

Ask Early and Ask Often: How Discussing Costs Could Save Your Patient's Life

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Out-of-pocket spending continues to increase, particularly in cancer care. High out-of-pocket expenditures are associated with increased psychosocial distress, lower adherence, and higher mortality. In order to improve cancer-related outcomes, we must come up with interventions directed at reducing cancer-related financial toxicity. In this article, we highlight the most promising interventions.

The cost of health care in the United States has risen significantly over the last 15 years [1]. Out-of-pocket (OOP) spending has increased simultaneously, particularly in cancer care. OOP costs can have a toxic effect on patients and their families, leading to psychosocial distress, decreased adherence to treatment plans, and increased mortality [2-4].

According to a recent study evaluating trends in oncology-related spending, cancer care expenditures increased by 2.9% per year between 1998 and 2012, after adjusting for inflation [5]. Overall OOP expenditures increased from \$5.7 billion to \$6.3 billion among non-veteran, non-institutionalized patients. So although the share of expenditures that were OOP declined from 6% to 4.7% during this period, absolute per capita OOP expenditures likely increased or stayed the same [5]. A large proportion of this spending is devoted to medications: in 2013, Americans spent an average of \$858 per capita on prescription drugs. This exceeded per capita spending in 19 other industrialized nations [6]. The Affordable Care Act (ACA) has tried to address the burden caused by high OOP costs by creating OOP maximums. In 2016, the annual OOP maximum was \$6,850 for an individual [7]. But even this amount, which is roughly equivalent to 22% of the median annual personal income in the United States [8], can be harmful.

In one recent prospective study of 18,166 Medicare beneficiaries, patients who had supplemental, employer-sponsored insurance and a new diagnosis of cancer spent \$5,492 per year on their medical care, equivalent to 12.6% of their income. Patients without supplemental insurance on average spent nearly 1.5 times more, at \$8,115 per year. This was equivalent to 23.7% of their household income [9]. Patients with a new diagnosis of cancer had 1.86 increased odds of having OOP expenditures in the highest decile, compared to patients without a new diagnosis of cancer [9].

Roughly 30% of cancer survivors nationwide report financial problems associated with their care, at least in part due to these high OOP expenditures [10]. High costs can have a significant impact on the lives of patients and their families. In one national, prospective observational cohort study, patients with lung and colon cancer were surveyed to evaluate the interactions between financial burden, quality of life, and quality of care [11]. Almost half of patients reported having trouble living on their household income. Patients with the highest financial burden tended to be younger and to have a lower household income and poorer quality of life. This study and others have shown that financial burden is associated with increased odds of depressed mood and increased likelihood of worrying about cancer recurrence. Time off work associated with cancer care also correlates with increased indirect financial losses, decreased productivity [12], and reduced savings [13].

Financial toxicity affects not only quality of life, but also length of life. In 2016, Ramsey and colleagues showed that patients with cancer who filed for bankruptcy had a 1.8 higher risk of mortality [2], suggesting a relationship between extreme financial distress and lower survival. Several studies have explored the factors that lead to this excess mortality [14, 15]. One major effect of high OOP costs is decreased adherence [16-19]. In 2014, Dusetzina and colleagues evaluated 1,541 patients with new diagnoses of chronic myeloid leukemia who initiated imatinib therapy between 2002 and 2011 and had insurance at the time of diagnosis [16]. Monthly copayments for the drug ranged from \$0 to \$4,792 throughout the study period. Patients' mean health care-related expenditures nearly doubled from 2002 to 2011, and higher copayments were associated with higher rates of therapy discontinuation (adjusted risk ratio 1.70): among patients with higher copayments, 17% discontinued therapy.

Neugut and colleagues found similar results among women with early-stage breast cancer [17]. In their retro-

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spective cohort study, adherence was evaluated among women aged over 50 years who were on aromatase inhibitors over a 2-year period. A quarter of patients who had Medicare were found to have a prescription supply gap of more than 45 days without subsequent refills. Another 9% of patients were found to have a medication possession ratio of less than 80%. Higher copays were associated with lower adherence, especially in women aged over 65 years. Non-adherence, in turn, has been shown to be associated with increased mortality in women with breast cancer [14, 15].

Interventions

Over the past few years, several policies have been proposed at the local and federal levels to reduce the financial burdens associated with cancer care. In 2010, the ACA implemented several provisions that were aimed at reducing OOP costs. It expanded Medicaid eligibility in 33 states and the District of Columbia [20], closed the Medicare Part D doughnut hole, and set a limit to OOP spending for patients with private insurance plans, as aforementioned. There is evidence that these policies have increased access and reduced financial burden for many patients [21, 22]. One large retrospective cohort study found that in states that implemented Medicaid expansion, there was a 17% increase in prescriptions and a 36% increase in prescription drug reimbursements to pharmacies [22]. Several other interventions have been proposed to help reduce cancer-related financial toxicity. Here, we offer a brief overview of these interventions.

Low-Income Subsidies

Medicare beneficiaries without supplemental insurance face high OOP costs for oral chemotherapy [9]. Most patients pay thousands of dollars in the first few months of therapy, and then meet the threshold for catastrophic coverage. Medicare offers low-income subsidies (LIS) to Medicare beneficiaries whose incomes are less than 150% of the federal poverty level and have modest assets. Patients who receive these subsidies have no or almost no OOP expenses. Olszewski and colleagues evaluated the association between LIS and use of novel and typically more expensive oral immunomodulatory drugs for multiple myeloma [23]. They found that median OOP costs for the first year of therapy were \$6 for LIS recipients, compared to \$5,623 for patients who did not qualify for LIS. Patients who received LIS had a 32% higher probability of receiving novel oral immunomodulatory drugs and a 46% lower risk of delays between refills. Although overall survival and cumulative Medicare costs were roughly the same, patients who received novel oral immunomodulatory drugs had fewer emergency room visits and hospitalizations, compared to patients who received an older drug, bortezomib. Although quality of life was not assessed, it is likely that the reduced time spent in hospitals had a positive effect.

Rebates

Many pharmaceutical companies offer rebates for their most expensive drugs. These companies negotiate with health plans or pharmacy benefit managers to ensure inclusion on preferred medication lists, in exchange for lower charges. Health plans often determine patients' copays and coinsurance percentages before accounting for these rebates. Patients' OOP expenditures may therefore end up being the same or only slightly lower than if there was no rebate at all. A recent analysis of pharmacy rebates noted that while health plans and pharmacy benefit managers profit from them, patients rarely do [24]. Dusetzina and colleagues have proposed that insurance plans calculate patients' OOP costs based on net price of the drug after rebates, rather than based on the drug's list price [24]. The Centers for Medicare & Medicaid Services (CMS) could publicize the plans that offer rebates for certain commonly-used medications. This would likely lead to an improvement in value-based prescription habits.

Patient Assistance Programs

Pharmaceutical companies and charitable foundations have developed programs that help patients afford the high costs of copays, coinsurances, and deductibles [25]. Pharmaceutical patient assistance programs (PAPs) assist only with OOP medication costs. According to PhRMA, the pharmaceutical industry's lobbying arm, PAPs have helped over 10 million patients pay for their medications [26]. These programs have evidently increased access to expensive medications; however, some argue that they are harmful to the financial well-being of our health care system [25]. First, they may remove the disincentive to use very expensive drugs, thus leading to higher drug prices overall [27, 28]. Second, patients and physicians may opt for drugs that have PAPs available, even if they provide only minimal clinical benefit compared to other drugs. Third, PAP applications involve a significant amount of paperwork. This can act as a barrier to patients with low health literacy and little social support, thus further increasing health disparities. For PAPs to be more effective and accessible, these programs should target patients with the highest financial needs and provide assistance for more than just medication-related costs, such as copays for clinic visits or administration of intravenous anticancer drugs.

Hospital-Based Financial Assistance

Many large cancer centers offer financial assistance to patients who cannot afford their OOP costs. Hospitals often do not publicize the details of their financial assistance programs, but most of them do provide some assistance when needed. Safety net hospitals may forgive patient debt. Large private hospitals may, in contrast, provide payment plans to make hospital bills more manageable. These systems can benefit individual patients who know about them and are

able to sort through the required paperwork. But health systems—especially the largest ones—can and should do more. For example, they should make their prices transparent, so that patients can prepare their budgets ahead of time [29]. Price transparency would also give patients the opportunity to think about their goals of care more carefully and to take the time to look for and apply for PAPs offered by pharmaceutical manufacturers and charitable organizations.

Drug Price Negotiation

When the Food and Drug Administration (FDA) approves new drugs, it awards monopoly rights and allows for the establishment of patents. As a result of this market exclusivity, drug manufacturers can set high prices for their drugs [6]. Drug prices do decline once patents expire and generic drugs can be manufactured, but pharmaceutical companies have found numerous strategies for delaying the expiration of their patents. One solution to this problem would be for the government to negotiate initial drug prices with pharmaceutical companies. For example, Medicare already negotiates the costs of many goods and services; Congress should allow Medicare to negotiate drug prices as well [6, 30].

Negotiations could include evidence supporting the effectiveness of the drug compared to other treatment strategies. Similar to the Veterans Health Administration, Medicare could create a drug formulary containing the most effective and least financially burdensome medications. Private insurance markets often follow Medicare's lead, so patients with private insurance would eventually benefit from this strategy as well. Price negotiation has been successfully implemented in many Northern European countries, as well as in low- and middle-income countries, most notably with anti-retroviral drugs used to treat HIV [31].

Outcome-Based Pricing

Many newer drugs are expensive even though they have similar or lower efficacy compared to already existing therapies [32]. However, the costs of treatment strategies should be tailored to the evidence supporting them. Chernen and colleagues have proposed a value-based insurance design (VBID) in which insurance plans could encourage the implementation of high-value, cost-effective treatment strategies [33-35]. Alternatively, drug companies could decide how much to charge based on individual patient outcomes. Novartis has followed this strategy with its newly-approved treatment for acute lymphoblastic leukemia, CAR-T. The company has stated that it will only receive reimbursements for its new treatment if patients respond within 1 month of initiation [36]. However, some argue that the 1-month threshold set by Novartis is a relatively low bar for success since the vast majority of patients experience disease response at 1 month. A more substantial outcome by which to measure success might be 12-month recurrence rates [37].

Alternative Payment Models

The ACA mandates the use of bundled payment policies for the management of a number of disease processes, such as myocardial infarction, gastrointestinal hemorrhage, diabetes, and end-stage renal disease. So far, cancer care in the United States has not experienced a similar payment reform. A recent study compared a bundled payment pay-for-performance program to a more traditional fee-for-service (FFS) program among breast cancer patients in Taiwan [38]. Adherence to quality indicators was 35% among 4,215 patients in the bundled payment group, compared to 28% among 12,506 patients in the FFS group ($P < .001$). Five-year survival was significantly higher and costs were significantly lower among patients in the bundled payment group. Based on this and other evidence, CMS is developing the Oncology Care Model, which establishes bundled payment systems for cancer care. The aim of the Oncology Care Model is to improve quality of care, coordination of specialty care, and patient satisfaction, while simultaneously decreasing costs [39].

Increasing Physician Awareness

The policy interventions proposed above may take years to be implemented. It may take even longer for the oncology patient population to benefit from them. In the meantime, oncologists and cancer centers should work with patients to lower their OOP expenditures [40]. One recent study found that while about half of cancer patients wanted to discuss finances with their oncologists, only about one-fifth broached this topic during their appointments [41]. Those who discussed costs were 2.6 times more likely to report medication nonadherence. The vast majority of Medicare beneficiaries have expressed the desire for benefits to increase coverage of cancer care, prescription drugs, primary care, home care, palliative care, and nursing home stays [42]. Many physicians do not bring up the topic of costs or benefits with their patients, for a variety of reasons, including lack of knowledge and lack of training [6].

Oncologists should do more to address financial toxicity among their individual patients. First, they should have more frequent goals-of-care discussions with their patients, allowing patients' care to remain in line with their preferences. Second, they should ask patients early and often whether they are having trouble affording their cancer care. As a result, patients may become familiar with financial assistance programs before their financial burden becomes too high. Third, oncologists should be aware of their patients' medication-related OOP costs and try to prescribe the highest-value treatment regimens.

Conclusion

The association between financial burden and poor outcomes has become increasingly apparent, especially in oncology. Cancer-related financial toxicity affects health-

related quality of life, cancer prevention, adherence to treatment, and mortality; therefore, if our goal moving forward is to improve cancer-related outcomes, we must come up with policy efforts directed at reducing the financial burden associated with necessary life-saving treatments. NCMJ

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