BERKELEY CENTER
FOR HEALTH TECHNOLOGY

Navigating the Future Impact of Value-Based Pay in Diagnostics

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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 60th 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

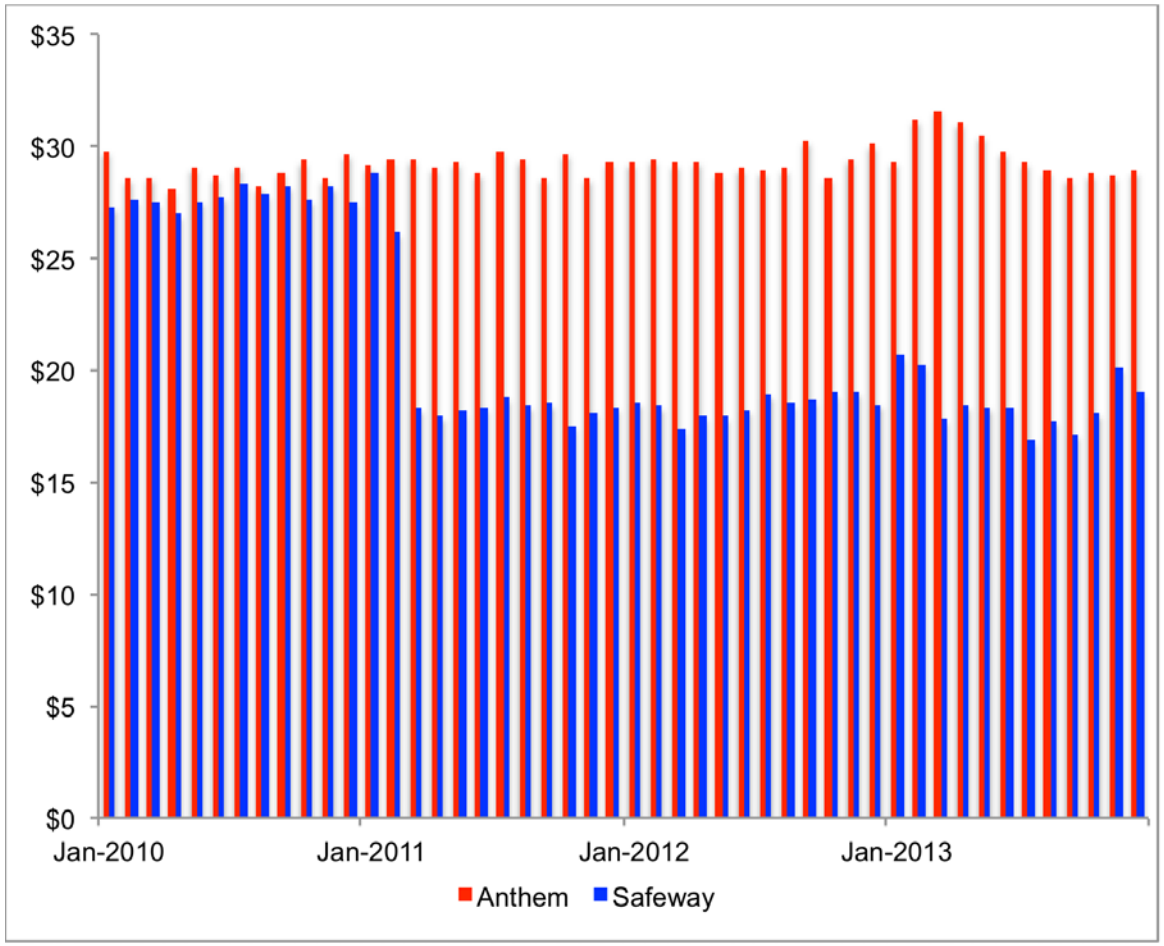
Exemptions from Reference Pricing

- 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**

Reference Pricing in Context

- Reference pricing has been applied procedures in the US (e.g., surgery, diagnostic)
- It has been applied to drugs in many nations outside the US (e.g., Canada, Europe)
- These applications have been subjected to numerous studies
- In every case, reference pricing has been associated with significant reductions in prices and spending

Impact of Reference Pricing on Consumer Choices, Prices Paid, and Potential Spending Reductions for Commercially Insured Individuals

	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

The American Question

- Reference pricing seems to offer substantial benefits to purchasers. Why has it not be adopted more broadly?
- Perhaps purchasers (employers, insurers) are preoccupied with HDHP and narrow networks, and will consider reference pricing as the limitations of those strategies become evident
- Perhaps purchasers simply have not heard about reference pricing
- Perhaps reference pricing has real limitations…

Challenge: Breadth of Applicability

- **Problem**
- Reference pricing is only applicable to ‘shoppable’ tests and treatments, where consumers have the time and the information to compare price with performance
- **Answer**
- These acute, non-emergency services account for a very large share of health spending
- Comparison information on price and quality is improving, supplemented with decision supports
- Provider organizations (e.g., ACO) paid on per-capita basis need consumer cost sharing incentives to help them steer their patients to low-price and cooperative referral specialists, facilities, and drugs

Challenge: Administrative Burden

- **Problem**
- Reference pricing requires that a payment limit be identified for each test and procedure
- **Answer**
- A consumer-driven health system must help the consumer make intelligent choices. Sponsors (insurers, employers, advocates) cannot avoid the task of identifying opportunities for saving money by moving to cheaper but high-quality options
- Reference creates the incentive for consumers to consider price, but needs to be supplemented by information on options and the creation of new options

Challenge: Insufficient Competition

- **Problem**
- Reference pricing requires there be multiple laboratories and providers in each market, but many geographic markets have been consolidated
- **Answer**
- Reference pricing may offer the best response to consolidation, driving patient volume from hospital-based for free-standing ASCs, from ASC to physician offices, from physician offices to the home
- It can drive volume from high-priced local to low-priced national clinical laboratories
- It is compatible with Center of Excellence (COE) contracting, which expand the geographic scope, and hence competitiveness, of markets for high-cost procedures

Challenge: Managing Innovation

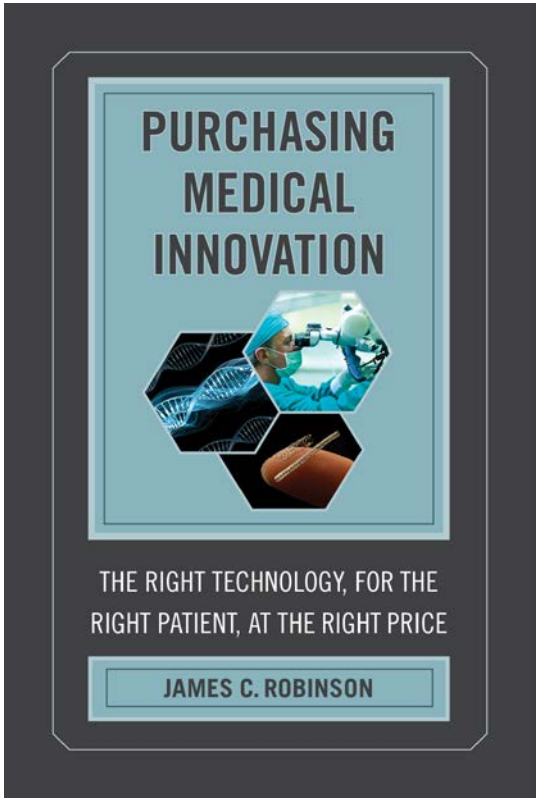
- **Problem**
- Reference pricing for lab tests requires there be multiple therapeutically-equivalent tests in each class. It does not offer solutions for classes benefitting from innovative tests from a single lab, without substitutes
- **Answer**
- Health technology assessment (HTA) methods are used by ex-US payers to compare relative clinical benefits for drugs and diagnostics. These benefit comparisons serve as the basis for negotiations over price
- The reference price serves as the default price for new drugs and diagnostics that cannot prove superiority

Can Reference Pricing Be Applied to Companion Diagnostics?

- Much of the increases in drug and diagnostics prices have been for targeted specialty drugs and companion diagnostics, which are more complex than traditional medications
- The innovation pipeline is producing large numbers of therapeutic equivalents in specialty drug classes, including equivalent brands, generic specialty drugs, and biosimilars
- However, advances in genomics and biomarkers are breaking large indications into narrow therapeutic niches, each with its own quasi-orphan drug and companion diagnostic
- This is the frontier for all forms of drug and lab test assessment, purchasing, and appropriate use
- When combined with HTA, patient support programs, and exceptions policies for patients with unique needs, reference pricing could increase price competition within these classes

Is Reference Pricing Compatible with Innovation?

- The focus of reference pricing to date has been on moving market shares, reducing spending, and increasing competition
- This reduces provider and manufacturer revenues, which in principle could be used for R&D
- However, if properly applied, reference pricing supports innovation by offering higher prices for tests and treatments offering higher performance
- It creates a business case for the creation of new evidence
- Health insurers should pay more for better products and services, passing to consumers the higher prices for expensive but non-innovative alternatives



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