



Cost-effectiveness analysis in the U.S.

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Overview

- Why Americans don't use cost-effectiveness analysis
- Why things are (slowly) changing



using
cost-effectiveness
analysis
to improve
health care

Opportunities and Barriers

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American Exceptionalism?





Resistance to cost-effectiveness analysis

- Medicare
- Medicaid (Oregon)
- Private health plans
- Comparative effectiveness
- Mammography debate

Medicare covered technologies with ICER >\$100k/QALY

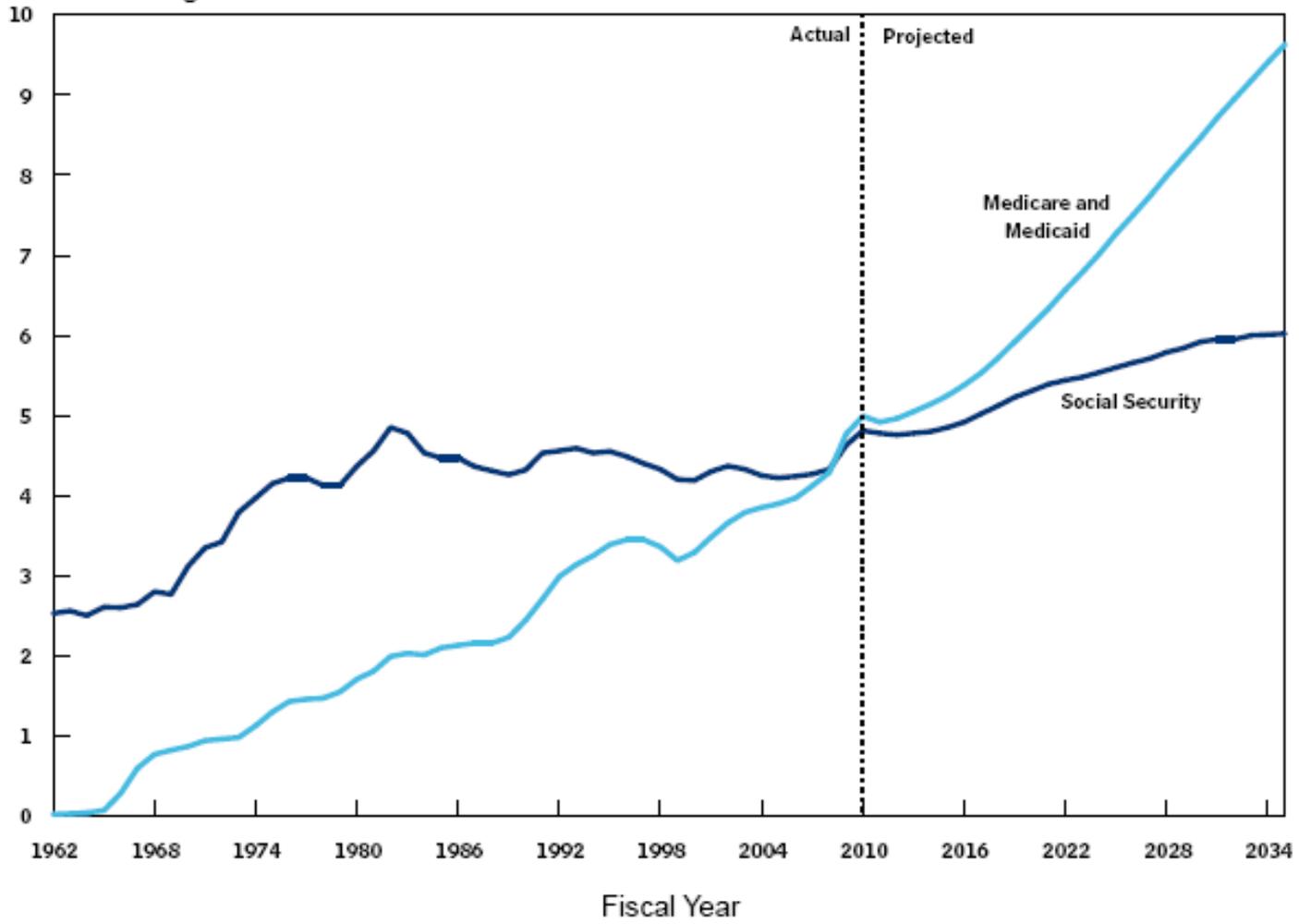
Intervention	ICER (US\$)
Lung Volume Reduction Surgery - Severe upper lobe emphysema	\$172,852
Ocular Photodynamic Therapy with Verteporfin for Macular Degeneration - Predominately classic subfoveal CNV lesions	\$159,346
Liver transplantation in patients suffering from hepatitis B	\$160,373
Lung Volume Reduction Surgery - Non high risk patients suffering from non-upper lobe emphysema with low exercise capacity	\$337,521
Transmyocardial Revascularization for Severe Angina - Patients with severe angina refractory to standard medical therapy	\$341,799
Insulin Infusion Pump	\$558,522
Ultrasound Stimulation for Nonunion Fracture Healing – Radius	\$603,374
Ultrasound Stimulation for Nonunion Fracture Healing - Scaphoid	\$798,587
VADs as Destination Therapy - Chronic end-stage heart failure patients	\$820,967

Source: Chambers et al., 2010



Signs of change?

Percentage of GDP

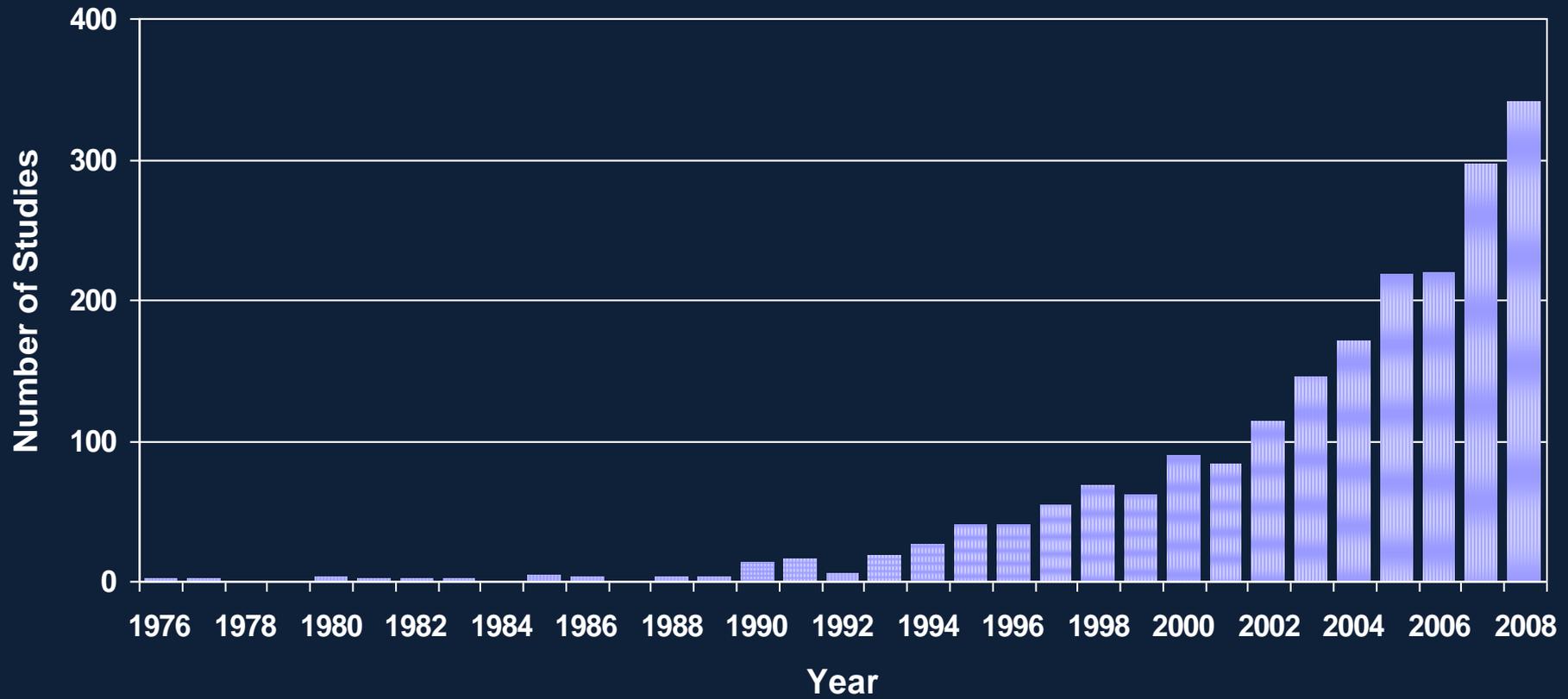


- “Better information about the costs and benefits of different treatment options...could eventually lower health care spending...”
 - Peter Orszag



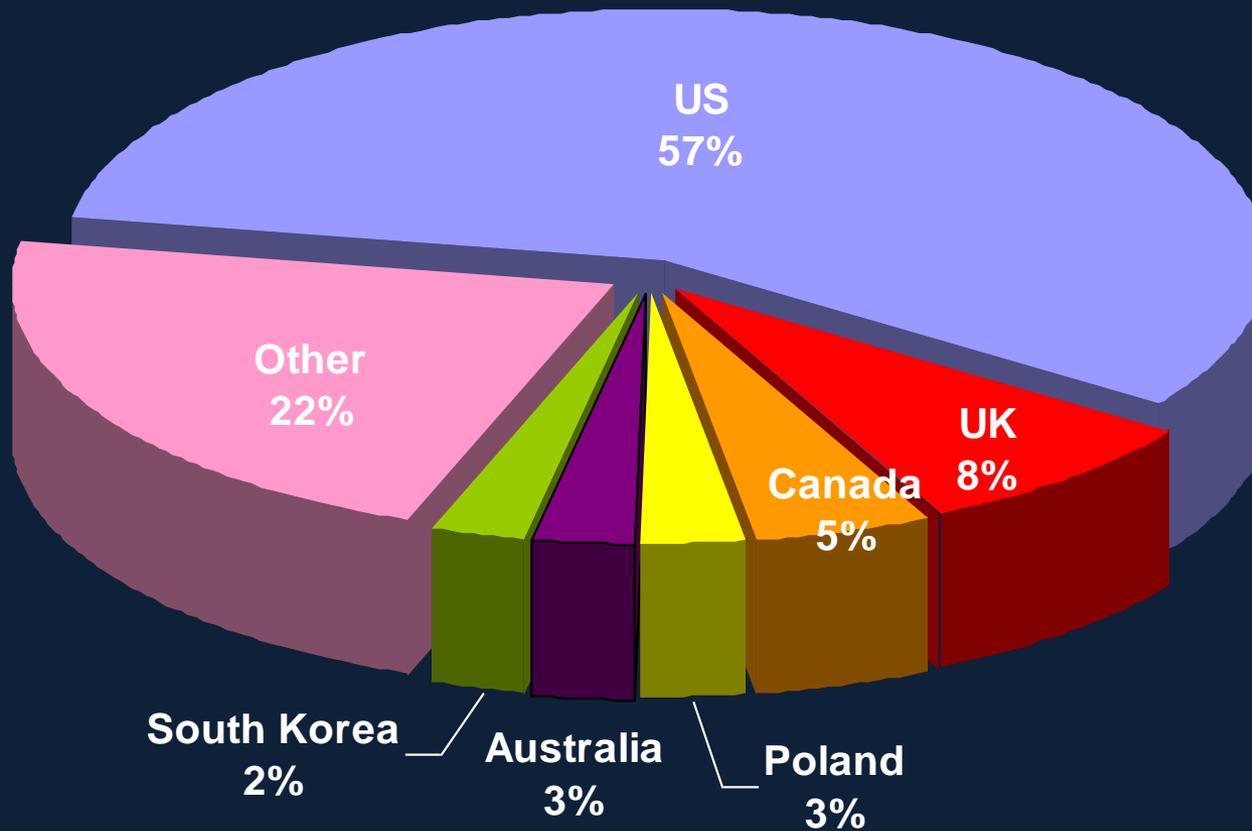
Photo: Todd Heisler, NY Times

Published cost-utility analyses (CUAs), 1976-2008



Source: Tufts Medical Center CEA Registry. www.cearegistry.org

Visits to the Tufts CEA Registry Website (www.cearegistry.org)



Top Journals publishing CUAs

Journal	#CUAs
Pharmacoeconomics	103
Value in Health	59
Int J Technol Assess Health Care	56
Ann Intern Med	55
Curr Med Res Opin	52
JAMA	36
Vaccine	36
Med Deci Making	33
BMJ	29
Am J Med	25
J Clin Oncol	25
Other (e.g. Pediatrics, Cancer, Circulation, Radiology, NEJM etc.)	1342

Methods Used in CUAs

	≤1999 (n=355)	2000- 2003 (n=431)	2004- 2005 (n=389)	2006- 2007 (n=529)	P-value
Stated Perspective	39.7%	61.3%	69.4%	79.2%	<0.0001
Stated Time Horizon	82.8%	81.4%	89.7%	89.4%	<0.0001
Incremental Analyses Correct	53.8%	71.0%	73.0%	79.4%	<0.0001

Source: www.cearegistry.org

Methods Used in CUAs

	≤1999 (n=355)	2000- 2003 (n=431)	2004- 2005 (n=389)	2006- 2007 (n=529)	P-value
Sensitivity Analyses	90.4%	94.2%	96.1%	95.7%	0.0005
Prob. Sens Analyses	3.7%	24.1%	43.7%	55.0%	<0.0001
Econ alongside Clinical Trial	9.0%	12.1%	4.4%	23.8%	<0.0001

Medicare NCD memos that cited or discussed cost-eff. information

Intervention	Covered?	ICER (US\$)
Cryosurgery Ablation for Prostate cancer- Primary treatment	✓	Dominant
Positron Emission Tomography - Lung Cancer (non-small cell)	✓	Dominant
Positron Emission Tomography - Colorectal Cancer	✓	Dominant
Positron Emission Tomography – Melanoma	✓	Dominant
Cardiac Rehabilitation Programs - Acute Myocardial Infarction	✓	Dominant
Cardiac Rehabilitation Programs - PTCA	✓	Dominant
Smoking & Tobacco Use Cessation Counseling	✓	Dominant
Screening Immunoassay Fecal-Occult Blood Test	✓	\$1,072
External Counterpulsation (ECP) Therapy	X	\$3,126
Electrical Bioimpedance for Cardiac Output Monitoring	✓	\$6,341
Cochlear Implantation - Post linguallly hearing impaired patients	✓	\$10,292
Cochlear Implantation – Pre linguallly hearing-impaired patients	✓	\$10,506
Screening Immunoassay Fecal-Occult Blood Test	✓	\$21,001
AuSCT for Multiple Myeloma - restricted population	✓	\$27,161

Source: Chambers et al., 2010



MIPPA legislation, 2008

“in making determinations ... regarding the coverage of a new preventive service, the Secretary may conduct an assessment of the relation between predicted outcomes and the expenditures for such services...”



Predictions

- Number of published CEAs in the U.S. will continue to increase
- Resistance to CEA will continue
- New CER (if signed into law) won't include CEA
- CEAs will play more important role in clinical guidelines, and in coverage and reimbursement



Thank you!