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SANTA BARBARA • SANTA CRUZ

JAMES C. ROBINSON
LEONARD D. SCHAEFFER PROFESSOR
OF HEALTH ECONOMICS
DIRECTOR, BERKELEY CENTER FOR HEALTH
TECHNOLOGY
SCHOOL OF PUBLIC HEALTH
247 UNIVERSITY HALL

UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA
94720-7360
JAMES.ROBINSON@BERKELEY.EDU

TEL (510) 642-0564
FAX (510) 643-6981

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TO: David Cowling

FROM: James Robinson, Timothy Brown

RE: Evaluation of Reference Pricing: Final Report

Executive Summary

We have completed the analysis of the impact of CalPERS introducing reference pricing for total joint replacement of the knee and hip on the following endpoints: prices, patient choice of a Value-Based Purchasing Design (VBPD) facility, CalPERS expenditures, and consumer cost sharing. Our analysis suggests that hospitals are behaving as if they expect reference pricing to quickly become formalized into a formula based on past hospital prices.

The main finding is that the cumulative savings to CalPERS (excluding savings in consumer cost sharing) from the VBPD program are estimated to be \$5.5 million over the two calendar years from January 2011 to December 2012.

This reduction in CalPERS expenditures can be decomposed into the following figures:

Savings in 2011: \$2.8 million¹

- 15.4% due to market share growth at VBPD hospitals
- 84.6% due to reduction in prices (both VBPD and non-VBPD hospitals)

Savings in 2012: \$2.7 million¹

- 12.9% due to market share growth at VBPD hospitals
- 87.1% due to reduction in prices (both VBPD and non-VBPD hospitals)

¹ All dollars figures are adjusted for inflation and represent constant 2011 dollars.

Additional results include the following changes in hospital prices, consumer choice in patronizing a VBPD facility, and consumer cost sharing:

Change in Average Hospital Prices (Allowed Charges)

- 2011: -20.2%
- 2012: -19.8%

Change in Consumer Choice to Patronize a VBPD facility

- 2011: 19.2%
- 2012: 17.1%

Change in Average Insurer (CalPERS) Expenditures

- 2011 (non-VBPD): -26.1% 2011 (VBPD): -7.6%
- 2012 (non-VBPD): -24.0% 2012 (VBPD): -9.3%

Change in Average Consumer Cost Sharing (sum of copayments, deductibles, and coinsurance)

- 2011 (non-VBPD): NS² 2011 (VBPD): NS²
- 2012 (non-VBPD): -30.5% 2012 (VBPD): NS²

The details behind these findings can be found in the attached papers. The first paper has been submitted to a policy journal and focuses on the impact of reference pricing on prices (allowed charges) and consumer choice regarding whether to patronize a Value Based Purchasing (VBPD) facility. The second paper has been submitted to a health economics journal and is a technical paper focusing on the theoretically expected responses by hospitals to reference pricing focusing on insurer expenditures and consumer cost sharing and whether these expected responses are actually occurring.

In addition, a PowerPoint presentation on the major findings of this project is also attached.

We thank CalPERS for the opportunity to participate in this cutting-edge change in benefit design.

² NS: not statistically significant.