

# **Global Health Economics: “What Industry Need to Know”**

**Changing Healthcare and Customer Environment**

**Mitchell Sugarman  
Senior Director  
Health Economics, Policy and Payment  
Medtronic**

# Healthcare Trends

## US Trends

- Physician-Hospital incentive alignment
- Increased investment in Health IT and EMRs
- Care shifting to lower cost settings
  - retail clinics
- Hospital pricing transparency
- Pre-emption

## Global Trends

- Comparative effectiveness
  - Health Technology Assessments & process transparency
  - Increase demand for clinical/economic evidence
- Purchasing decision shifting away from physicians
  - Price focused tenders (OUS)
  - Physician employee trends (US)
  - Hospital consolidations (US)
- Deteriorating hospital economics
- Physician/Nurse shortage
- Price transparency
- Decreasing product differentiation

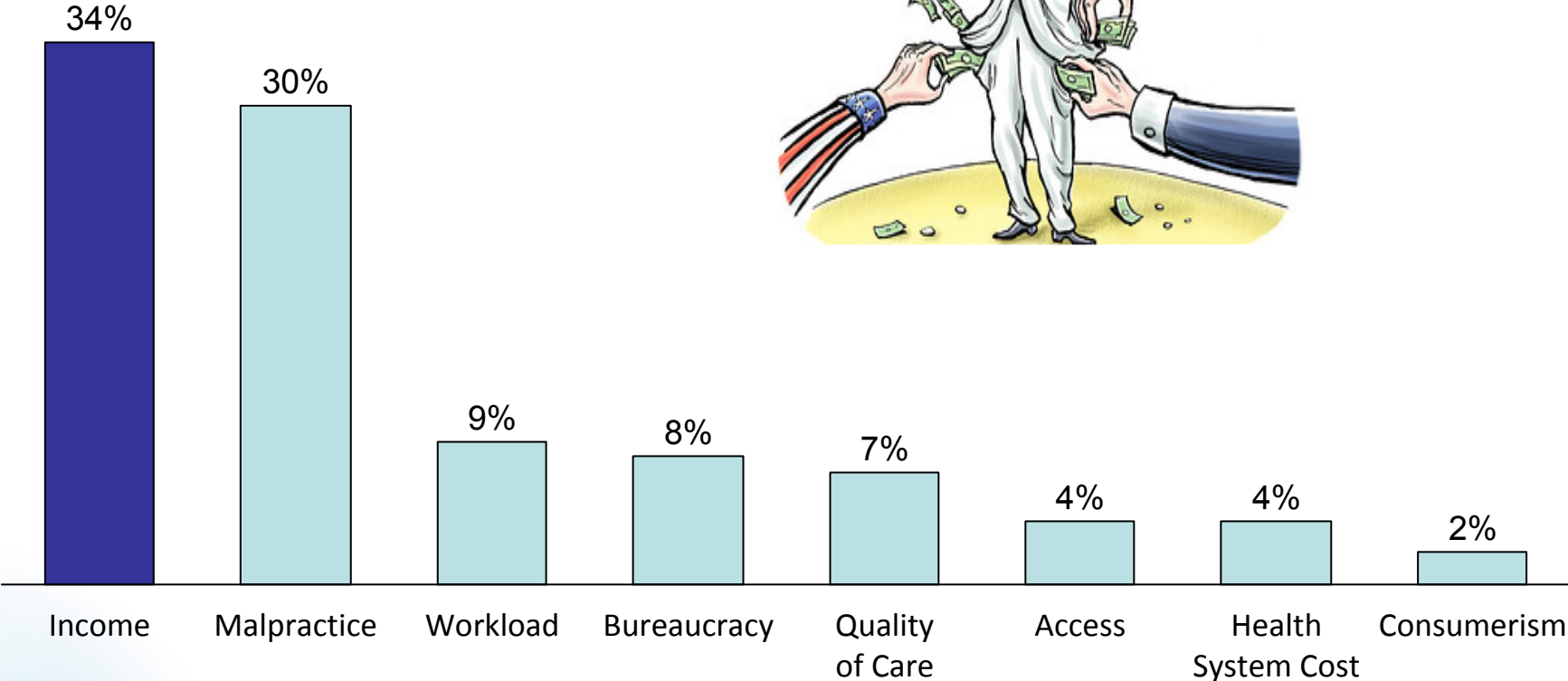
## OUS Trends

- Increase in private health insurance systems
- Risk sharing arrangements
- Competitive tendering
- DRG systems
- EU – each country/region continues to make individual funding and reimbursement decisions

# Selected Trends

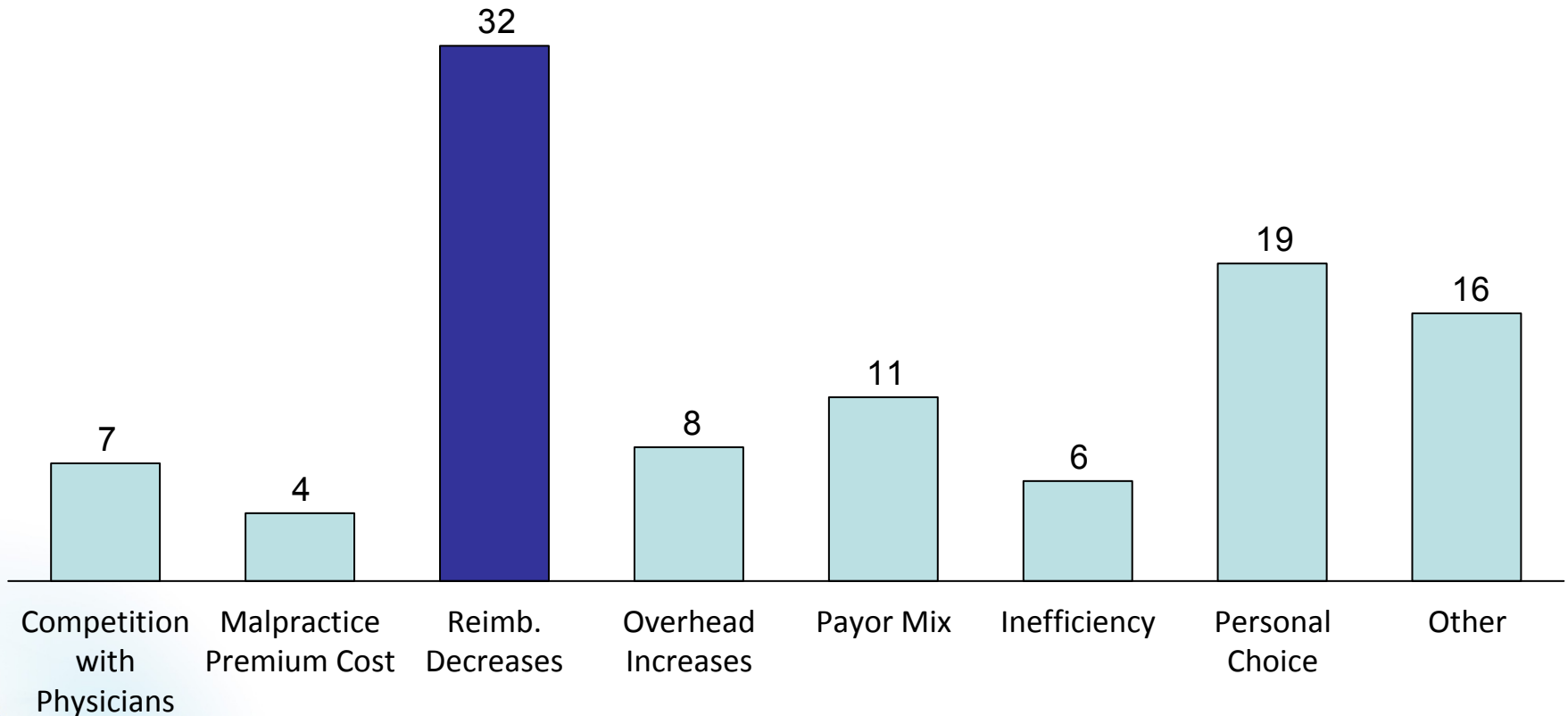
- Physician/Hospital Dynamics Changing
  - Physician income
  - Physician reimbursement
  - Moving away from private practice
  - Hospitals losing money; reducing staff & investments
  - Increased uninsured, decreased elective procedures
- Increasing Need for Clinical and Economic Evidence
- Globalization of Healthcare
- Health Care Consumerism Continues to Rise
- Price and quality transparency intensifies

# Physicians concerned about declining incomes



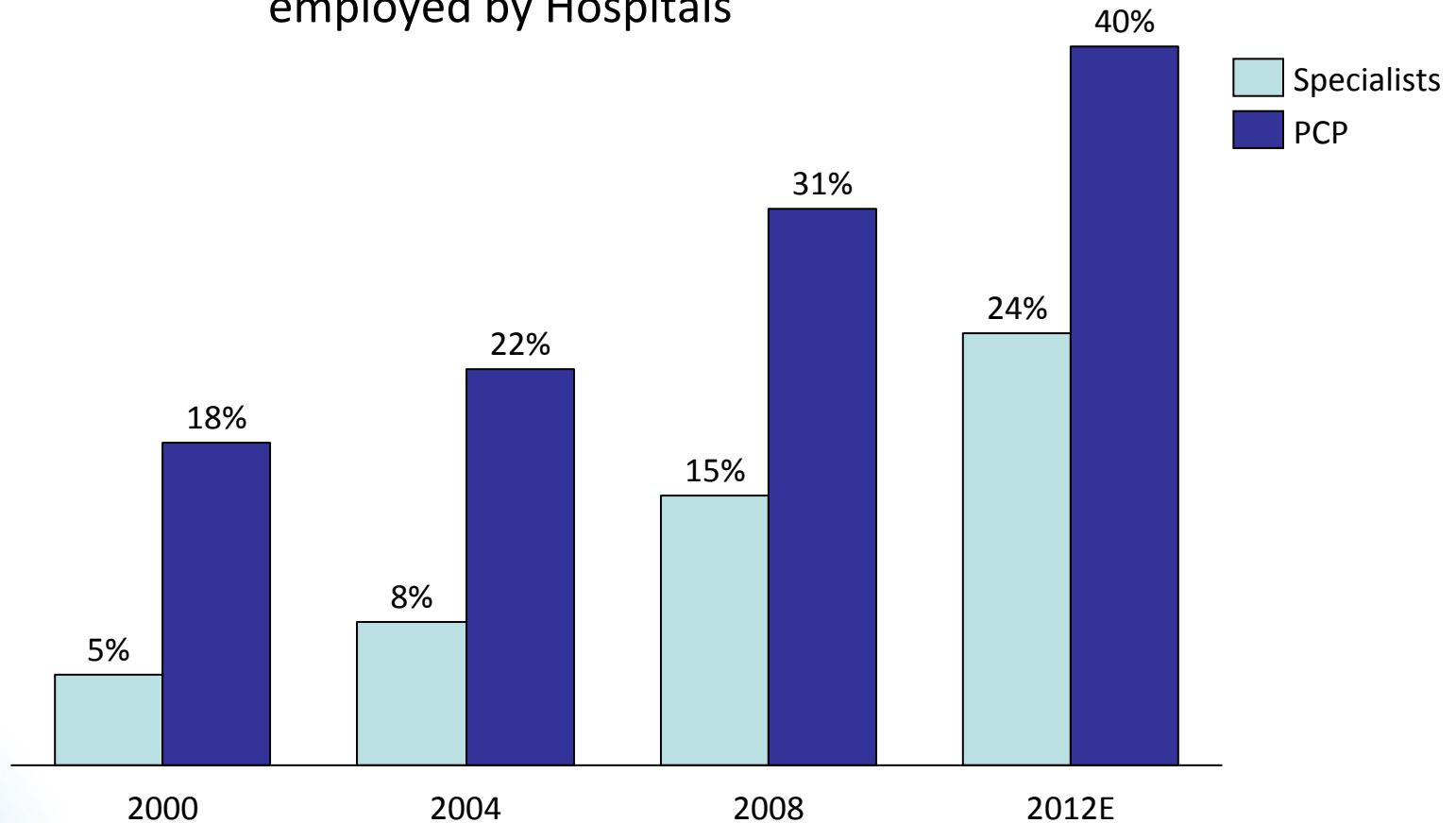
# Physicians worried about reimbursement pressures

Which of the following do you feel limits your income the most?



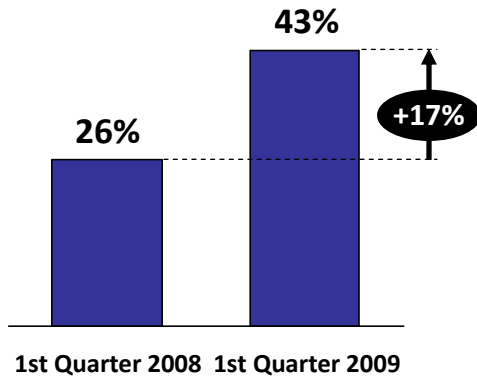
# 40% of Primary Care Provider expected to be hospital employees by 2012

Percent of "Active" PCP's and Specialists employed by Hospitals



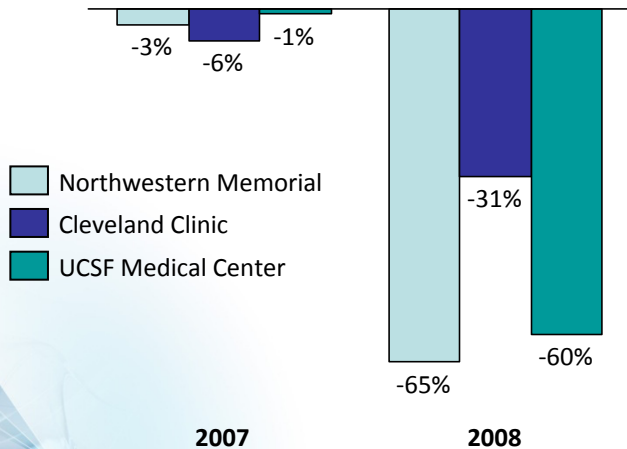
# The economy has hurt customer profitability

**% of Hospitals with Negative Total Margin**



**Change in Operating Income**

Selected Hospitals

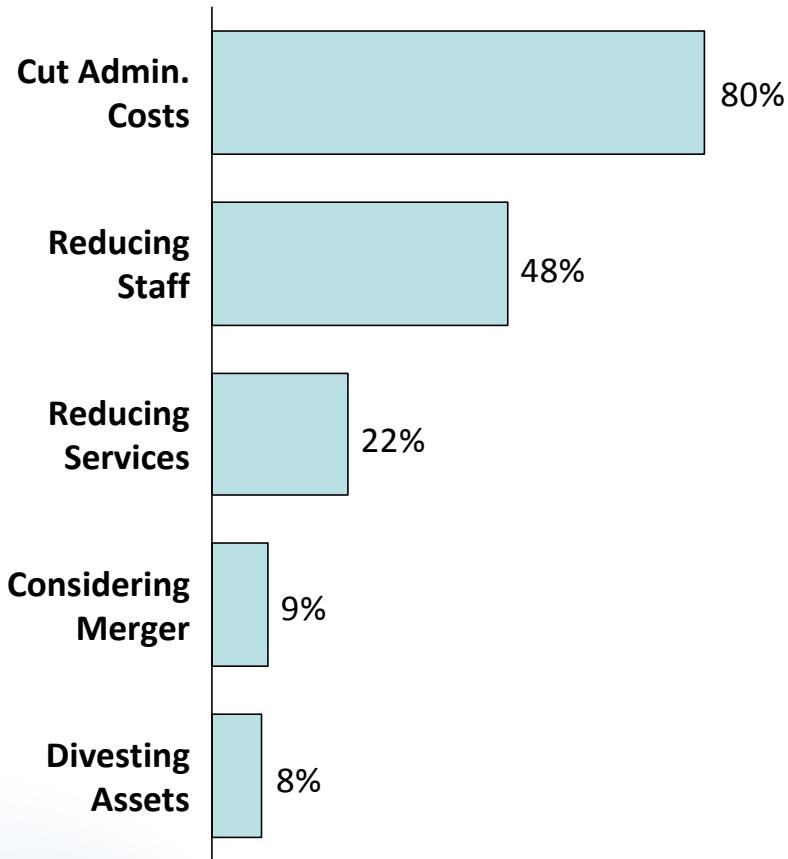


- 7 out of 10 hospitals report a decline in overall financial health
- 6 out of 10 hospitals nationally are seeing a greater proportion of patients without insurance coming through their emergency departments
- Nearly all hospitals report that the capital situation has not improved or is still deteriorating
- Financial measures important to creditors are slipping: Days Cash on Hand\*, Debt Service Coverage Ratio\*\*

\*How long a hospital could continue to meet its financial obligations if all revenues stopped.

\*\*The ratio of a hospital's annual net income to the amount it must pay its creditors—a key measure of a hospital's ability to meet its financial obligations.

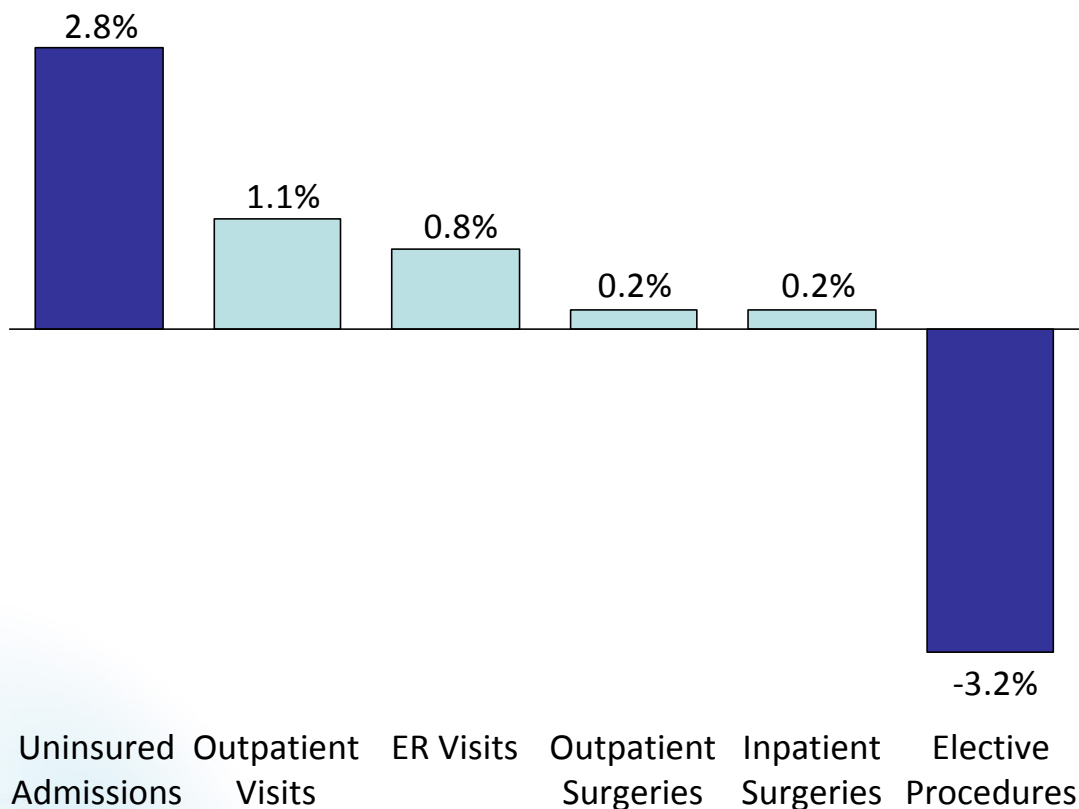
# Most have cut back to address economic concerns



- Most hospitals are taking a good hard look at overall cost
- Nearly half have reduced staff
- 8 in 10 have cut administrative expenses
- 1 in 5 reduced services  
communities depend on including behavioral health, post acute care, clinic, patient education and other services that require subsidies
- Almost 50% have cut back on capital investments

# Declining elective procedures, increased uninsured admissions also hurt hospital finances

Admissions and procedure volume change (1Q09 YoY)



**StarTribune.com**  
Minneapolis - St. Paul, Minnesota

**Patients trying to save money are getting sicker before they seek care, family doctors say**

# Selected Trends

- Physician/Hospital Dynamics Changing
- Increasing Need for Clinical and Economic Evidence
  - CER
  - Global evidence demands
- Globalization of Healthcare
- Health Care Consumerism Continues to Rise
- Price and quality transparency intensifies

# Comparative Effectiveness Research

\$1.1 billion for Comparative Effectiveness Research

**ECRI** Institute  
The Discipline of Science. The Integrity of Independence.

Recovery Act Allocates \$1.1 Billion for Comparative Effectiveness

## Quartile Area of Focus

Quartile	Area of Focus
First	AF; Prospective registry for lower back pain; Primary prevention of falls; Comprehensive care coordination; Introduction of biologics into treatment algorithm for inflammatory diseases; School based intervention for obesity
Second	Remote Monitoring; Artificial cervical discs; Spinal Fusion; Therapeutic intervention for autism; Treatment strategies for vascular claudication; Strategies to enhance patient adherence to medication regimen
Third	Aggressive use of perc. coronary interventions; CRT; Acupuncture; Dietary supplements; Primary open angle glaucoma

U.S. Department of Health & Human Services  
**HHS.gov**

HHS Names Federal Coordinating Council for Comparative Effectiveness Research

**BROOKINGS**

Implementing Comparative Effectiveness Research: Priorities, Methods and Impact



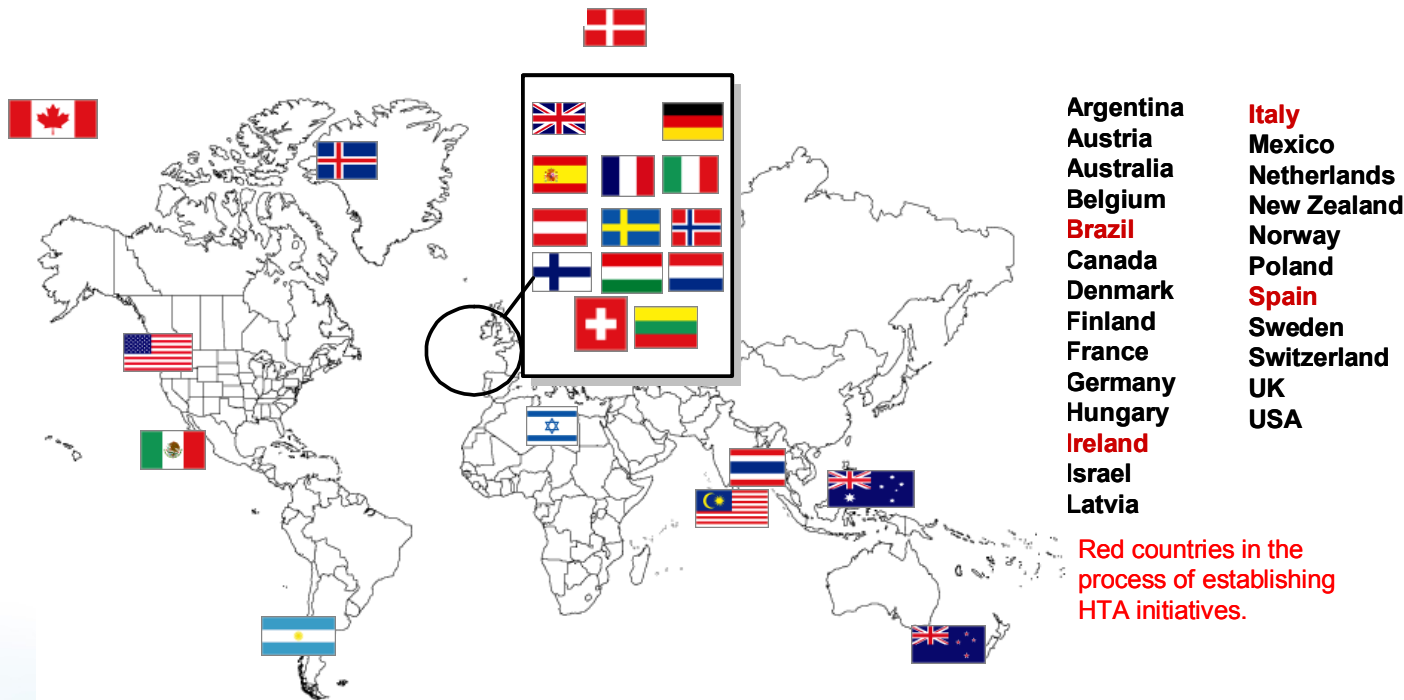
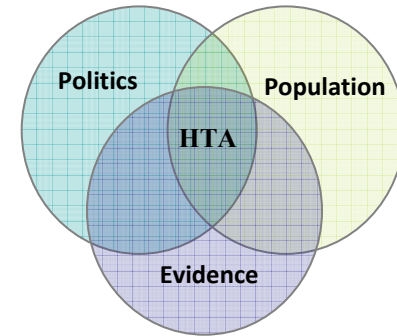
**Heart Rhythm Society**

Restoring the Rhythm of Life  
Comparative Effectiveness Research Bill Introduced

# Increasing need for clinical and economic evidence is a global trend

**Concept:** Health Technology Assessments (HTA) summarize medical, social, economic, and ethical issues related to use of a health technology in a transparent, unbiased manner

**In Theory:** Informs formulation of safe, effective health policies that are patient focused and seek to achieve the best value for money



Source: Medtronic 2007 Global Reimbursement Summit.

- New agencies and/or more HTA levels in one system
- Established agencies with more resources and powerful networks
- Enhanced complexity in evaluations (methodological reviews)
- Links to value-based pricing & risk-sharing agreements

# Evidence / HTA Needs

## Australia



## China



## India



### • Key opportunities on price and reimbursement

- HTA review due
- Alternative funding mechanisms, including PHI opportunities for cost savings devices

- Expand covering urban and rural basic social medical insurance
- Develop private insurance

- Channelized funding of Public initiatives
- Increasing VHI penetration

### • Key risks on price and reimbursement

- Annual negotiations of reimbursement amounts 'Benchmarking'

- Tendering – price ceiling
- Limitation of total reimbursement budget at hospitals
- Vast geography complicated by different local pricing & medical insurance

- 'Price Control' or 'Price Negotiations'
- Under insurance & Under coverage

### • Clinical evidence requirement level

- Clinical Advisory Groups
- Level 1 evidence
- Comparator head-to-head

- Foreign evidence accepted
- Started to request local clinical data for special products like DES

- Expert panels
- RCT preference increasing

### • Economical evidence requirement level

- Cost impact
- Full economic evaluation not yet seen in reimbursement processes for device
- In use in economic evaluation for medical procedures

- Health economic, cost effectiveness study not well recognized

- Not fully there
- Funding roadmaps
- 'Value Summaries' & 'Value Stories'
- SoC guidelines covering procedure & medical device with health economics background

# Evidence / HTA Needs

## Japan



## Korea



## Total ASEAN\*\*\*

### • Key opportunities on price and reimbursement

- Try to capture the innovation on reimbursement

- US-Korea FTA
- Strengthened NHI coverage policy

- Reimbursement of more innovative products

### • Key risks on price and reimbursement

- Bi annual reduction of reimbursement rate
- Needs of evidence

- Single functional category pricing system
- HTA
- Health economic appraisal

- V. price sensitive
- Annual tenders, more price reductions
- ↑ need for evidence

### • Clinical evidence requirement level

- RCT and meta is better
- But no specific written requirements are there

- Meta-analysis & RCT much preferred (HTA)
- Pseudo-RCT, case control study, cohort study, observational, analytic study, etc. not well recognized
- Foreign evidence accepted

- RCT and meta is better but no specific written requirements are avail.

### • Economical evidence requirement level and other needs

- Economical data needs for the each applications.
- ICEAR and QALY are not in considerations
- Foreign data can be used but better to use Japanese data or adjusted to Japanese environment.

- Not strong yet
- “Value appraisal method” in place
- Procedure & medical device health economics appraisal guideline under development

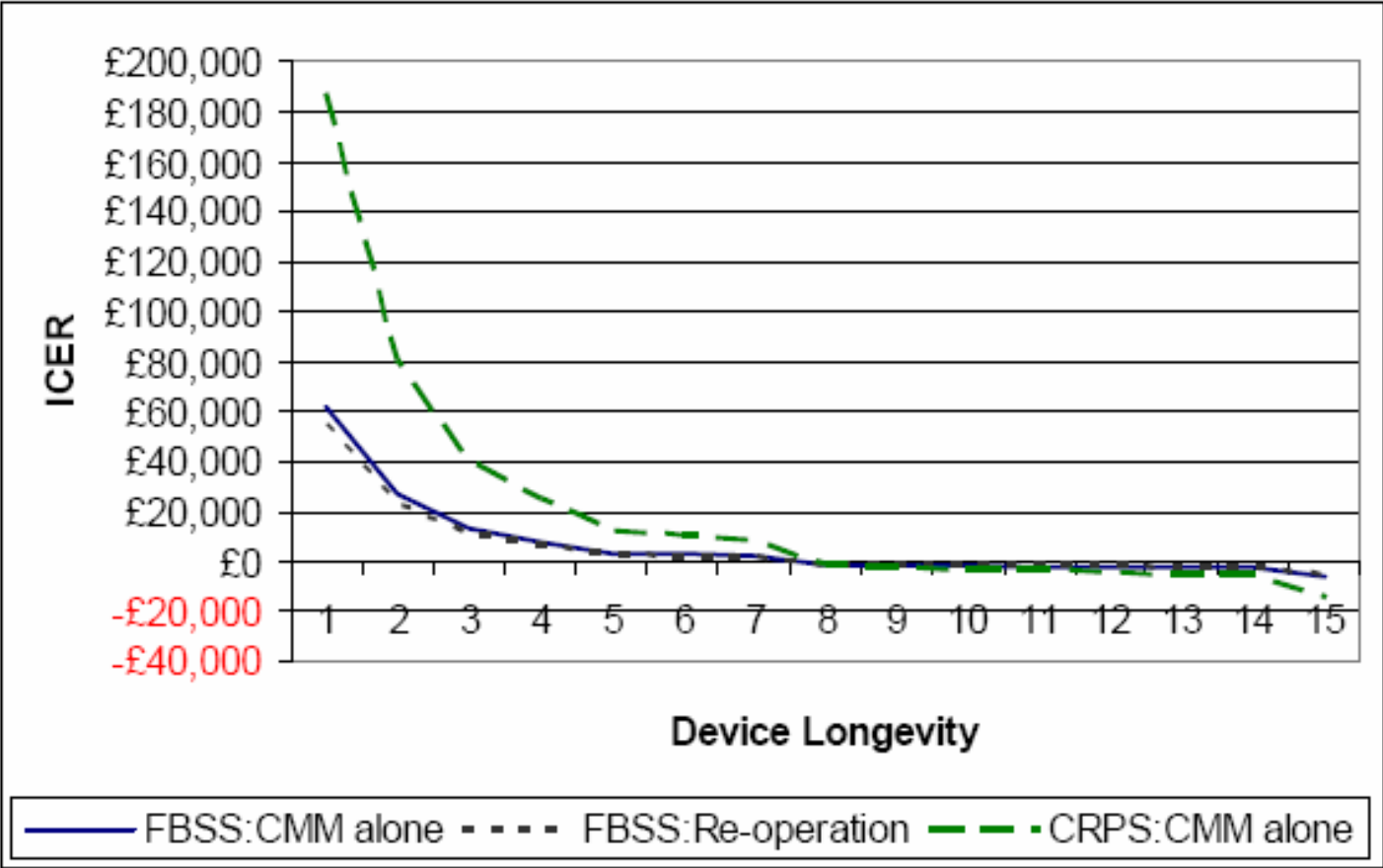
- Low level
- Foreign data can be used in economical analysis

## HTA -Example

### NICE Process/Timeline: SCS Full Technology Appraisal

- July 2006 – Draft Scope
- August 2007 – Final Scope Posted
- November 2007 – Medtronic Led Cross Industry Submission
- June 2008 – Technology Assessment Report (TAR)
  - Key trials cited – PROCESS, North, Kemler
- June 2008 – Appraisal Consultation Document (ACD)
- September 2008 – Final Appraisal Document (FAD)
- November 2008 – Final Guidance issue

# Device Longevity and Cost-Effectiveness



# Selected Trends

- Physician/Hospital Dynamics Changing
- Increasing Need for Clinical and Economic Evidence
- **Globalization of Healthcare**
  - Medical Tourism
- Health Care Consumerism Continues to Rise
- Price and quality transparency intensifies

# Evolution of Medical Tourism

**TIME**

*“This has the potential of doing to the U.S. healthcare system what the Japanese auto industry did to American car makers.”*

*Uwe Reinhardt, Healthcare Economist, Princeton University*

*May 2006*

## 2007- Medical outsourcing

- 1st world managed care model is prohibitively expensive
- Medical outsourcing seen as a cost containment solution

## 2001-2006 Medical tourism

- Emergence of Thailand and India as legitimate medical destinations
- Arab exodus
- Cosmetic surgery boom

## 1997-2001 Transition

- Price is now a factor
- Emergence of alternatives to the established players
- Shift from sellers market to buyers market

## Pre 1997 Medical Travel

- USA and Europe are centers of the healthcare universe
- Singapore the medical hub in Asia
- People travel for high end - high cost medical treatment

# Realities of Medical Tourism



The NEW ENGLAND  
JOURNAL of MEDICINE

PERSPECTIVE

[◀ Previous](#)

Volume 355:1637-1640

[October 19, 2006](#)

Number 16

[Next ▶](#)

## America's New Refugees — Seeking Affordable Surgery Offshore

*Arnold Milstein, M.D., M.P.H., and Mark Smith, M.D., M.B.A.*

Device business is a natural target








Quality of care may not be as big a barrier as we first think

The growth is real

- “To ensure both significant savings net of travel expenses and patients’ safety, such offshore care must be limited to **non-urgent, short-duration treatments costing more than \$15,000 to \$20,000** in the United States for conditions that aren’t exacerbated by air travel; these include **major cardiac and orthopedic procedures.**”
- “We doubt...that the average U.S. hospital can **offer better outcomes** for common complex operations”
- “At Bangkok’s Bumrungrad International Hospital, for example, **55,000 Americans** were treated this past year, **30% more than in the previous year**; about 83% of them underwent non-cosmetic treatments”

# Western provider are increasingly creating international footprints . . .

A Advising hospital  
M Managing hospital  
S Affiliated medical school

Seal	Name (number of centers)
	Harvard Medical International (18)
	Memorial Sloan Kettering (9)
	Johns Hopkins International (6)
	University of Pittsburgh (3)
	Cleveland Clinic (2)
	Cornell Medical School (2)
	Duke Medical School (1)



# Selected Trends

- Physician/Hospital Dynamics Changing
- Increasing Need for Clinical and Economic Evidence
- Globalization of Healthcare
- **Health Care Consumerism Continues to Rise**
  - More informed patient as consumer
  - Waiting longer to receive care
  - Decreased compliance
  - Loss of trust
- Price and quality transparency intensifies

Health care consumerism is on the rise, and people are becoming more actively involved in their health care decisions.

WebMD Today

- Home
- WebMD Newscenter

Member Services

- Newsletters & Alerts
- Boards & Events
- WebMD University
- My WebMD
- Find a Doctor, Clinic

Medical Info

- Diseases & Conditions
- Check Symptoms
- Medical Library
- Drugs & Herbs
- Quizzes, Calculators
- Clinical Trials
- Find Health Insurance
- Health Plan

Health & Wellness

- Women, Men, Lifestyle
- Pregnancy & Family
- Diet & Nutrition

Who We Are

Join now



Understands

WebMD

Understands

The Basics

How Do

Your doctor also suggests damage,

The two most endoscopic 24-hour p

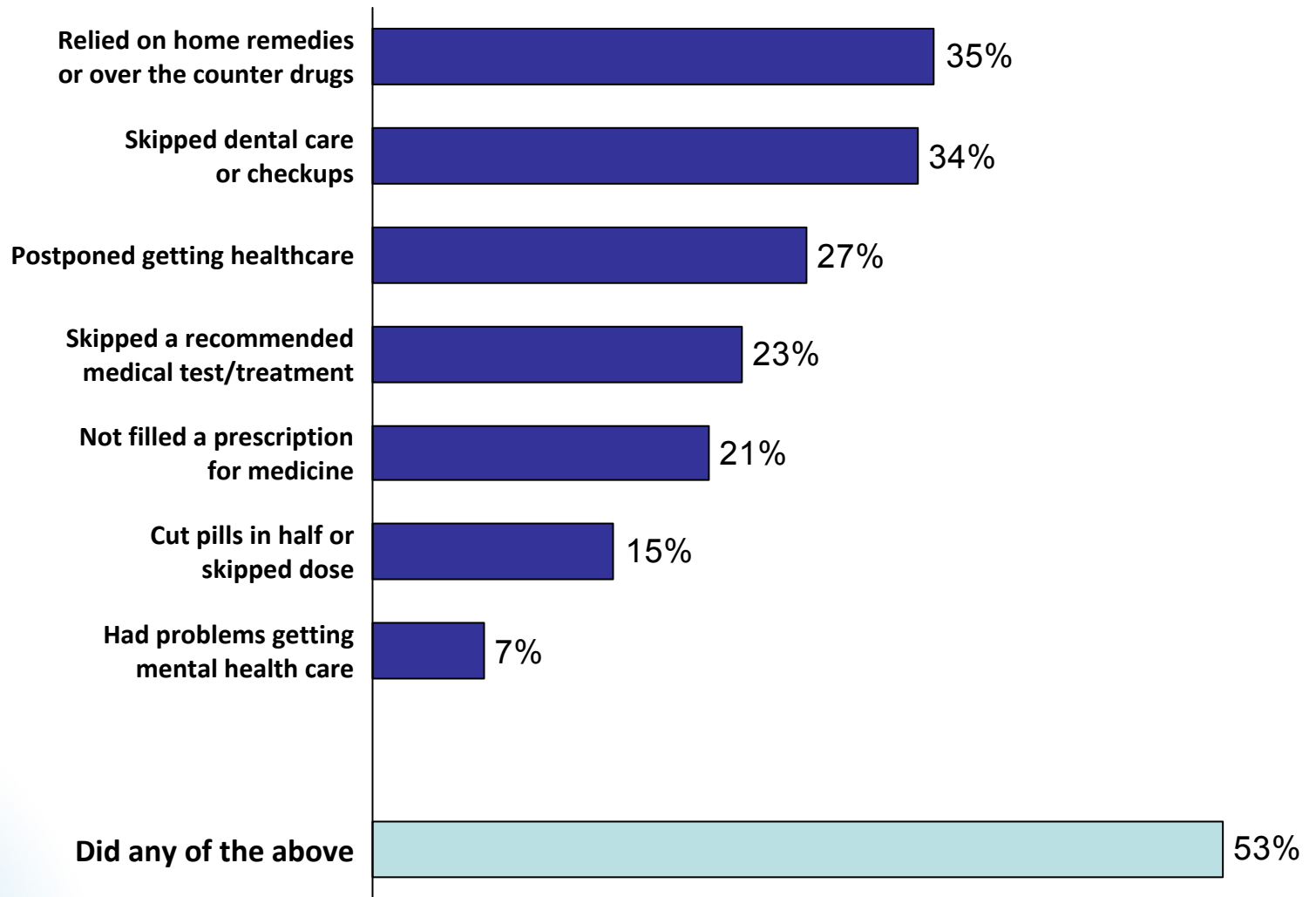
Endoscopy through the (inflamm



**Pittsburgh Post-Gazette®**

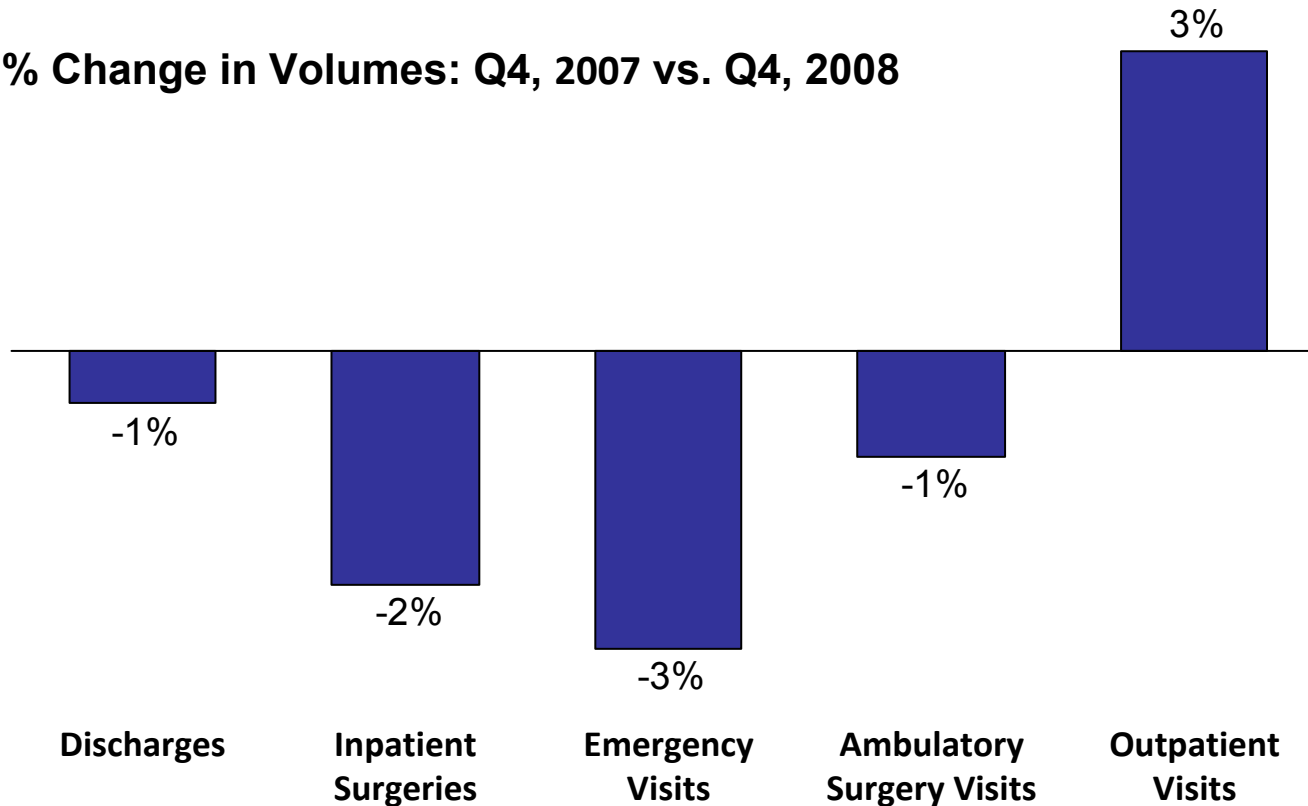
As health costs rise, consumers must get smarter

# 53% have cut back on healthcare over the past year due to financial concerns



# Patient cut backs resulting in declining hospital volumes

**% Change in Volumes: Q4, 2007 vs. Q4, 2008**



Do you trust your doctor?  
Do you trust your insurance company?



# Selected Trends

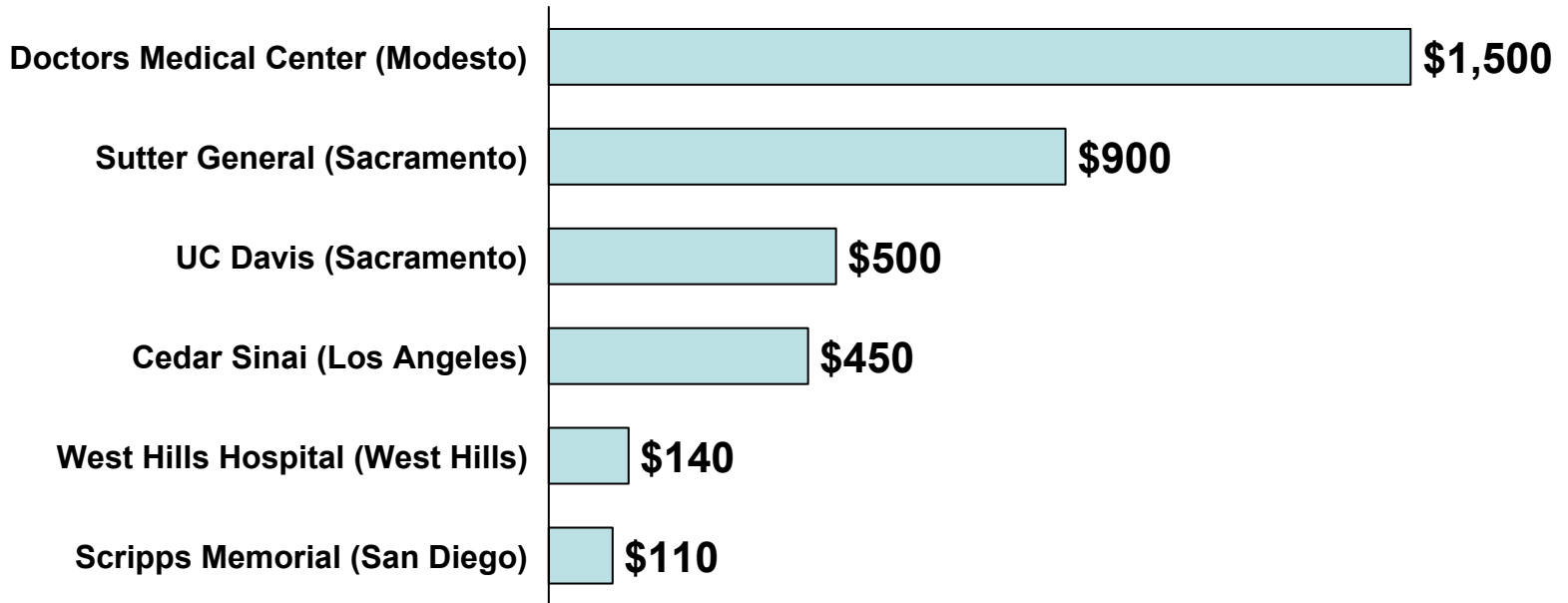
- Physician/Hospital Dynamics Changing
- Increasing Need for Clinical and Economic Evidence
- Globalization of Healthcare
- Health Care Consumerism Continues to Rise
- **Price and quality transparency intensifies**

# Why lack of price transparency is bad for healthcare choice

- 90 million Americans have difficulty understanding and acting upon health information resulting in a 3-6 percent higher healthcare cost
- A Harris poll showed that consumers asked to estimate a four-day stay in a hospital missed by \$8100.
- Of individuals who received healthcare in the last two years, 63 percent did not know the cost of the treatment until the bill arrived, and another 10% never learned the cost

# Inconsistent Pricing for US Hospital Services

Charges for a chest x-ray at selected California Hospitals, 2004





# Summary

- The world is getting smaller
- Medical technologies will be expected to work both clinically and economically for all stakeholders
- Common requirements for cost-effectiveness and comparative effectiveness evidence are emerging globally
- Economic pressures are increasingly being felt globally by health care practitioners and health care providers.
- Price sensitivity will be heightened, manifested by global HTAs, medical tourism and western international footprints
- Implantable device therapies will require more rigorous evidence, possibly more sham-controlled studies
- Unlikely to be drastic changes that happen overnight....
- BUT there will be significant changes globally overtime