

# Will The Surgical World Become Flat?

Americans' seeking cheaper surgical procedures abroad will provide only modest relief from our spreading affordability problems.

by **Arnold Milstein and Mark Smith**

**ABSTRACT:** We obtained price and quality information for nonurgent coronary artery bypass graft (CABG) surgery from a sample of internationally patronized hospitals in low-wage countries. We found rising quality standards, availability of U.S.-trained physicians, and prices far below insurer-negotiated U.S. prices. The price differentials easily accommodated the incentive specified as a condition for surgery abroad by about 30 percent of surveyed households with a sick member. These findings foreshadow growth in offshoring of expensive nonemergency surgeries among increasingly cost-sensitive U.S. consumers and purchasers. [*Health Affairs* 26, no. 1 (2007): 137-141; 10.1377/hlthaff.26.1.137]

**T**HE YEAR 2006 IS A WATERSHED YEAR for U.S. employers and employees. Their combined average health care spending for a family of four exceeds the annual earnings of a minimum-wage worker.<sup>1</sup> Rates of uninsurance are rising most rapidly among worker households in the three middle-income quintiles.<sup>2</sup> Uninsured Americans have begun seeking more-affordable care in lower-wage countries. Like the original Toyota Coronas, surgery in offshore hospitals is ridiculed by upper-income observers. The *New Republic* commented, "What next—cruises to Cuba for surgery performed with the more affordable anesthetic of Havana rum?"<sup>3</sup> Concerns include uncertain quality and continuity of care, inconvenience, language barriers, and cultural unfamiliarity.

The uninsured, the thinly insured facing newly tightened federal bankruptcy rules, and the lower-income insured, for whom a lower payroll deduction for health insurance would make a difference in their quality of life, might see things differently. For them, perception of trustworthy quality in offshore hospitals could tip the balance. A self-employed artist with Blue Cross coverage who had accompanied her uninsured husband to India for a mitral valve replacement for less than 20 percent of the lowest available U.S. fee recently testified: "I would seriously consider flying to India for any elective procedure...even if my insurance covers 80 percent of the cost [at a U.S. hospital]."<sup>4</sup> Scientific and popular media continue to raise the issue's visibility.<sup>5</sup>

---

Arnold Milstein ([arnold.milstein@mercer.com](mailto:arnold.milstein@mercer.com)) is chief physician at Mercer Health and Benefits in San Francisco. Mark Smith is president and chief executive officer of the California HealthCare Foundation in Oakland.

■ **Information gathering.** We asked a U.S. consumer and an employer representative to use telephone and e-mail inquiries of several hospitals that attract international patients for coronary artery bypass graft (CABG) surgery in low-wage countries regarding “expected average total fees.” Callers also asked whether each hospital (1) had obtained Joint Commission International (JCI) accreditation or International Standards Organization (ISO) quality certification; (2) offered cardiac surgeons who had trained at a U.S., Canadian, U.K., or Australian hospital and were board certified there; and (3) would disclose their twelve-month CABG mortality rates. Since offshore hospitals reported board certification inconsistently, a U.S. physician called to reconfirm. To achieve some quality comparability with U.S. hospitals, we limited our analysis to hospitals that met either the first or second criterion.

To compare responses with U.S. prices, we obtained a large insurer’s average combined allowable facility and professional preferred provider organization (PPO) fees for CABG procedures in California hospitals. We adjusted the insurer’s average payable fees to remove the estimated impact of higher average prices for CABG coded as emergency admissions in state-mandated hospital reports.

Our findings are summarized in Exhibits 1 and 2. No hospital-reported average expected total fees exceeded 40 percent of the average California fees. For costly surgeries, this price advantage would swamp the cost of airline and hotel charges for a patient and family member. All three Asian hospitals were JCI-accredited, offered English-speaking cardiac surgeons trained at Western hospitals, and arranged hotel stays for family and postoperative convalescence.

To understand the implications of this magnitude of savings for incentivizing surgical travel by self-paying or payer-incentivized patients, we used a telephone survey conducted by International Communications Research (ICR) of a nationally representative sample of 1,003 Americans to learn from households with sicker members what reduction in their household spending for health insurance or health care, or both, might induce them to travel abroad for nonurgent major surgery.<sup>6</sup>

Fifteen percent of households had a sick family member and were therefore more likely to be near-term hospital users. In 23 percent of these households, the sicker family member was uninsured; in another 22 percent, the sicker member was insured, but respondents judged their household spending for health insurance and health care to be unaffordable. Exhibit 3 shows the spending reductions required by financially stressed and unstressed households to travel to a “very good offshore hospital with good surgeons.” These responses suggest an initial potential market share of 20–40 percent for nonurgent major surgeries that enable a \$10,000 patient incentive.

■ **Issues raised.** Lower offshore hospital fees and rising U.S. health insurance premiums are not “new news”; tighter bankruptcy rules, high-deductible plans, rising uninsurance, and offshore hospitals with English-speaking surgeons that meet

**EXHIBIT 1**  
**Selected Offshore And California Hospitals' Status On Familiar Quality Standards For Elective Coronary Artery Bypass Graft (CABG) Surgery**

Hospital	Country	City	Quality credentials	
			Hospitals	Cardiac surgeons
Meets standards for hospitals and surgeons				
Apollo	India	Chennai	JCI accredited; ISO 9000 and ISO 9002 certified	Three cardiac surgeons trained in U.K. and Australian hospitals; CABG mortality rate <1%
Bumrungrad	Thailand	Bangkok	JCI accredited	Three cardiac surgeons trained in U.S. (Baylor/Texas Heart Institute), U.K. (Royal Brompton), or Australian hospitals; two confirmed board certified; CABG mortality rate not reported
Wockhardt	India	Mumbai	JCI accredited	Four cardiac surgeons trained in U.S. or Australian hospitals; CABG mortality rate <1%
Meets standards for hospitals or surgeons				
Angeles	Mexico	Mexico City	ISO certified	Cardiac surgeons board certified in Mexico; CABG mortality not reported
California high-volume hospital average	U.S.	Multiple Calif. cities	All JCAHO accredited; none are ISO certified	Most high-volume CABG surgeons are U.S. board certified; California's CABG mortality rate is 2.91%

**SOURCE:** Hospital telephone and e-mail responses during the fourth quarter of 2005 from each hospital's self-identified contact for U.S. customer inquiries.

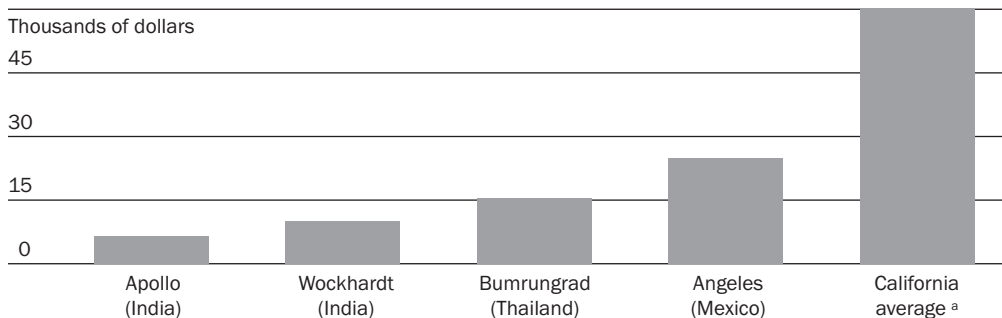
**NOTES:** JCI is Joint Commission International, an affiliate of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO). ISO is International Standards Organization.

familiar quality standards are. Prior to these developments, offshore hospitals were already beginning to penetrate the perceived "low end" of the U.S. elective surgery market: noncovered cosmetic surgery and surgery for foreign citizens working in the United States. These developments could speed offshore hospitals' penetration of the U.S. market for major nonurgent surgeries. Co-branding programs such as Harvard Medical International's recent endorsement of Wockhardt Hospital in India and Johns Hopkins' endorsement of Singapore's JCI-accredited International Medical Centre will accelerate momentum. Eighty-eight offshore hospitals have already obtained JCI accreditation.

However, the offshore price advantage would narrow if we had been able to adjust for the impact of outlier cases that were likely excluded from the offshore hospitals' fee estimates. In addition, the respondent group was small and faced an unfamiliar concept. Finally, since we assessed intent only, positive responses likely overstate initial market potential.

Will offshore hospitals obtain a share of costly nonurgent surgical procedures performed on U.S. residents comparable to offshore car makers? Probably not. The

**EXHIBIT 2  
Combined Average Expected Hospital And Professional Fees For Elective Coronary Artery Bypass Graft (CABG) Procedures At Offshore Hospitals That Have Obtained Joint Commission International Or International Standards Organization Certification Or Both, Compared With California Insurer Average, 2005**

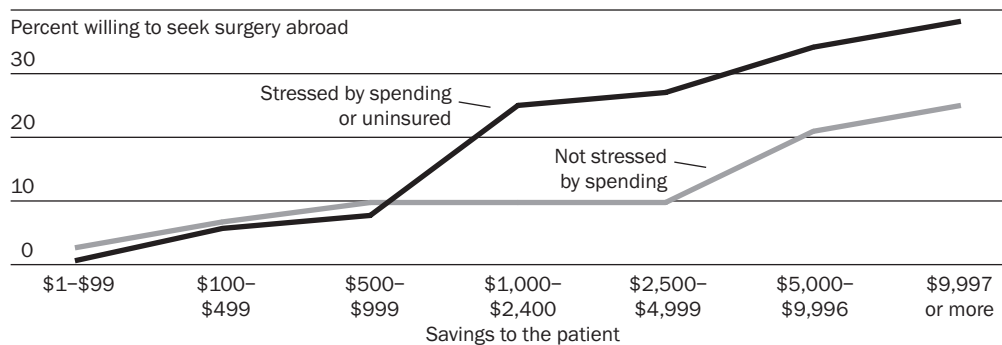


**SOURCES:** Hospital telephone and e-mail responses during the fourth quarter of 2005 from each hospital's self-identified contact for U.S. customer inquiries; California comparison was average allowable total payments per CABG reported in the fourth quarter of 2005 by a very large preferred provider organization (PPO) insurer for the prior year and then adjusted to offset the estimated higher cost of emergency CABG procedures via analysis of California's Office of Statewide Health Planning and Development (OSHDP) database.

<sup>a</sup> Analysis by Thomson Medstat of its more limited California claims database demonstrates that more-efficient California hospitals would compare more favorably. Average fees at its twenty-fifth-percentile-ranked hospitals, ranked on allowable fees, were 25 percent lower than average California fees. However, a large offshore fee advantage persists.

emotional benefit of close access to familiar physicians, friends, and family is considerable. Recourse for poor surgical outcomes abroad is limited. Further, we estimate that nonurgent surgeries that are costly enough to offset travel costs and required incentives account for less than 2 percent of commercial insurance

**EXHIBIT 3  
Impact Of Perceived Affordability Of Health Spending On Willingness To Travel Abroad For Major Surgery, Among 148 U.S. Households With Sicker Family Members, 2006**



**SOURCE:** Telephone survey responses from 1,003 census-matched U.S. households conducted by International Communications Research, first quarter 2006.

**NOTES:** Denotes the cumulative percentage of the 148 households in the survey with sicker families who reported being willing to seek surgery abroad. Insurance status and perceptions by insured people of stress from health spending were self-reported. Health spending includes both care and insurance. Respondents answered the following question: "How much savings do you think would cause the sicker person (in your household) to agree to obtain major, nonemergency surgery at a very good hospital outside the United States (for example, in Thailand, India, or Mexico) by a good surgeon who was trained in the United States, England, or Canada and speaks English or the patient's language?"

spending. The predominant impact of an increasingly “flat” health care world will be in the “back of the house”: transcription of data entry and analysis, and other administrative functions that have already been offshored in more-price-competitive industries. Clinical tasks not requiring simultaneous physical presence of the clinician (such as radiology, dermatology, and pathology) are next in line because of wide fee differentials and maldistribution of U.S. specialists, especially nights and weekends.<sup>7</sup> When it is 3:00 a.m. in Baltimore, it is 1:30 p.m. in Bangalore.

But how many observers in the 1960s thought that Japan would come to dominate the U.S. car market, or China U.S. textiles? Even if the offshorable surgical market appears limited, it might become important in communities with more low-income recent immigrants. It also might influence national efforts to understand why care in the United States costs and grows so much. Finally, as telemedicine progresses, the adage that “all health care is local” will recede.

The emigration of Americans for surgical care will provide only modest relief from our spreading affordability problems. Even if one accounts for sources of underestimation in recent savings forecasts, offshore surgery is unlikely to reduce near-term total U.S. health spending by more than 1–2 percent.<sup>8</sup> Increasingly, financially stressed Americans require a domestic health care system that perpetually reengineers its processes to deliver an internationally distinguished level of quality at a much lower cost. However, until the major U.S. public and private payers better collaborate in creating a much more performance-sensitive environment around U.S. physicians and hospitals, this vision will remain conceptual, and more uninsured, underinsured, and insured nonwealthy Americans will go abroad to obtain lower-cost surgery at levels of quality that cannot be readily distinguished from domestic care.

.....  
*The authors gratefully acknowledge Mary Modahl, David Dutwin, Lawrence Baker, Carl Hayes, Cheryl Damberg, and Thomson Medstat MarketScan for their assistance.*

#### NOTES

1. California HealthCare Foundation, “Health Insurance: Can Californians Afford It?” 3, 2005, <http://www.chcf.org/documents/insurance/HealthInsuranceAffordability.pdf> (accessed 11 October 2006).
2. A. Gauthier and M. Serber, *A Need to Transform the U.S. Health Care System: Improving Access, Quality, and Efficiency*, October 2005, [http://www.cmwf.org/usr\\_doc/867\\_Gauthier\\_transform\\_US\\_hlt\\_sys.pdf](http://www.cmwf.org/usr_doc/867_Gauthier_transform_US_hlt_sys.pdf) (accessed 8 November 2006).
3. “Notebook: Borderline Medicine,” *New Republic*, 22 November 2005, 8.
4. Testimony of Maggie Grace, Senate Special Committee on Aging, 27 June 2006, [http://aging.senate.gov/public/\\_files/hrl59mg.pdf](http://aging.senate.gov/public/_files/hrl59mg.pdf) (accessed 11 October 2006).
5. A. Milstein and M. Smith, “America’s New Refugees—Seeking Affordable Surgery Offshore,” *New England Journal of Medicine* 355, no. 16 (2006): 1637–1640; and *Boston Legal*, “Fine Young Cannibal” (ABC TV series, 10 October 2006).
6. For details on this survey, see <http://content.healthaffairs.org/cgi/content/full/26/1/137/DC1>.
7. R.M. Wachter, “International Teleradiology,” *New England Journal of Medicine* 354, no. 7 (2006): 662–663.
8. A. Mattoo and R. Rathindran, “How Health Insurance Inhibits Trade in Health Care,” *Health Affairs* 25, no. 2 (2006): 358–368.