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BERKELEY CENTER
FOR HEALTH TECHNOLOGY

# Navigating the Future Impact of Value-Based Pay in Diagnostics

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# Overview


- Payer problem: variation in Dx price
  - Payer strategy: reference pricing
  - Laboratory assays, Dx procedures
- Payer problem: variation in Dx use
  - Payer strategy: value-based pay
  - Oncology, orthopedics

# Reference Pricing


- Price variation
- Reference pricing: lab tests
- Reference pricing: imaging

# Price Variation in Health Care

- In most sectors, variation in price is due to variation in quality, convenience, performance
- In health care, variation in price also is due to factors on the supply side:
  - Manufacturers: patent protection
  - Providers: market consolidation
- The variation in price is permitted by factors on the demand side
  - Consumers lack incentive to shop, as someone else is paying (insurer, employer)
  - Consumers lack information on prices and quality at the time of making choices

# Laboratory Test Prices Vary Widely

- Freestanding versus hospital laboratories
- Local versus national laboratories
- Geographic variation in market structure

# Price Variation for Common Lab Tests: Barclays Data from Charlotte, North Carolina

FIGURE 6

**Range of Average Amount of BCBS Claim per Lab Test**

| Test ($) | LH | Labs | | Hospitals | |
|---|---|---|---|---|---|
| | | Low | High | Low | High |
| Blood Test, TSH | $10 | $10 | $16 | $35 | $166 |
| Lipid Panel | $8 | $8 | $13 | $29 | $196 |
| Metabolic Panel | $5 | $5 | $8 | $20 | $284 |
| Vitamin D-25 Hyrdroxy | $19 | $18 | $28 | $37 | $310 |
| Complete CBC Automated | $5 | $5 | $7 | $14 | $79 |
| Glycosylated Hemoglobin | $6 | $6 | $9 | $19 | $125 |
| Assay of Parathormone | $32 | $25 | $39 | $26 | $270 |
| Assay of PSA Total | $12 | $11 | $17 | $43 | $147 |
| Vitamin B-12 | $9 | $9 | $14 | $32 | $205 |
| Urine Culture/Colony Count | $12 | $10 | $18 | $19 | $364 |

Source: Company Documents, Barclays Research

# Price Variation for Common Lab Tests: National Data from Safeway

| Lab Test | 5th percentile | 25th percentile | 50th percentile | 75th percentile | 95th percentile |
|---|---|---|---|---|---|
| Basic metabolic panel | $5.75 | $6.15 | $17.15 | $44.00 | $126.44 |
| General health panel | $20.58 | $21.88 | $23.88 | $53.66 | $121.86 |
| Comprehensive metabolic panel | $7.18 | $7.68 | $15.98 | $33.37 | $132.48 |
| Lipid panel | $8.85 | $9.46 | $11.73 | $30.03 | $74.92 |
| Hepatic function panel | $5.56 | $5.94 | $11.32 | $24.51 | $85.14 |
| Iron test | $4.40 | $4.71 | $4.71 | $13.62 | $58.47 |
| Total PSA | $12.50 | $13.36 | $13.36 | $37.27 | $88.75 |
| Thyroxin free test | $6.13 | $6.55 | $8.19 | $20.50 | $64.00 |
| TSH | $11.42 | $12.20 | $28.53 | $55.87 | $101.70 |
| Uric acid test | $3.07 | $3.28 | $3.47 | $9.63 | $30.60 |

# What is Reference Pricing?

- Sponsor (employer, insurer) establishes a ***maximum contribution*** (reference price) it will make towards paying for a particular service or product
  - This limit is set at some point along the observed price range (e.g., minimum, median)
  - Patient must *pay the full difference* between this limit and the actual price charged
  - Patient may reduce cost sharing by switching to low-priced product or provider
- Patient chooses his/her cost sharing by choosing his/her product or provider
  - Patient has good coverage for low priced options but ***full responsibility for choice***

# Laboratory Reference Price Initiative

- Safeway, a national grocery and food processing firm, implemented reference pricing for 285 laboratory tests and panels in March 2011
  - These tests and panels accounted for 63% of Safeway lab expenditures
- Payment limit set at 60$^{th}$ percentile in price distribution
  - Lab test prices were made available to employees online via Castlight mobile transparency platform
- Employees selecting lab where test price was at or below reference limit were subject to usual deductible
- Employees selecting lab where test price exceeded reference limit also paid the entire difference between reference limit and price charged

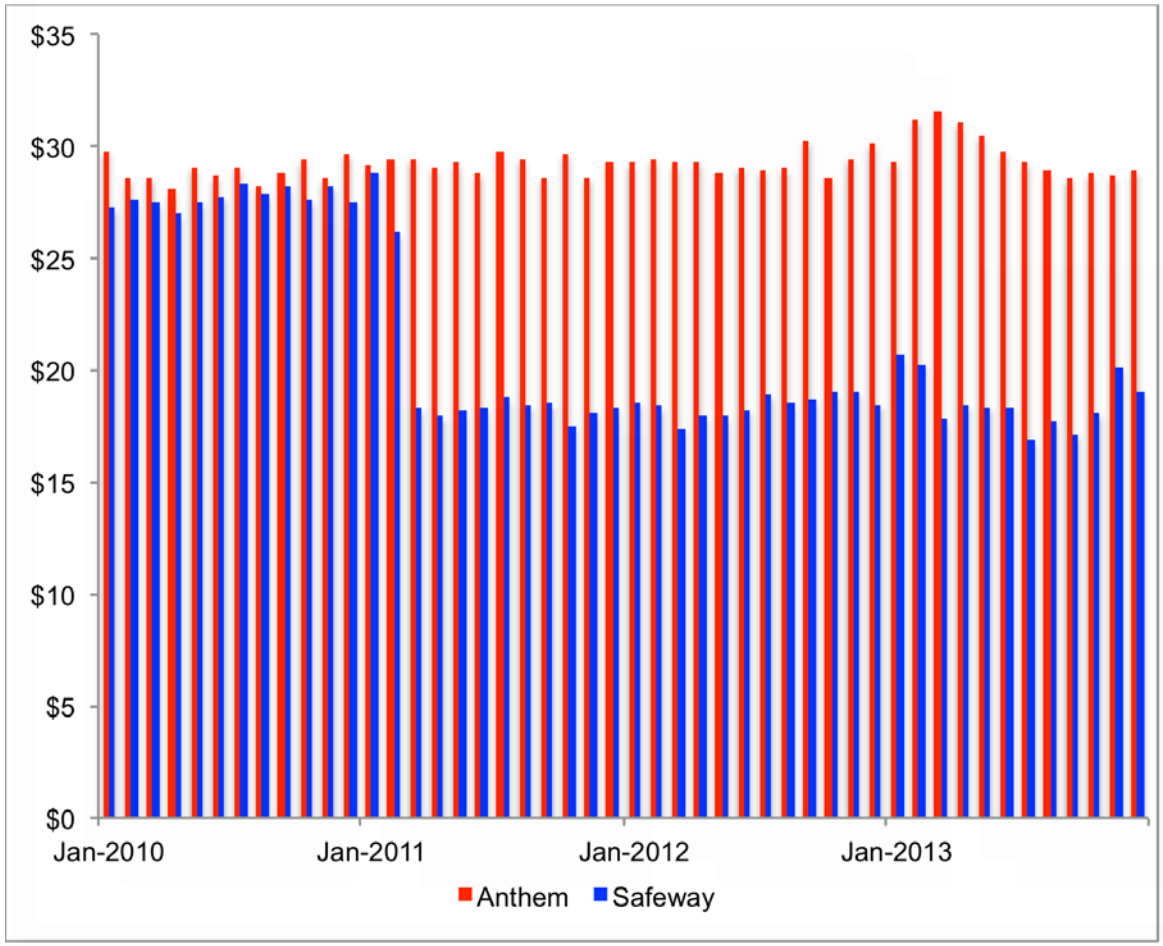
# Exemptions from Reference Pricing

- Focus of initiative was on diagnostic tests where patient had the time and capability for price shopping
- Tests were excluded if they were provided as part of an acute course of care (in hospital, ED, urgent care)
- Tests were excluded if they were for patients suffering from cancer, infertility, renal failure, mental illness
- Genetic tests were excluded
- Unionized employees were excluded as health benefits covered by bargained contract

# Data and Methods

- Drug claims from January 2010 to December 2013 were obtained from Safeway (N=344,413 claims)
- Comparison group data obtained from Anthem Inc., which did not implement reference pricing, sampling 5% of total Anthem Blue claims (N=1,781,640 claims)
- Study endpoints:
  - Probability that the patient selects the low-price laboratory (charging less than or equal limit)
  - Average price (allowed charge)
  - Consumer cost sharing
- Difference-in-difference multivariable regressions
- Compare change in lab choice, test price paid, and consumer cost sharing for Safeway, before and after implementation, with changes (if any) by Anthem

# Bivariate Analysis: Reference Pricing Associated with Reduced Prices Paid



# Multivariable Analyses: Impact on Laboratory Choices and Test Prices

- Compared to Anthem enrollees, Safeway employees were 25.2% less likely to select a lab charging above the reference limit in the first year after implementation of reference pricing and 18.6% less likely by third year
- Compared to the prices paid by Anthem, the lab test prices paid by Safeway fell by 29.5% in the first year after implementation and 32.0% by third year
- These changes in prices were due to changes in choice of lab, not reductions in prices charged at any one lab (Safeway was too small a share of any market to influence pricing strategies)

# Multivariable Analyses: Impact on Employer and Employee Spending

- Reference pricing  reduced Safeway spending by 30.0% in first year and 31.1% by third year after implementation
- By switching to lower-priced laboratories, Safeway employees reduced their test-related cost sharing by 40.1% in first year and 41.5% by third year

| | 2011 | 2012 | 2013 | 2011-2013 |
|---|---|---|---|---|
| Total Saved | $874,496 | $842,755 | $855,624 | **$2,572,875** |
| Savings Accruing to Patients | $320,768 | $361,063 | $364,197 | **$1,046,028** |
| Savings Accruing to Employer | $611,072 | $522,177 | $565,380 | **$1,698,629** |

# Laboratory Reference Pricing in Context: Impacts on Imaging

| | Percentage point increase in use of low-price facilities | Percent reduction in price paid per procedure or test | Total spending by commercially insured individuals in the US ($Billion) | Potential spending reduction from reference pricing ($Billion) |
|---|---|---|---|---|
| Joint replacement | 14.2 | 19.8 | 17.09 | 3.38 |
| Arthroscopy of the knee | 14.3 | 17.6 | 5.70 | 1.00 |
| Arthroscopy of the shoulder | 9.9 | 17.0 | 3.80 | 0.65 |
| Cataract removal | 8.6 | 17.9 | 1.90 | 0.34 |
| Colonoscopy | 17.6 | 21.0 | 11.39 | 2.39 |
| Laboratory tests | 18.6 | 32.0 | 23.73 | 7.59 |
| Imaging: CT scans | 9.0 | 12.5 | 17.09 | 2.14 |
| Imaging: MRI procedures | 16.0 | 10.5 | 19.93 | 2.09 |
| Total | NA | NA | 100.62 | 19.59 |

# Value-based Payment


- Oncology: chronic care episodes
  - Medicare
  - United and Aetna
- Orthopedics: acute care episodes

# Oncology: The Payment Status Quo

- FFS for professional services (E&M)
  - Payment rates are too low to cover practice costs
- FFS for lab tests and imaging procedures
  - Concerns with self-referral
- Buy and bill (B&B) for drugs
  - Mark-ups create incentives to use the most expensive drugs
- No payment for patient education, self-monitoring, self-care
- No reward for reducing unnecessary lab and imaging, ED and hospital admissions

# CMS Oncology Care Model (OCM)

- CMS has rolled out a model that combines FFS, care management fee, shared savings
  - FFS for E&M, B&B for infused drugs, Part D payments remain
  - No coordination with radiation, surgery
- Oncologist can bill $160/month for 6 months for patients in active treatment
- Must comply with IT meaningful use, have clinician accessible 24/7, provide patient navigation services, incorporate care plan for every patient
- CMS offers ‘shared savings’ bonus on top of monthly care management fee

# Medicare OCM Shared Savings

- OCM model shares ‘savings’ with oncologists
- Savings = expected – actual expenditures
  - Expenditures (actual and expected) include:
    - All oncology services: drugs, radiation, surgery, tests, visits
    - All non-oncology services provided to cancer patients
    - Expenditures include services provided by the oncology practice that is managing the care, plus all other labs, imaging, etc.
- Expected expenditures = past expenditures projected forward, based on regional trends
  - Each practice has its own expected spending target, based on its own past spending level
  - Expected spending targets to be adjusted for launch of expensive new drugs (that would not be represented in past expenditure data)

# United and Aetna

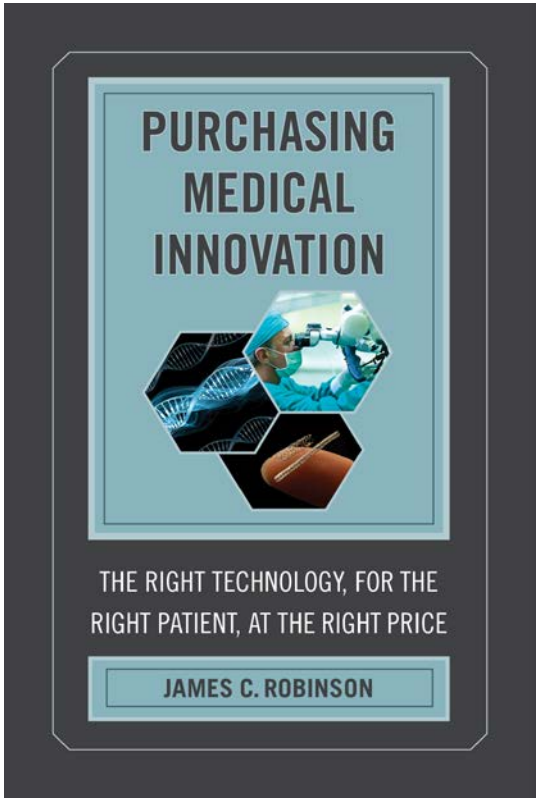
- United and Aetna oncology payment initiatives include shared savings incentives, based on expected versus actual expenditures
- Services included in shared savings targets include infused drugs, lab tests, imaging, visits, hospitalization (but exclude oral drugs and non-oncology services)
- Spending targets are based on regional spending levels, not the past spending of each practice
  - This permits high-performing practices to continue receiving bonuses each year, but does not give incentive for continued improvement

# Orthopedic Surgery: The Status Quo

- FFS for physician services
  - Surgeon, anesthesiologist bill separately from hospital
  - No incentive to reduce cost of episode (e.g., imaging, lab tests, hospital LOS, readmissions, implant price)
- Hospital paid per diem or case rate (DRG)
  - This creates incentive to manage lab, imaging, but clinical decisions are made by physicians, not hospital management
- Post-acute services (SNF, HHA, PT/OT) paid separately on per diem or FFS basis

# Orthopedic Surgery: A Menu of Initiatives

1. Bundled payment for the hospital stay
   - Combine physician, implant, lab, imaging, and hospital services into a single case rate. For Medicare, combine Part A and Part B but not post-acute services.
2. Bundled payment with ‘warranty’
   - Combine payment for any related readmission into payment for index hospitalization (e.g., hospital is not ‘paid twice’ if patient is readmitted within 30 or 90 days).
3. Bundled payment for episode of care
   - Combine physician, imaging, lab, implant, hospital, readmission, and post-acute services for 30 after procedure


***"Geez Louise—I left the price tag on."***