DOI:10.1093/jnci/djt334
Advance Access publication November 13, 2013

The Imperative to Address the Cost of Oncology Care

Neal J. Meropol

Correspondence to: Neal J. Meropol, MD, Division of Hematology and Oncology, University Hospitals Case Medical Center, Case Western Reserve University, 11100 Euclid Ave, Wearn 145, Cleveland, OH 44106–5065 (e-mail: neal.meropol@case.edu).

Health-care spending in the United States accounts for approximately 18% of our economy, and per capita spending on health care far exceeds that of other industrialized countries. Yet, we are not necessarily spending wisely because by some measures we are no better off than other nations that spend far less. That said, most Americans are satisfied with their health care, and our collective decision (whether explicit or not) to prioritize health-care spending over other goods and services has resulted in important investment and innovation. For several decades, the growth rate in health expenditures exceeded overall growth of the economy, an unsustainable pattern (1). However, over the past 5 years, this growth rate has moderated, in part because of recession, decreased insurance payments, increased cost-sharing for patients, improved efficiencies, and slowdown in new innovations (2,3).

Why, then, should we be concerned about the cost of providing care to our cancer patients, especially because cancer care accounts for a relatively small (approximately 5%) proportion of health-care expenditures? The answer is explained by economics but is rooted in morality. Insofar as receipt of cancer diagnosis and treatment is dependent upon availability of care, the high cost of care has the potential to widen disparities in cancer outcomes. Empirical data support this risk. The out-of-pocket expenses associated with cancer treatment are higher than with other chronic medical conditions (4). Whereas cancer patients are willing to tolerate higher out-of-pocket expenses for higher-value treatments, this elasticity in demand appears to vary depending on socioeconomic status (5,6). Empirical data support the hypothesis that out-of-pocket expenses affect the receipt of cancer therapy. As an example, adherence to oral cancer therapy is inversely related to copay level (7). A cancer diagnosis commonly exacts substantial financial burden on patients and families (8–10) and is associated with risk of bankruptcy (11). In short, rising costs of cancer care are forcing patients to make treatment decisions for life-threatening illness based on personal finances. This path is one that a just and moral society should aggressively seek to avert.

In this issue of the Journal, Ramsey and colleagues build upon discussions from an Institute of Medicine workshop, "Delivering Affordable Cancer Care in the 21st Century," and argue that "immediate action must be taken to avoid serious harm to the US economy and its citizens if we are to avoid a financial catastrophe" (12). The authors nicely highlight the ways in which oncology providers can address the growth in health-care spending at the point of care, in particular by increasing our focus on the value of recommended treatments (ie, the benefits as well as costs). At the bedside, this requires enhanced attention to evidence-based practice, adherence to practice guidelines to reduce practice variation, and improved communication with patients about the value of specific interventions and whether they are consistent with patient preferences and contribute to an individual's goals. Because relevant evidence is often lacking, oncologists must support the collection of new data by offering patients participation in clinical trials and contributing treatment and outcome information for comparative effectiveness analyses.

Economists may disagree about whether cancer care is precipitating an impending financial catastrophe at the societal level. Regardless, we do face an immediate threat to our ability to provide high-quality care to all patients with cancer. Thus, the oncology community must drive efforts to address these issues beyond the bedside. First, we should demand higher value in new technologies, and this equation requires attention to both the magnitude of benefits required before we consider a new innovation as a new standard and our willingness to pay for modest incremental benefits (13). As noted by Ramsey et al., given the distaste for consideration of cost-effectiveness analyses in the United States, an alternate consensus must be reached regarding how value may be quantified and compared. Second, incentives for providers must be better aligned with the goal of high-quality care. This objective will clearly require payment reform that decouples procedure volume, drug administration, and income. Further, the complexity of communication regarding the value of treatment options, particularly in palliative situations toward the end of life, requires appropriate recognition by our payment system. In short, payment reform must shift the balance from procedures to care and outcomes. A variety of options have been described, including value-based insurance design (14), bundled payments (15), and pay for performance (15). Likely, a combination of approaches will be necessary. Finally, as a society we must strongly support and incentivize the development of new evidence. This includes enhanced investment in clinical and translational research, addressing physician and patient barriers to clinical trial participation (16), and reimbursement for data collection for registries when a prospective clinical trial is not feasible (17). In addition, the opportunity for broad data collection and compilation efforts can only be met if industry standards are developed and adopted for electronic medical records to permit seamless sharing of information to support rapid learning systems that leverage big data for clinical discovery and quality improvement (18,19).

To achieve the goal of high-quality cancer care for all patients, in a context of increasing cost of new innovations, we must address

value at the bedside and at the societal level. The risk of not being proactive will be a widening of the gap in outcomes between those patients with and without the resources to access these innovations that can improve the quality and length of their lives.

References

1. Meropol NJ, Schulman KA. Cost of cancer care: issues and implications. *J Clin Oncol*. 2007;25(2):180–186.
2. Cutler DM, Sahni NR. If slow rate of health care spending growth persists, projections may be off by $770 billion. *Health Aff (Millwood)*. 2013;32(5):841–850.
3. Ryu AJ, Gibson TB, McKellar MR, Chernew ME. The slowdown in health care spending in 2009–11 reflected factors other than the weak economy and thus may persist. *Health Aff (Millwood)*. 2013;32(5):835–840.
4. Bernard DS, Farr SL, Fang Z. National estimates of out-of-pocket health care expenditure burdens among nonelderly adults with cancer: 2001 to 2008. *J Clin Oncol*. 2011;29(20):2821–2826.
5. Wong YN, Egleston BL, Sachdeva K, et al. Cancer patients' trade-offs among efficacy, toxicity, and out-of-pocket cost in the curative and noncurative setting. *Med Care*. 2013;51(9):838–845.
6. Wong YN, Hamilton O, Egleston B, et al. Understanding how out-of-pocket expenses, treatment value, and patient characteristics influence treatment choices. *Oncologist*. 2010;15(6):566–576.
7. Neugut AI, Subar M, Wilde ET, et al. Association between prescription co-payment amount and compliance with adjuvant hormonal therapy in women with early-stage breast cancer. *J Clin Oncol*. 2011;29(18):2534–2542.
8. Shankaran V, Jolly S, Blough D, Ramsey SD. Risk factors for financial hardship in patients receiving adjuvant chemotherapy for colon cancer: a population-based exploratory analysis. *J Clin Oncol*. 2012;30(14):1608–1614.
9. Zafar SY, Peppercorn JM, Schrag D, et al. The financial toxicity of cancer treatment: a pilot study assessing out-of-pocket expenses and the insured cancer patient's experience. *Oncologist*. 2013;18(4):381–390.
10. Banthin JS, Bernard DM. Changes in financial burdens for health care: national estimates for the population younger than 65 years, 1996 to 2003. *JAMA*. 2006;296(22):2712–2719.
11. Ramsey S, Blough D, Kirchhoff A, et al. Washington State cancer patients found to be at greater risk for bankruptcy than people without a cancer diagnosis. *Health Aff (Millwood)*. 2013;32(6):1143–1152.
12. Ramsey SD, Ganz PA, Shankaran V, Peppercorn J, Emanuel E. Addressing the American health-care cost crisis: role of the oncology community. *J Natl Cancer Inst*. 2013;105(23):1777–1781.
13. Meropol NJ, Ellis LM, Visco F. Raising the bar: setting standards for real progress in clinical trials. Education Program presentation at the Annual Meeting of the American Society of Clinical Oncology; June 1, 2013; Chicago, IL. http://meetinglibrary.asco.org/presentationBySession/5868/1295. Accessed October 9, 2013.
14. de Souza JA, Ratain MJ, Fendrick AM. Value-based insurance design: aligning incentives, benefits, and evidence in oncology. *J Natl Compr Canc Netw*. 2012;10(1):18–23.
15. Bach PB. Reforming the payment system for medical oncology. *JAMA*. 2013;310(3):261–262.
16. Denicoff AM, McCaskill-Stevens W, Grubbs SS, et al. The NCI-ASCO Cancer Trial Accrual Symposium: summary and recommendations [published online ahead of print October 29, 2013]. *J Oncol Pract*.
17. Pearson SD. Cost, coverage, and comparative effectiveness research: the critical issues for oncology. *J Clin Oncol*. 2012;30(34):4275–4281.
18. Meropol NJ. Comparative effectiveness research to inform medical decisions: the need for common language. *J Clin Oncol*. 2012;30(34):4192–4193.
19. Abernethy AP, Etheredge LM, Ganz PA, et al. Rapid-learning system for cancer care. *J Clin Oncol*. 2010;28(27):4268–4274.

Funding

This work was supported by a grant from the National Institutes of Health (P30CA043703).

Note

The author has no conflicts of interest to declare.

Affiliation of author: University Hospitals Seidman Cancer Center, Case Comprehensive Cancer Center, Case Western Reserve University, Cleveland, OH.

DOI:10.1093/jnci/djt336

Trastuzumab: Qui Bono?

Ian E. Krop, Harold J. Burstein

Correspondence to: Harold J. Burstein, MD, PhD, Dana-Farber Cancer Institute, 450 Brookline Ave, Boston, MA 02215 (e-mail hburstein@partners.org).

Beyond a doubt, trastuzumab works. In women with early-stage breast cancer, adjuvant use of the anti-HER2 monoclonal antibody trastuzumab reduces recurrence risk by half when added to standard chemotherapy (1). In fact, clinical experience suggests that data from randomized trials in the adjuvant setting may underestimate the real-world benefits. The success of trastuzumab for early-stage disease is so dramatic that many clinicians sense that the incidence of recurrence of HER2-positive breast cancer is plummeting, disappearing faster than the trials might have suggested.

But who really benefits from trastuzumab? It's a question that might seem like asking, "Who's buried in Grant's tomb?" Since the first report more than 25 years ago that HER2 overexpression is an adverse prognostic factor in breast cancer (2), it has been an article of faith that the *sine qua non* for anti-HER2 treatments must be HER2 itself. Surely then, the importance of trastuzumab must have something to do with HER2. But in what ways, precisely? Does trastuzumab lower recurrence risk in all cases of HER2-overexpressing breast cancer across the board by 50%? Is there a subgroup of HER2-expressing tumors that are particularly sensitive to trastuzumab therapy? Is there a subgroup that is resistant? Based on experience with other novel, targeted agents, it seems unlikely that all patients derive similar benefit from trastuzumab. Meanwhile, a small but notable number of patients develop disease recurrence despite trastuzumab-based therapy. Paradoxically, although clinically "resistant," such tumors still retain sensitivity to ongoing anti-HER2 treatment (3). A biomarker to identify those patients who are not likely to benefit from trastuzumab would be clinically useful, allowing patients to move in other therapeutic directions. Similarly, a marker that pegged tumors as exquisitely sensitive to anti-HER2 drugs might enable treatment without the