

Increasing Healthcare Costs and The Costs of Treating Cancer

Implications for Hospitals and Practices

The Big Problem: Healthcare costs in the United States continue to increase at a rate outpacing overall inflation and growth in the gross domestic product. These increasing costs strain employers (who pay for most private insurance) *and* taxpayers (who pay for Medicare and Medicaid through federal and state governments). Costs of treating cancer are also on the rise, due in part to new targeted chemotherapeutic agents and targeted radiation therapy, including intensity modulated radiation therapy (IMRT) and image-guided radiation therapy (IGRT), and the trend toward additional courses of chemotherapy and radiation therapy. Increasing use of new diagnostic procedures such as PET and combined PET/CT are also costly. As a result, employers are shifting costs to employees and many are terminating retirees' health plans.

The Big Fix. Today public and private payers are attempting to reign in healthcare costs using a variety of methodologies, including the Medicare Modernization Act (MMA) of 2003 and the more recent coverage determinations with evidence development and pay-for-performance initiatives. In an attempt to control spiraling costs, the Centers for Medicare & Medicaid (CMS) has changed its drug reimbursement methodology from average wholesale price (AWP) to average sales price (ASP). This change significantly decreased the dollar amount that the government pays for chemotherapy drugs in the hospital outpatient and physician practice setting, and many private payers are mimicking these payment reductions. Now, CMS and other payers are looking to make similar reductions to imaging services provided in the hospital outpatient and physician office setting.

Or is It? Unfortunately, these changes may be doing little more than limiting patient access to care. While the oncology community agrees that healthcare costs cannot continue to skyrocket out of control, no one has offered a workable solution. Before we can begin to solve the problem, however, we need to understand the complex inter-related problems of increasing healthcare costs, the rising costs of cancer treatment, and the challenging realities of cancer practice management today.



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Our Healthcare System at a Glance

The U.S. healthcare system is actually many diverse healthcare systems, funded from multiple sources, and governed by vastly different rules determined by different stakeholders. Looking at the current U.S. population of approximately 280 million people, about 15 percent (42.6 million) are uninsured. The remaining individuals are insured through three sources:

- 160 million by private insurance (primarily through employers)
- 41 million through Medicaid
- 38 million through Medicare.

And for the 85 percent of Americans that *are* covered by some form of health insurance, these plans cover a wide range of payment mechanisms, including fully capitated HMOs, fee-for-service plans, indemnity insurance, and consumer health spending accounts.

Past Healthcare Expenditures

The U.S. healthcare system is the most expensive in the world at a cost of \$1.9 trillion annually (see Figure 1), representing 16 percent of the national economy (gross domestic product). Healthcare costs Americans an average of \$6,280 per person per year, compared to approximately \$3,000 per year in Canada (a country which has a 2.5 year longer life expectancy) and \$300 per year in Cuba (which has a similar life expectancy to that of the U.S.). The growth of healthcare costs outpaces economic growth, with the government picking up an increasing share. By 2014, for example, the U.S. government is expected to pay 50 percent of all healthcare costs, due to the aging population and the new Medicare prescription drug plan.¹ Meanwhile private insurance premiums are also on the rise—increasing by between 8 to 13 percent each year, compared to annual salary increases of between 2 to 4 percent.

National healthcare expenditures are typically broken down into categories (see Table 1). While hospital costs account for about 30 percent of total healthcare costs (\$571 billion), physician and drug costs consume an increasing share and represent the fastest growing areas. Physician expenditures are second largest at 21 percent, or \$400 billion. Prescription drugs are the third largest expenditure at 10 percent, or \$189 billion.

Hospital spending growth has averaged 8.2 percent since 2000. It increased from \$525.5 billion in 2003 to \$570.8 billion in 2004, the sixth year of accelerated growth following a period of slower growth due to managed care in the mid-1990s, when hospital spending averaged 3.7 percent. Factors that contributed to this 8.6 per-

Rising Insurance Coverage

Continually rising healthcare costs have directly impacted employers and employees as they try to maintain health insurance coverage. Since 2001, healthcare premiums have increased 59 percent, and the percentage of workers covered by their employers' health plan has fallen from 65 percent to 61 percent. Employee healthcare premium contributions have grown by 57 percent for single coverage and 49 percent for family coverage from 2001 to 2004.⁸

The sixth annual Henry J. Kaiser Family Foundation/Health Research and Education Trust survey of employer health benefits, conducted in 2004, found increasing healthcare insurance costs for employers and employees. (The survey is available online at: www.keff.org/insurance/7315.) From spring 2003 to spring 2004 healthcare premiums increased 11.2 percent over the prior year, compared to an increase of 13.9 percent the previous year. This is the fourth consecutive year of double-digit increases; however, it represents a slowing of the increase from previous years. ☐

cent increase in hospital expenditures in 2004 included: price increases (5 percent), increases in the quantity and intensity of services (2.6 percent), and population growth (1 percent).²

Spending for *physician services*, the component that includes chemotherapy drugs administered in the physician office setting rose 9 percent, from \$367 billion in 2003 to about \$400 billion in 2004. (This increase mimicked the 8.6 percent increase for physician services from 2002 to 2003.) Medicare spending for physician services increased 11.1 percent in 2004, up from an 8.8 percent increase in 2003. These rising physician expenses are attributed to increases in volume, intensity, and price of services provided.

From 2000 through 2002, *prescription drugs* at retail outlets exceeded the growth of other health services by a wide margin and constituted the fastest growing component of national health spending.³ Prescription drug expenditures have experienced eight years of double-digit increases. In 2001, the growth in prescription drug expenditures was 15.9 percent from \$121.5 billion to \$140.8 billion. In 2002, growth was 15.3 percent from \$140.8 billion to \$162.4 billion. A combination of factors accounts for these increases, including the introduction

of new drugs with blockbuster sales, the aging of the population, and an increase in the number of prescriptions per capita from 8.3 in 1995 to 10.5 in 2000. Prescription drug spending has moderated in recent years due to increases in the use of tiered co-pay systems and a shift to more generic drugs.

Future Healthcare Expenditures

Healthcare in the U.S. is expected to grow increasingly more expensive;⁵ however, expenditure growth is expected to slow over the next ten years to an average annual rate of 6.7 percent by 2014. Total healthcare expenditures are expected to reach \$3.6 trillion or 18.7 percent of the gross domestic product by 2014.^{1,6,7}

Hospital expenditure growth is expected to remain strong, averaging 6.2 percent from 2005 through 2014. Price and utilization will both contribute to this trend. Hospital pricing will continue to be driven by input costs, especially labor due to healthcare labor shortages, medical devices, and pharmaceuticals.¹ Physician expenditures are expected to increase at an average of 6.8 percent annually between 2002 and 2012.⁶

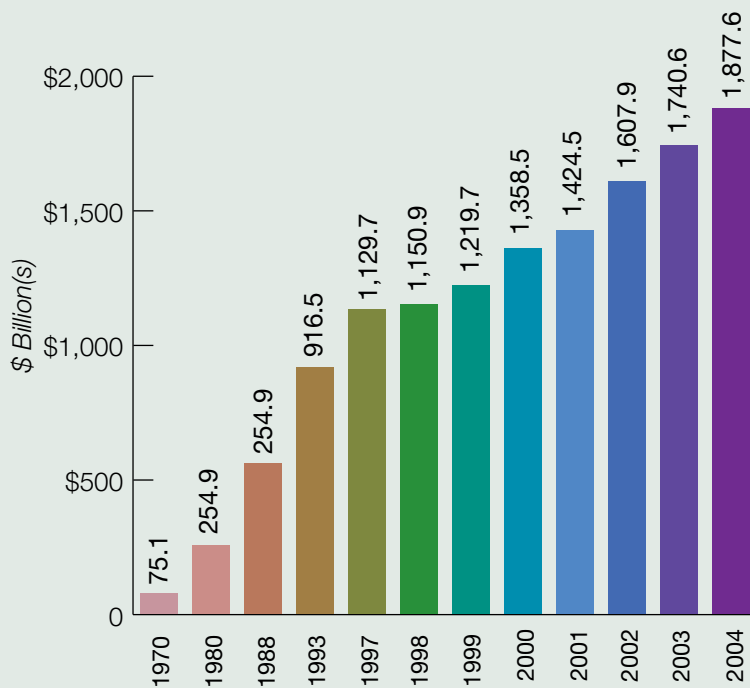
Prescription drug spending is expected to remain the fastest growing health sector, increasing at an average annual rate of 11.6 percent in 2006. Prescription drug growth is expected to decelerate over the next decade, dropping to an 8.7 percent growth rate by 2014. Prescription drug expenditures will account for 14.5 percent of total healthcare expenditures by 2014, compared to 9.9 percent in 2001. A significant shift in *who* pays for prescription drugs is underway and will continue over the next year due to the Medicare Part D drug benefit that went into effect on Jan. 1, 2006 (Figures 2 and 3).¹

All of these projections end at the point where the baby boom generation will start to become eligible for Medicare. The additional care required of an aging baby boom generation is expected to put increasing pressure on healthcare expenditures.

The Costs of Treating Cancer

In 2001, Medicare Part B spent \$6.5 billion to purchase 450 covered drugs and biologic products.⁹ Reimbursement to physician offices accounted for about 75 percent of the expenditures. Most of the expenditures were for chemotherapy, supportive care, and related drugs for

Figure 1. National Healthcare Expenditures, Selected Years, 1970 – 2004



Developed from Smith, 2006,² Levit, 2004,³ and Levit, 2002,⁴

Table 1. U.S. National Healthcare Expenditures (2004)

	Dollar Amount (in Billions)	Percent of Total Expenditures
Hospitals	\$571	30%
Physicians	\$400	21%
Rx Drugs	\$189	10%
Private Insurance	\$137	7%
Administration Costs		
Nursing Homes	\$115	6%
Structures and Equipment	\$86	5%
Dental Services	\$82	4%
Government and Public Health	\$56	3%
Other Personal Healthcare	\$53	3%
Other Professional Services	\$53	3%
Research	\$39	2%
Home Health	\$43	2%
Non-durable Products	\$32	2%
Durable Medical Equipment	\$23	1%

Source: Smith, 2006²

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cancer patients.⁹ Since 2001, this dollar figure has increased dramatically, and is likely to continue to increase. (This dollar total does *not* include an approximately equal amount spent by private insurance and managed care companies.)

Outpatient cancer drug costs continue to escalate. An analysis of a small group of select commercial and Medicare HMO patients between 1995 and 1998, determined that while the total number of patients receiving cancer treatment decreased from 14,663 to 13,829, total charges increased from \$17.9 million (\$1,218 mean charge per patient) to \$27.9 million (\$2,003 mean charge per patient).¹⁰ The study found an average annual increase of 16 percent. Charges were used in this study in lieu of amounts paid (i.e., expenditures), which were not available to the authors. Anti-neoplastic therapy constituted the largest component of cancer-related drug costs (67 percent) and represented 76 percent of the increase. The authors concluded that chemotherapy drugs administered in the physician office were the single most important cost driver in cancer care, with newer more expensive drugs replacing older less expensive drugs.¹⁰ Keep in mind, however, that drug acquisition costs vary widely from setting to setting. Different hospitals pay different prices for drugs; different practices pay different prices for drugs.

Another example of this increasing chemotherapy drug cost is provided in an analysis of drug costs for advanced colorectal cancer conducted by Deborah Schrag, MD, MPH.¹¹ The study compared three different eight-week treatment regimens, eight weeks being the amount of time needed to determine tumor response (initial effectiveness of the chemotherapy). Here's what the study found:

- The generic 5FU plus leucovorin drug regimen cost \$63
- The 5FU, leucovorin, and oxaliplatin (FOLFOX) drug regimen cost \$11,900; and
- The FOLFOX combined with bevacizumab drug regimen cost \$21,033.

The new drugs are more effective, resulting in a near doubling of the median survival time for advanced colorectal cancer treatment over the past decade, from 12 months to 21 months. However, these new regimens are far more costly, and the costs continue to increase with longer treatment times.

The combination of irinotecan and cetuximab for second-line treatment of metastatic colorectal cancer increases median survival by 1.7 months, from 6.9 months to 8.6 months,¹² at a cost of about \$31,000 for an eight-week course. Assuming that the average patient receives treatment with FOLFOX and bevacizumab as first-line treatment for eight months, the median time to progres-

sion, followed by second-line treatment of 4.1 months of irinotecan and cetuximab, the cost of drugs alone for first- and second-line treatment would be \$161,000 per patient. In the U.S., it is estimated that 32,000 people were diagnosed with stage IV colorectal cancer in 2004, and 24,000 will develop recurrent metastatic disease indicating appropriate use of the regimens described above. The drug costs for an eight-week course of initial treatment for these 56,000 patients are approximately \$666 million, or \$1.2 billion with the inclusion of a new monoclonal antibody (bevacizumab or cetuximab).

Cancer treatment costs will continue to increase. See Table 2 for examples of some of the new expensive cancer drugs.

Implications for Hospitals and Practices

Medicare and private insurers continue to try to manage, i.e., minimize, rising healthcare costs. Cancer care is increasingly identified as one of the sectors targeted for aggressive cost management by insurers, as demonstrated by increasing preauthorization requirements and limitations on use of new pharmaceuticals (see "Issues," page 10). To assure the future viability of their cancer service line, hospitals and practices will need to aggressively manage their business. In fact, today's community cancer centers are already taking this approach (see "Practice Management: How One Small Oncology Practice is Surviving," page 38.) For those cancer programs that are just getting started, begin by focusing on three areas of hospital/practice management:

1. Managing the Revenue Cycle
2. Controlling and Tracking Costs
3. Monitoring Financial Performance.

Payer contracting is another important area for review, but is deserving of its own article and will not be covered here.

Managing the Revenue Cycle

The revenue cycle includes four distinct processes: charge preparation, charge capture, claims production, and payment processing. Each step must be managed efficiently to assure appropriate reimbursement.

Charge preparation requires the development and monthly review of a chargemaster, the list of all charges for the practice. Typically chargemasters are computerized as part of the practice management system. Chargemasters must be reviewed and updated regularly to assure appropriate reimbursement. Charges should be based on the cost of providing the service. Failure to update the chargemaster can result in significant lost revenue. Setting charges in the chargemaster requires knowledge of the organization's managed care contracts. Reimbursement is

often based on a percent of charges, a fee schedule, or a percent of Medicare. Medicare and many private insurers reimburse at the lower of the fee schedule or the amount of billed charges. If your chargemaster is set below the fee schedule, then significant revenue can be lost.

Charge capture, in the broadest sense, includes:

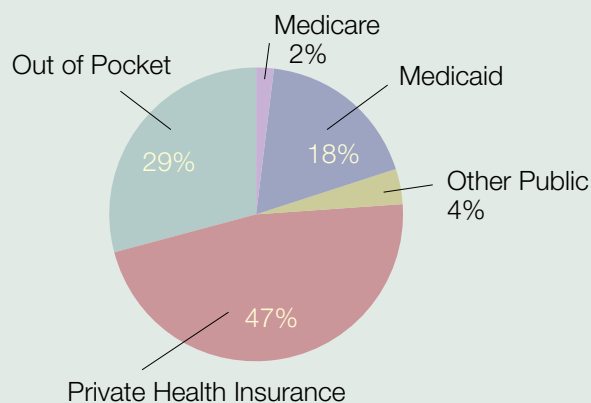
- Scheduling and registering patients
- Verifying insurance coverage
- Pre-authorizing treatment
- Collecting deductibles, co-pays, and co-insurance
- Obtaining treatment information on encounter forms or computerized system
- Assuring charge capture quality
- Reconciling charges.

Errors or incomplete performance in any of these functions is likely to result in lost revenue, or charge capture. Collecting treatment information, for example, is one particularly cumbersome task for even the most well-managed practices. And failure to capture charges for one chemotherapy regimen for one patient can result in the loss of thousands of revenue dollars.

Claims production is generally an automated process using electronic billing. Three components make up the claims production process: 1) scrub claims, 2) error reports, and 3) claim submission. Scrubbing claims may include simple tasks, such as assuring that a chemotherapy drug is included with any claim for chemotherapy infusion services. Or, it may involve more complex tasks, such as an edit check similar to the one used by the Medicare fiscal intermediary to check for a myriad of reimbursement requirements, e.g., bundled services. Most computerized practice management systems include integral claims processing programs.

Figure 2. Prescription Drug Spending, by Payer, U.S., 2004

Total Spending (billions): \$223.5



Source: Heffler, 2005¹

Payment processing is the last step in the revenue cycle. Payment processing includes:

- Posting payments
- Reviewing EOBs (explanations of benefits) at posting
- Processing suspended claims
- Reviewing and resubmitting denied claims
- Recognizing department revenue
- Following up on denied or suspended claims.

Managing Your Costs

Drugs and biologicals represent the largest cost in today's medical oncology practice. For most community cancer centers, approximately 20 drugs make up 80 percent of drug costs. Today more than ever, cancer programs need to assign a staff member to monitor drugs costs on a weekly basis and direct purchasing efforts to the least expensive source for the high-cost drugs. (Lower-cost

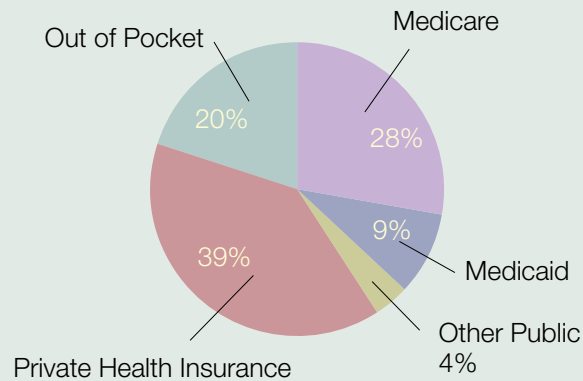
Table 2. Selected New Cancer Drug Costs

Drug	Manufacturer	Year of FDA Approval	Type of Cancer	Estimated Annual Cost Per Patient
Eribitux	ImClone/Bristol-Myers Squibb	2004	Colorectal	\$111,000
Avastin	Genentech	2004	Colorectal	\$54,000
Herceptin	Genentech	1998	Breast	\$38,000
Tarceva	Genentech	2004	Lung	\$35,000

Source: *The New York Times*, July 11, 2005.

Figure 3. Prescription Drug Spending, by Payer, U.S., 2005

Total Spending (billions): \$249.3



Source: Heffler, 2005¹

drugs can be monitored on a monthly basis.) Careful drug purchasing can substantially reduce expenditures. Conversely, failure to properly manage drug purchases can bankrupt a practice or outpatient cancer center. To ensure that significant cash is not tied up in excess drug stock, cancer programs should regularly review drug stock and par levels.

After drug costs, the second highest expenditure in any oncology practice or outpatient cancer center is the cost of staff. Two areas to look at include developing appropriate staffing levels and ensuring adequate staff time to accommodate patient volumes. Successfully managing these two areas can save significant money and lead to improved staff morale and retention. For example, practices that use an efficient scheduling system for chemotherapy infusion can simultaneously better accommodate patients and better manage staff expenses.

Monitoring Financial Performance

Monitoring financial performance is critical to the financial health of any organization. Some metrics, such as charges, and treatment and procedure volumes should be monitored daily. Others, such as total staffing hours, might be monitored weekly. A full statement of actual revenues and expenses compared to budget should be reviewed monthly.

Other non-clinical indicators, such as patient satisfaction, physician satisfaction, and employee engagement should also be monitored.

As employers, federal and state governments, and insurers attempt to manage the cost of cancer treatment, hospitals and practices will have to become increasingly skilled at managing the business side of medicine.

As healthcare costs continue to increase, economic evaluation and cost analysis will continue to play a larger role in the healthcare debate about how to allocate and distribute health resources to their most effective and efficient use. Pharmacoeconomics, a sub-discipline of health economics concerned with identifying medicines and practices that yield best value for the money,¹³ may become more important and more widely applied, at least at the policy level, if not at the clinical practice level. Given the increasing costs of medical interventions and limited resources available for medical treatment, demonstration of significant survival at less cost could inform the public policy decision on which treatments should be reimbursed by third-party payers. ■

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