Creative Thinking: Bundled Payment Models in Complex Medical Settings

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Disclosure

- Dr. Brill is an employee of FAIR Health, Inc.
- The views, opinions and positions expressed reflect those of the author, and do not necessarily reflect the official views of FAIR Health.

Change Management

- “Every great decision creates ripples, like a huge boulder dropped in a lake. The heavier the decision, the larger the waves, the more uncertain the consequences.” - Benjamin Disraeli

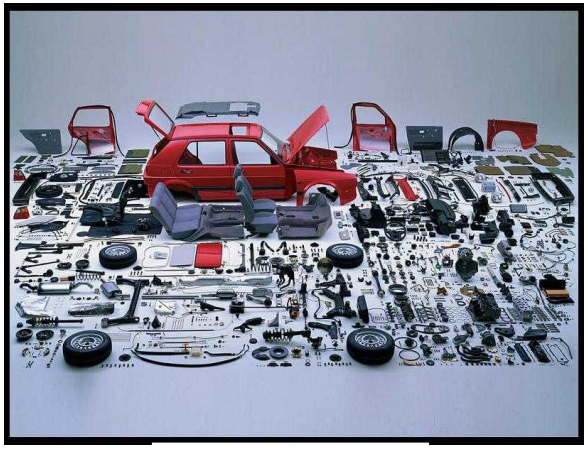
- “People wish to learn to swim and at the same time to keep one foot on the ground.” - Marcel Proust

- “The only person who likes change is a wet baby.” – Mark Twain

Today's Reality: The Medical Industrial Complex

- Currently, Medicare and payors makes separate payments to providers for the services they furnish to patients for a single illness or procedure
  - Fragmented care, practiced in silos
  - Minimal coordination across providers and health care settings
  - Lack of access to longitudinal data
  - Payment is based on how much a provider does
  - Not based on how well the provider does in treating the patient; performance measures and benchmarks are lacking

Three views of consumer “shopping”



Fee for Service

Bundle

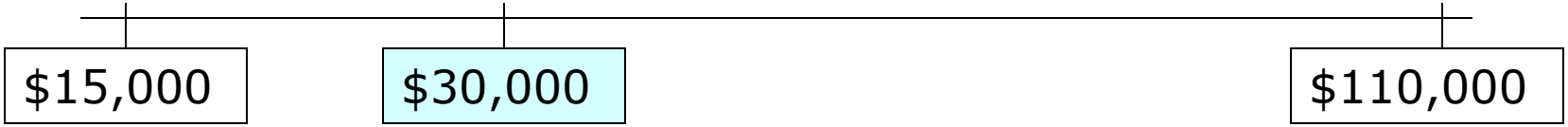
Capitation

Payment models

- Reference pricing
  - Orthopedic pilots
- Bundled payment
  - Numerous commercial plan implementations
  - CMS Acute Care Episode demonstration in Southwest
  - CMMI Bundled Payments for Care Improvement
- Episodes of care
  - Most commonly-used metric to retrospectively define provider efficiency by commercial health plans
  - Foundation of CMS Grouper
    - ACA Section 3003 Improvements to the Physicians Feedback Program

Reference Pricing

- To address variation in pricing, health plan identifies a cap ("reference price") for a clinical service.
  Examples
  - CalPERS: Hip Replacement



  - Safeway: Colonoscopy

- Wilson, *Private Sector Approaches to Health Care Cost Containment: A Closer Look*, Consumers Union and RWJF, November 2013.

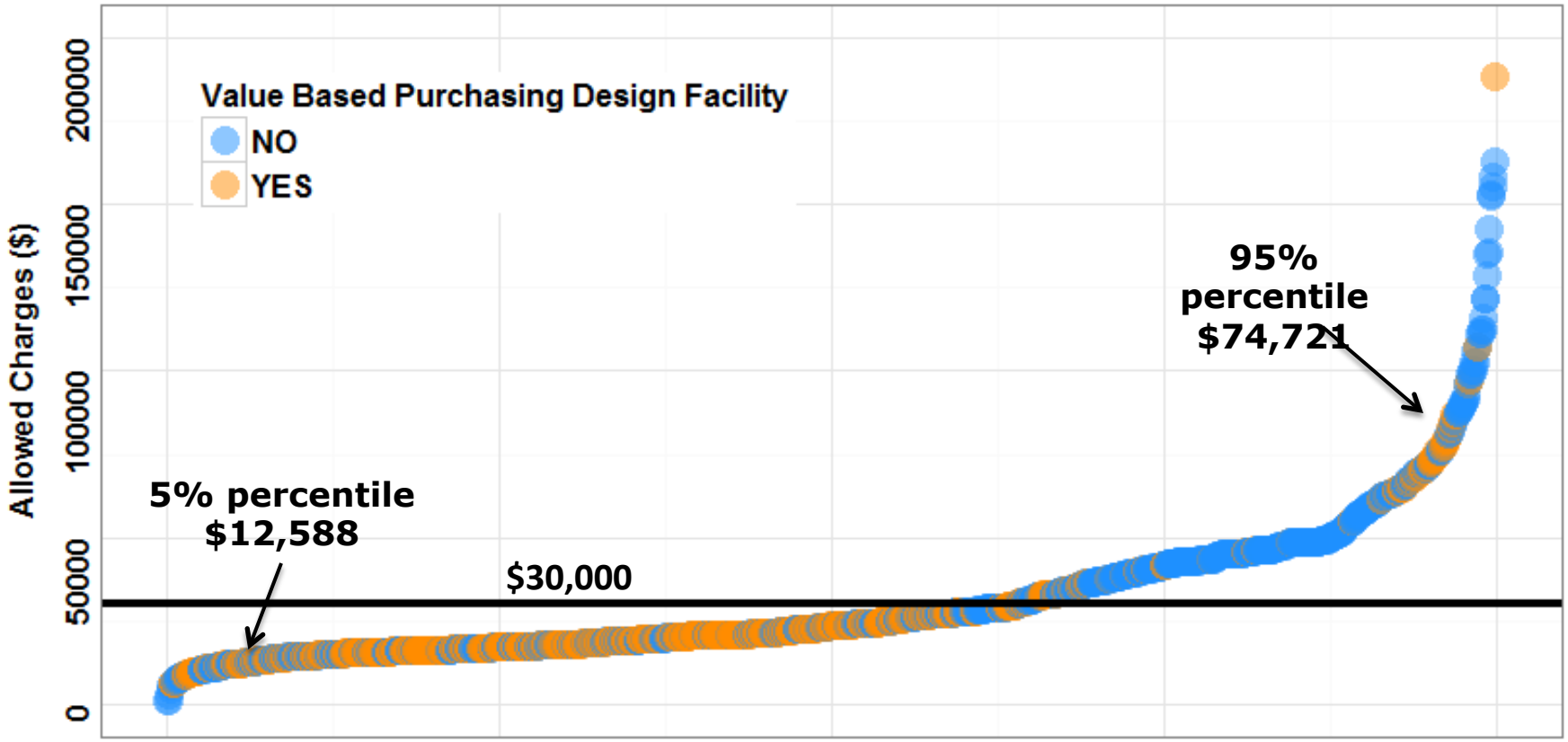
Reference Pricing

- Enrollees get a list of providers who accept the reference price
- Enrollees pay the balance if the provider charges more than the reference price
- CalPERS:
  - After instituting reference pricing for hip/knee replacements, 20.2% decline in spending
  - Savings due to
    - Price reductions from higher cost facilities
    - Greater share of procedures performed at 'value priced' facilities

Robinson & MacPherson. "Payers Test Reference Pricing and Centers of Excellence to Steer Patients to Low-Price and High-Quality Providers," Health Affairs 2012

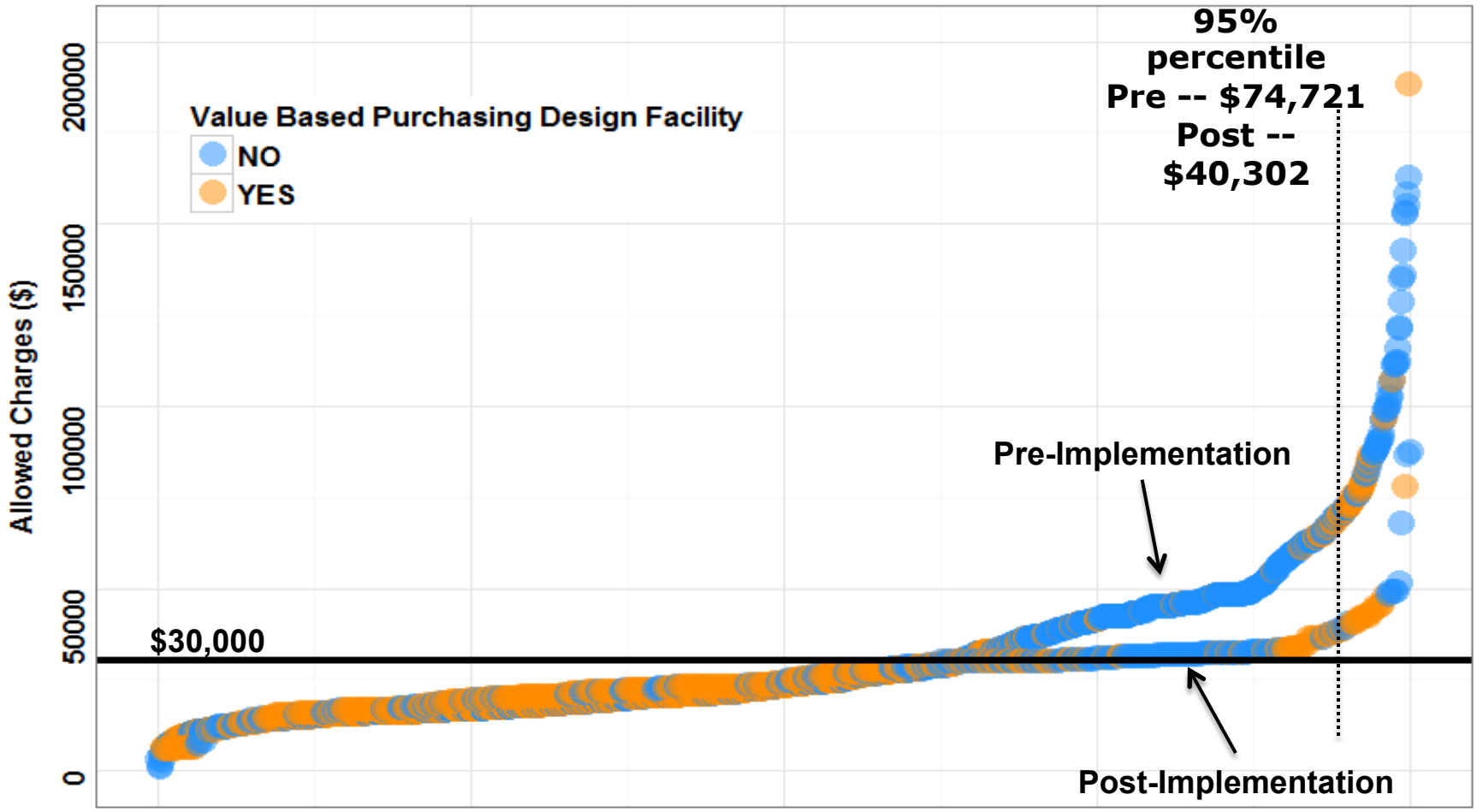
Why choose $30,000 for allowed charges?

- High volume, high quality facilities with geographic dispersion were charging less than $30,000



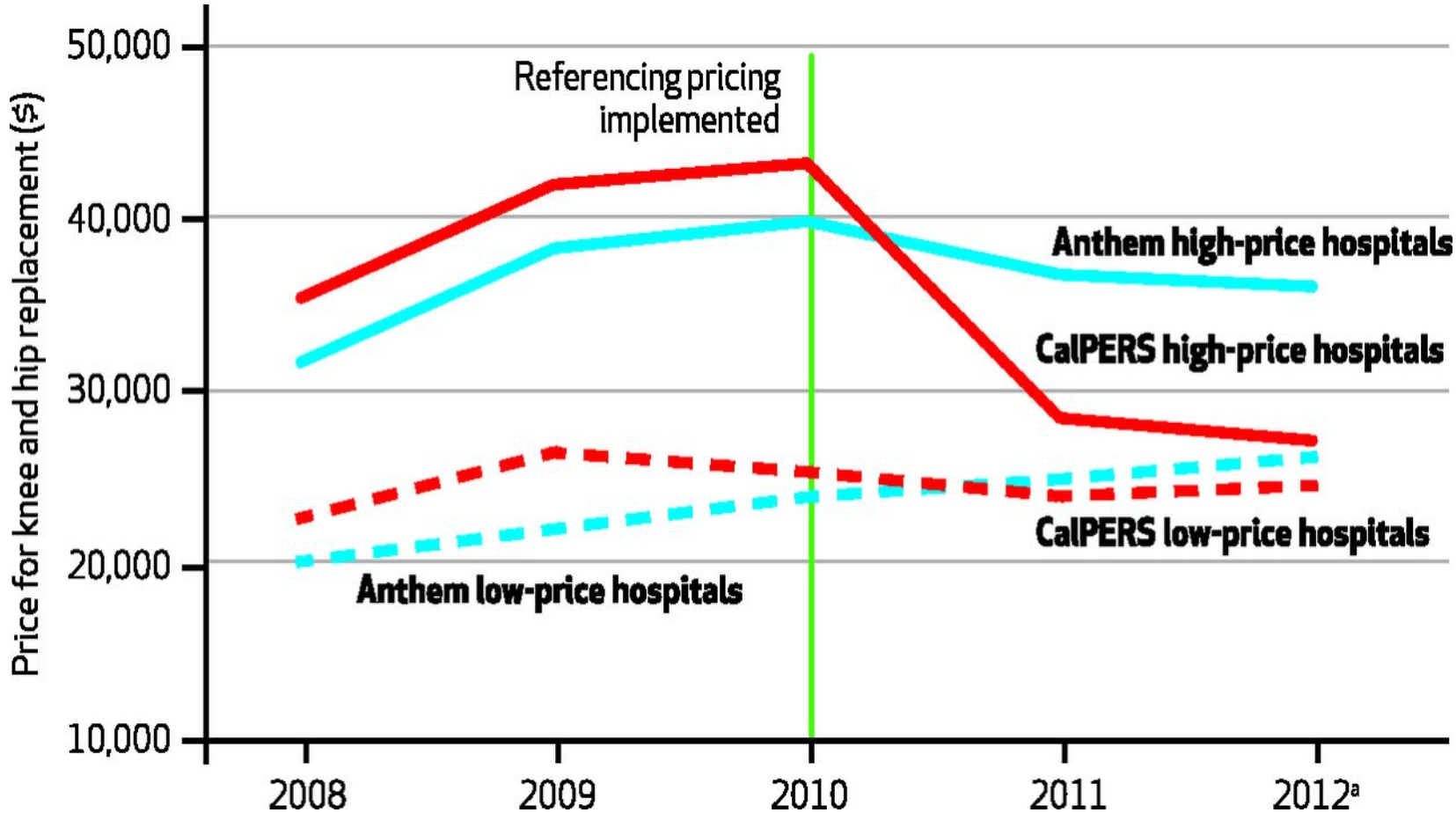
University of California, Berkeley analysis, June 2013. Data for 2008 to 2010

Allowed charges for the hip or knee replacement pre- and post-implementation of value based purchasing design program



University of California, Berkeley analysis, June 2013. Pre-implementation data for 2008 to 2010 and post-implementation data for 2011-2012

Reference Pricing – not just theory



- Robinson JC, Brown TT. Health Affairs 2013; 32: 1392-1397

What are Bundled Payments?

- Single, lump-sum payment for a condition or treatment
- Covers a pre-defined set of services across multiple providers and multiple settings for an entire episode of care
- Aims to improve the value of health care (quality/cost) by:
  - Lower costs to payors, purchasers, patients
  - Improving collaboration among providers
  - Improving patient outcomes
  - Reducing the incidence of complications
  - Align provider incentives across the care continuum
- Market opportunities to develop and implement bundled payment models are increasing

Definitions are important

- You can assess the episode cost performance of a provider without bundling payments
  - Compare the expected costs for an episode with actual costs incurred
- You can't implement bundled payments without defining the episode for which you're bundling services:
  - DRGs bundle all facility services for a specific hospitalization episode
  - The ACE demo pays a single bundle that covers all facility and professional services for a specific hospitalization episode
  - The IHA TKR bundle includes stay and post-acute care costs
  - The PROMETHEUS chronic care payment program bundles all services – facility, professional, pharmacy, ancillary – for a chronic condition (and co-morbidities) for an entire year

Partnership for Healthcare Payment Reform

- Initiative sponsored by the Wisconsin Health Information Organization:
  - Provide superior healthcare at affordable costs
  - Total Knee Replacement Pilot
    - Bundled Payment with a private payor
  - Collaborative communication and feedback amongst participants (providers and payors)
  - Ability to design episode of care and required performance measures

Goals of new models of payment and care

- A different unit of accounting:
  - Not individual professional services or single instances of a stay
  - Not all services for any reason
- A group of services naturally bound by a medical condition or event/intervention:
  - Maintains a natural ability for the physicians to arbitrage the supply chain and treatment options
  - Creates a natural compression of waste

If done right, good results

- Episode-based bundled payments
  - Easier for individual physicians, small physician groups, and academic centers to manage, since a given physician is often involved in the full course of a care episode
  - Encourages efficiency in treating the conditions on which spending is high, regardless of whether the region as a whole is low-cost
- Patient-based payment
  - Accepting global payments for all of a particular patient's care generally requires a high degree of integration among multiple physicians
  - Achieves no additional savings if the region as a whole is not high-cost

Cutler D, Kaushik G. "The Potential for Cost Savings through Bundled Episode Payments." New England Journal of Medicine 366;12 March 22, 2012

What do we want to achieve?

- Physicians, hospitals, and other healthcare professionals as prudent stewards of the care of the patient
  - Doing well financially by doing right for the patient
- Significant reduction in unnecessary care
  - The right care in the right amount in the right setting at the right time for the right patient
- Significant reduction in potentially avoidable complications
- Manage financial risk for payers, purchasers, providers and patients

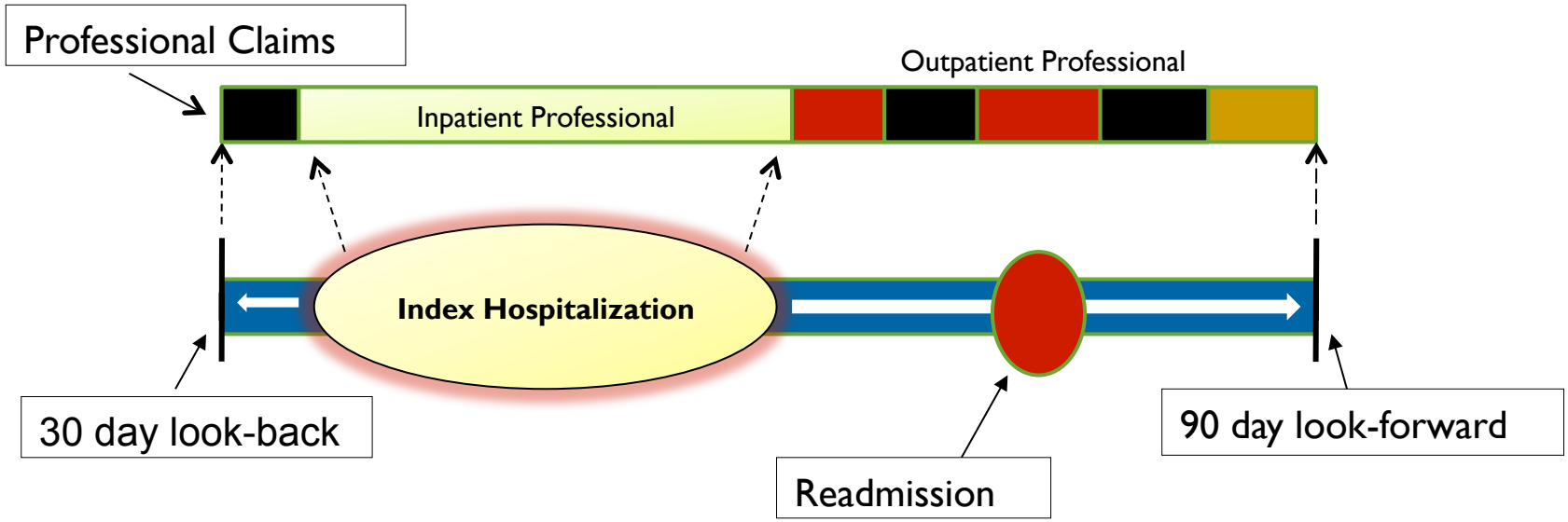
Bundled Payment Challenges

- Defining a clear “beginning” and “end” point of the episode
- Services included and excluded in the bundle
- Claims administration and adjudication
- Distributing payment among practitioners involved in episode of care
- Managing utilization / referrals / payments to non-bundle providers (limiting leakage)
- Patient accountability and responsibility
- Performance measurement

Distributing Payment

- Prospective Contract:
  - Lump sum payment is delivered to practice
  - Distributes payment to practitioners involved in episode of care (Physician, pathology, anesthesia, facility, etc.)
- Retrospective Contract:
  - Practice continues to receive fee-for service payments
  - Retrospectively calculates reimbursement paid for patients participating in bundle
  - Distributes savings among practitioners if quality and cost targets are met

What is an Episode-of-care?

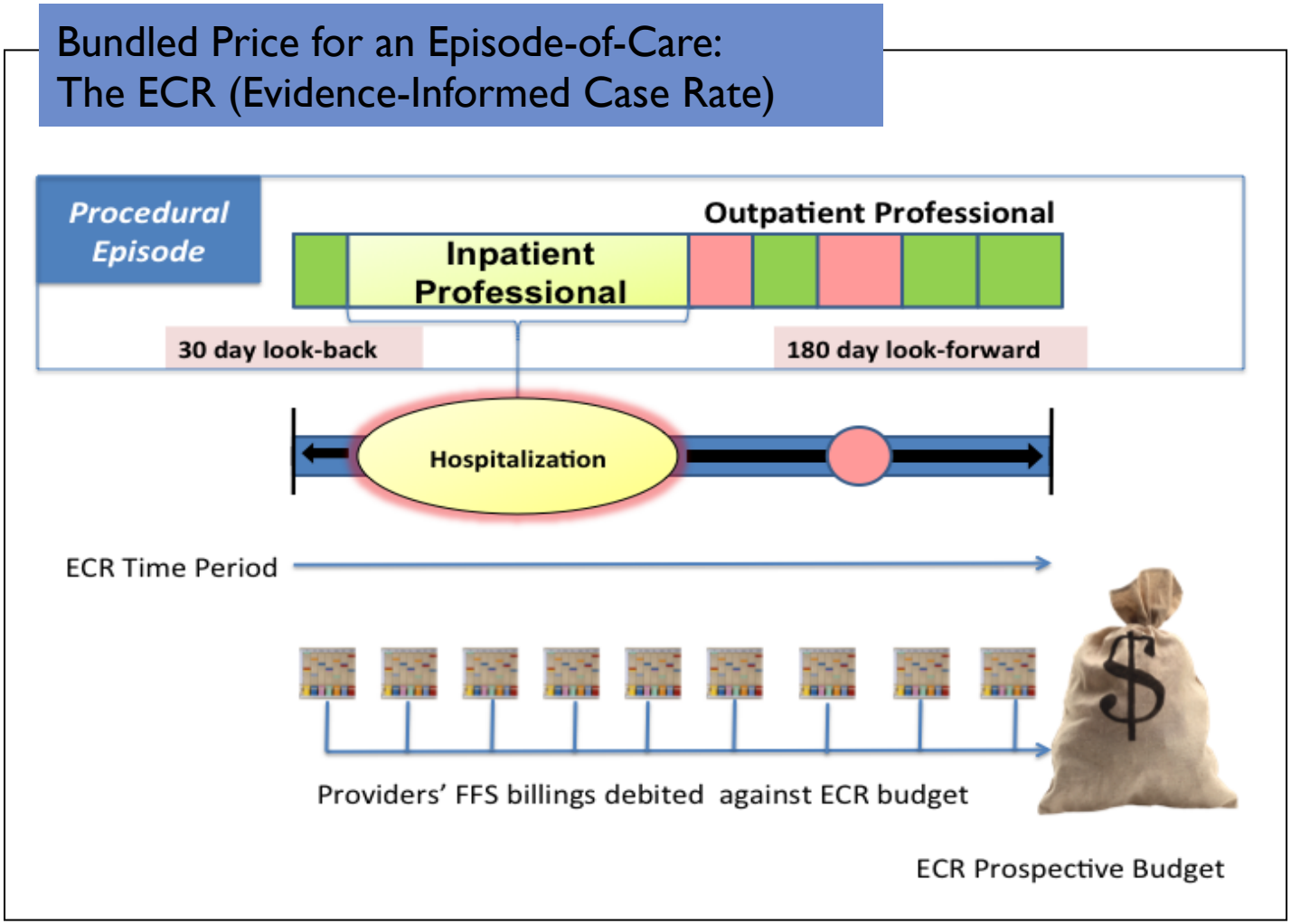


Key:

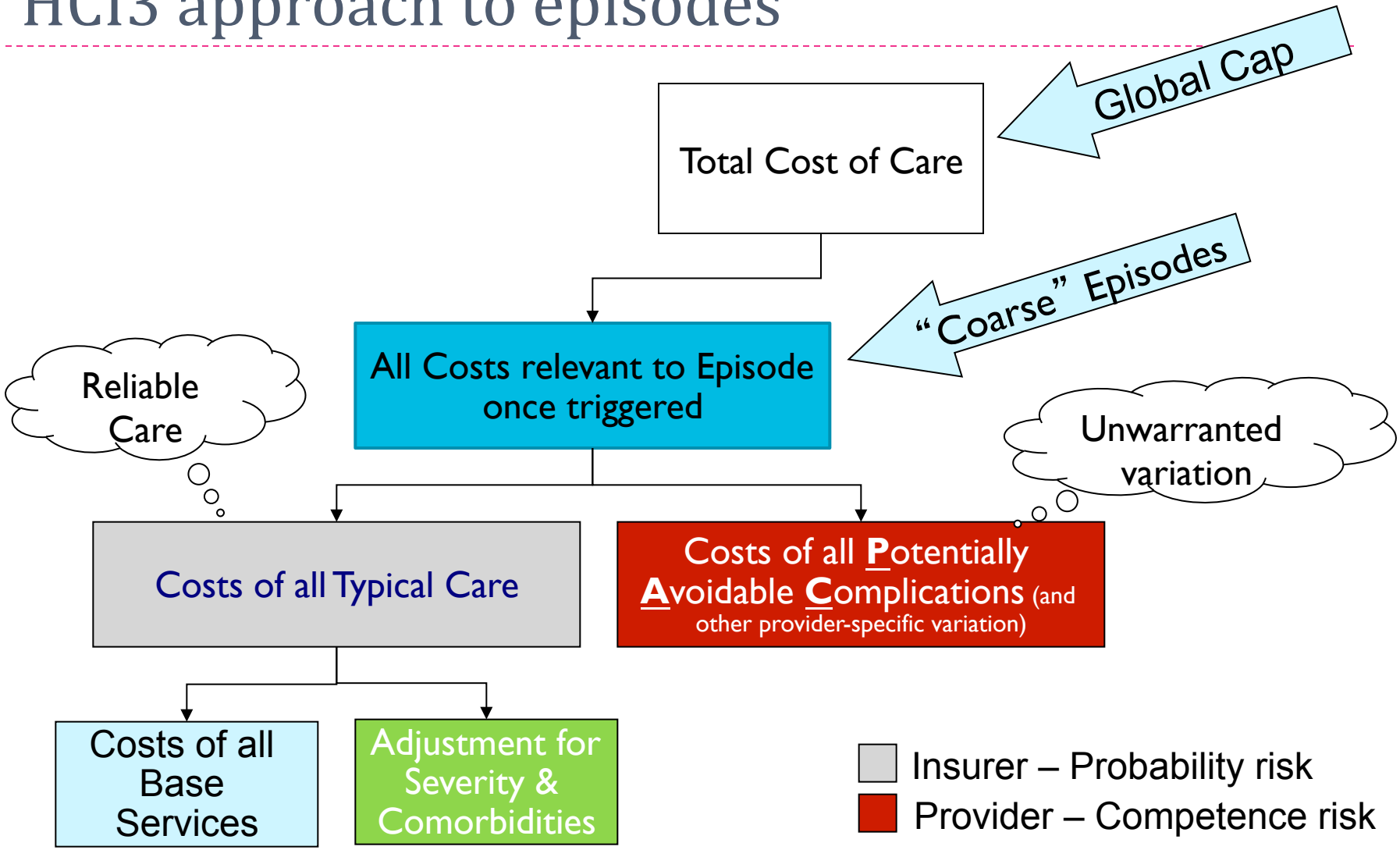
- Irrelevant
- Either typical or PACs
- Claims with potentially avoidable complications (PACs)
- Claims for typical care and services

Episodes look at all clinically related services for a discrete condition / procedure for the entire continuum of care: management, surgery, ancillary, lab, pharmacy services for a given time frame (one-year, start of symptoms to finish)

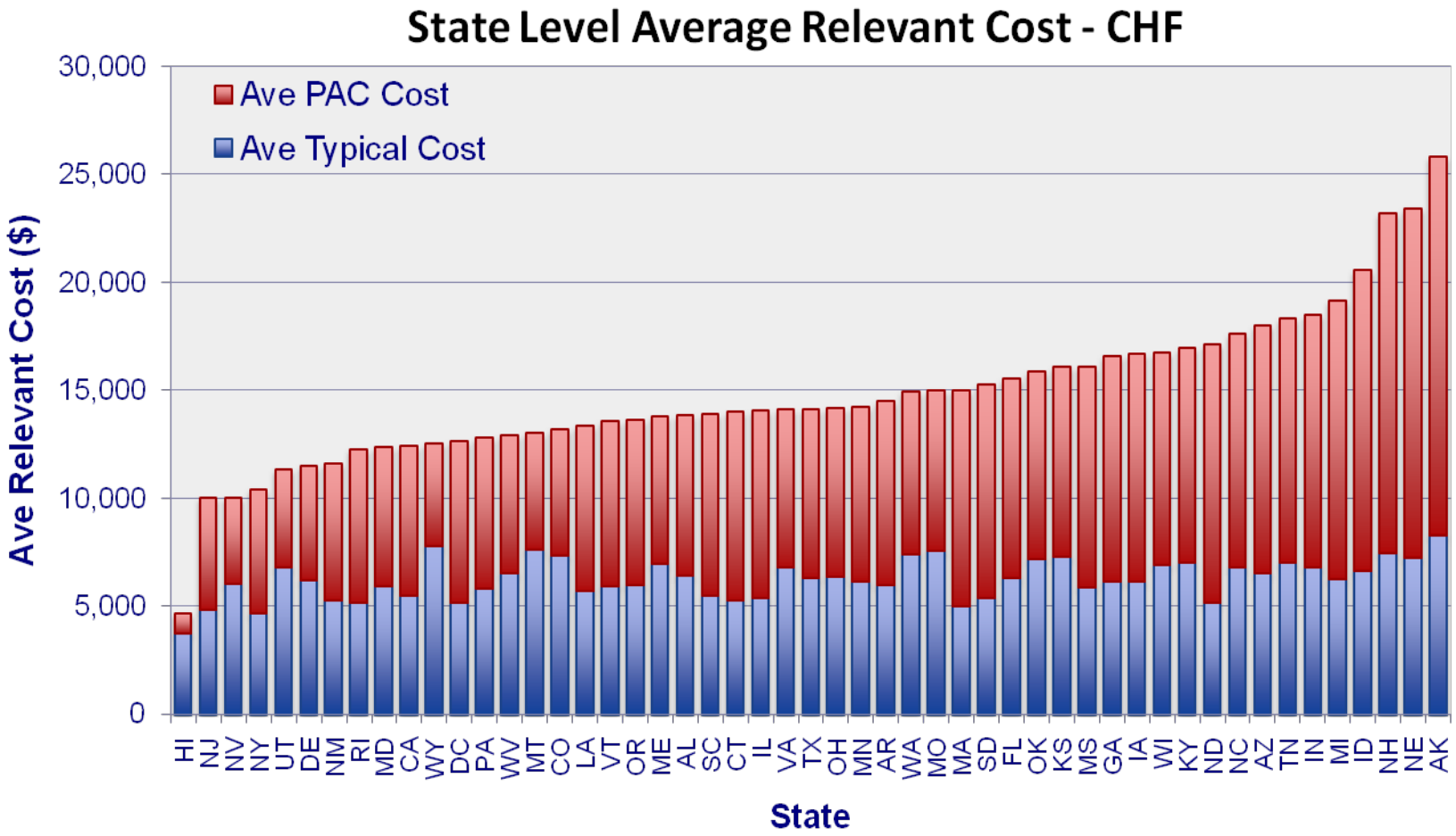
Bundled Payments change the Unit of Account



HCI3 approach to episodes



Variation in total costs is mainly due to variation in potentially avoidable complication (PAC) costs



What should be the goal of bundled payment?

- Focus providers on the good management of patients and to reward them for that management.
- Manage variation (e.g. limited heterogeneity of procedures or underlying population)
- Focus on the right zone of "arbitrage":
  - More efficient suppliers
  - More effective treatments
- Include provisions for managing financial risk

Impact of Variability on Pricing

- Imputing variability in the price due to patient mix
  - Pricing bundles by MSDRG
  - Blending all patients, irrespective of
    - Their reason for admission (as evidenced by the principle diagnosis code)
    - Or the specific procedure done (as evidenced by the principle procedure code)
- Creating a price by principal diagnosis code
  - Reduces the patient mix variability
  - Creates more clinical homogeneity around the pricing

Outliers

- Eliminating outliers, both high and low
  - Patients who die during the stay
  - Cases that are linked to trauma or other uncontrolled event
  - No assurance that these two types of outliers might balance themselves out over time
  - Potential gains or losses could be simply based on the luck of the draw (the selection of patients) during the pilot year
- While all patients should be included
  - Provider should have an opportunity to request adjustments based on adverse selection
  - Negotiated episode price should exclude outlier patients

Adequate sample size

- Inadequate sample sizes
  - Common for providers to have small sample sizes of patients in a MS-DRG, or for a specific procedure, or with specific principal diagnoses
  - Creating an episode price based on a small sample size will leave both payer and provider at total risk of a random draw
- Episodes with less than 25 -30 patients should not be priced, but rather included for observation
  - If the number of patients in an episode goes above the minimum agreed sample, then they would become subject to a bundled price based upon the agreed-upon formula for that episode

Stop Loss

- Stop loss
  - The ceiling (per episode or across episodes) above which the provider is no longer at financial risk
- Considerations for a bundled payment
  - Episode-specific
  - Aggregate
- Episode-specific
  - Expressed as a number of standard deviations above the mean historical price for the bundle
  - Representative calculation: historical average plus three standard deviations
- Aggregate
  - An amount above which the providers feel that they would be at serious financial harm

Upside and downside risk

- There is no limit to the upside risk except for the natural cost of providing the episode.
  - If a team of providers can produce stem cell therapy for $80,000 on average, with a “bid price” of $95,000 per episode, the team could earn $15,000 per episode.
- Downside risk can be limited by procuring re-insurance at a per-episode limit.
  - No different than re-insurance for transplants or any other episode
  - Carries a premium cost that is factored into the cost of the bundle
- Limiting the downside risk
  - Through selection of episodes that currently have wide variation and present opportunities for cost reduction

Risk sharing

- Two types of risks
  - Insurance risk
  - Technical risk
- Insurance risk
  - The risk that an episode will occur.
- Technical risk
  - The risk that technical mistakes will be made during the services provided for an episode
  - The risk incurred in selecting the types of services included in the episode
  - Should be almost entirely within the control of the providers

Opportunity for cost reductions

- The opportunity will vary depending on the episode
- Example: significant opportunity for hospitals to work with surgeons to reduce the costs of implants
  - Can lead to significant margin improvements per episode
- Some episodes have high rates of potentially avoidable complications.
  - Reducing PAC can lead to significantly improved margins per episode
- Example: PCI
  - Episodes, on average, have a 30% rate of avoidable complications
  - Reducing those by half would yield a savings per episode of 15% of current average price for the providers to share

Medical tourism = bundled payment programs

- Package price for joint replacement, CABG, obesity surgery, etc.
  - "All-in" fixed price for professional, facility, after-care
  - Includes travel and lodging for patient and companion
- Domestic
  - National employers (Lowes, Walmart, Boeing, etc.) teaming with providers (Cleveland Clinic, Mayo, Geisinger, etc.)
  - Patient – no copay, deductible
- International
  - Singapore, India, Thailand, Mexico, Grand Cayman, etc.

Geisinger Proven Care Process

- Identify eligible patients
- Document appropriateness
- Enroll and activate the patient and family
- Deliver evidence-based care
  - Relies on evidence-based standards to guide surgery and post surgical care
- Geisinger is paid a global fee
  - One fee for the entire identified period of time
  - Global fee includes 50% share of historical readmission rate
    - Guaranteed payer savings
    - Geisinger upside based on complication and readmission reduction and efficient care

Proven Care – Elective CABG

Proven Care by the Numbers (18 months)	Before Proven Care	With Proven Care	% Improvement/ Reduction
Average total length of stay	6.2	5.7	-
30-day readmission rate	6.9%	3.8%	44%
Patients w/ any complication	38%	30%	21%
Patients w/less than 1 complication	7.6%	5.5%	28%
Incidence of atrial fibrillation	23%	19%	17%
Neurological complication	1.5%	0.6%	60%
Any pulmonary complication	7%	4%	43%
Blood products used	23%	18%	22%
Re-operation for bleeding	3.8%	1.7%	55%
Deep sternal wound infection	0.8%	0.6%	25%

Program went live: February 2006
Number of procedures in first year: 181
Percentage of patients eligible to participate: 34% (under Geisinger Health Plan)

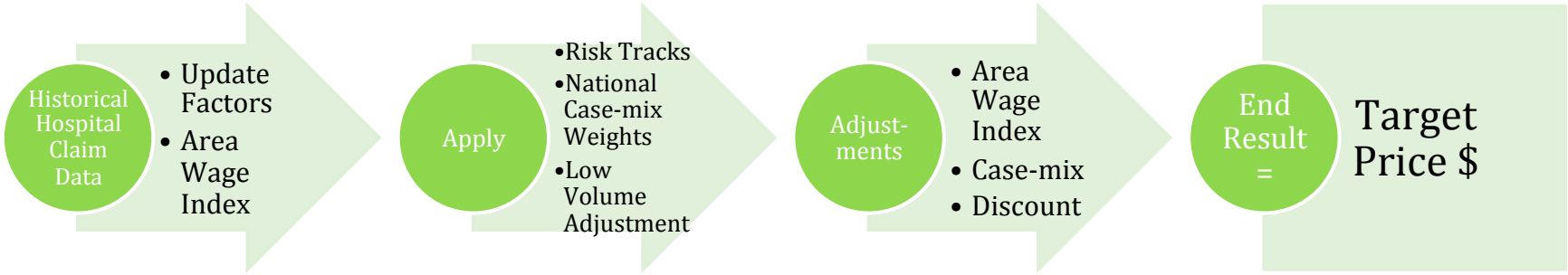
CMMI BPCI pilot

- Bundled payment for care improvement
- Opportunity for providers and other organizations to contract for a "user-defined" episode of care
- Four innovative payment models
  - Financial and performance accountability measures
  - Care redesign/enhancements
    - Evidence-based medicine
    - Standardized operating protocols
  - Improved care transitions
  - Potential to gainshare
- Need to include all patients in a selected MSDRG, and all MSDRGs in a MSDRG class.
  - In order to avoid the potentially perverse incentive of shifting patients from one MSDRG to another, or from selecting certain patients and not others.

BPCI Models of Care

- Model 1: Retrospective Acute Care Hospital Stay Only
- Model 2: Retrospective Acute Care Hospital Stay plus Post-Acute Care
- Model 3: Retrospective Post-Acute Care Only
- Model 4: Prospective Acute Care Hospital Stay Only

CMS Pricing Rules



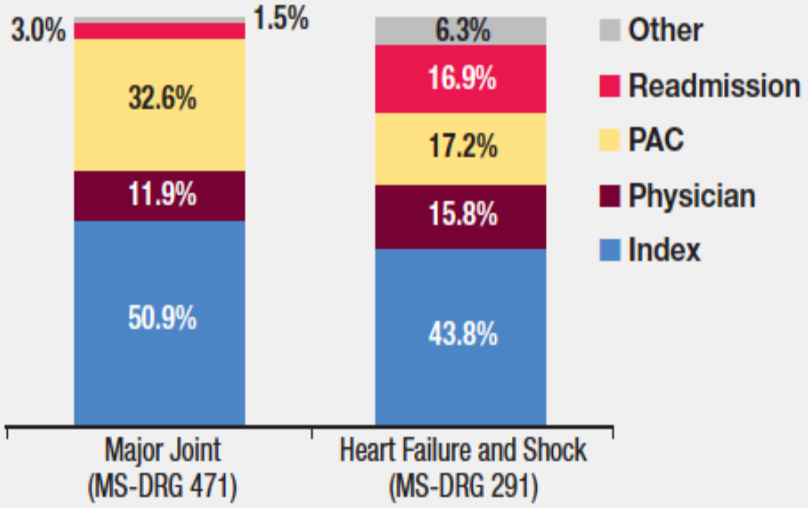
Net Payment Reconciliation Amount

CMMI-BPCI pilot: Some Findings

Bundled Payment Care Initiative allows a longitudinal look at the data

Understanding the distribution of costs will help identify where to look for savings opportunities.

Chart 1: Percent of Spending by Episode Type, 30-day Fixed-length Episodes, 2007-2009



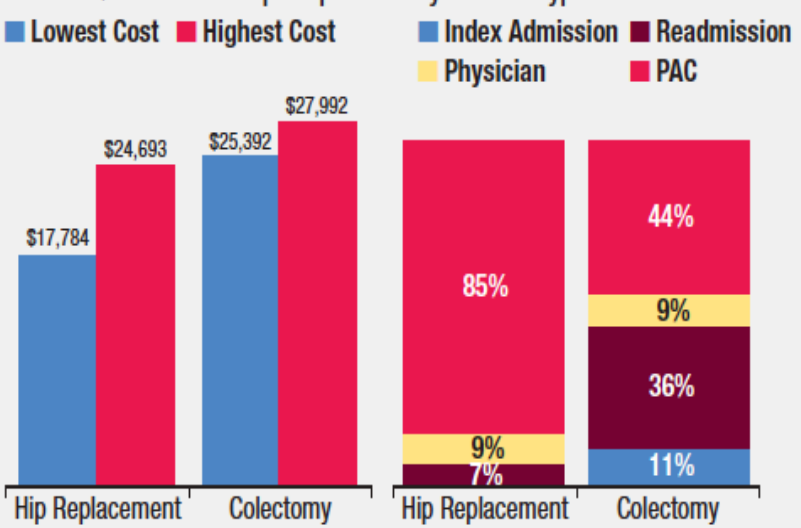
Source: Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

The source of the cost variation for each condition will help identify where efforts should be targeted.

Chart 3:

Difference Between Top and Bottom Quintile in Cost per Episode

Percent of Difference Between Highest and Lowest Cost Case by Service Type



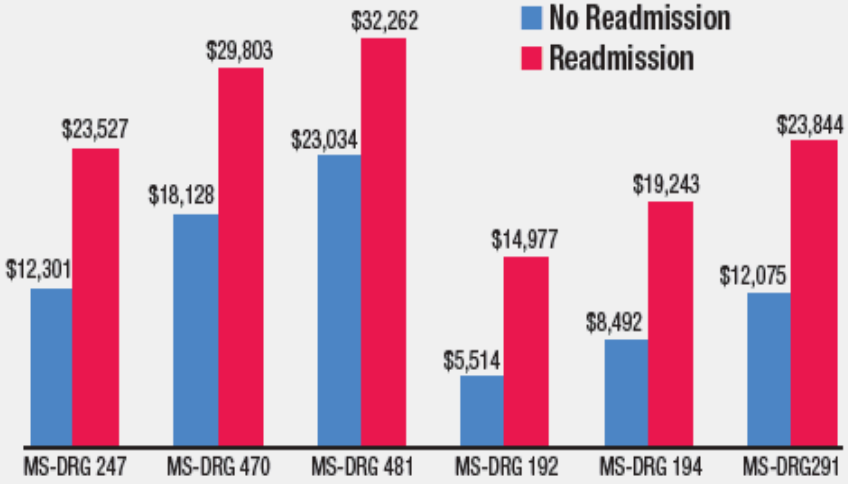
Source: Miller, David C. et al. Large Variations in Medicare Payments for Surgery Highlight Savings Potential from Bundled Payment Programs. Health Affairs, November 2011.

- American Hospital Association Issue Brief: Jan 2013

CMMI-BPCI pilot: Areas of Opportunity

A readmission can more than double the episode cost.

Chart 6: Cost of a 30-day Fixed-length Episode with and without a Readmission, 2007-2009

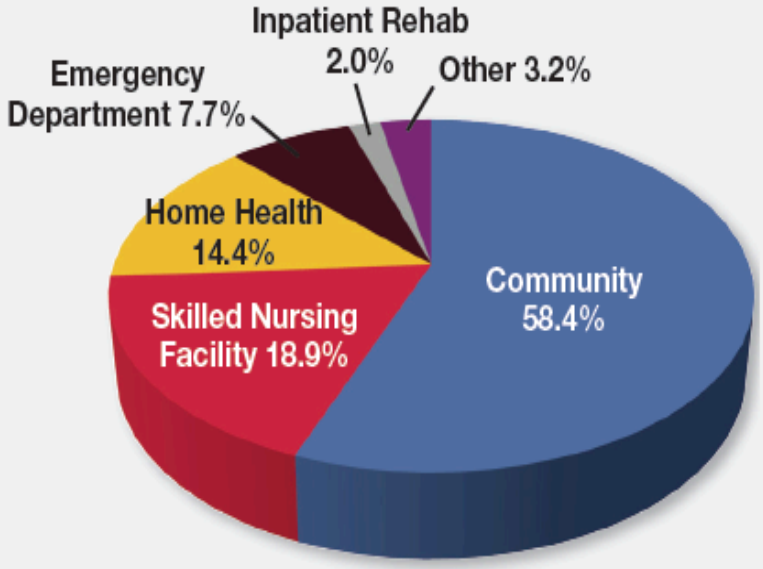


247: Percutaneous cardiovascular procedure with drug-eluting stent w/MCC
470: Major joint replacement or reattachment of lower extremity w/o MCC
481: Hip & femur procedures except major joint w/CC
192: Chronic obstructive pulmonary disease w/o CC/MCC
194: Simple pneumonia & pleurisy w/CC
291: Heart failure & shock w/MCC

Source: Dobson | DaVanzo (2012) . Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

...but the highest percentage of readmissions come from patients who did not receive post-acute care.

Chart 8: Percent of Readmissions by Source, 30-day Fixed-length Episodes, 2007-2009



Source: Dobson | DaVanzo Analysis of 5% Sample of Medicare Claims Data (2007-2009). Additional details on study methodology can be found in Dobson | DaVanzo (2012). Medicare Payment Bundling: Insights from Claims Data and Policy Implications.

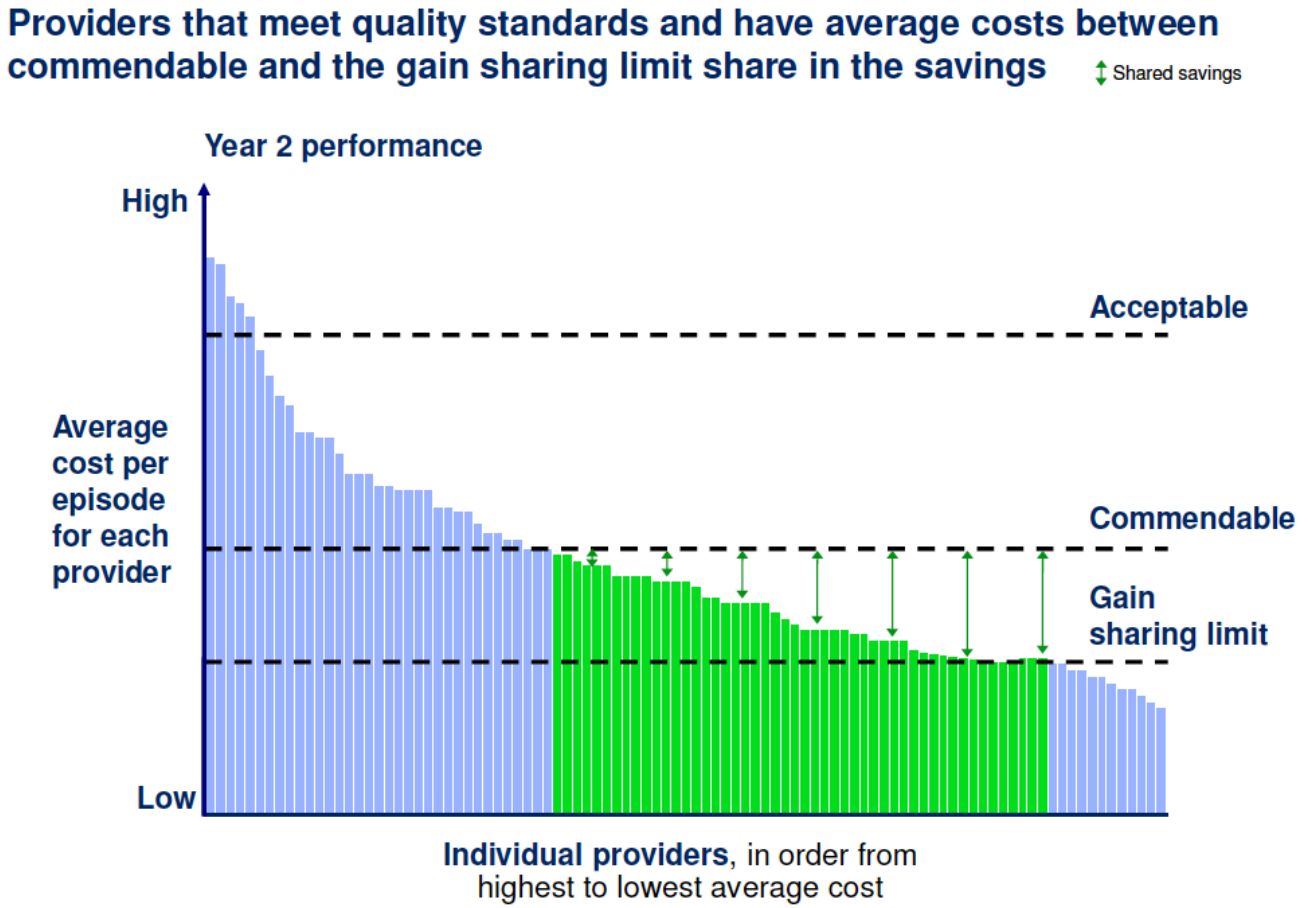
- American Hospital Association Issue Brief: Jan 2013

Arkansas Medicaid

Health Care Payment Improvement Initiative

Building a healthier future for all Arkansans

Episode-Based Care Model Overview

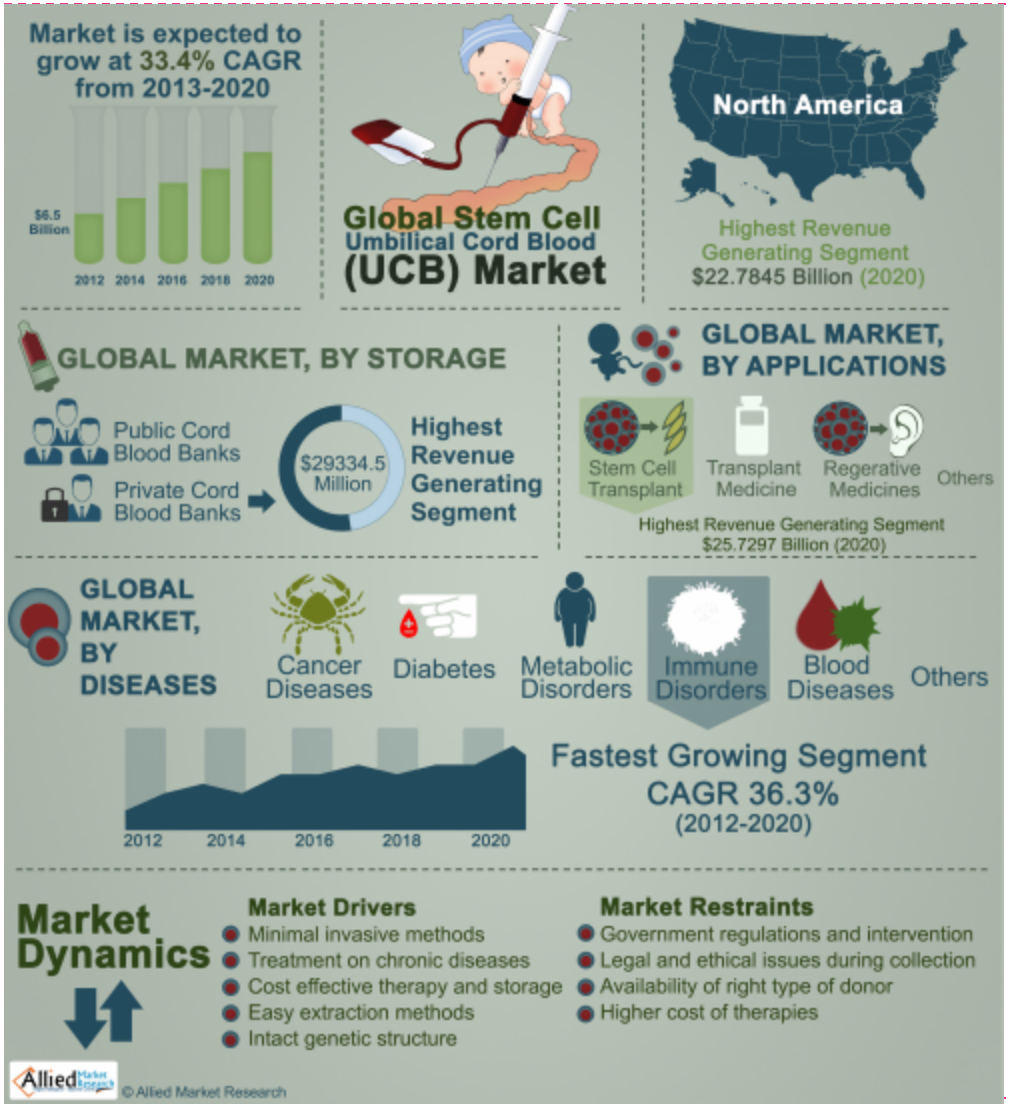


- Arkansas Medicaid Website

Stem Cell Therapies

- Stem cells have the unique capability of self-renewal
  - The foundational basis of regenerative medicine
- The process of inducing pluripotency in differentiated cells, leading to ability to generate induced pleuripotent stem cells (iPS), opened the doors for research and clinical applications
- Stem cell therapy (SCT) is a multi-billion dollar industry with potential value in many diseases across several organ systems

Stem Cell Therapy: A $56.4B market by 2020



- Allied Market Research, April 2014

Building the Business Case for SCT

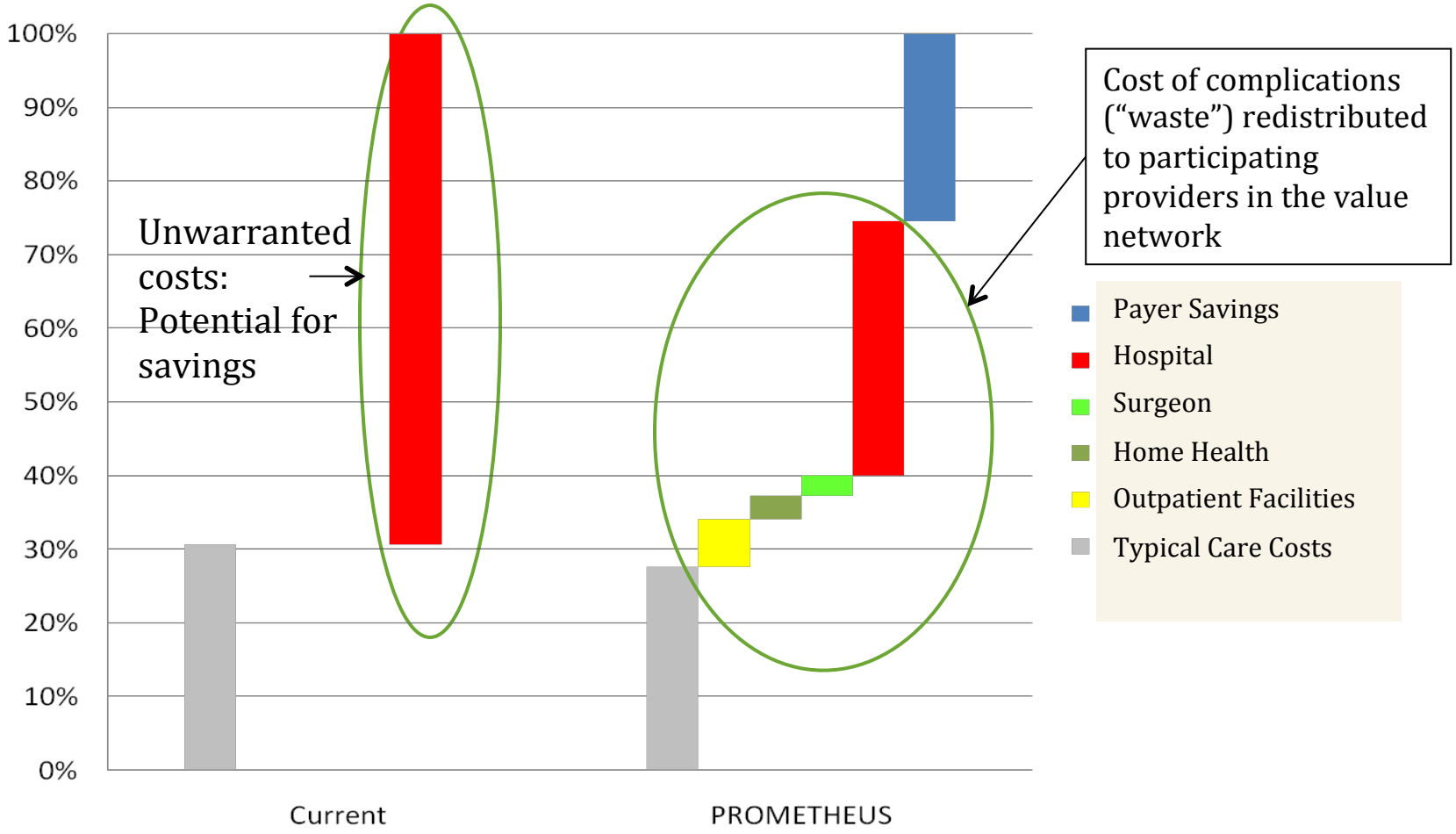
- Payors / Purchasers want
  - Predictable medical loss
  - Stable trend rate
- Physicians want
  - Fair payment for patients with high severity
  - Low complications
- Facilities want
  - Access to profitable patients
- Patients want
  - Predictable outcomes
  - Improved quality of life
  - Low complications and readmissions
- Question:
  - How can a bundled payment account for costs incurred / costs avoided in future years?

Creating Bundles for SCT

- Create separate bundles for separate clinical applications
- Adjust for variation
  - Severity of illness
  - Comorbidities
  - Drivers of expected variability
    - Source of stem cells (cord blood, HSCT, iPS)
    - Autologous vs. allogenic
- Anticipate and limit sources of unwarranted variation
  - Infection
  - Acute GVH disease
  - Bone marrow suppression
  - Veno-occlusive disease
  - Graft failure
  - Death

Turn “waste” into shared savings

Budgets created upfront, factor in expected costs of complications, irrespective of their occurrence

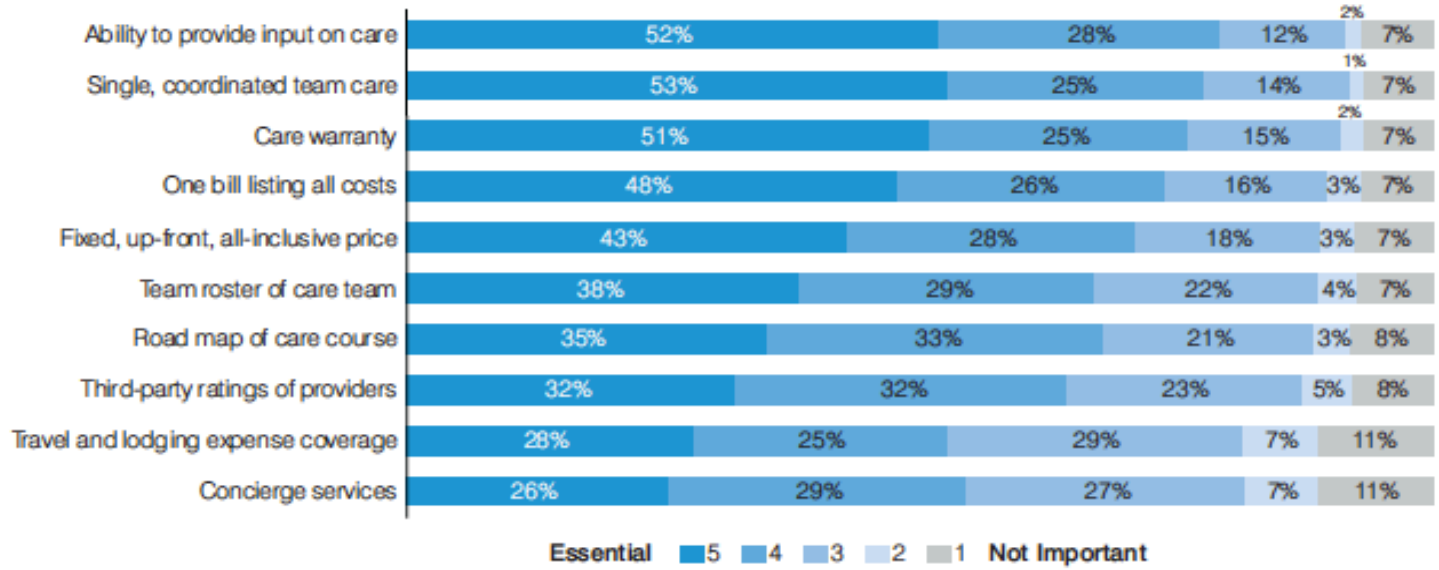


Why bundled payments make sense for SCT

- Shared Savings
  - Creates an atmosphere of collaboration, communication and cooperation between provider and payer
- Focus on reducing costly defects
  - Reduce potentially avoidable complications (ED visits, readmissions, patient safety failures, etc.)
- Fuel intrinsic incentives
  - Feedback reports, peer comparisons, benchmarks, improvement over time
- Economics
  - Payers save $$
  - Providers improve their margins
  - Consumers satisfaction improves

Consumers like Bundles too…

Exhibit 8
Perceived Benefits of Healthcare Bundles



Related Question: *"How important is it that the following characteristics are included in a bundle product?"*

Source: Booz & Company

- Bundled Care: Voice of the Consumer – Booz & Company Report Jan 30, 2013

W. Edwards Deming

$$\text{Quality} = \frac{\text{Results of work efforts}}{\text{Total costs}}$$

- "When people and organizations focus primarily on *quality*, quality tends to increase and costs fall over time.
- When people and organizations focus primarily on *costs*, costs tend to rise and quality declines over time. "
- "In God We Trust…All Others Bring Data"

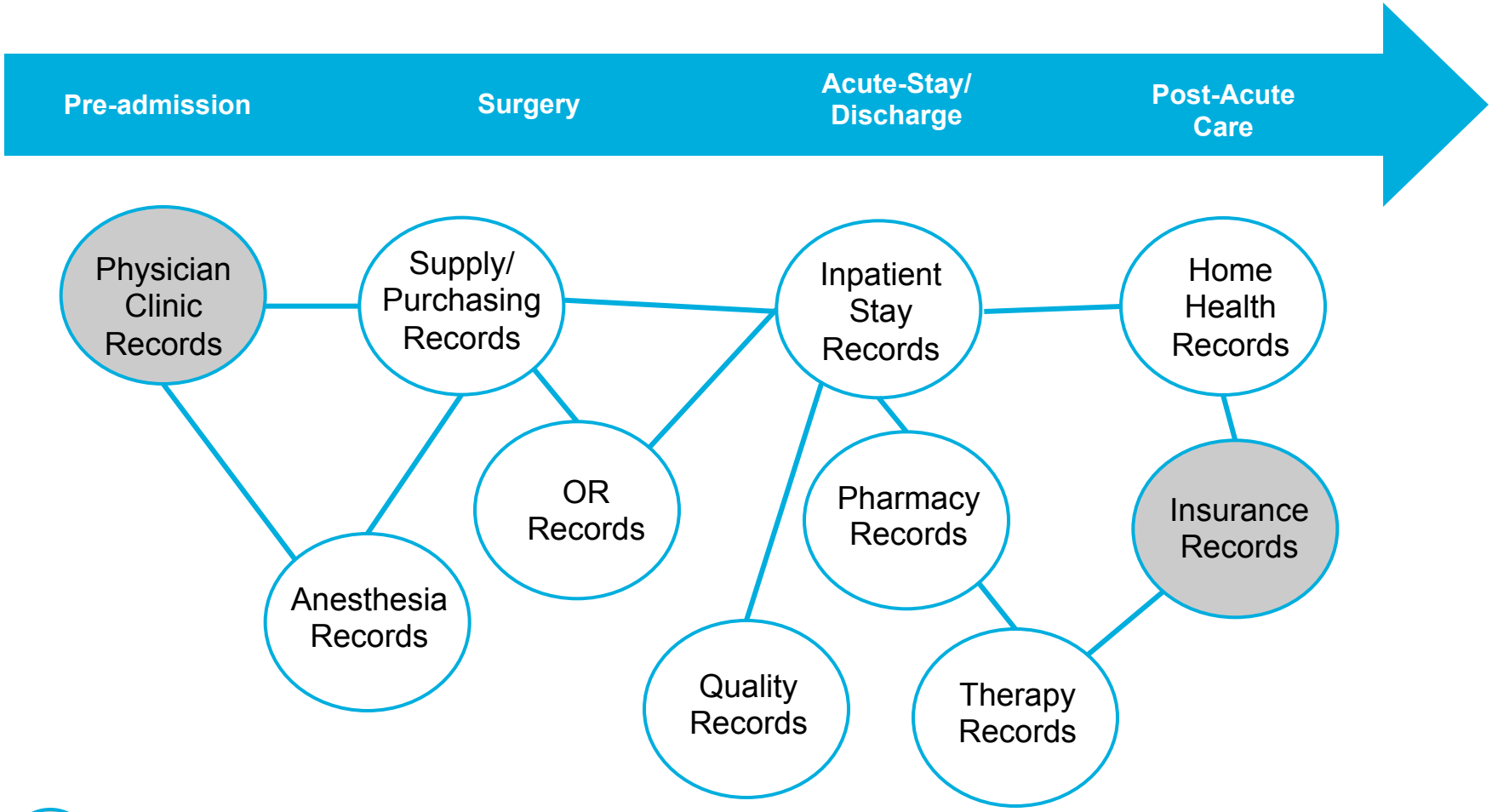
Implementation: Define the Episode of Care

- Define episode parameters
  - Included services and items
  - Excluded services or items
  - Related post-acute care
  - Length of episode
- Qualification Criteria
  - Eligibility criteria
  - Examples: Age, limitations of co-morbidities, etc.
- Outlier Protection
  - Understand where outlier risk resides
  - Episode development and model of care manages clinical risk, not probability risk

Implementation: Develop Performance Measures

- Balance cost and quality outcomes
- Complete analysis of "baseline" cost of episode of care
  - "Cost" defined as real cost
  - Segregate variable cost to model volume risk
- Assign Target Cost for purposes of gainsharing (if applicable)
- Determine quality measures
  - Revision rates
  - Pain scores
  - Patient satisfaction scores
  - Return to functionality assessments

Data Analysis Challenge: Linking Disparate Data



Records that are owned by other entities

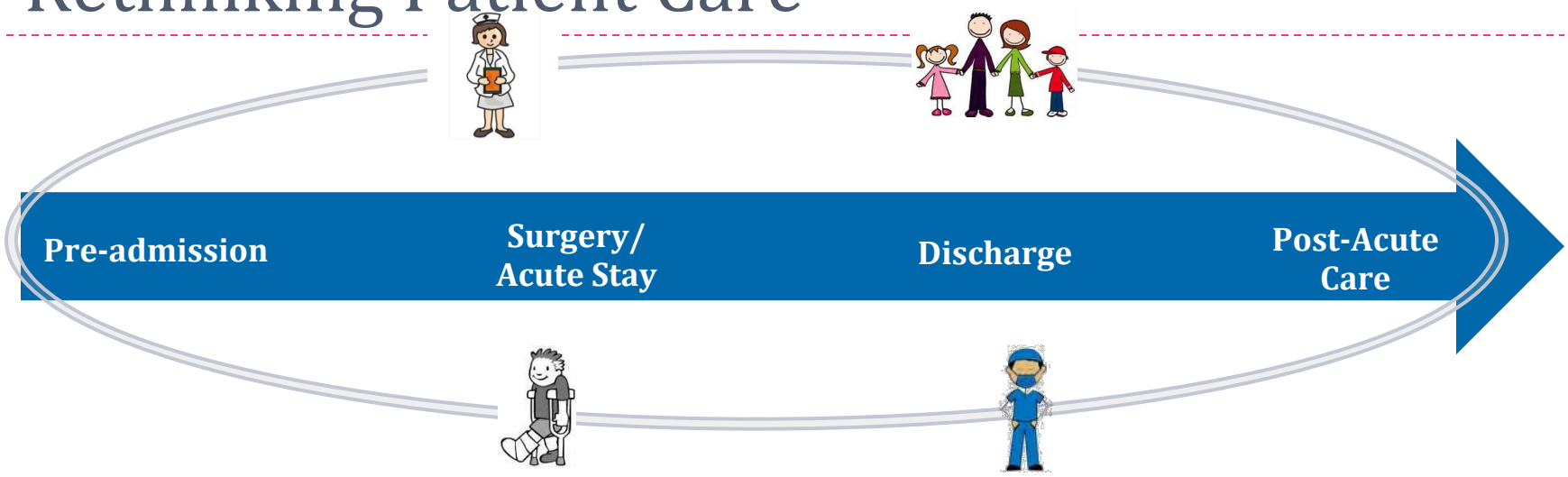
Implementation: Monitor and Track Data

- A mechanism for tracking data is critical to success
- Systematize processes
- Communicate outcomes and results timely
- Question outliers and idiosyncrasies
  - Learn from them and adjust processes, screenings, communications, etc. accordingly
- Sample size needs an “n” that is significant

Create model of care

- Identify standards of care and best practices
- Understand the cost variation for each component of service
  - OR
  - Implant
  - Inpatient
  - Therapy
  - Home Care
  - SNF
  - Readmissions
- Facilitate conversations to identify opportunities by comparing peer-to-peer and against best practice guidelines
- Share data and let the data speak for itself
- Identify physician champions
- Solicit supporting documentation/educational articles, etc.

Rethinking Patient Care



The Value of Working Across a Continuum of Care:

- Growing partnership for all stakeholders throughout patients' continuum of care
- Increased physician and nursing collaboration to ensure quality care
- Increased focus on practicing evidenced-based care
- Improved coordination of care with internal and external stakeholders
- Increased focus on appropriateness of post-acute care
- Increased stakeholder awareness for how to deliver high quality, lower cost care

Price the Episode of Care

- Define baseline/target price for bundle
  - CMMI: factor in discount
  - Private payor: factor in margin
- Assess outliers
  - CMMI Risk Track
  - Provision for outliers with private payor or manage risk with eligibility criteria
- Prospective vs. Retrospective
  - Prospective requires distribution of payments to episode of care providers
  - Retrospective requires reconciliation and settling
- Determine frequency of analysis and reconciliation to settle and close episodes

Identify Cost Reduction Opportunities

- Understand the detailed cost for each component of the bundle
- Review standardization opportunities
- Define key cost components to monitor and track
  - Facility costs (inpatient, outpatient)
  - Surgical costs
  - Anesthesia costs
  - Implant costs
  - Drug costs
  - Lab costs
  - DME costs
  - Professional costs
  - Readmission
  - Emergency Room / Urgent Care
  - Skilled Nursing Facility / LTCH / Rehabilitation
  - Home Health

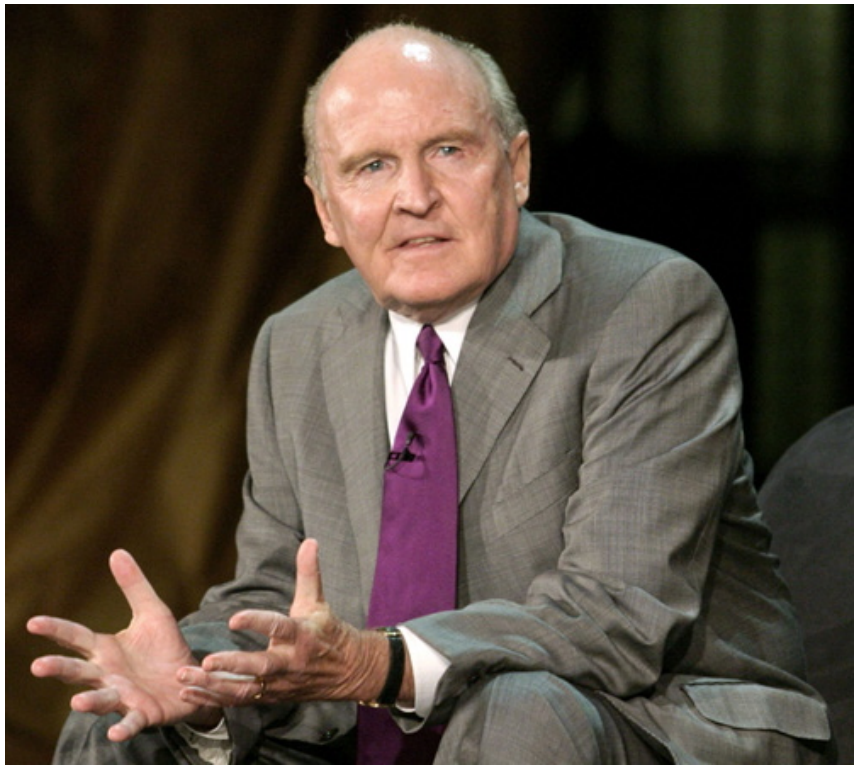
Stakeholder Engagement

- Full engagement by CEO
- Nursing units
- Administration
- Analysts
- Finance
- Payor contracting
- Case / care management
- Coders
- OR staff
- Schedulers
- Referring PCP and Specialist office staff
- Performing Specialist team
- Community based post-acute care providers

Other Considerations

- Commitment by willing payer and provider
  - Clean and complete claims and eligibility data
- Regulatory / legal provisions
  - Compliance
  - Termination
  - Available and applicable waivers
  - Applicable restrictions

The Bottom Line from Jack Welch



- "Control your destiny – or someone else will"
- "Change before you have to"
- "An organization's ability to learn, and translate that learning into action rapidly, is the ultimate competitive advantage"

Or else…

Joshua Davis, Artifacts from the Future, Wired Magazine, January 2005