

What is the Optimal Payment Approach for New Technology?

Medicare continues to struggle to create payment mechanisms that provide the right balance of incentives to ensure an appropriate level of access to new technology for beneficiaries while managing overall program costs. Criticisms of the current system include:

- a two year lag in the availability of cost data to support payment rates;
- difficulty estimating the dollars that need to be set aside to cover new technology;
- uncertainty generated by fluctuations in OPPS payment rates and policies;
- “budget neutrality” provisions that reduce payments for existing services as new technologies get incorporated into the base; and
- limited mechanisms to account for real increases in costs due to new technology.

On the other hand, the current payment systems do support the introduction of new technology and provide a mechanism for payment even in the absence of adminis-

trative cost data. Because all payments are currently reduced proportionally to accommodate new technologies, there should not be an incentive to use one technology over another.

As Medicare considers future generations of payment systems, the variation among technologies in how they impact care delivery will be challenging to address. Should all technologies be treated equally or should payment terms vary based on key factors such as the strength of the evidence base on efficacy, whether the technology improves productivity or saves costs elsewhere in the health care system, how quickly the technology can be diffused, or how much it costs?

CMS recently took the unprecedented step of covering and assigning payment rates under inpatient and outpatient prospective payment systems for drug eluting stents prior to their anticipated approval by the FDA. This breakthrough technology is expected to rapidly replace the existing state of the art because of its ability to prevent restenosis and ultimately lower the lifetime costs of treating heart disease.

Technologies can affect care delivery in many different ways: How should payment systems respond?

Chart 13: Issues for Consideration in Determining Technology Payment Policies

Issue	Range of Variation	
Supporting Research	Limited evidence available on clinical efficacy	↔ Rigorous scientific evidence on clinical efficacy
Quality Improvement	Minimal quality benefits of new technology over current technology/practice	↔ Significant improvement in quality and outcomes
Productivity Enhancement	Low productivity gains per stay from use of new technology (e.g., no change in LOS)	↔ High productivity gains (e.g., decreased LOS, less invasive procedure, reduced readmission rates)
Cost	Low additional cost of new technology relative to current technology/practice	↔ Very high additional cost
Capital Investment Required	No capital investment required (cost of devices absorbed into operations)	↔ Significant capital investment required (e.g., PET scanners)
Use Across Various Services	New technology is specific to one procedure or DRG (e.g., drug eluting stent)	↔ Use across various diagnoses, procedures, or DRGs (e.g., leukocyte reduced blood)
Diffusion Rate to Hospitals	Use at “high tech” hospitals early upon introduction with gradual use of new technology in other hospitals	↔ Use in nearly all hospitals upon introduction of new technology

“There was no question in our minds that once FDA approves this, and FDA seems likely to, that drug-coated stents will become the state of the art.” — Tom Scully, Administrator for the Centers for Medicare and Medicaid Services

Policy Issues and Questions

Diverse and evolving technology presents challenges for regulators in the approval process; for public and private payers as they struggle to set appropriate payments for groundbreaking new technologies; for hospitals as they try to balance the need to provide the best quality care within the confines of imperfect payment systems; for manufacturers as they navigate through the labyrinth approval process of the FDA and rules of coverage and payment; and for patients as they try to understand the latest procedures, medical devices, and drugs that could help them cope with illness. It appears that medical science has, in some cases, advanced further and faster than the infrastructure for coverage and payment. There are many important questions yet to be answered.

- How can payment systems ensure appropriate payment levels for new technology without creating incentives for under- or over-use?
- How should payment systems take into account the various characteristics of new technologies (cost, impact on productivity, applicability to a few vs. many diagnoses, degree of diffusion, capital needs)?
- How can the evidence-base that supports decision-making be strengthened, especially for advances outside the FDA approval process (e.g. procedures, techniques)?
- For providers, what are the long-term implications of fixed, budget-neutral payment systems that reduce payment for less technology-intensive services to allow for the introduction of new technologies?
- How will new benefit designs that require consumers to assume more of the financial risk of health care, relative to tightly managed care, affect the adoption of new technology?
- If the recent growth in health expenditures continues unabated, should policy makers consider strategies to constrain the influence of technology on health care spending (relative to inflation and other factors)?

Quotes from the Field

“We’ve got to take the steps needed to bring the health care delivery system up to the level of medical science and technology itself. I’m committed to taking those steps.” — Tommy G. Thompson, Secretary, Department of Health and Human Services, June 20, 2002

“Physicians at the hospital are using a new technology — vascular brachytherapy — to reduce repeat angioplasties and bypass surgeries, and to lower hospitalization rates. Despite the procedure’s benefits, the hospital must bill Medicare using a code for a standard coronary angioplasty, which doesn’t cover such extra costs as the need for the specialized training or more expensive catheters. It is clear that continuing to perform under-reimbursed procedures is not a healthy fiscal policy for hospitals.” — Jeffrey Popma, MD, Director of Interventional Cardiology at Brigham and Women’s Hospital in Boston

“What makes policy making around [coverage] so difficult is that the coverage decision is black-and-white, but the science is always gray.” — Sean Tunis, The Centers for Medicare and Medicaid Services

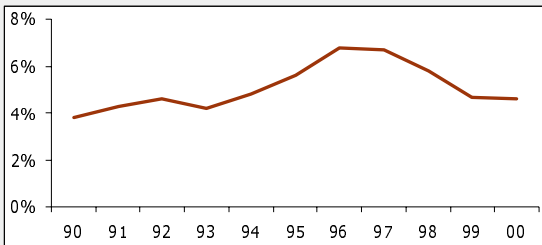
As a society, sooner or later we will have to determine whether there are some benefits that are too plain small to justify the cost. [Americans]... have an enormous tendency to use treatments if we think they work or if we hope work, even if there is no evidence that they do work.” — David Eddy, MD, PhD, Independent Analyst

“I’ve been thinking lately about the mismatch between how very high-tech medicine has become, with all these genetic tests for everything, mixing your medications like fine cocktails, and our patients, who can’t afford them, can’t understand it, can’t get interpreters to explain it and are just not accessing those things.” — Dr. Janelle Walhout, Community Clinic in Seattle

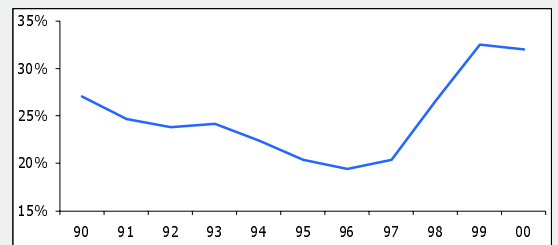
Stats to know

Hospital Sector

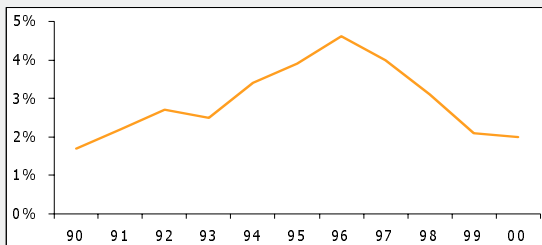
Total Margin:	1998	1999	2000
90 to 00 Trend	5.8%	4.7%	4.6%



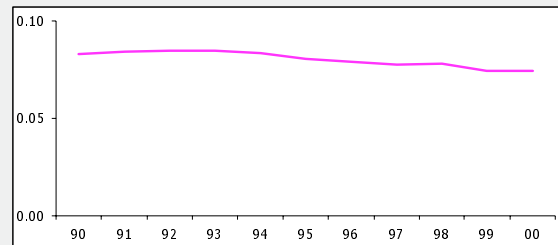
Percentage of Hospitals with Negative Total Margin: 90 to 00	1998	1999	2000
	26.6%	32.5%	32.0%



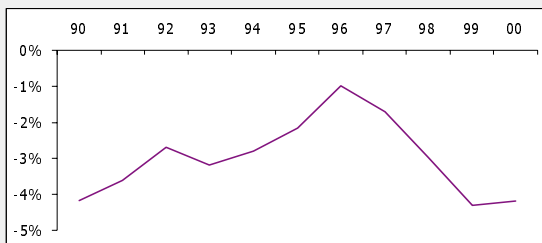
Operating Margins:	1998	1999	2000
90 to 00 Trend	3.1%	2.1%	2.0%



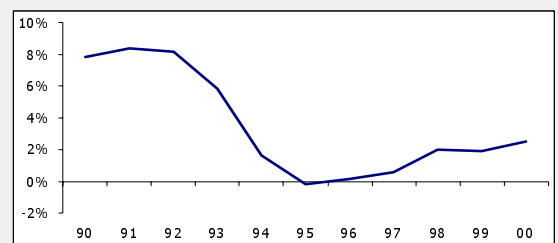
FTEs per Adjusted Admission:	1998	1999	2000
90 to 00 Trend	0.08	0.07	0.07



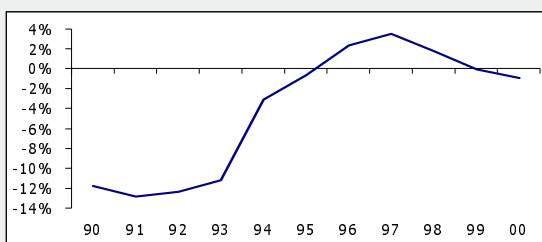
Patient Margins:	1998	1999	2000
90 to 00 Trend	-3.0%	-4.3%	-4.2%



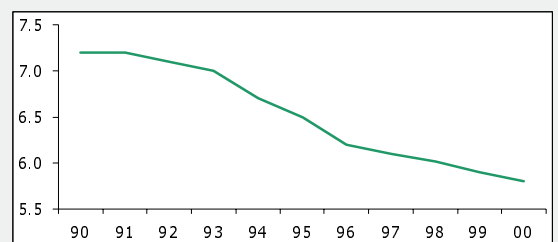
Percent Change in Expense per Adj. Admission: 90 to 00 Trend	1998	1999	2000
	2.0%	1.9%	2.5%



Medicare Margins:	1998	1999	2000
90 to 00 Trend	1.8%	-0.1%	-0.9%



Average Length of Stay (in Days):	1998	1999	2000
90 to 00 Trend	6.0	5.9	5.8



Endnotes:

- Page 1: ¹ Centers for Disease Control and Prevention, National Center for Health Statistics, *Health United States*, 2001
² Includes deaths of persons who were not residents of the 50 States and the District of Columbia
³ Starting with 1999 data, cause of death is coded according to *Health United States*, 2001, ICD-10. To estimate change between 1998 and 1999, compare the 1999 rate with the comparability-modified rate for 1998. See Appendix II, Comparability ratio and tables V and VI
- Page 2: ¹ Restenosis refers to re-occlusion of treated arteries
² Brachytherapy refers to the application of radiation to arteries to prevent restenosis
- Page 3: ¹ Project HOPE, Penny E. Mohr, et al, *The Impact of Medical Technology on Future Health Care Costs*, February 28, 2001
² Marsha M. Cohen, MD, et al. "Has laparoscopic cholecystectomy changed patterns of practice and patient outcome in Ontario?", *Canadian Medical Association Journal*, vol. 154 (1996), pp. 491 – 500
³ Project HOPE, Penny E. Mohr, et al, *The Impact of Medical Technology on Future Health Care Costs*, February 28, 2001
- Page 4: ¹ Michelle Mello and Troyen Brennan, "The Controversy Over High-Dose Chemotherapy with Autologous Bone Marrow Transplant for Breast Cancer," *Health Affairs*, vol. 20 no. 5, September/October 2001
² American Red Cross data supplied to the American Hospital Association, July 2001

Sources:

- Chart 1: Centers for Disease Control and Prevention, National Center for Health Statistics, *Health United States* 2001
- Chart 2: The Lewin Group analysis of American Hospital Association Annual Survey, 1980 and 2000
- Chart 3: Centers for Medicare and Medicaid Services, Office of the Actuary, 1980-2000
- Chart 4: U.S. Food and Drug Administration, Center for Drug Evaluation and Research - NDAs Approved in Calendar Years 1990-2001 by Therapeutic Potentials and Chemical Types; Center for Devices and Radiological Health - Office of Device Evaluation Annual Reports, 1995-2001
- Chart 5: Cutler, David M. and Mark McClellan, "Is Technological Change in Medicine Worth It?", *Health Affairs*, September/October 2001, vol. 20 no 5
- Chart 6: Saint Luke's Shawnee Mission Health System website, The Advisory Board Company, 2001
- Chart 7: University HealthSystem Consortium 2002; BBC website, *Medicine Through Time*; GE Medical Systems website, *Oncology*; Imaginis Corporation website, *Medical Procedures*, January 27, 2000
- Chart 8: Centers for Disease Control, National Center for Health Statistics, *Health, United States 2001* (National Health Statistics Group, Office of the Actuary, CMS)
- Chart 9: Kaiser Family Foundation, *Trends and Indicators in the Changing Health Care Marketplace*, 2002 - Chartbook
- Chart 10: Kaiser Family Foundation, *Trends and Indicators in the Changing Health Care Marketplace*, 2002 - Chartbook
- Chart 11: Centers for Medicare and Medicaid Services, Federal Register Volume 65, no. 219, November 13, 2000, Federal Register Volume 67, no. 41, March 1, 2002, Final Rule; Federal Register Volume 67, no. 151, August 9, 2002, Proposed Rule 2003
- Chart 12: Centers for Medicare and Medicaid Services, Federal Register Volume 65, no. 219, November 13, 2000, Federal Register Volume 67, no. 41, March 1, 2002, Final Rule; Federal Register Volume 67, no. 151, August 9, 2002, Proposed Rule 2003
- Chart 13: American Hospital Association, 2002

Source for "Stats to Know":

The Lewin Group analysis of American Hospital Association Annual Survey, 1990-2000

TrendWatch is a series of reports produced by the American Hospital Association and The Lewin Group highlighting important and emerging trends in the hospital and health care field.



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