity), you can avoid a downward payment adjustment.

Submit a Partial Year

Partial: If you submit 90 days of 2017 data to Medicare, you may earn a neutral or small positive payment adjustment.

Submit a Full Year

Full: If you submit a full year of 2017 data to Medicare, you may earn a moderate positive payment adjustment.

Introduction to the Medicare Cardiac Episode Payment Models



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What are the Models?

AMI and CABG Models

- Retrospective bundled payment to hospital for hospitalization and 90 days post-discharge
- Triggered by applicable MS-DRGs
 - AMI or PCI (280-282, 246-251)
 - CABG (231-232)
- Hospital is financially accountable for all quality and costs under the episode

Cardiac Rehab Payment Incentive Model

- Incentive payments for CR/ICR services 90 days post discharge from an AMI or CABG hospitalization
 - \$25 for the first 11 services
 - \$175 for each additional service

First performance period begins January 2018, ending on or about December 31, 2021



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Who is Participating?

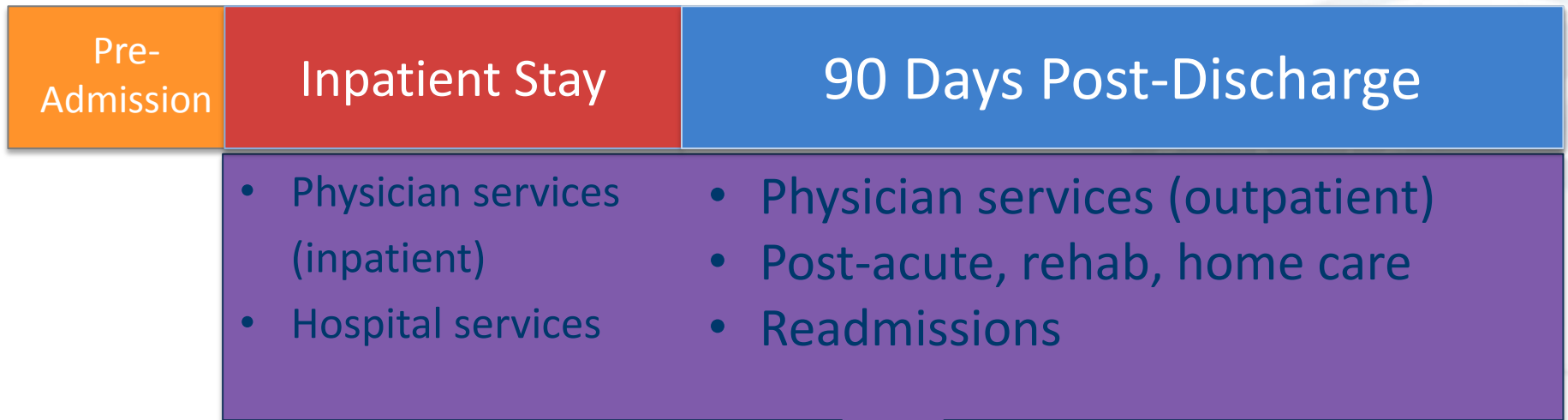
- CABG/AMI: 1,120 hospitals in 98 Metropolitan Statistical Areas (MSAs)
- Cardiac Rehab: 1,320 hospitals in 90 MSAs
 - 45 MSAs: AMI/CABG and Cardiac Rehab
 - 45 MSAs: Cardiac Rehab only
- Provider List lookup:
<https://innovation.cms.gov/initiatives/epm>



What is an Episode of Care?



Episode triggered by an anchor admission for AMI as a principal/secondary diagnosis; or CABG



Cardiac Episode Payment for AMI or CABG

What are the Quality Measures?

AMI Model

- Hospital 30-day, All-cause, Risk-Standardized Mortality Rate (RSMR) Following Acute Myocardial Infarction (NQF #0230)
- Excess Days in Acute Care after Hospitalization for AMI
- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey (NQF #0166)
- Voluntary: Hybrid Hospital 30-day, All-Cause, Risk-Standardized Mortality Rate Following Acute Myocardial Infarction Hospitalization (NQF #2473)

CABG Model

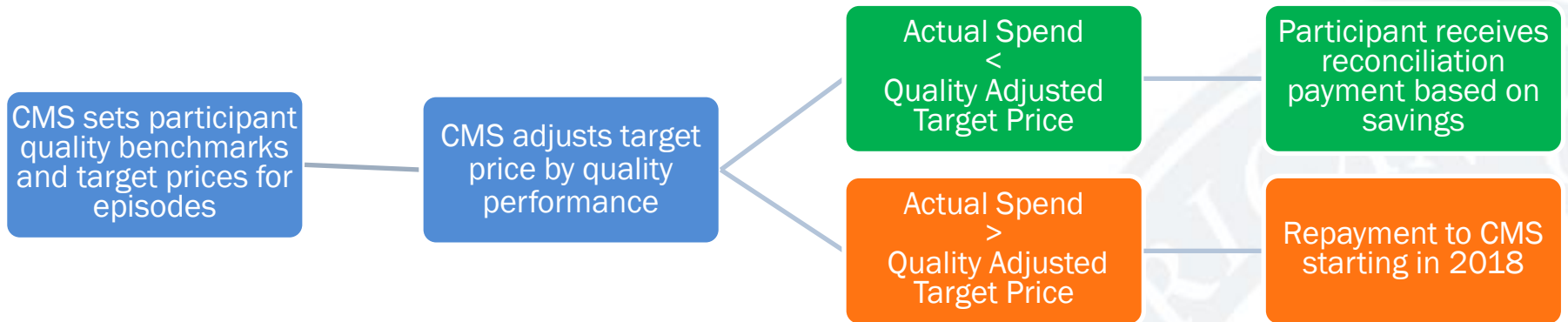
- Hospital 30-day, All-cause, Risk-Standardized Mortality Rate (RSMR) Following CABG Surgery (NQF #2558)
- Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) Survey (NQF #0166)
- Voluntary: STS CABG Composite Score (NQF #0696)

How Bundled Payments Could Transform Patient Care

- Promotes Integrated Multidisciplinary Care
- Promotes Accountability for Outcomes
- Promotes Cost Reduction
 - from the bottom up and team by team



Translating Performance to Payment



- Participants can earn up to 5% of target price in from 2017-2019.
- Participants will repay CMS up to 3% or 5% of target price starting in 2019 (PY3) (or 2018 for those who voluntarily assume 2-sided risk earlier)

Bundled Payments and APMs

Partial or Full Capitation

- Physicians, hospitalizations and imaging services become costs!!
- Savings arise from increased quality health outcomes and efficiencies concomitant with reduced FFS activity
- Population Health Management becomes a Focus
- Potential of residual revenue then paid to providers?

Tom Price Cancels Cardiac Bundles!!

Cardiac bundles to be canceled by CMS

A August 10, 2017



A rule title posted to the Federal Register on Aug. 10 indicates CMS will cancel two mandatory bundled payment programs, the Advancing Care Coordination through Episode Payment Models (EPMs) and Cardiac Rehabilitation Incentive (CRI) Payment Models, which were set to start in 2018.

These same bundles have already been delayed twice since HHS Secretary Tom Price, MD, and CMS Administrator Seema Verma, MPH, took the reins at the agencies. Both have been critical of making bundled payments

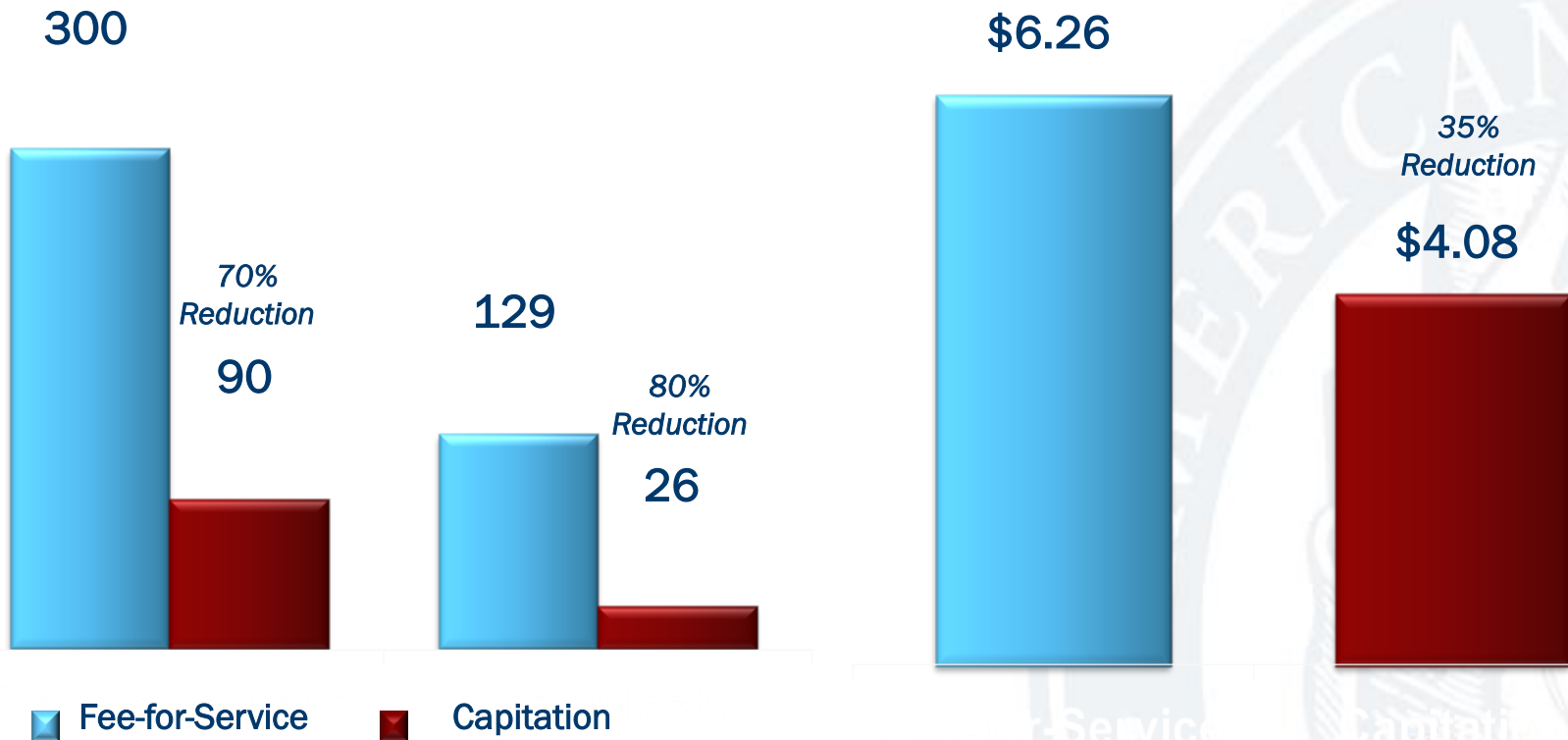


What Happens When Fee-For-Service Changes to a Global Payment (Capitation)

Cath/PCI Procedures per 100,000

Select Professional and Facility Costs

Duration of Period: 8 Months



Future CMS Measures: How will your value be judged & rewarded?

- Increasing number of “e-measures”
- Appropriateness of services/measures of overuse
 - Ex.= Appropriateness of PCI in asymptomatic pts
- Clinical outcomes and patient reported outcomes (PROMs) with functional status
 - Ex.= Symptom improvement in PCI for stable angina
 - SAQ-7 and Rose dyspnea scale
- Patient and caregiver experience
- Care coordination

Common Themes?

- Physicians/hospital/payor alignment
- Big Data
- Incentives to promote prevention, primary care and care coordination for high-acuity patients
- Careful adherence to CPGs/AUC

What Does this Mean for you?

- Make friends with payor/hospital/provider leadership
- Embrace Big Data
- Incorporate Care Team approach
- Understand and embrace risk sharing



The 2017 CV Specialist: Quality, Accountability, Transparency & Cost

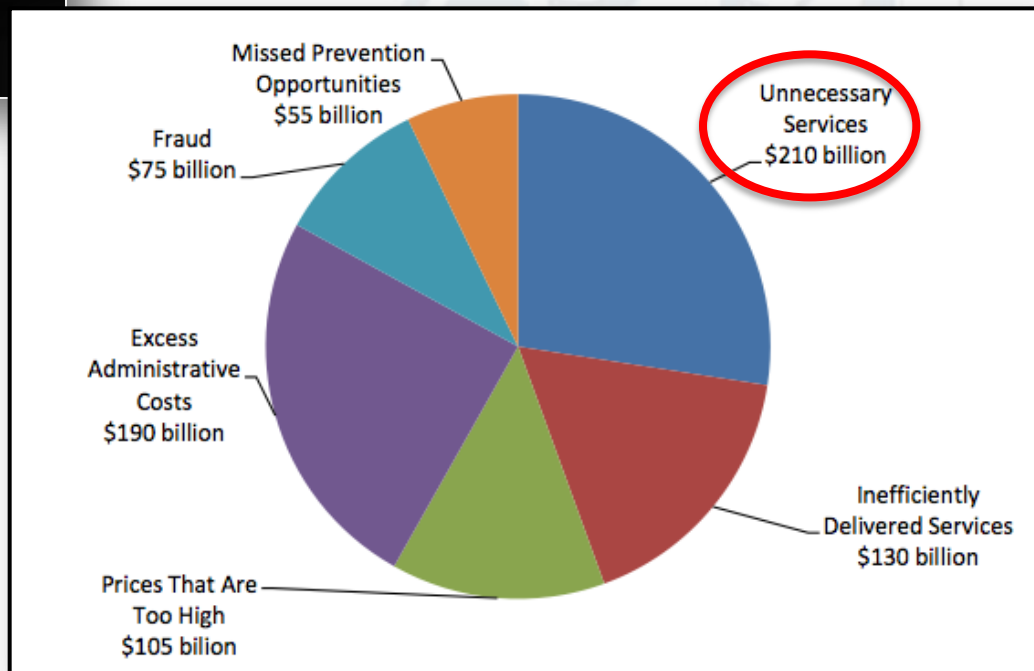


“Unintended variation is stealing healthcare blind”



Donald Berwick, MD

US Institute of Medicine.
Best Care at Lower Cost, 2012



ACC's Role in Measurement and Improvement

Define Care Standards → Clinical Guidelines

Define Data Standards → Data Standards

Develop Measures → Performance Measures

Appropriateness Criteria → AUC

Measure Quality → ACC-NCDR

Improve Quality → QI Portfolio

The Move from “Volume” to “Value”



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Cycle of Clinical Therapeutic Effectiveness



New : Cost/Value Methodology

PERFORMANCE MEASURES

ACC/AHA Statement on Cost/Value Methodology in Clinical Practice Guidelines and Performance Measures



A Report of the American College of Cardiology/American Heart Association
Task Force on Performance Measures and Task Force on Practice Guidelines

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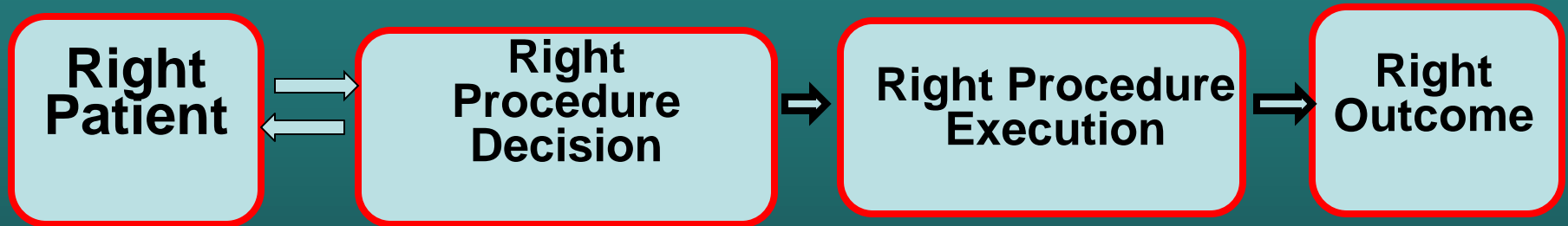
*Writing committee members are required to recuse themselves from voting on sections to which their specific relationships with industry may apply; see [Appendix 2](#) for detailed information.

High Quality Cardiovascular Procedures

Quality Metrics
Public Reporting

Patient Preferences

NCDR Cath PCI Registry



Appropriate Use Criteria
Clinical Guidelines

Ongoing trials
and evidence

Performance Measures

Value equation for cardiovascular procedures – was the right procedure done in the right way with the right outcome in a timely fashion?

Measures: AUC, Process, & Outcomes

THE 'REAL VALUE' EQUATION =

**Clinically
Defined
Outcomes** + **Patient
Defined
Outcomes**

Appropriate Use% X

Resource Utilization (COST)

California Elective PCI Variation

California Health Care Foundation

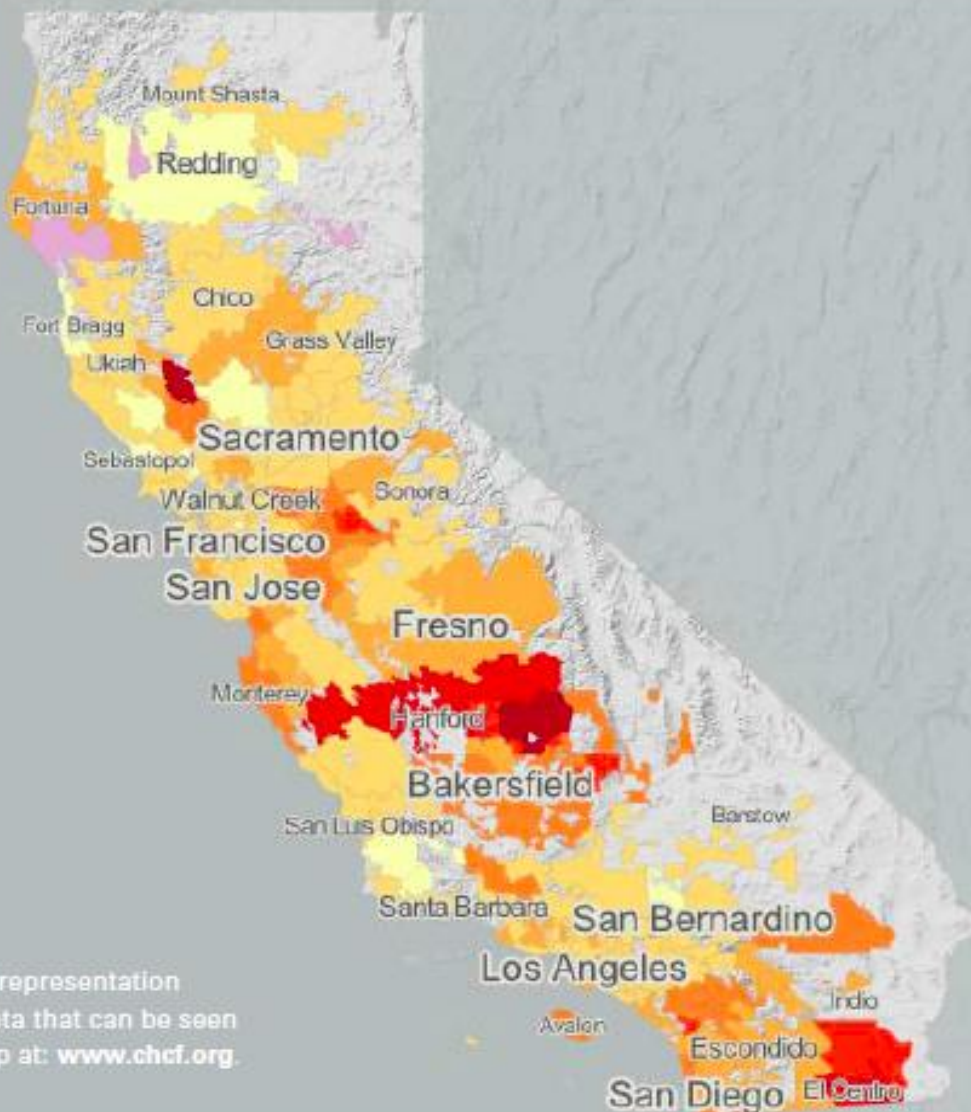
Figure 1. Geographic Variation in Elective PCI, California, 2005–2009

Adjusted rates for Hospital Service Areas

| | |
|------|---------------|
| 538% | Clearlake |
| 433% | Lindsay |
| 317% | Porterville |
| 297% | King City |
| 287% | Corcoran |
| 276% | El Centro |
| 267% | Visalia |
| 255% | Hanford |
| 252% | Dinuba |
| 251% | Coalinga |
| 248% | Tulare |
| 211% | Brawley |
| 206% | Oakdale |
| 205% | Lake Isabella |
| 202% | Fallbrook |
| 193% | Bakersfield |
| 183% | Ridgecrest |
| 180% | Avalon |
| | Dear Beach |

Compared to state average

| | |
|-----|--------------------|
| 3 | 301-538% |
| 7 | 251-300% |
| 5 | 201-250% |
| 16 | 151-200% |
| 53 | 101-150% |
| 109 | 51-100% |
| 11 | 1-50% |
| 4 | Too few procedures |



Note: This is a static representation of a portion of the data that can be seen on an interactive map at: www.chcf.org

When They Start Making Cartoons, Billboards and Reports to Congress, Maybe You Have a Problem




111TH CONGRESS } COMMITTEE PRINT { S. PR. 111-57
2nd Session

**STAFF REPORT ON CARDIAC STENT USAGE
AT ST. JOSEPH MEDICAL CENTER**

PREPARED BY THE STAFF OF THE
COMMITTEE ON FINANCE
UNITED STATES SENATE

MAX BAUCUS, *Chairman*
CHUCK GRASSLEY, *Ranking Member*



DECEMBER 2010

Printed for the use of the Committee on Finance



**WAS YOUR STENT
UNNECESSARY?**

1-888-DR-LEGAL

COLKITT LAW FIRM, PC

Colkitt Law Firm, P.C. Indiana, PA. 15701
with offices in Pittsburgh and Johnstown

AMERICAN
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CARDIOLOGY

Interventional Cardiology 1979 -2017

Despite All the Advances in Interventional Cardiology During the Past 37 years . . .

***We Are Being
Attacked !***



We Have an Image Problem





T E S L A

DEC California 2013
H 3364536

3VSTENT

T E S L A



August 6, 2012

- Traveling nurse complained about unnecessary stenting at Lawnwood Medical Center in Fort Pierce
- Internal HCA investigation concluded nurse was right
- 1,200 cardiac catheterizations were deemed to be unnecessary
- Independent review identified numerous problems in Florida HCA hospitals
- The saga continues

Hospital Chain Inquiry Cited Unnecessary Cardiac Work

By REED ABELSON and JULIE CRESWELL
Published: August 6, 2012 | 733 Comments

In the summer of 2010, a troubling letter reached the chief ethics officer of the hospital giant HCA, written by a former nurse at one of the company's hospitals in Florida.



Brad Barr for The New York Times

The Lawnwood Regional Medical Center in Fort Pierce, Fla.

GRAPHIC: Heart Procedures Under Scrutiny

Readers' Comments

Readers shared their thoughts on this article.

[Read All Comments \(733\) »](#)

In a follow-up interview, the nurse said a doctor at the Lawnwood Regional Medical Center, in the small coastal city of Fort Pierce, had been performing heart procedures on patients who did not need them, putting their lives at risk.

"It bothered me," the nurse, C. T. Tomlinson, said in a telephone interview. "I'm a registered nurse. I care about my patients."

In less than two months, an internal investigation by HCA concluded the nurse was right.

"The allegations related to unnecessary procedures being performed in the cath lab are substantiated," according to a confidential memo written by a company ethics officer,

Stephen Johnson, and reviewed by The New York Times.

Mr. Tomlinson's contract was not renewed, a move that Mr. Johnson said in the memo was in retaliation for his complaints.

But the nurse's complaint was far from the only evidence that unnecessary — even dangerous — procedures were taking place at some HCA hospitals, driving up costs and increasing profits.

FACEBOOK

TWITTER

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E-MAIL

SHARE

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SINGLE PAGE

REPRINTS

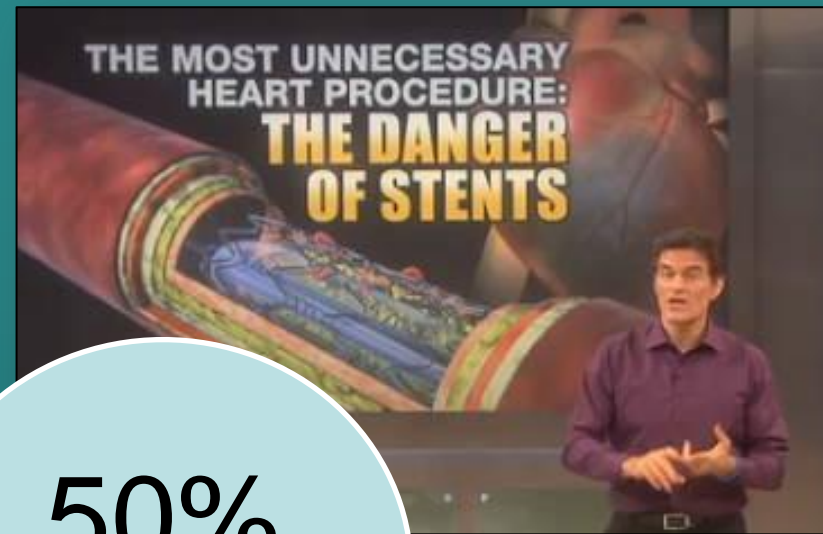


Potential Impact of Inappropriate PCI

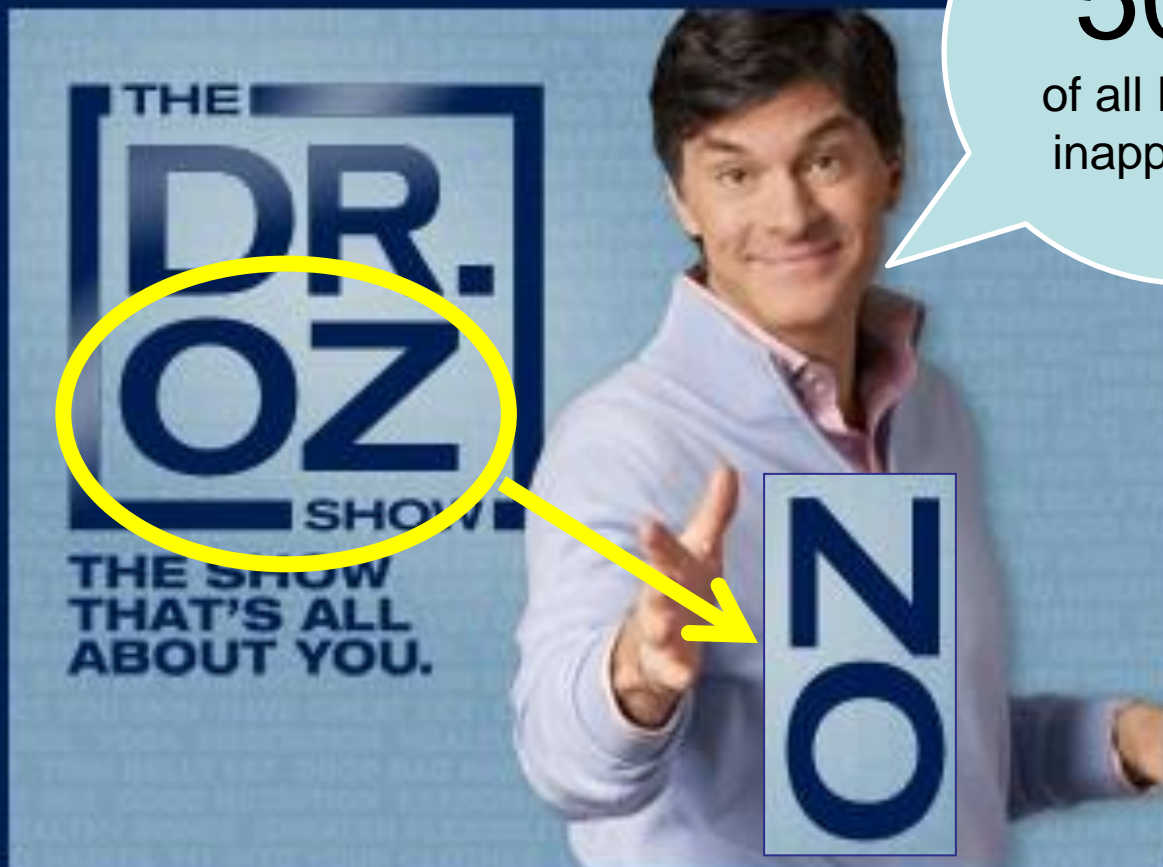
- *700,000 PCI/year in US*
- *4% inappropriate and 12% uncertain (NCDR)*
- *25% of uncertain PCI are ? Inappropriate*
- *Total= 45,500 “inappropriate” (.2% mortality)*

100 deaths avoidable by eliminating inappropriate PCI

Did Dr. Oz Get it Right?



50%
of all PCIs are
inappropriate



Appropriate Use Criteria

APPROPRIATE USE CRITERIA

Because:

- 1) There are continuing and reasonable questions about what we do
- 2) If we don't do this, someone else will
- 3) We can and will do this better than anyone else

A Report
America
America
Society
and Society of Thoracic Surgeons

graphy,

J Am Coll Cardiol 2017
Available at <http://www.acc.org>

SIHD AUC Table

| Indication | Asymptomatic | | | | Ischemic Symptoms | | | | |
|---|---|-------|-------------------|-------|-----------------------------|-------|----------------------|-------|-------|
| | Not on AA Therapy or With AA Therapy | | Not on AA Therapy | | On 1 AA Drug (BB Preferred) | | On ≥ 2 AA Drugs | | |
| | PCI | CABG | PCI | CABG | PCI | CABG | PCI | CABG | |
| No Proximal LAD Involvement | | | | | | | | | |
| 7. | ■ Low-risk findings on noninvasive testing | R (3) | R (2) | M (4) | R (3) | M (5) | M (4) | A (7) | M (6) |
| 8. | ■ Intermediate- or high-risk findings on noninvasive testing | M (5) | M (4) | M (6) | M (5) | A (7) | M (6) | A (8) | A (7) |
| 9. | ■ No stress test performed or, if performed, results are indeterminate ■ FFR $\leq 0.80^*$ in both vessels | M (5) | M (4) | M (6) | M (4) | A (7) | M (5) | A (8) | A (7) |
| Proximal LAD Involvement and No Diabetes Present | | | | | | | | | |
| 10. | ■ Low-risk findings on noninvasive testing | M (4) | M (4) | M (5) | M (5) | M (6) | M (6) | A (7) | A (7) |
| 11. | ■ Intermediate- or high-risk findings on noninvasive testing | M (6) | M (6) | A (7) | A (7) | A (7) | A (7) | A (8) | A (8) |
| 12. | ■ No stress test performed or, if performed, results are indeterminate ■ FFR ≤ 0.80 in both vessels | M (6) | M (6) | M (6) | M (6) | A (7) | A (7) | A (8) | A (8) |
| Proximal LAD Involvement With Diabetes Present | | | | | | | | | |
| 13. | ■ Low-risk findings on noninvasive testing | M (4) | M (5) | M (4) | M (6) | M (6) | A (7) | A (7) | A (8) |
| 14. | ■ Intermediate- or high-risk findings on noninvasive testing | M (5) | A (7) | M (6) | A (7) | A (7) | A (8) | A (8) | A (9) |
| 15. | ■ No stress test performed or, if performed, results are indeterminate | M (5) | M (6) | M (6) | A (7) | A (7) | A (8) | A (7) | A (8) |

Moses Delivering the AUC Tablets



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**Clinical Practice Guidelines, Performance Measures,
Appropriate Use Criteria,
NCDR Registry Participation, Public Reporting,
ABIM's Maintenance of Certification**

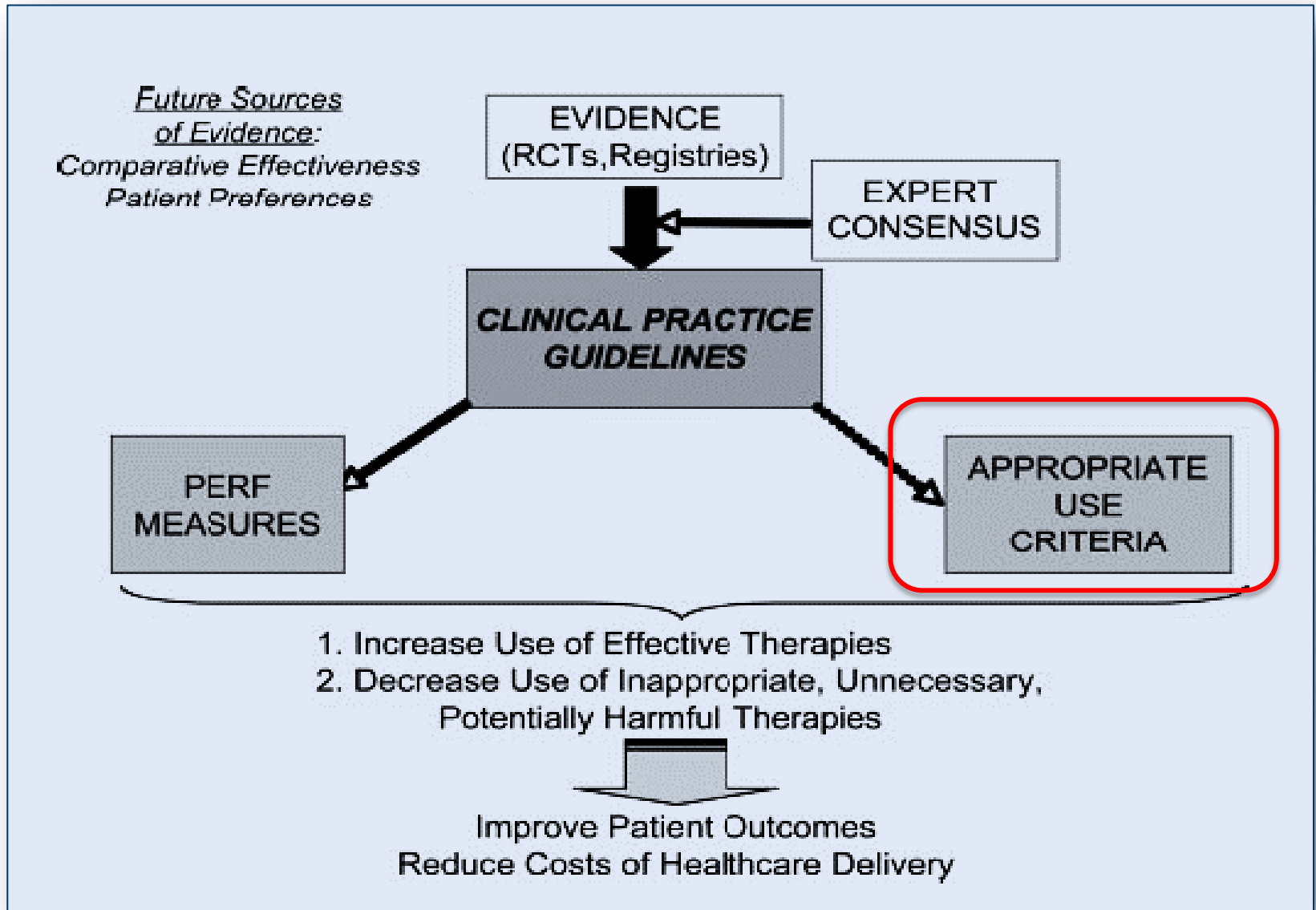


*"I'll try, but they're not going
to be an easy pitch."*



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CARDIOLOGY**

The “Big Three” Documents That Affect Care



The SIHD AUC Overview

- Separate tables for 1, 2, 3, vessel and left main CAD
- Tables for the post CABG patient
 - IMA to LAD patent and without significant stenosis
 - IMA to LAD not patent
 - Disease affecting vascular territories rather than vessels
- SIHD undergoing procedures for which revascularization might be considered
 - Renal transplant with or without diabetes
 - TAVR, Mitraclip, other structural procedures

The SIHD AUC Basic Table Structure

Symptom status

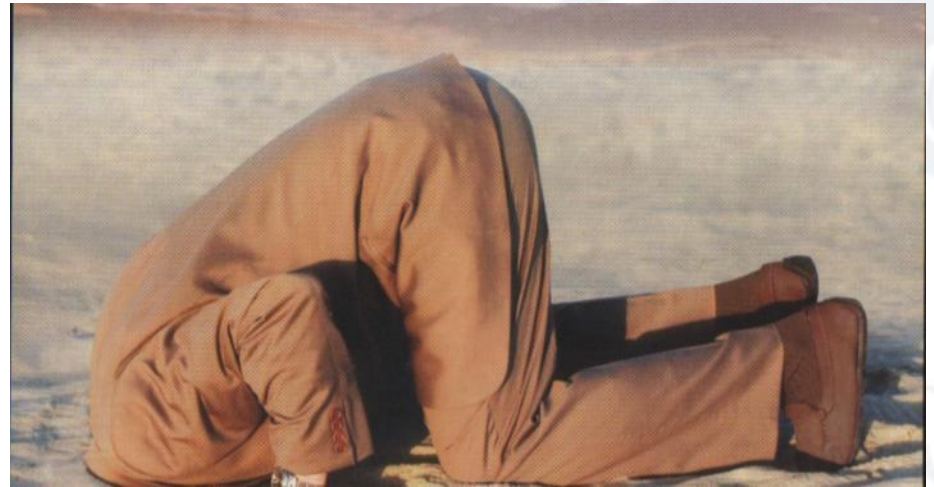
| Indication | Asymptomatic | | Ischemic Symptoms | | | | | | |
|------------|--------------------------------------|------|-------------------|------|-----------------------------|------|----------------|------|--|
| | Not on AA therapy or with AA therapy | | Not on AA Therapy | | On 1 AA Drug (BB preferred) | | On ≥2 AA Drugs | | |
| | PCI | CABG | PCI | CABG | PCI | CABG | PCI | CABG | |
| | | | | | | | | | |

59 indications spread across 4 tables
472 individual cells

Asx on no therapy vs. Asx on therapy

Antianginal therapy (AA) + OMT for risk factors
AA therapy follows the SIHD Guidelines

Professional Reactions to the AUC



DEPARTMENT OF



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Appropriateness?



We can only manage what we measure



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CathPCI Physician Dashboard

- Hospital metrics reported at the physician level
- Secure & confidential access via ACC.org login
 - Click “My ACC”
 - Click “NCDR Physician Dashboard”
- Use for:
 - a) Awareness
 - b) Quality improvement
 - c) ABIM MOC part IV

Metrics include:

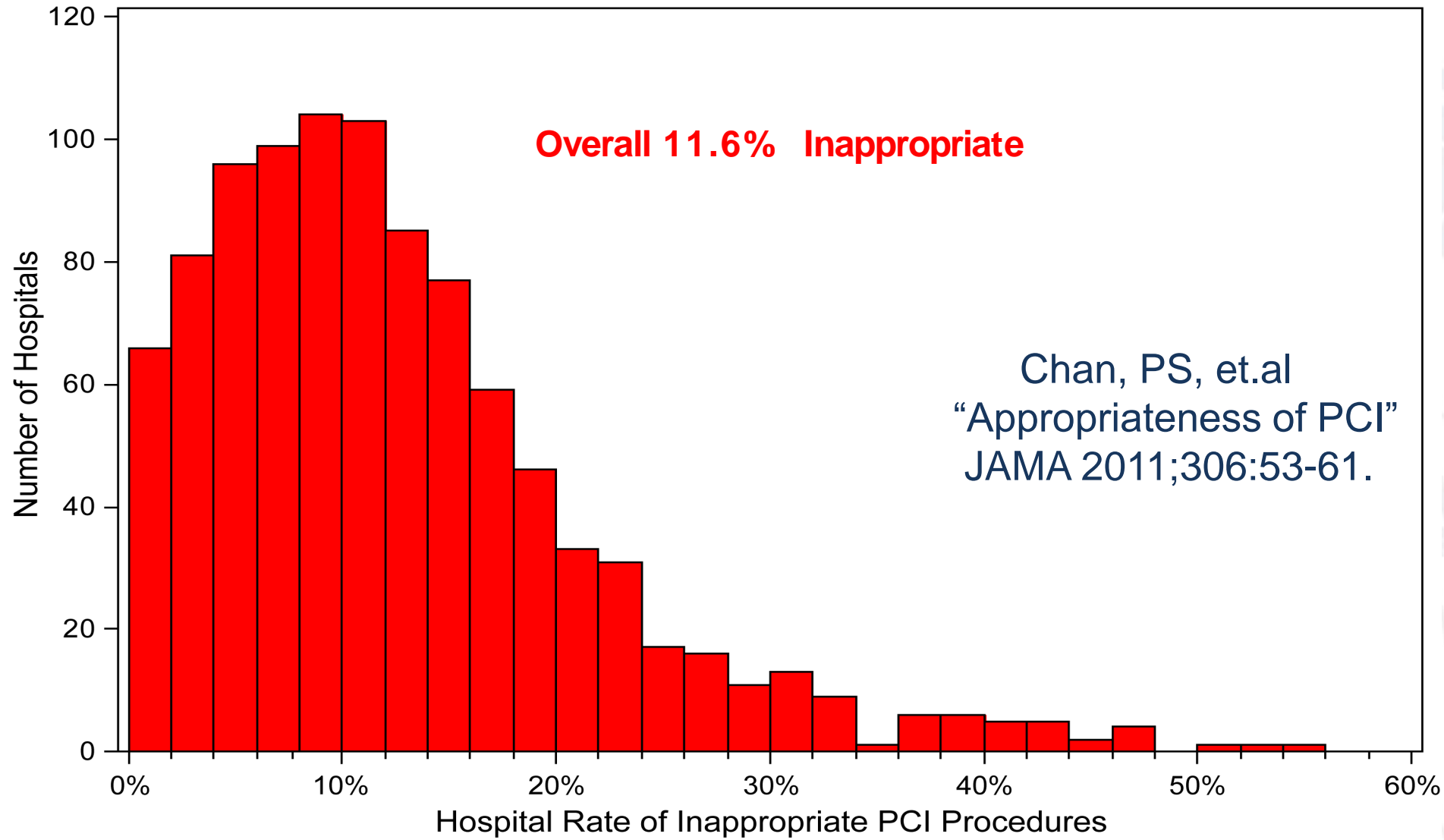
1. Volumes
2. Vascular complications
3. Door to balloon time
4. Appropriateness of PCI

The screenshot displays the ACC website interface. At the top left is the ACC logo and name. To the right are navigation links for Guidelines, JACC Journals, Membership, and About ACC. Below this is a search bar with 'All Types' selected. A dark blue navigation bar contains links for Clinical Topics, Latest in Cardiology, Education and Meetings, Tools and Practice Support, and My ACC (which is circled in red). A dropdown menu is open under My ACC, listing: My Profile, My Membership, My Library, My CME / CE Transcript, My Notifications (circled in red), NCDR Physician Dashboard (circled in red), My Communication Preferences, and Log Out. Below the navigation bar is a banner image of a doctor and a patient. At the bottom, there is a text-based article snippet titled 'Insights Into Statin-Associated Diabetes: How Important is the Risk and How Should You Counsel Your Patient?' and a diagram of a heart with ablation points.

Hospital Variation in Non-Acute PCI Inappropriateness

Overall 11.6% Inappropriate

Chan, PS, et.al
"Appropriateness of PCI"
JAMA 2011;306:53-61.



Original Investigation

Appropriate Use Criteria for Coronary Revascularization and Trends in Utilization, Patient Selection, and Appropriateness of Percutaneous Coronary Intervention

Nihar R. Desai, MD, MPH, Steven M. Bradley, MD, MPH, Craig S. Partzinski, MS, Brahmajee K. Nallamothu, MD, MPH, Paul S. Chan, MD, MSc, John A. Spertus, MD, MPH, Manesh R. Patel, MD, Jeremy Ader, AB, Aaron Soufer, MD, Harlan M. Krumholz, MD, SM, Jephthah P. Curtis, MD

IMPORTANCE Appropriate Use Criteria for Coronary Revascularization were developed to critically evaluate and improve patient selection for percutaneous coronary intervention (PCI). National trends in the appropriateness of PCI have not been examined.

OBJECTIVE To examine trends in PCI utilization, patient selection, and procedural appropriateness following the introduction of Appropriate Use Criteria.

DESIGN, SETTING, AND PARTICIPANTS Multicenter, longitudinal, cross-sectional analysis of patients undergoing PCI between July 1, 2009, and December 31, 2014, at hospitals continuously participating in the National Cardiovascular Data Registry CathPCI registry over the study period.

MAIN RESULTS AND MEASURES Proportion of nonacute PCIs classified as inappropriate at the patient and hospital level using the 2012 Appropriate Use Criteria for Coronary Revascularization.

RESULTS A total of 2.7 million PCI procedures from 766 hospitals were included. Annual PCI volume of acute indications was consistent over the study period (377 540 in 2010, 374 543 in 2014), but the volume of nonacute PCIs decreased from 89 704 in 2010 to 59 375 in 2014. Among patients undergoing nonacute PCI, there were significant increases in angina severity (Canadian Cardiovascular Society grade III/IV angina, 15.8% in 2010 and 38.4% in 2014), use of antianginal medications prior to PCI (at least 2 antianginal medications, 22.3% in 2010 and 35.1% in 2014), and high-risk findings on noninvasive testing (22.2% in 2010 and 33.2% in 2014) ($P < .001$ for all), but only modest increases in multivessel coronary artery disease (43.7% in 2010 and 47.5% in 2014, $P < .001$). The proportion of nonacute PCIs classified as inappropriate decreased from 26.2% (95% CI, 25.8%-26.6%) to 13.3% (95% CI, 13.1%-13.6%), and the absolute number of inappropriate PCIs decreased from 21 781 to 7921. Hospital-level variation in the proportion of PCIs classified as inappropriate persisted over the study period (median, 12.6% [interquartile range, 5.9%-22.9%] in 2014).

CONCLUSIONS AND RELEVANCE Since the publication of the Appropriate Use Criteria for Coronary Revascularization in 2009, there have been significant reductions in the volume of nonacute PCI. The proportion of nonacute PCIs classified as inappropriate has declined, although hospital-level variation in inappropriate PCI persists.

Editorial

Supplemental content at jama.com

CME Quiz at jamanetwork.com and CME Questions

Author Affiliations: Author affiliations are listed at the end of this article.

Corresponding Author: Nihar R. Desai, MD, MPH, Center for Outcomes Research and Evaluation, Yale-New Haven Hospital, One Church St, Ste 200, New Haven, CT 06510 (nihar.desai@yale.edu).

JAMA[®]

The Journal of the American Medical Association

NR Desai and coauthors

Appropriate Use Criteria for Coronary Revascularization and Trends in Utilization, Patient Selection, and Appropriateness of Percutaneous Coronary Intervention

Published online November 9, 2015

Available at jama.com and
on The JAMA Network Reader at
mobile.jamanetwork.com



The JAMA Network

Trends in Indication for PCI

| PCI indication/Year | Overall | 2009* | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------|------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Overall, n | 2,685,683 | 243,580 | 538,076 | 502,995 | 481,889 | 462,636 | 456,507 |
| Acute, n (%) | 2,047,853 (76.3) | 168,366 (69.1) | 377,540 (70.2) | 373,423 (74.2) | 380,331 (78.9) | 373,650 (80.8) | 374,543 (82.0) |
| Non-acute, n (%) | 397,737 (14.8) | 41,024 (16.8) | 89,704 (16.7) | 78,328 (15.6) | 66,849 (13.9) | 62,457 (13.5) | 59,375 (13.0) |
| Non-mappable n (%) | 240,093 (8.9) | 34,190 (14.0) | 70,832 (13.2) | 51,244 (10.2) | 34,709 (7.2) | 26,529 (5.7) | 22,589 (4.9) |

*Includes 6-months of data (July 1 to December 31, 2009)

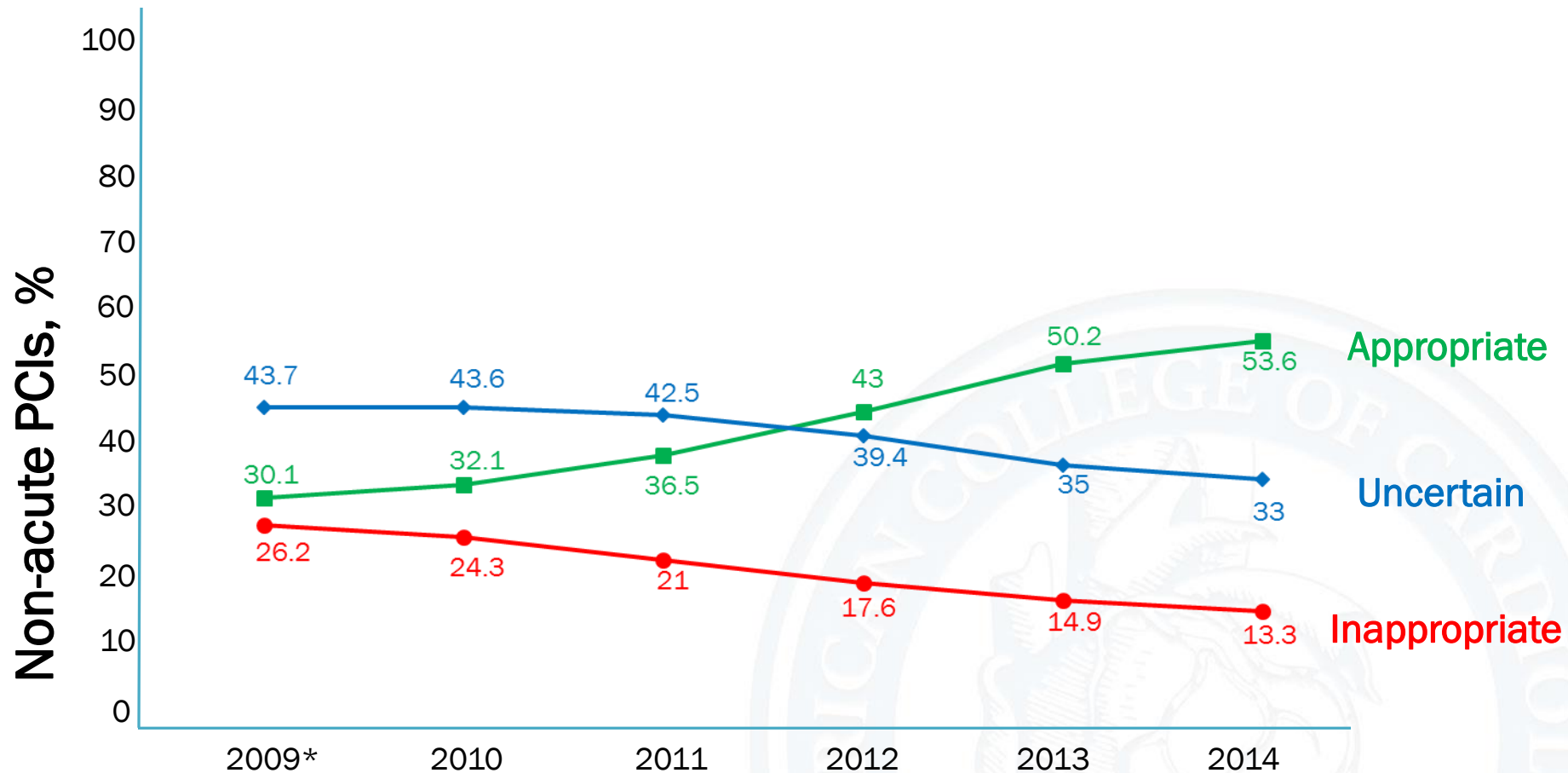


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Baseline Characteristics Among Patients Undergoing Non-acute PCI

| Patient Characteristics | 2010 | | 2014 | | Absolute Change from 2014-2010 | |
|--|--------|------|--------|------|--------------------------------|--------------|
| | # | % | # | % | # | % |
| N | 89,704 | 22.6 | 59,375 | 14.9 | -30,329 | -7.7 |
| Angina | | | | | | |
| No symptoms | 26,313 | 29.3 | 12,890 | 21.7 | -13,423 | -7.6 |
| CCS I or II | 47,710 | 53.2 | 23,689 | 39.9 | -24,021 | -13.3 |
| CCS III or IV | 15,681 | 17.4 | 22,796 | 38.4 | +7,115 | +21.0 |
| No. of antianginal medications | | | | | | |
| 0 | 27,076 | 30.2 | 11,521 | 19.4 | -15,555 | -10.8 |
| 1 | 42,610 | 47.5 | 27,031 | 45.5 | -15,579 | -2.0 |
| >=2 | 20,011 | 22.3 | 20,816 | 35.1 | +805 | +12.8 |
| Stress test results (those with a test) | | | | | | |
| Unavailable | 10,328 | 18.4 | 4,708 | 11.2 | -5,620 | -7.2 |
| Low or intermediate risk | 33,468 | 59.5 | 23,475 | 55.6 | -9,993 | -3.9 |
| High risk | 12,460 | 22.2 | 14,018 | 33.2 | +1,558 | +11.0 |
| Multi-vessel CAD on angiography | 39,231 | 43.7 | 28,192 | 47.5 | -11,039 | +3.8 |

Patient-level Trends in Appropriateness of Non-acute PCI

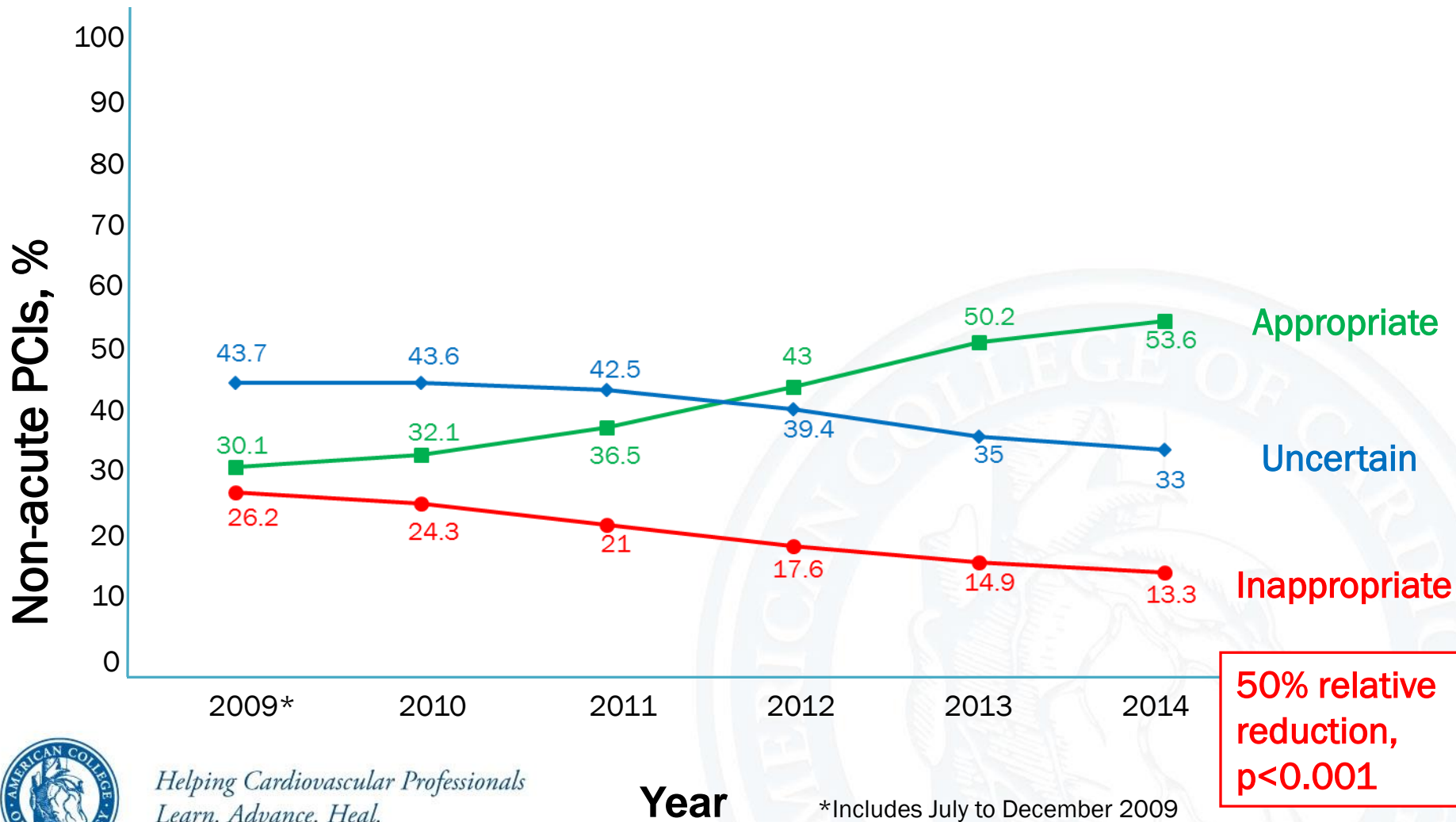


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Year

*Includes July to December 2009

Patient-level Trends in Appropriateness of Non-acute PCI

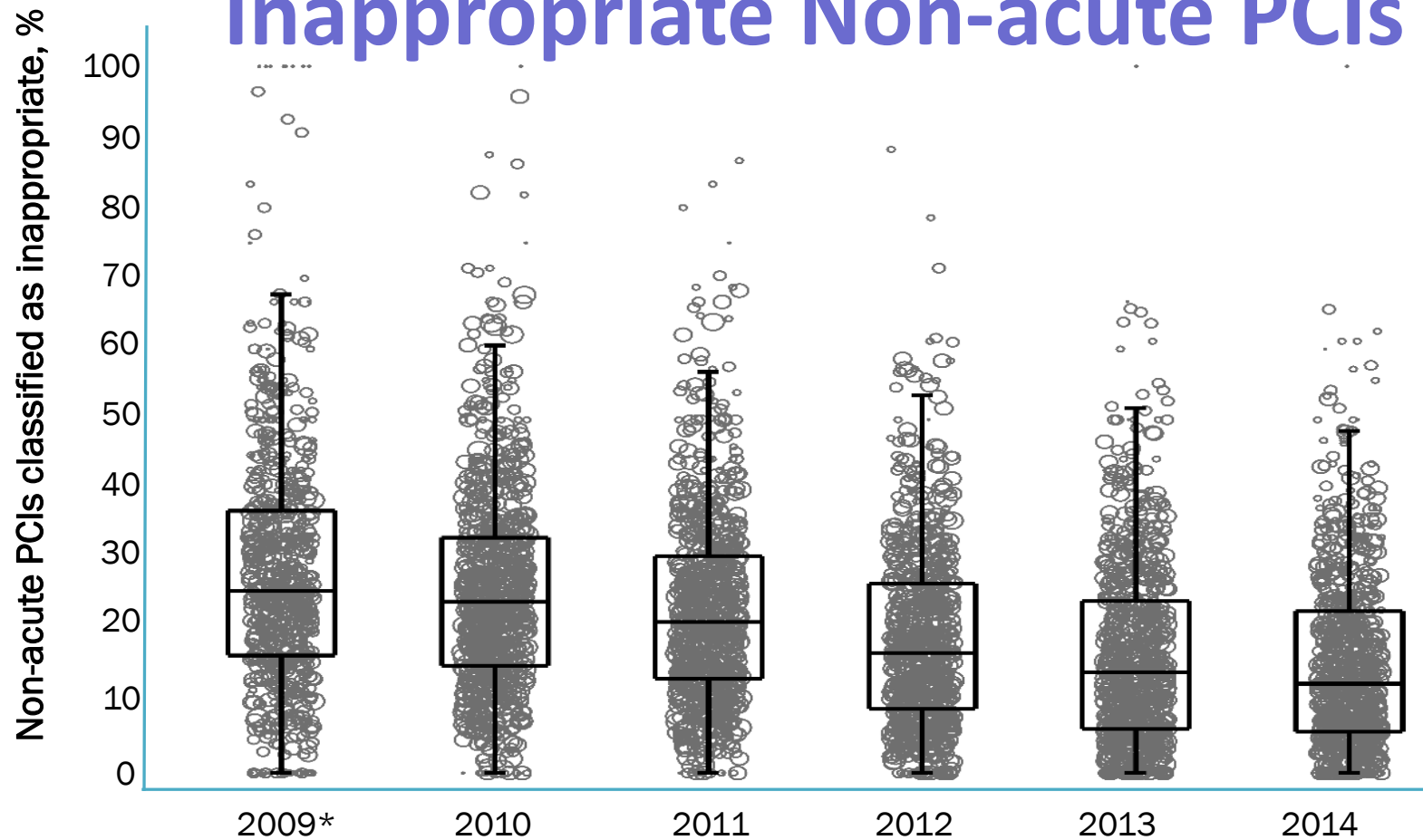


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Year

*Includes July to December 2009

Hospital-level Trends in Inappropriate Non-acute PCIs



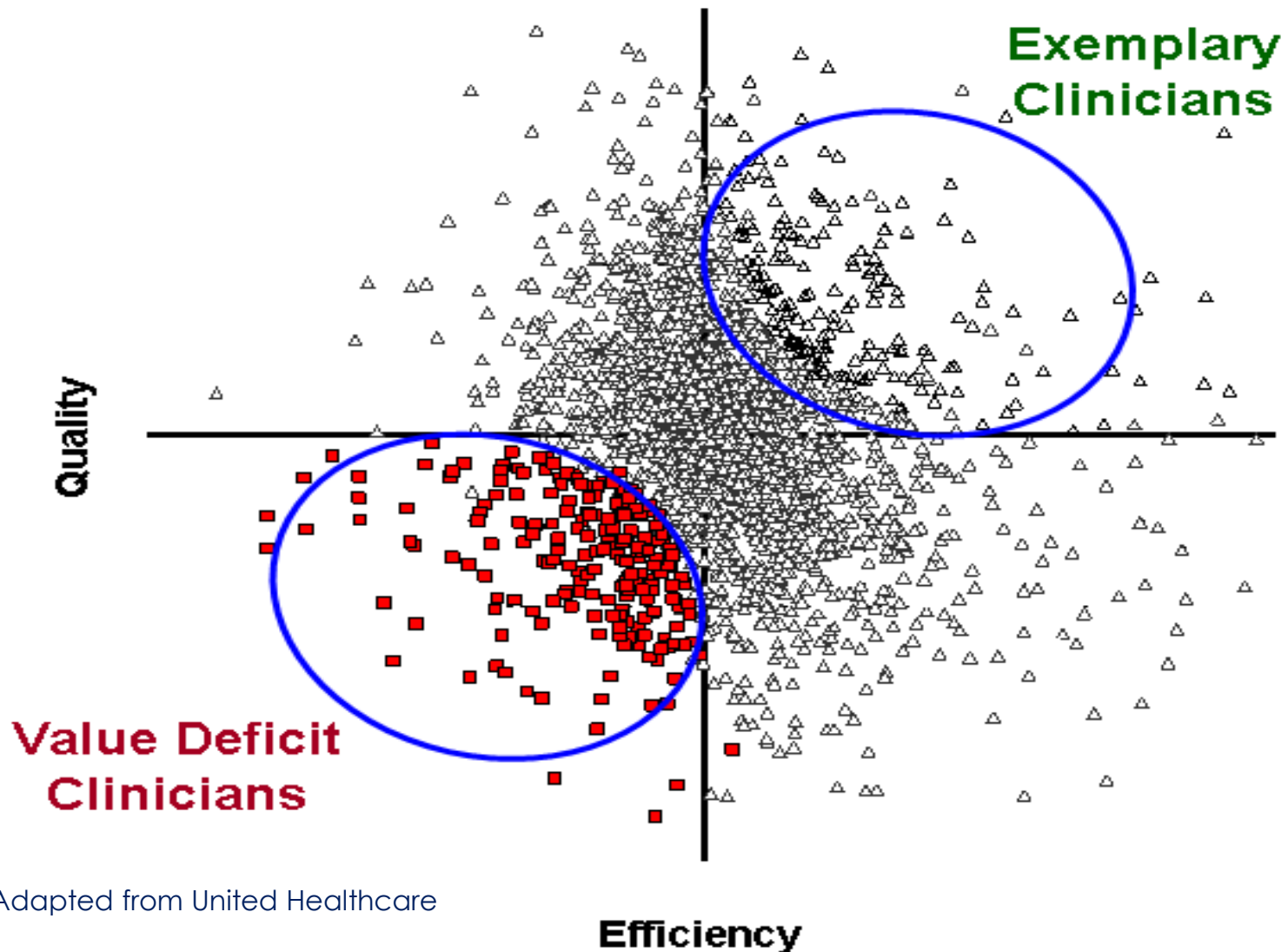
| Year | Median (IQR) |
|-------|------------------|
| 2009* | 25.8 (16.7-37.1) |
| 2010 | 24.3 (15.2-33.3) |
| 2011 | 21.4 (13.3-30.7) |
| 2012 | 17.0 (9.1-26.8) |
| 2013 | 14.3 (6.3-24.4) |
| 2014 | 12.6 (5.9-22.9) |

Year

*Includes July to December 2009

We Can All Improve

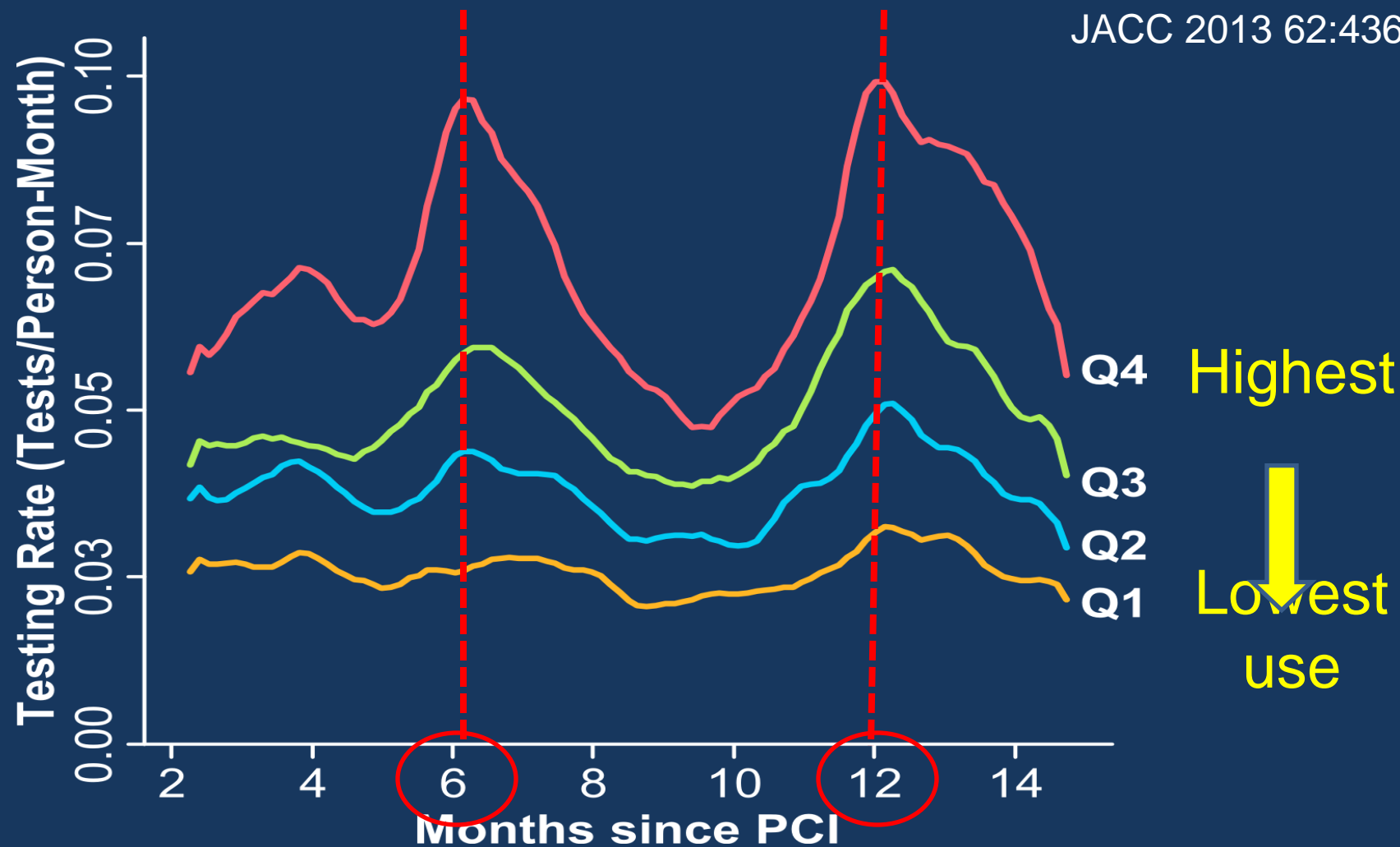
Physician Variation



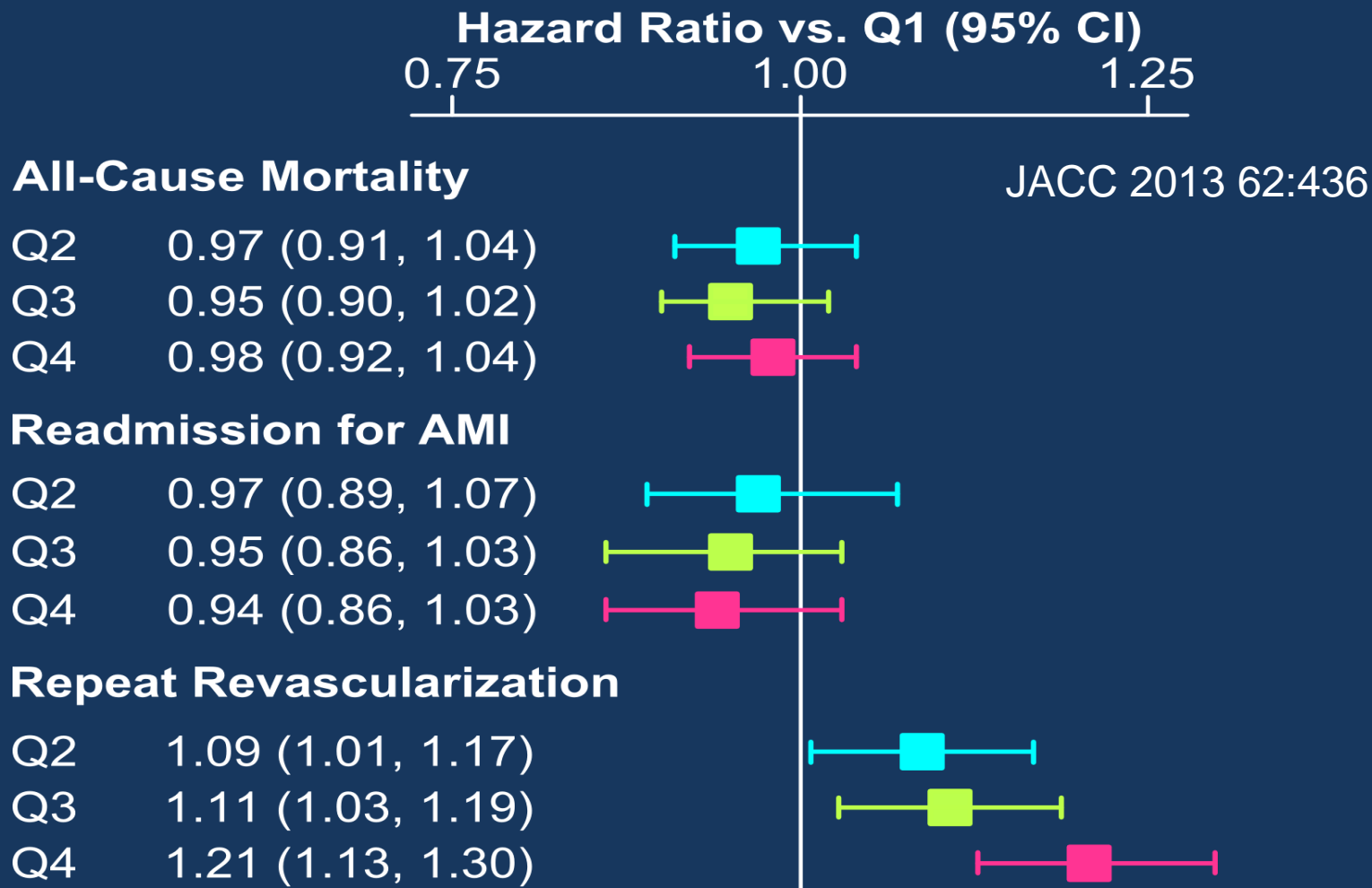
Source: Adapted from United Healthcare

Stress Testing Post PCI by Use Frequency: Relationship to Time From PCI

JACC 2013 62:436



Outcomes by Intensity of Site Use of Post PCI Stress Testing



Purchasers' Concerns (Also Every Patient's Concern)

**Evidence Based Guidelines
A Method to Reduce Variation
Shared Decision Making
Fiscal Stewardship**



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Payer Demands for your NCDR Data

Blue
Distinction®

2015 Cardiac PCI Measures



Does your facility have the CathPCI® Registry 2013 Q3 Institutional Outcomes Report OR the 2013 Q3 CathPCI® Registry Institutional Outcomes Report including 4 consecutive quarters of data where "yes" is marked under "included in Executive Summary" for having passed all CathPCI® Registry data quality report checks in the "Inclusion Summary" on page 3?

YES NO

If YES, please refer to both the Executive Summary and "PCI" detailed sections of your facility's CathPCI® Registry 2013 Q3 Institutional Outcomes Report OR 2013 Q3 CathPCI® Registry Institutional Outcomes Report to answer the following questions.

Professional Responsibility

Journal of the American College of Cardiology
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ISSN 0735-1097/\$36.00
doi:10.1016/j.jacc.2010.12.019

Health Services Research: Commentary

The Privilege of Self-Regulation

The Role of Appropriate Use Criteria

Manesh R. Patel, MD,* Michael J. Wolk, MD,† Joseph M. Allen, MA,‡ Gregory J. Dehmer, MD,§
Ralph G. Brindis, MD, MPH||

Durham, North Carolina; New York, New York; Washington, DC; Temple, Texas; and Oakland, California

“Although this sounds onerous, is it not better for us to impose these controls on ourselves than what is done currently by payers to control costs and procedures.”

JACC 2011; 57:1557-59

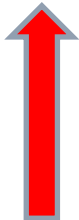


Stanford Clinical Excellence Research Center: AIM Project

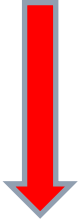


High Value Care

=



Health Outcomes



Cost

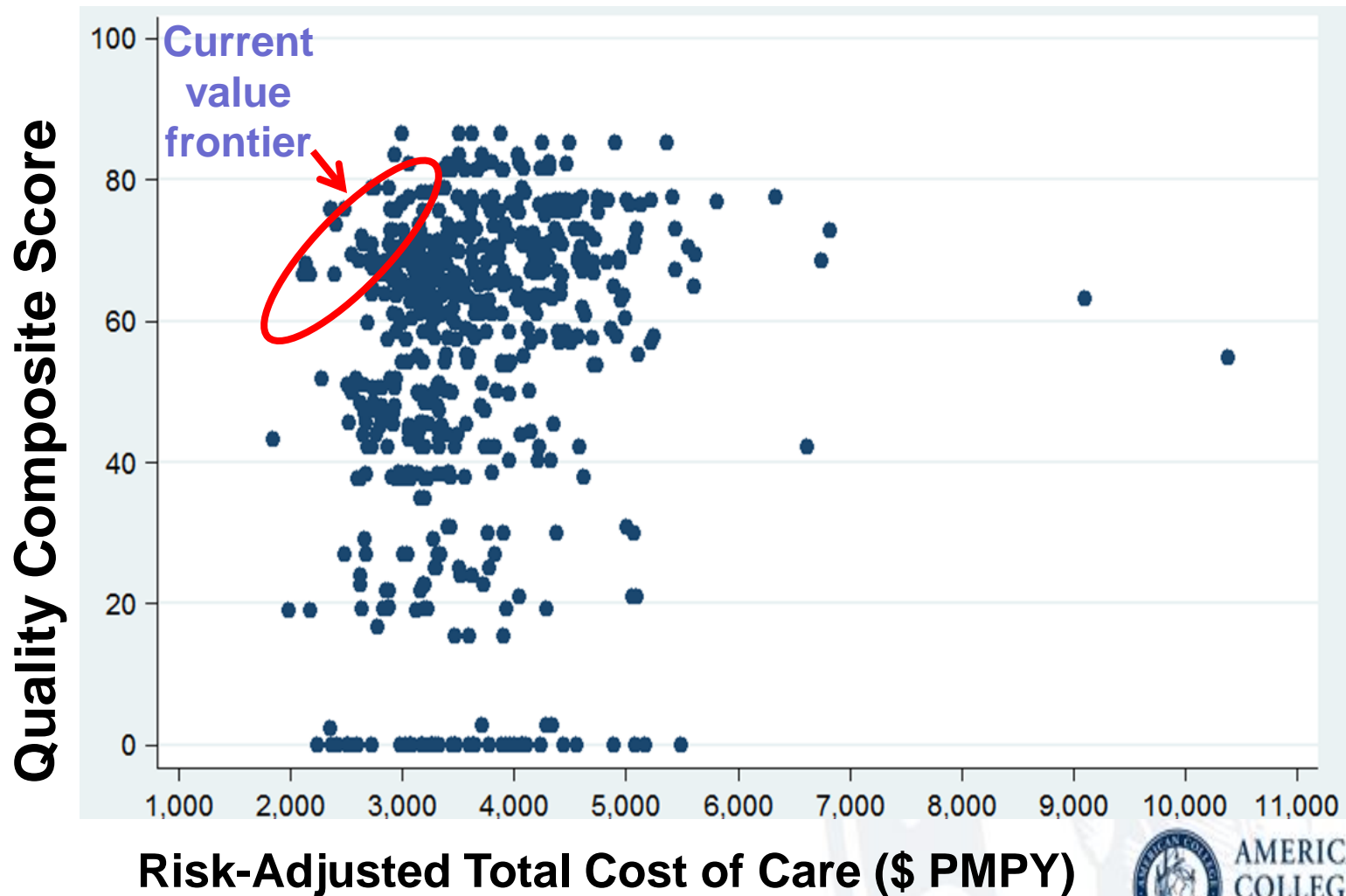
Waste



AMERICAN COLLEGE of CARDIOLOGY

The 30% *Static* Efficiency Gain Opportunity

*Performance of 200+ California Physician Groups
Currently Accountable for Value*



“Secret Sauce” of High Value

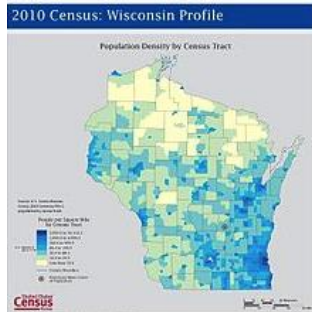
- Patient-Centric Appropriate Care (conservative practice style)
- Team Based Care with NPs, PAs, RNs, MAs functioning at peak of scope of practice
- Avoidance strategies for Emergency Room visits
- Avoidance strategies for hospital readmissions
- High Adherence to CV Performance Measures, Clinical Practice Guidelines and AUC– Common theme- MD DATA OWNERSHIP!!
- Strategies insuring patients’ easy healthcare access



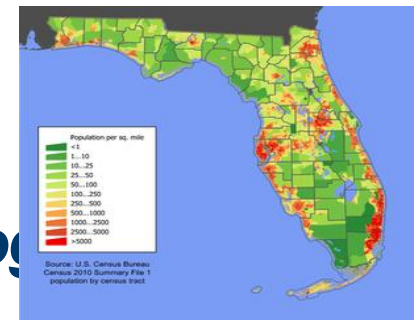
SMARTCare:

Smarter Management And Resource Use
for Today's Complex Care Delivery

Center for Medicare Medicaid Innovation Project Grant



***Florida Chapter
Wisconsin Chapter
American College of Cardiology***



The project described was supported by Grant Number 1C1CMS331322 from the Department of Health and Human Services, Centers for Medicare & Medicaid Services.

The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the US Department of Health and Human Services or any of its agencies

SMARTCare:

Smarter Management And Resource Use for Today's
Complex Care Delivery

A collaborative effort convened by the ACCF to:

Improve the Cardiovascular Outcomes

- ☑ *Appropriate Access to Care*
- ☑ *Improving Quality*
- ☑ *Reducing Cost and Enhancing Value*

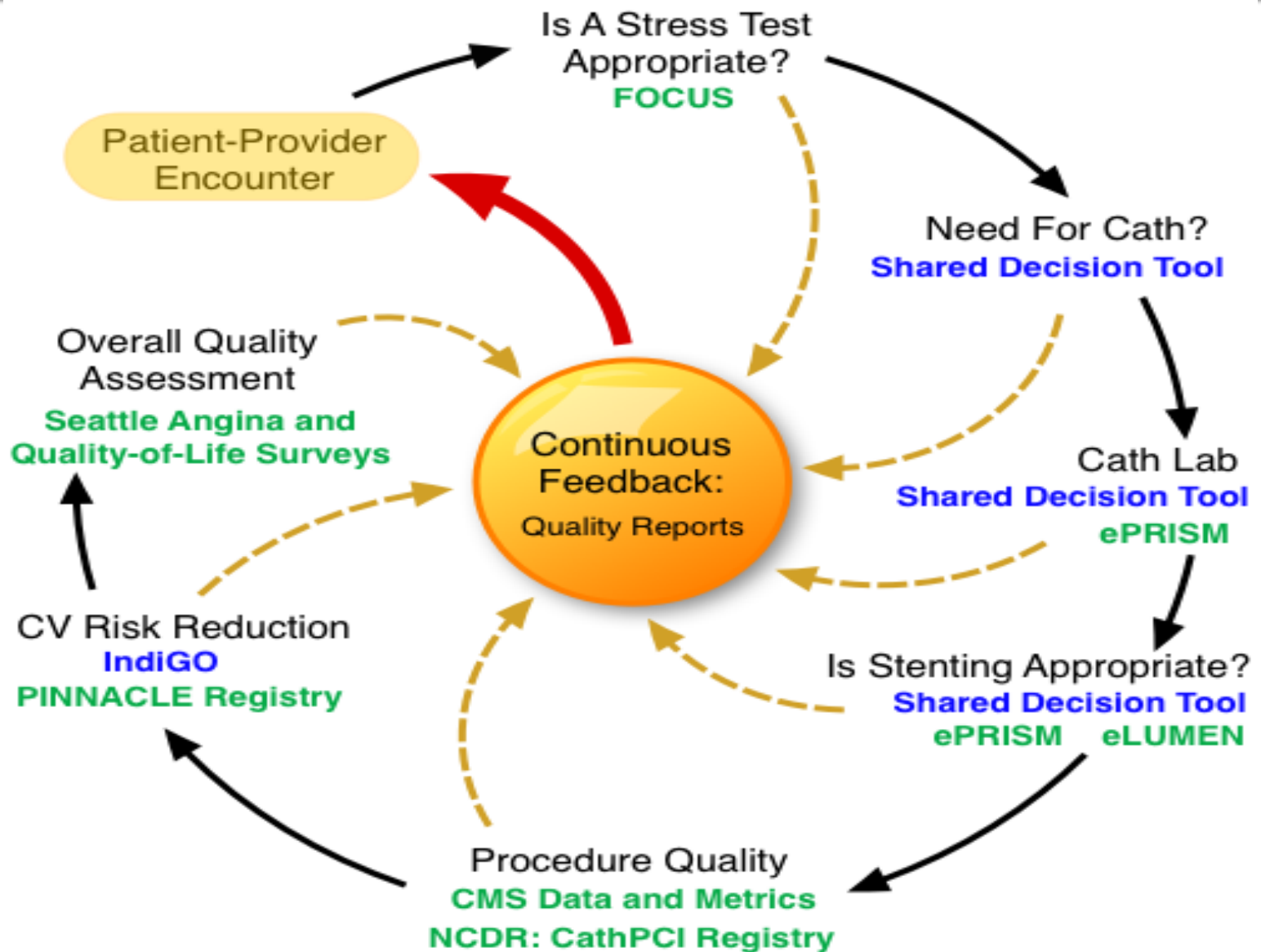
Improve the bedside application of Science

- ☑ *Evidence-based Guidelines*
- ☑ *Technology at the point-of-care*
- ☑ *State-of-the-Art Data Analytics*

Reduce unnecessary variation in resource use

- ☑ *Clinical risk adjusted cost analysis*
- ☑ *Utilization of NCDR methodology*

SMARTCare: Overview



SMARTCare: Expected Impact

- Decrease imaging not meeting AUC for 12-15% to <8%
- Decrease PCI not meeting AUC from 9-20% to <6%
- Reduce rate of bleeding and complications to < 2%
- Improve patient quality of life - SAQ
- Decrease average case costs by 15-20%
- Improve to > 90% risk reduction goal & maximal therapy



Your Future: 2017-2020

- Embracing and implementing MACRA
- Changes in the delivery of care and payment structure
- Bundled care may provide more ROI than ACOs
- Population Health
- Disease Management Concept– CAD
 - Less geared for “rewarding” procedures but patient-focused with clinical outcomes and symptom management (angina)
- Shift in care to the out-patient setting
- “Let the sun shine”- move to transparency and Public Reporting
- Challenge to scale and spread “what works”



“Nobody knew that health care could be so complicated”



The Work Ahead of Us!!!!



Albert Einstein's Desk on his Death April 18, 1955



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