

How Does Drug Pricing Drive Therapeutic Choice?

**A review of a symposium held in conjunction with
the American Society of Hematology (ASH)
December 9, 2007 in Atlanta, Georgia**



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For all their clinical and patient value, higher-priced cancer agents have forced healthcare systems to more aggressively consider setting limits on therapeutic choice. An expert panel convened December 9th to discuss the issue of drug pricing in Atlanta, Georgia during the Biogen Idec-sponsored symposium, titled, "How does drug pricing drive therapeutic choice?" This panel discussion was the first in a progressive series of events being planned for future conferences.

The program, held at the 49th annual meeting of the American Society of Hematology, featured presentations from Frank Lichtenberg, PhD, Professor of Business at the Columbia University Graduate School of Business, New York, NY; Sir Michael Rawlins, MD, Chairman of the National Institute of Health and Clinical Excellence, London, United Kingdom; and Peter Bach, MD, Memorial Sloan-Kettering Cancer Center, New York, NY. Linda Bosserman, MD, FACP, President, Wilshire Oncology, Los Angeles, Calif. moderated the panel discussion.

Pharmaceutical Innovation and Cancer Survival

According to Dr. Lichtenberg, cancer survival rates have increased substantially in the last 50 years. He hypothesized that the development and use of new cancer drugs has made an important contribution to the increase in cancer survival. He tested this hypothesis by examining the relationship between drug vintage (approval year) and cancer survival in four methods of analysis, using four different sets of data.

For the first analysis, Dr. Lichtenberg used data on cancer drug vintage, survival, and other variables, by primary cancer site and year for US patients with cancer during the period of 1992-2002. The analysis revealed that the cancer sites whose drug vintage (measured by the share of post-1990 treatments) increased the most during the 1990s (indicating use of newer drugs) tended to have larger increases in observed survival rates, controlling for other factors. [cont. on pg 24 >>](#)



Frank Lichtenberg, PhD, Professor of Business at the Columbia University Graduate School of Business

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Cancer survival has increased more for some cancer types than for others. For example, from the late 1980s to the late 1990s, the 5-year survival rate from acute myeloid leukemia increased from 13 percent to 20 percent, whereas the 5-year survival rate from lung cancer increased from 14 percent to 16 percent (see Fig. 1). “This unequal improvement was partly due to differential rates of innovation for different types of cancer,” said Dr. Lichtenberg.

cent to 19 percent of the 5-year survival rate differential, which was adjusted for international differences in distribution of cancer sites. Since the data on survival and on drug utilization pertain to different time periods, this estimate is probably conservative.

Dr. Lichtenberg’s third analysis was based on data by country and year, for all cancer sites combined, for 20 countries worldwide during the period 1995-2003. He discovered that, typically, countries that adopted new

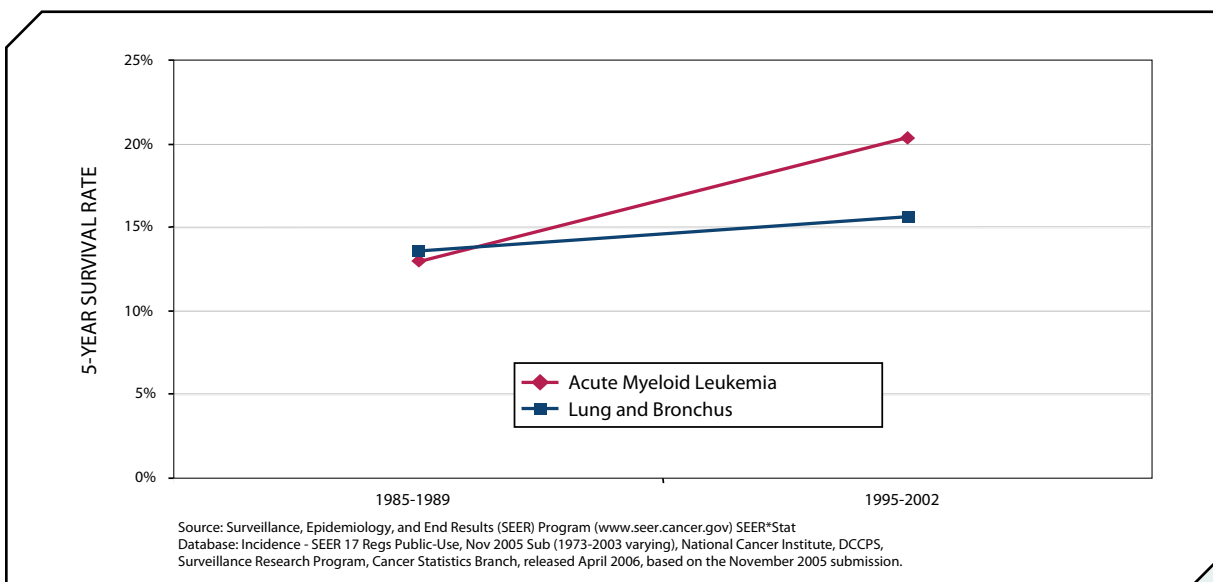


Figure 1. 5-Year Relative Survival Rate. Source: Permission to reproduce granted by Dr. Lichtenberg.

His second analysis used data by primary cancer site and country. Using data on five large European countries—France, Spain, Germany, Italy, and the UK—Dr. Lichtenberg found that drug vintage (the share of post-1985 treatments) had a positive and statistically significant effect on both 1-year and 5-year survival rates.

Moreover, the difference in the fraction of post-1985 cancer drugs accounted for 14 per-

centage of the 5-year survival rate differential, which was adjusted for international differences in distribution of cancer sites. Since the data on survival and on drug utilization pertain to different time periods, this estimate is probably conservative.

cancer agents more rapidly experienced larger declines in their age-adjusted cancer mortality rate. Austria, for example, achieved better survival rates in 2001 due in part to using a greater percentage of newer cancer drugs, compared with Portugal (see Fig. 2), which used the lowest percentage of new agents.

Finally, Dr. Lichtenberg’s fourth analysis focused on the US by state, cancer site, and year (1991-2003). He reported that state reim-

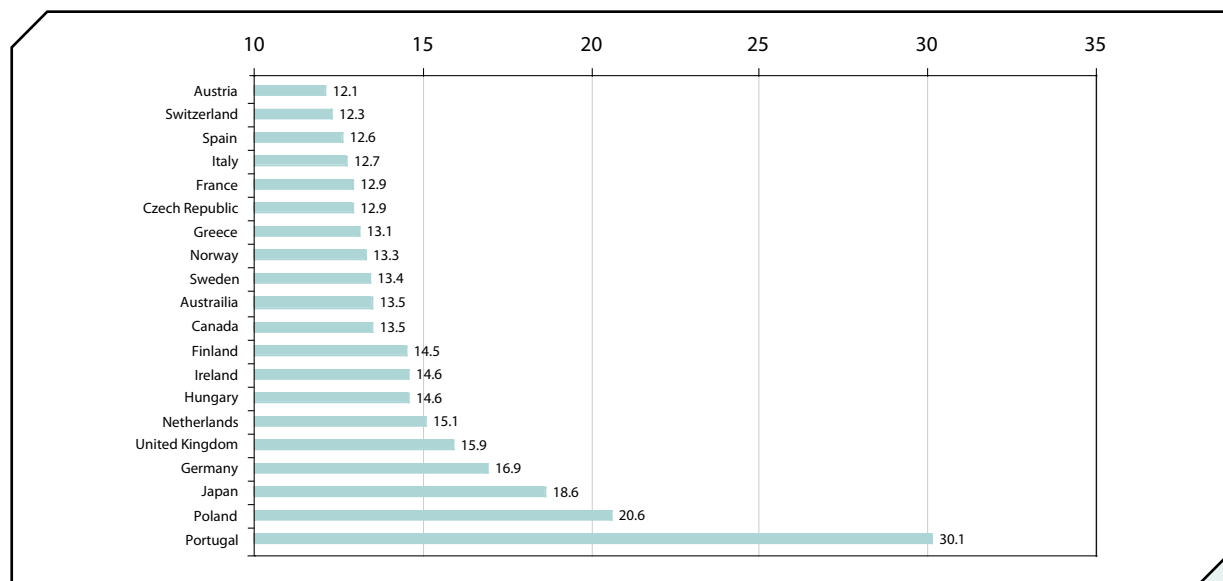


Figure 2. Mean Age of Cancer Drugs by Country in 2001. Source: Permission to reproduce granted by Dr. Lichtenberg.

“On average, a decade of innovation extended life by a year for cancer patients,” said Dr. Lichtenberg

bursement policies may play a part in cancer survival rates. For instance, Georgia and Connecticut had a greater tendency than other states, such as Hawaii, to adopt newer agents, thereby leading to better survival rates.

“On average, a decade of innovation extended life by a year for cancer patients,” said Dr. Lichtenberg. While asking the audience to consider if the investment in higher-priced agents is worth the extra year of life, he reported that it’s approximately \$6000 in average cost per life-year gained, per patient, from using newer cancer drugs. “Not as high as you would think,” he said.

He summarized his presentation by saying that due to the long-term rise in cancer incidence, cancer drug innovation is likely to play an increasingly important role in public health.

The NICE Experience: A Total Cost of Care Approach

Sir Michael Rawlins, who has served as the only chairman of the National Institute of Health and Clinical Excellence (NICE) in its eight-year history, began his presentation by informing the audience that the British National Health Service is based on social solidarity and that it is funded by general taxation.

He acknowledged Dr. Lichtenberg’s research that 5-year survival rates appeared lower in the UK than in other European countries; however, he emphasized that the UK has recently doubled its investment in health-care—and these results have intrigued US payers, many of whom read the collection of NICE guidances.

“[The UK] under-invested in healthcare,” admitted Sir Michael. **cont. on pg 26 >>**

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As US policymakers and payers wrestle with limits and drug pricing's effect on therapeutic choices and costs, many are becoming interested in NICE opinions and looking to its cost-effectiveness decisions for lessons. Faced with half of the US's per capita healthcare investment, the UK has chosen to establish a rationing system for allocating healthcare resources. To set limits, NICE weighs a drug's cost-effectiveness in its coverage decisions and in some cases has said no to paying for certain treatments.

"Sometimes we need to show selective use of a drug, because we've felt it's not cost effective for certain uses," said Sir Michael. "We don't take a societal perspective, or look at affordability—we can't. If we buy a drug, for example, we look at its value—specifically at the health gain, the time the patient

enjoys the drug's benefit, and the costs to the National Health Service," which most British citizens use for their healthcare benefits. "This value is calculated in terms of cost per quality-adjusted life years (QALYs)."

Some newer oncology agents are not necessarily cost effective, said Sir Michael. Figure 3 shows that NICE declined to pay for three drugs in certain or all uses—fludarabine (not paid for if used as a single agent in CLL, but approved for combination therapy use); bevacizumab (any use in metastatic colorectal cancer); and cetuximab (any use in metastatic colorectal cancer)—given that their cost per quality adjusted life-year was too high for the NHS.

"Evidence for clinical effectiveness of oncology drugs is generally weak, despite the fact

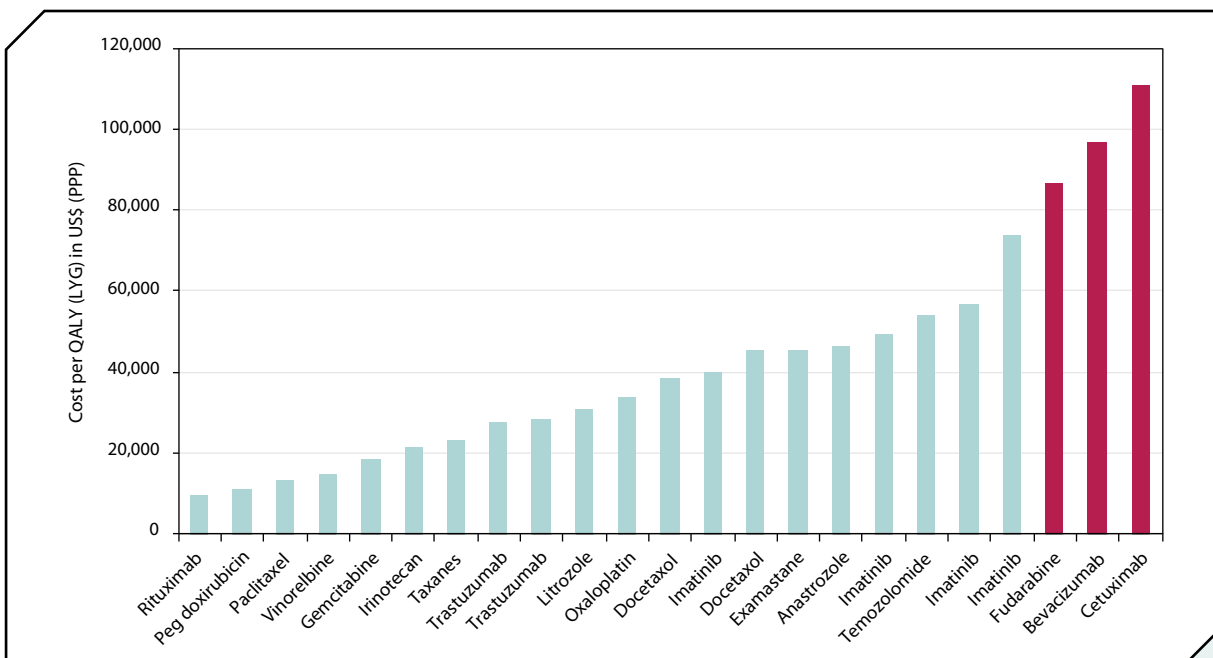


Figure 3. Treatment-Condition Pairs.

Source: Presented at ASCO, June 2, 2007, Chicago, Ill. "The NICE Experience of New Cancer Therapies."

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that most therapies gain marketing approval,” said Sir Michael, “so if we spend large amounts of money on these drugs for one to two additional months of quality life, I understand that this may allow the patient to see their grandkids, but we deprive other patients who don’t have a voice and who need it.”

Of the five oncology treatment-condition pairs NICE has rejected for use since 1999, three were cost-ineffective, concluded Sir Michael. “In Britain, the truth is the population doesn’t like the idea of cost coming into the decision, [but] it’s clear we have to do it.”



Peter Bach, MD,
Memorial Sloan-Kettering
Cancer Center

How to Pay for Cancer Drugs

Peter Bach, MD, a senior Medicare advisor in 2005 and 2006, acknowledged that drug prices can be perceived as too high. “But the real issue is we need to find a way to allow prices to move with demand. We need to get more information to the patient so they can make good purchasing decisions.”

Bach suggested that physicians push for a prospective, episode-based payment model, one that provides oncologists with fixed sums by episode of care. In Bach’s estimation, a system like this would provide rewards for efficiency.

He offered a mix of regulatory and policy solutions to control prices, while maintaining choice, including:

- Create a forum similar to NICE’s approach to value-based payment. Only therapies meeting some threshold of cost-effectiveness would be approved.
- Give patients more of an incentive to spend healthcare dollars efficiently. “We could hand cancer patients a check when they’re

diagnosed and they can use the money at their discretion, for their treatment or to improve their quality of life in other ways,” he said, admitting this is an extreme example, but added that there is already an increase in the use of Health Savings Accounts. Patient demand will most certainly affect prices and drive treatment to the most valued drugs, he said.

- Regulators could set prices and pay a fixed amount per healthcare gain. “There could be a cost-effectiveness cut-off,” offered Dr. Bach, noting that there are challenges with a “strong government” approach. However, “one could take a drug for a disease, measure its effectiveness, and pay for each unit of health gain based on a fixed amount for each quality adjusted unit,” he surmised. “For a drug providing an additional two months of survival, the health system could be set up to pay \$8000, for example, based on a \$50,000 per life-year gained index... Physicians are paid today based on the amount of good they deliver, so unit pricing could be mapped on to drugs,” said Dr. Bach.
- Change the sole-source definition for Medicare’s average sales price purposes. “ASPs calculated from sales of multiple equivalent drugs should give physicians an incentive to use cheaper drugs.” Dr. Bach said virtually every new drug is sole source, “but if you want to buy value, you care what the drug does the most.”

In addition, legislative solutions are on the table that could pave the way for comparability thresholds. A US Center for Comparative Effectiveness Research has been proposed in Congress. The center would [cont. on pg 28 >>](#)

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conduct studies on outcomes, effectiveness, and appropriateness of healthcare services; however, Dr. Bach was “uncertain of the prospects of this concept in the near term.”

In closing remarks, Dr. Bach urged the physicians to be actively involved in leading the policy solutions.

Summary and Closing Thoughts

Linda Bosserman, MD acknowledged that cost-effective drugs are only cost-effective if physicians use them cost effectively. In summary remarks, she said the rising drug prices are leading to many “work-arounds by payers,” seeking to understand and limit the use of high-cost agents. The use of pre-authorizations, medical necessity letters, appeal processes, specialty pharmacy, and other payer programs have increased the unfunded work load of physicians, at a time when the workforce is decreasing.

“As these burdensome programs add to physician and staff time demands, we see the drug prices driving not so much the therapeutic choice, but interfering with the ability to care for the patient,” said Dr. Bosserman.

In November, for example, Wilshire Oncology dealt with 4555 prior authorizations for its 120 patients seen per day. Dr. Bosserman said the cost of entering, tracking, and then scheduling treatments from prior authorizations is rarely discussed, but certainly affects the therapeutic decision process. “The prices lead to policies that tax our staff. There needs to be reimbursement for prior authorizations,” she said.

“A far better system would be doctor groups working directly with payers and employ-

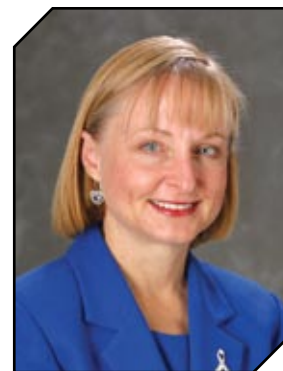
ers with accurate data on patient diagnosis, stage, and aging to evidence-based therapies. Then additional discussions would be limited to patients with rare cancers or complicating medical factors, each better treated with a customized approach,” she said. “Without transparency and accountability, the work-arounds are growing and are in themselves limiting patient care in the US.”

Dr. Bosserman pointed to how some countries, like France, adopt new drug use early and use a cost-effective system for market access, leading to some of the best cancer outcomes. “It is not a strict trade off of access versus no access,” she said, “rather these countries use cost-effective access in a system that is not burdened with the many administrative costs of the US system.”

Physicians with data and informed consumers and patients need to in some ways extend their role overseeing care. To achieve this, they must share their views and experiences with US payers and employers, and raise discussion on key questions, such as:

- Who oversees utilization?
- Who measures outcomes?
- What outcomes should be measured?
- Who pays for the technology needed to ensure the conversations are about the facts?

Dr. Bosserman called for greater investment in information technology as one critical step to empower practitioners. US-based primary care practices rank well below the UK in their information capacity and public IT investment (see Fig. 4).



Linda Bosserman, MD,
FACP, President, Wilshire
Oncology

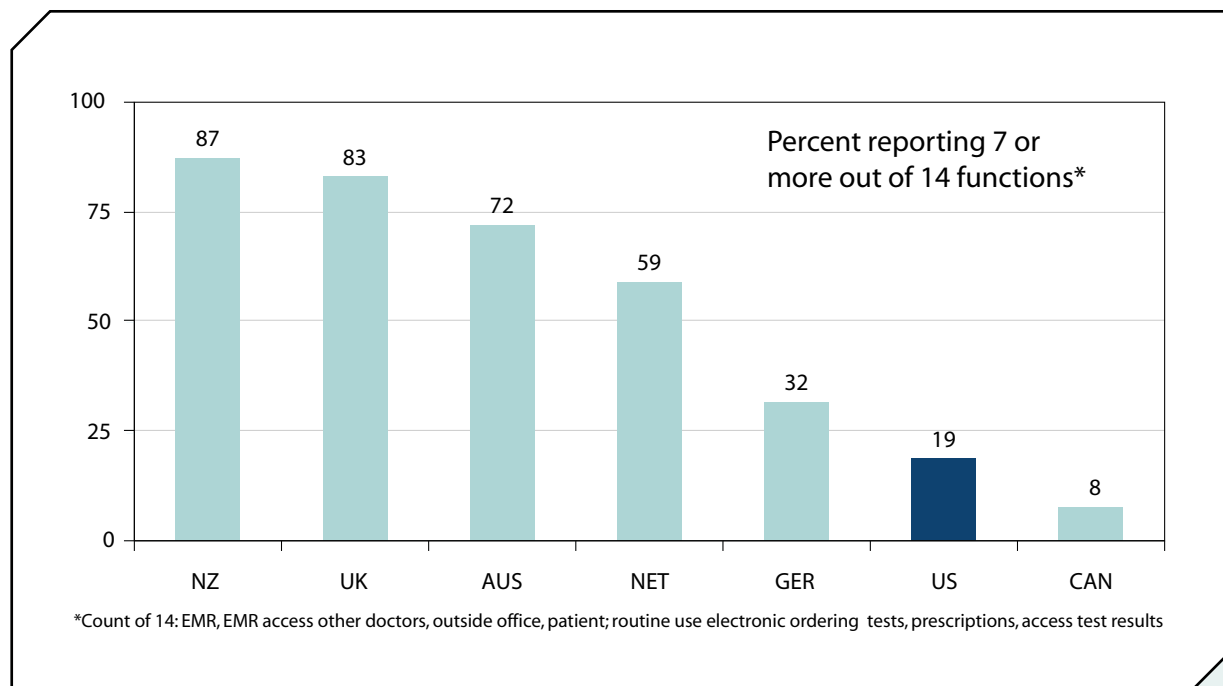


Figure 4. Primary Care Practices with Advanced Information Capacity, 2006.

Source: 2006 Commonwealth Fund International Health Policy Survey of Primary Care Physicians

“But determining exactly who pays for this investment and who pays for new drugs is not as easy to answer. At the end of the day, it’s clear we need to put patient care first and, as physicians, find a seat at the table—whether that’s locally, nationally, or in other settings,” said Dr. Bosserman.

To achieve the goals each speaker communicated, Dr. Bosserman called for a global approach: access with goals, goals with measurements, measurements with technology, technology with funding, and finally funding with accountability.

Audience Takeaways

A lively audience Q&A followed the three presentations. One commenter, Gary Weiss, MD, PhD, hematologist and oncologist at Deke Slayton Cancer Center in Webster, Tex., said drug prices do not drive his therapy choices.

“My patients are insulated from this,” said Dr. Weiss. “I can’t afford to treat with a less effective medication because of the liability. Patients want that. I must offer the best, [otherwise], I’ll either get sued by the patient or they’ll choose the doctor down the street.”

Cindy Phillips, MD, of Pain Medicine Associates & Surgery Center in Johnson City, Tenn., says drug pricing may indirectly affect her choices and in some cases add costs. “Some [cancer patients] with neuropathic pain need to be put on stronger medications,” she explained, “but these [drugs] seem not to be covered under Medicare Part D, in favor of older medications that have already been tried and not been successful.” For Dr. Phillips, the investment in the higher-priced medications is in certain cases worth the cost, given the negative effects that can sometimes ensue in using older, or previously used agents.

Final Analysis

In one way, the symposia put payers, physicians, policymakers and pharmaceutical companies on some common-ground. Yes, each has unique goals, but to drive therapeutic decisions in the right direction—to the agents that increase survival and quality life years at reasonable costs—each must continue to put quality care first. As Sir Michael noted, it’s not just reasonable, but often necessary to take a total cost of care approach, no matter the healthcare resources. **BC**



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