Obstacles to Affordable Cancer Treatments

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Recent regulatory and policy changes may help to improve the affordability of some high-cost cancer treatments. However, larger systemic changes are needed to address the excessive growth in spending for cancer therapies and to ensure that patients and payers receive maximum value for their health care dollars.

The National Institutes of Health estimated that the annual cost of cancer in the United States was more than $216 billion in 2009, including $86.6 billion in direct medical costs [1]. Although recent evidence suggests that the historic growth in pharmaceutical spending in the United States has slowed, spending on specialty pharmaceutical products—including most new cancer treatments—continues to grow rapidly. In fact, all of the cancer therapies approved by the US Food and Drug Administration (FDA) between 2010 and 2013 were priced at more than $5,000 for a month of treatment, and 43% were priced at more than $10,000 for a month of treatment [2]. Unfortunately, the costs of treatment to insurers and patients do not always reflect the value of these treatments.

In September 2013, in a report titled *Delivering High-Quality Cancer Care* [3], the Institute of Medicine of the National Academies directly addressed the importance of making high-quality cancer care accessible and affordable for patients and for the health care system. One of the report's key recommendations is that new payment models and insurance benefit designs are needed to enable patients to take an active role in choosing therapies that align with their needs, values, and preferences [3]. In this commentary, we evaluate the affordability of cancer treatments from the perspective of the health care system and from the perspective of the patient. For each of these 2 perspectives, we discuss the key obstacles that must be overcome to improve affordability and to support value.

Making Treatments More Affordable to the Health Care System

It is widely known that pharmaceutical prices are higher in the United States than in other developed countries, but reliable information regarding the price of medications is difficult to find. This price often depends on negotiations between payers and manufacturers or between pharmacy benefit managers and manufacturers. In addition, the estimated costs of developing a pharmaceutical product are not made public and likely vary widely, making it impossible to ascertain whether the price of a drug is set to offset the actual costs of development or if the price is set as high as the market will bear. Illustrating the elasticity of drug pricing, the colon cancer drug ziv-aflibercept (Zaltrap, Sanofi/Regeneron Pharmaceuticals) was originally priced at nearly $11,000 per month. In the fall of 2012, however, Memorial Sloan Kettering Cancer Center publicly announced their refusal to pay for ziv-aflibercept, because it was twice as expensive but no more effective than bevacizumab (Avastin, Genentech), another drug that is used for the same purpose [4]. In response to the ensuing public outcry, the manufacturer of ziv-aflibercept began offering a 50% discount on the drug's original price [5].

Another difficulty in making oncology medications more affordable is the threat of generic competition. For most cancer therapies, it is assumed that a generic version will enter the market when the drug's patent expires, so drug manufacturers act to maximize their profits during the early years of patent exclusivity. This has resulted in very high prices for cancer therapies that are new to the market. For example, 11 of the 12 oral cancer drugs approved by the FDA in 2012 cost more than $100,000 per year [6].

Another difficulty is that many new chemotherapeutics are biologic drugs. Unlike small-molecule, chemically synthesized drugs, biologic cancer therapies have often faced no competition, even after their patent expires, because historically there was no path for the development of generic biologics. This lack of competition reduced the incentive for companies to lower prices. Fortunately, the Biologics Price Competition and Innovation Act of 2009 (which was part of the Patient Protection and Affordable Care Act of 2010) [7] set in motion a regulatory process for approval of "generic" biologic medications (biosimilars). In order to gain FDA approval, the manufacturer must demonstrate that the biosimilar product is highly similar to the approved biologic. Although this is a positive step for reducing the cost of bio-

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logics, these therapies may pose special challenges because of the complexity both of the products themselves and of the manufacturing process [8]. If manufacturers are required to replicate clinical trial data to prove biosimilarity, the magnitude of savings generated from traditional generic medications likely will not be realized in this market.

Perhaps one of the most significant obstacles to making cancer treatments more affordable is the inability of public insurers (primarily Medicare) to negotiate for lower drug prices [9]. For example, in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003, Medicare was explicitly prohibited from negotiating pharmaceutical prices for Medicare Part D prescription drug plans [10]. Moreover, anticancer therapies are considered a protected class under Medicare Part D, meaning that plans must cover all therapies in the class. Manufacturers thus have little incentive to reduce prices in order to be included in formulary lists. Although these rules were established to protect patients' access to therapies, a consequence has been less competition on price within the protected categories.

Making Treatments More Affordable to Patients

Historically, chemotherapy was largely obtained via infusion in physician offices and clinics, where patients often paid only an outpatient visit copayment; there was usually no additional fee for the infused drug itself [11, 12]. However, the landscape for cancer pharmacotherapy is changing. Since 2000, approximately 40% of new cancer drugs approved by the FDA have been oral therapies [13]. Research suggests that patients prefer oral therapies to infused therapies due to the ease of administration [14, 15]. However, oral cancer therapies can be extremely expensive for patients, because they are reimbursed through a patient's pharmacy benefits rather than through his or her medical benefits. Depending on the structure of their pharmacy benefits, patients often face high cost sharing, including high copayments or coinsurance requirements [16, 17]. Medicare beneficiaries may be particularly vulnerable to high cost sharing for prescription medications, because Medicare Part D includes most oral oncologics in its specialty tier, and many plans require that patients pay 33% of the cost of these drugs [18].

High out-of-pocket costs have been cited as one possible reason for inadequate use of oral cancer therapies [19, 20]. For example, chronic myeloid leukemia is a condition for which even small lapses in adherence are associated with poor outcomes. A recently published study coauthored by S.B.D. [19] found significant variation among privately insured patients in out-of-pocket expenditures for a 30-day supply of therapy. Costs to patients ranged from $0 to more than $4,000, with 6.5% of privately insured patients paying more than $500 for a single prescription refill, or more than $6,000 yearly. Further, higher copayments were associated with a 70% increase in the risk of discontinuing therapy and a 42% increase in the risk of having inadequate adherence to therapy during the first 6 months of treatment [19]. High cost sharing for oral oncology drugs is also associated with abandonment of new prescriptions at the pharmacy; one study found that the odds of abandoning a prescription were more than 4 times greater for patients paying more than $500 in out-of-pocket costs compared with those paying $100 or less [21]. Clearly, therapeutic benefit will only be gained if a patient is able to access the therapy and take it as required.

Policy Changes That May Improve the Affordability of Oral Cancer Drugs

There are several important changes under way that may improve the affordability of prescription medications. First, the Affordable Care Act places limits on out-of-pocket costs for patients enrolled in private health insurance plans, and spending on prescription medications is included when calculating those costs; for 2014, the out-of-pocket maximums are $6,350 for an individual and $12,700 for a family [22]. Historically, prescription medications were excluded from these maximums, exposing patients to unlimited pharmaceutical spending. However, premiums are not included in these out-of-pocket calculations, and the maximum limits do not apply to "grandfathered" health plans. Further, patients whose pharmacy and medical benefits are administered by different companies will not benefit from the cap until at least 2015, while plans work out processes for calculating these patients' out-of-pocket maximums [22].

Another part of the Affordable Care Act addresses the Medicare Part D coverage gap known as the "doughnut hole." In 2014, Medicare beneficiaries are required to pay 47.5% of the branded drug price during the coverage gap in their Part D drug plans; this amount is set to decrease over the next several years, and patient cost sharing will be reduced to 25% of the branded drug price by 2020 [23]. However, it should be noted that branded oral cancer therapies can cost nearly $10,000 per month, so patients may face substantial cost sharing even after they reach the catastrophic phase of coverage.

By early 2014, 28 states and the District of Columbia had passed parity laws for oral cancer drugs, which ensure that patients pay no more for oral cancer therapies than they pay for intravenous therapies offered by the same health plan. Currently, the legislation applies only to patients living in states that have passed such laws who have health insurance that is purchased by their employer from an insurance company (ie, fully insured health plans). Discussions about such parity laws are currently under way in North Carolina. In May 2013, the North Carolina House of Representatives amended House Bill 609, the North Carolina Cancer Treatment Fairness Act, to cap patients' monthly out-of-pocket expenses for oral chemotherapy at $300 per prescription. This legislation is currently awaiting consideration by the North Carolina Senate [24].

On a national level, the Cancer Drug Coverage Parity Act of 2013 was introduced in the US House of Representatives in April 2013 [25], and the Cancer Treatment Parity Act of 2013 was introduced in the US Senate in December 2013 [26]. If enacted, these bills would standardize coverage across states by mandating parity for oral cancer therapies covered by privately insured health plans in the United States, including plans covered by the Employee Retirement Income Security Act. Notably, none of the existing or pending parity legislation applies to Medicare or Medicaid, which are the largest payers for cancer health services in the United States.

Alternative Strategies for Improving the Affordability of Cancer Drugs

There have been major advances in cancer pharmacotherapy—including the development of several targeted therapies that have revolutionized the treatment of specific cancers—but many therapies still provide only minor gains in life expectancy. This is particularly true for the many cancer therapies that are approved to treat metastatic and/or late-stage cancers, where curative intent is no longer the goal. In this setting, pricing appears to be unrelated to actual benefits gained [27], because many very expensive treatments extend life by only a few weeks. For example, regorafenib (Stivarga, Bayer HealthCare) is an oral chemotherapy agent that was recently approved for treatment of metastatic colorectal cancer; this drug prolongs survival by only 1.4 months compared with placebo (6.4 months versus 5.0 months) [28], and it costs nearly $10,000 per month [29].

Understanding the extent to which high-cost treatments affect patients' quality of life is important for evaluating their value to patients and to society. From the patient perspective, these costs can represent considerable financial hardships for themselves and their families, including bankruptcy [30-32]. From the system-level perspective, creative solutions include the adoption of value-based pricing and the use of "meaningful clinical benefit" thresholds to establish fair pricing of treatments [33, 34]. However, such strategies remain challenging to implement due to public pressure and concerns about health care rationing. Moreover, there is evidence that many patients with metastatic cancers value high-cost specialty medications and continued treatment, even when those therapies offer limited benefits [35, 36]. This situation can create tension between patients, who often want continued treatment for incurable diseases, and payers, who must determine which therapies to cover and how generously to reimburse these products.

In summary, there is widespread agreement that the trajectory for health care spending in the United States is unsustainable; however, there is a resistance to restricting coverage for cancer-related treatments. Recent policy changes may help to improve the affordability of some high-cost drugs, but the costs still remain too high for many patients. Despite the appeal of value-based insurance designs, such efforts have met with strong resistance in the United States. Payers have been reluctant to place restrictions on any cancer treatments, but *not* prioritizing coverage for the most effective therapies may result in increased costs for all therapies. Thus we need to better understand the value of high-cost drugs and to assess whether value-based insurance designs could improve affordability and access to the drugs that are most likely to benefit patients. NCMJ

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