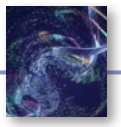

The Cost of Oncology Drugs: A Pharmacy Perspective, Part I

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Even in the VA, the high cost of oncology medications are forcing health care providers to confront the economic impact of cancer care.

Health care costs are the fastest growing financial segment of the U.S. economy. The Centers for Medicare and Medicaid Services (CMS) estimates health care spending in the U.S. will increase from $3.0 trillion in 2014 to $5.4 trillion by 2024.[1] About 19.3% of the U.S. gross domestic product is consumed by health care, which is twice that of any other country in the world. It is often stated that the increasing cost of health care is the most significant financial threat to the U.S. economy. The cost of medications, including those for treating cancer, is the leading cause of increased health care spending.[2]

The cost of cancer care is the most rapidly increasing component of U.S. health care spending and will increase from $125 billion in 2010 to an estimated $158 billion in 2020, a 27% increase.[3] Most experts agree that the current escalation of costs is unsustainable and, if left unchecked, will have a devastating effect on the quality of health care and an increasing negative financial impact on individuals, businesses, and government. However, that discussion is outside the scope of this article.

The affordability of health care has become a major concern for most Americans. During the recent U.S. financial crisis, most of the focus was on the bursting of the housing bubble, plummeting real estate prices, the loss of jobs, and the failure of large financial institutions. However, medical bills were still the leading cause of personal bankruptcies during this period. In 2007, 62% of personal bankruptcies in the U.S. were due to medical costs, and 78% of those bankruptcies involved patients who had health insurance at the beginning of their illness.[4]

The cost of prescription medications is causing financial difficulties for many patients, especially elderly

Americans who have multiple chronic medical conditions and live on fixed incomes. A recently released survey by the nonpartisan Kaiser Family Foundation found that the high cost of prescription medications, especially those to treat serious medical conditions such as cancer, is the top health concern of 77% of those Americans polled.[5] In this environment, oncology providers face many challenges in their obligation to treat cancer patients in a cost-effective manner.

This article will appear in 2 parts. Part 1 will focus on the emerging discussion of the financial impact of high-cost drugs in the U.S. The drivers of increasing oncology drug costs will also be reviewed. Part 2 will focus on the challenges of high cost medications in the VA and the role the VA Pharmacy Benefits Management (PBM) Service has in evaluating new oncology agents. Clinical guidance tools designed to aid the clinician in the cost-effective use of these agents and results of a nationwide survey of VA oncology pharmacists regarding the use of cost-containment strategies will also be presented.

BACKGROUND

When discussing the value of targeted therapies, it is useful to define both targeted therapy and value. A targeted therapy is a type of treatment using drugs or other substances to identify and attack cancer cells with less harm to normal cells, according to the National Cancer Institute.[6] Some targeted therapies block the action of certain enzymes, proteins, or other molecules involved in the

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growth and spread of cancer cells (the molecular target). Other types of targeted therapies help the immune system kill cancer cells or deliver toxic substances directly to cancer cells and kill them.

Targeted therapy may have fewer adverse effects (AEs) than do other types of cancer treatment. Most targeted therapies are either small molecules or monoclonal antibodies. Although imatinib, released in 2001, is the drug that coined the phrase targeted therapy, many drugs released earlier, such as rituximab, can be considered targeted therapies due to their specific, or targeted, mechanism of action.

Value is the price an object will bring in an open and competitive, or free, market as determined by the consumer. To put the definition of value in simpler terms, Warren Buffet has been quoted as saying, "Cost is what you pay, value is what you get." The oncology market is not entirely free and open. Market price is determined by the manufacturer, entry into the market is regulated by the FDA, purchasers (like the VA and the Centers for Medicare and Medicaid Services) have only limited ability to negotiate prices, and refusing to pay for life-saving or life-prolonging medications often is not an option. As costs for oncology drugs rapidly increase, the cost-benefit ratio, or value, is being increasingly debated. When comparing the clinical benefits these agents provide with cost, the perception of value is highly subjective and can change significantly based on who is paying the bill.

QUESTIONING HIGH-COST DRUGS

Charles Moertel and colleagues published a landmark trial 25 years ago, which reported that treatment with fluorouracil and levamisole for 1 year decreased the death rate of patients with stage C (stage III) colon cancer by 33% following curative surgery.[7] Although this trial was clinically significant, there was as much discussion about the high cost of levamisole (Ergamisol) tablets as there was about its clinical benefit for patients.

In a 1991 letter to the *New England Journal of Medicine*, Rossof and colleagues questioned the high cost of the levamisole in the treatment regimen.[8] Rossof and colleagues were surprised at the drug's price on approval, about $5 for each tablet, and detailed their concerns on how this price was determined. "On the basis of the cost to a veterinarian, the calculated cost of a hypothetical 50-mg tablet should be in the range of 3 to 6 cents," they argued. The total cost to the patient of 1 year of treament was nearly $1,200. Their conclusion was that "…the price chosen for the new American consumer is far too high and requires justification by the manufacturer."

A reply from Janssen Pharmaceutica, the drug's manufacturer, offered many justifications for the price.[8] According to the company, Ergamisol was supplied free to 5,000 research patients prior to FDA approval. It was also given for free to indigent patients. The company also insisted that its pricing compared favorably with its competitors, such as zidovudine, octreotide, newer generation nonsteroidal anti-inflammatories, and antihypertension drugs. "Drug pricing includes additional expensive research, physician education, compassionate use programs, and ensuring high-quality control. Janssen scientists studied immunomodulating effect of Ergamisol for 25 years with no financial return. Drug development is high-risk, so companies must be able to derive a reasonable return on sales."[8]

The cost of levamisole was $1,200 per year in 1991, and after adjustment for inflation would cost about $1,988 in 2015, or $166 per month. If these prices caused outrage in 1990, it is easy to see how current prices of well over $10,000 per month for therapies, which often render small clinical benefits, can seem outrageous by comparison.

PUBLIC DEBATE OVER CANCER DRUG PRICES

In the U.S., about 1.66 million patients will be diagnosed with cancer in 2015.[9] Although about 30% to 40% of these patients will be effectively cured, only 3% to 4% will be cured using pharmacotherapy (usually traditional chemotherapy) as a sole modality. Therefore, the use of oncology drugs by the vast majority of cancer patients is not to cure but to control or palliate patients with advanced cancer. It is important to note that the cost of most curative regimens is cheap compared with many medications used for advanced disease. Until a few years ago, discussion of the high costs of cancer treatment was rarely made public due to the devastating nature of cancer. However, with the rapid price increases and relatively disappointing clinical benefits of the many new drugs entering the market, the question of value can no longer be ignored. Many authors have

presented commentaries and strategies addressing the issues surrounding the high cost of cancer drugs.[10-15]

It was a groundbreaking 2012 letter to the *New York Times* that brought the issue to public attention.[16] Dr. Peter Bach and his colleagues at Memorial Sloan Kettering Cancer Center announced they would not purchase a "phenomenally expensive new cancer drug" for their patients, calling their decision a no-brainer. The drug, ziv-afilbercept (Zaltrap), was twice the price of a similar drug, bevacizumab (Avastin), but was no more efficacious in the treatment of metastatic colorectal cancer. Bach and colleagues went on to say how high drug prices are having a potentially devastating financial impact on patients and that laws protect drug manufacturers to set drug prices at what they feel the market will bear.

Considering the value of cancer treatments is now actively encouraged. To that point, the American Society of Clinical Oncology (ASCO) has recently published a groundbreaking paper entitled "A Conceptual Framework to Assess the Value of Cancer Treatment Options."[17] This tool, which is still in development, will allow oncologists to quantify clinical benefit, toxicity, and out-of-pocket drug costs so patients can compare treatment options with cost as a consideration.

The financial burden put on patients has become the driving force for drug cost reform. In an attempt to control their costs, third-party payers have increased the cost burden for patients by demanding larger copays and other out-of-pocket expenses for medications. It is felt that requiring patients to have more "skin in the game" would force them to make treatment decisions based on cost. Unfortunately, this approach may lead to devastating financial consequences for patients.[18-20] The overwhelming emotions patients experience following the diagnosis of cancer make it difficult to focus on the financial impact of treatment recommendations. In addition, many oncologists are not comfortable, or even capable, of discussing costs so patients can make financially informed treatment decisions.[14] Unfortunately for patients, "shopping for health care" has very little in common with shopping for a car, television sets, or any other commodity.

THE VA HEALTH CARE SYSTEM

The VA is government-sponsored health care and is therefore unique in the U.S. health care environment. The VA might be considered a form of "socialized medicine" that operates under a different economic model than do private health care systems. The treatment of VA patients for common diseases is based on nationally accepted evidence-based guidelines, which allow the best care in a cost-effective manner. For the treatment of cancer, the use of expensive therapies must be made in the context of the finite resources allocated for the treatment of all veterans within the system.

The VA provides lifelong free or minimal cost health care to eligible veterans. For veterans receiving care within the VA, out-of-pocket expenses are considerably less than for non-VA patients. Current medication copays range from free to $9 per month for all medications, regardless of acquisition cost. This is in stark contrast to the private sector, where patients must often pay large, percentage-based copays for oncology medications, which can reach several thousand dollars per month. VA patients are not subject to percentage-based copays; therefore, they are not a financial stakeholder in the treatment decision process.

Prior to 1995, the VA was a much criticized and poorly performing health care system that had experienced significant budget cuts, forcing many veterans to lose their benefits and seek care outside the VA. Beginning in 1995 with the creation of PBM, a remarkable transformation occurred that modernized and transformed the VA into a system that consistently outperforms the private sector in quality of care, patient safety, and patient satisfaction while maintaining low overall costs. The role of the VA PBM was to develop and maintain the National Drug Formulary, create clinical guidance documents, and manage drug costs and use.

Part 2 of this article will more closely examine the high cost of cancer drugs. It will also discuss the role of VA PBM and other VA efforts to control costs. ●

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