

Shopping for Drugs: 2007

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Executive Summary

Patients are increasingly being given the opportunity and responsibility to manage their own health care dollars. The uninsured and others who pay for prescriptions out of pocket are looking for ways to cope with rising drug costs. Seniors have new Medicare choices that include drug coverage. Given the changing realities of the health care marketplace, every patient interested in saving money on drug therapy should consider a common-sense solution: smart shopping.

Patients can cut costs substantially by becoming aggressive consumers. In fact, they can reduce the cost of some common drug therapies by more than 90 percent if they use the same buying techniques they routinely use when shopping for other goods and services.

Consumers have never had more opportunities to obtain information about drugs. A patient with a prescription can find a range of prices by clicking on a few Internet pharmacy Web sites. The Internet also makes it easy to look up information on government and private programs that assist elderly, low-income and disabled patients.

Seniors can begin using smart-shopping techniques in selecting a prescription drug plan (Medicare Part D) or Medicare Advantage managed care plan. Many Medicare managed care plans include drug coverage, but some limit coverage of brand-name drugs and some require seniors to pay some of the costs. Similarly, Part D drug plans differ in the premiums charged, the drugs they cover and the amount of cost sharing required. Some avoid the standard coverage gap between \$2,400 and \$5,451 in drug expenses. Thus, seniors should select the plan that meets their individual needs at the lowest cost.

Recent developments in the market for prescription drugs may offer the most promising opportunities for patients to save. For example, consumers in 27 states now benefit from a new \$4 for a 30-day supply of one of 150 different generic prescription drugs at Wal-Mart. Rival-competitor, Target, has announced an intent to match Wal-Mart's prices. As more patients begin comparison shopping for drugs, more retailers will compete to win their business which will drive prices lower.

While these generic drug programs will help many consumers lower their drug bills, many patients take medications that are not available in generic form. They can still use the smart-shopping tools outlined in this study to become savvy consumers of prescription drugs:

Price Comparisons. Many people assume drug prices are uniform and do not bother to comparison shop. In fact, drug prices vary considerably. One survey found prudent shopping among local pharmacies saved consumers almost 10 percent on brand-name drugs and a whopping 81 percent on generics, on the average.

Drug Substitution. When physicians prescribe drugs, patients should ask if cheaper alternatives are available; they often are.

Bulk Buying. All supermarket patrons know that choosing larger packages usually lowers the unit cost. The same is true for drugs. Pills purchased 90 or 100 at a time usually sell for much less per dose than quantities bought 30 at a time. This is especially true for generic drugs ordered by mail.

Mail-Order Pharmacies. Although drugstore chains still sell the most drugs, mail-order pharmacies are gaining ground and now account for about 17 percent of the retail drug market. Mail-order and Internet pharmacies offer the best deals on prescription drugs for patients with chronic conditions. Some patients even buy drugs from other countries over the Internet, although the practice is illegal and the drugs may not be safe.

Pill Splitting. Patients can purchase many medications in doses double the prescribed amount and split them in half. Often, pharmacists will split the pills for them. Savings of 30 percent to 50 percent are not uncommon because many medications are sold for about the same price regardless of dosage.

Generic Medications. For most patients, generic medications work as well as brand-name drugs and cost 20 percent to 80 percent less. The average cost for a generic prescription was \$29.82 in 2005, compared to \$101.71 for branded medications.

Over-the-Counter Drugs. As an alternative to prescription drugs, patients may find that an over-the-counter (OTC) drug does just as well. Americans buy more than five billion OTC drug products each year — 60 percent of all drugs used. Today, consumers have access to a market with more than 100,000 different OTC drug products; more than 600 of them were previously available only by prescription.

Pharmaceutical Company Assistance Programs. Many drug companies offer discount card programs to assist disabled, low-income and/or elderly patients with the cost of drugs. For example, Together RX Access, a joint program run by several drug companies, offers savings of up to 40 percent on more than 150 different drugs. Low- to moderate-income families qualify for the program.

Medicare Drug Plans. Seniors now have an opportunity to combine smart-shopping techniques with the new Medicare drug plan, using the information available at Medicare.gov. The Web site allows seniors to calculate their out-of-pocket costs under different plans for the specific drugs they take for chronic conditions, allowing them to pick the plan that best meets their individual needs. In addition, the new prescription drug benefit offers financial help for low-income seniors.

State Drug Assistance Programs. Almost three-fourths of the states have created some type of drug assistance program for the elderly, low-income patients and/or people with disabilities. More than

half of the states provide funds to help seniors pay for medicine, and nine states offer drug discount programs that allow seniors to purchase drugs at prices below retail.

How much can patients expect to save by using these techniques? The NCPA reviewed prices of Web-based pharmacies during 2006 and found they varied widely. Take the cardiovascular drug, Tenormin, for example:

- The NCPA survey found that the price of 100 (50mg) doses of Tenormin ranged from \$139.74 at Drugstore.com to \$125.49 Costco.com.
- But patients could save nearly 90 percent over the lowest cost brand-name drug by switching to the generic alternative, Atenolol; 100 doses of the generic drug ranged from \$19.98 if purchased through Walgreens.com to \$8.29 at Costco.com.
- Finally, consumers could save another 32 percent (from \$8.29 to \$5.65) by buying larger, 100mg pills and splitting them in half.

Therefore, smart buying lowered the potential overall cost from a high of \$139.74 to a low of \$5.65 — a 96 percent saving.

For another example of potential savings, consider the heartburn drug, Nexium:

- If purchased in small quantities — 30 capsules at a time — from Drugstore.com, Nexium costs about \$493.33 per 100 doses; however, a shopper buying from Costco.com would pay \$434.67 for 100 capsules, a 12 percent saving.
- Buying the generic equivalent of a therapeutic substitute, such as Omeprazole, would only cost \$65.79.
- Furthermore, Prilosec OTC, a branded form of the generic drug Omeprazole, is now available over the counter; a savvy consumer opting to pay \$61.88 for a 100-day supply from Drugstore.com would save 87 percent off the most expensive option.

Introduction

Americans spent nearly one-quarter of a trillion dollars on prescription medicines and over-the-counter (OTC) drug remedies in 2005.¹ Drug spending is expected to continue growing at a rate greater than inflation.² Americans see their doctors more than 890 million times each year, and two-thirds of office visits to physicians result in prescription drug therapy.³ Overall, the National Association of Chain Drug Stores estimates that 3.38 billion retail prescriptions were written in 2005.⁴ The average cost of those prescriptions was \$64.86.⁵

“Patients can save money on their drug bills by smart shopping.”

However, most patients can easily lower their drug bills by employing some or all of the strategies detailed in this report. To do so, they must treat drug purchases as they would treat any other prospective purchases — by shopping and comparing prices. [For tips on smart shopping, see the nearby “Checklist for Saving Money on Drugs.”]

Warning No. 1: Some of the techniques described below involve buying drugs from a variety of sources. While this may cut costs, there is a danger. Doctors, pharmacists and other health and medical professionals

Checklist for Saving Money on Drugs

Opportunities for Saving Money on a Brand-Name Drug

- Check on government programs to assist low-income, elderly and/or disabled persons with drug costs in your state at benefitscheckup.com.
- Check on drug manufacturers’ programs to assist low-income, elderly and/or disabled patients with drug costs at needymeds.com and pparx.org.
- Compare local prices.
- Compare prices over the Internet at DestinationRx.com.¹
- Consider buying in larger quantity.
- If practical, consider splitting pills.

Opportunities for Saving Money by Drug Substitution

- Check for a less expensive drug with the same therapeutic benefits at Rxaminer.com.
- Look for a generic drug.
- Look for an OTC drug with therapeutic benefits.
- Compare prices locally.
- Compare prices over the Internet.
- Consider buying in larger quantity.
- If practical, consider pill splitting.

¹ Consumers should exercise caution to ensure that any Internet-based drug supplier is reputable. Patients using multiple drugs sources should inform all pharmacies of all medications taken to prevent adverse drug interactions.

are trained to recognize dangerous interactions among drugs. Many of these professionals use software that performs this function automatically. Therefore, patients who purchase drugs from more than one source should consult their doctor or pharmacist to ensure that the drugs they take will not interact in harmful ways.

Warning No. 2: When shopping for drugs on the Internet, patients should stick with trusted vendors. Some Web sites that claim to be Canadian, for example, are actually based in other countries. In addition, drugs offered via e-mail may be adulterated, expired or contain no medication. And there is no guarantee that consumers will receive shipments for which they have paid.

Comparing Prices

Consumers have never had more opportunities to obtain information about drugs and possible substitutes, and to compare prices. Shopping around town or via the Internet for price information can pay big dividends.

Local Pharmacies. Prescription drug prices at different pharmacies can vary widely. In Missouri, prices within a single city differed by 3 percent to 16 percent for brand-name medications and by 39 percent to 159 percent for generic medications, according to a survey sponsored by the Heartland Institute.⁶ However, prudent shopping would save Missouri consumers almost 10 percent on branded drugs and a whopping 81 percent on generics, on the average. In Houston, Texas, a physician who surveyed prices for generic drugs she prescribed found they varied by 50 percent to 80 percent.⁷

Interestingly, small independent pharmacies often have better prices for generic medications than large chain stores.⁸ Take the generic form of Prozac (Fluoxetine) used to treat depression.⁹ When it first became available in generic form, many pharmacies marked up Fluoxetine by 3,000 percent to 5,000 percent over its wholesale cost.¹⁰ As a result, in Detroit, Fluoxetine cost almost \$47 at stores in the CVS national chain, but sold for less than \$9 at the local Beacon Hill Pharmacy.¹¹

Drug prices also vary depending on geographic location. For instance:

- In 2003, 30 doses of 20mg Fluoxetine cost as much as \$55 at Walgreens in central Iowa,¹² but only \$40 at a Walgreens in Florida.¹³
- Currently, the price for a 30-dose supply of Fluoxetine (20mg) in Jacksonville, Fla., varies from a low of \$13.95 at a Save Rite Pharmacy to \$99.75 at Halliday's & Koivisto pharmacy.¹⁴

Patients should also consider wholesale club chain stores, which consistently have the best prices. (Note that Costco and Sam's Wholesale do not require membership to use their pharmacies.)

"Smart Shopping: Compare prices."

However, the lowest local price may not be the best price a consumer can get — online pharmacies often offer even lower prices. Online prices for Fluoxetine can vary from \$6.59 at Costco.com to \$33.94 at Walgreens.com.¹⁵ Thus, the lowest price source for a drug may not be local, but on the Internet.

When Pharmacies Compete. Many consumers will benefit from the new drug pricing policy at Wal-Mart: \$4 for a 30-day supply of some 314 generic prescription drugs.¹⁶ As of October 2006, the program was available in 27 states, although Wal-Mart expects to eventually roll out the policy nationwide. These prices are available to all customers, with or without insurance.¹⁷ Wal-Mart said these generic medications account for almost 30 percent of the prescriptions filled at its pharmacies in Florida, the first state where it offered the program.

Other companies are also developing ways to offer customers lower prescription drug prices. For example, Target has announced its intent to match Wal-Mart's prices.¹⁸ Wegmans, a chain of grocery stores in five states, recently launched a program that includes almost 100 different generic drugs.¹⁹ Customers pay only \$11.99 for a 90-day supply.²⁰ Even more remarkably, two pharmacy operators have decided to give away generic prescription drugs. In Columbus, Ohio, Giant Eagle is offering free generic versions of seven different antibiotics and four cough-and-cold medicines to patients with a prescription. Similarly, Meijer stores, with 176 locations in five states, will offer seven generic antibiotics free of charge to all patients with a prescription.²¹ President Mark Murray says the program includes about 70 percent of the generic pediatric prescriptions filled at Meijer stores, and will save parents without insurance coverage as much as \$40.²²

Internet Information Services. Generally, the Internet is a patient's most valuable information tool, whether they are comparing prices or learning about drug interactions. For instance, Florida has a Web site that records prices at all pharmacies across the state. The Web site illustrates how prices can vary significantly from pharmacy to pharmacy. At last check, a 30-day supply of 50mg Atenolol in Duval County ranged from \$7.95 at a Winn-Dixie Pharmacy to \$36.48 at Panama Pharmacy.²³ Also at last check, across Miami-Dade County the price for the same prescription ranged from a low of \$5.20 at Citrus Health Network, Inc.'s pharmacy to a high of \$137.87 at Statscript Pharmacy.²⁴

In general, patients everywhere can find a wide range of prices for prescriptions by checking a few Internet pharmacy Web sites. As the case studies in the appendices illustrate, consumers can save as much as 97 percent or more in some cases. [See Appendices B, C and D.]

Reverse Auction Web sites. Several reverse auction Web sites — including BidForRx.com, PillBid.com and BidRx.com — allow participating local pharmacies to submit competitive bids to fill prescriptions.²⁵ In a reverse

“Wal-Mart, Target and other large chains are competing on price.”

“The Internet is a valuable tool for information.”

auction, patients enter information about prescriptions they want to fill. Participating pharmacies have a set amount of time to submit the lowest price they are willing to accept to fill the prescription. The consumer can choose among competing bids (likely accepting the lowest) and then print an invoice to take to the pharmacy.

Currently, BidRx has several thousand local pharmacies and several mail-order pharmacies under contract.²⁶ Consumers can limit the auction to nearby pharmacies. Web site testimonials from clients report significant savings. A similar type of service has already been proposed by former House Speaker New Gingrich, currently head of the Center for Health Transformation.²⁷ He estimates that a reverse auction model for Medicaid would reduce prescription expenditures by 40 percent.²⁸ This type of service could become as common as selling or buying on eBay.

DestinationRx.com and Rxaminer.com. Rxaminer.com is a Web-based service that helps patients find cheaper medications comparable to the ones they currently take.²⁹ Customers enter names and dosages of medications; Rxaminer compares them, suggests substitutes (often several) and allows patients to print reports detailing potential savings. Patients then can discuss these reports with their physicians to see if the cheaper medications are appropriate.

Another unique Web site called DestinationRx.com collects prices from numerous competing online pharmacies, allowing consumers to compare prices without going to individual pharmacy Web sites. This service also works with the new Medicare.gov Web site and is an important tool to help seniors choose a Medicare prescription drug plan. [See the sidebar: “Special Opportunities for Seniors to Save: Comparing Medicare Drug Plans.”] Seniors can enter the drugs they currently take and find the prices for drugs under competing drug plans. Prices can vary considerably.

Therapeutic Drug Substitution

The doctor’s office is a good place for patients to start lowering their drug bills. The notion that the choice of medications should be left completely to physicians is outdated. Patients should ask if there are cheaper alternatives to a prescribed medication — including generic substitutes, alternative drug therapies or over-the-counter (OTC) drugs. Research on patients with chronic conditions revealed that 72 percent found discussing drug costs with their doctors helpful. And after these discussions, they were switched to a lower-cost alternative more than two-thirds (69 percent) of the time.³⁰

By communicating with their doctors, patients may find a wealth of drug options. For example, unless patients bring up the subject, physicians may not even be aware of the cost of medications they prescribe, the extent of their patient’s insurance coverage, or the patient’s ability to bear significant out-of-pocket costs.

“Patients should discuss drug therapy choices with their physicians.”

Special Opportunities for Seniors to Save: Comparing Medicare Drug Plans

The new Medicare prescription drug plans (Medicare Part D) are a valuable benefit for seniors. During the annual open enrollment period, seniors can choose from among a number of government-approved plans. However, seniors have to pay premiums for their plan, and pay some of their drug costs out of pocket — unless premiums, deductibles and copayments are waived due to income. Most seniors will still be able to lower their annual prescription drug bill and out-of-pocket costs by using smart-shopping techniques.

The plans are offered by approved insurance companies, but some levels of benefits may differ. For example, some include only a limited number of pharmacies in their network and others may restrict the number of drugs in the plan's formulary.¹ Seniors who are taking medications for chronic conditions or commencing therapy for serious illnesses should find the drug plan available in their area that has the lowest total cost per year for them. Healthy seniors should consider the potential out-of-pocket cost should they require drug therapy.

How the Plans Work. Under the “standard” drug plan, seniors will pay \$3,600 out of pocket for the first \$5,100 in annual drug expenditures, and the plan will cover 95 percent of drug costs above that amount.² (About 5 percent of seniors spend in excess of \$5,100 per year on drugs.)

However, many plans offer a lower deductible with more generous coverage than the benchmark plan in return for a higher premium.³ For instance, some plans waive the annual deductible and some will continue to pay for generic drugs beyond the threshold of the coverage gap, or “doughnut hole” (\$2,250 to \$5,100). Some of the more expensive plans have no coverage gap. Note that many Medicare Advantage plans include drug coverage, but like the stand-alone Part D plans, some limit coverage of brand-name drugs and require copayments for drug coverage.

Picking the Right Plan. To make the best choice, seniors will want to use the comparison tool available on the Medicare.gov Web site. For each participating plan, Medicare.gov tracks prescription drug prices at pharmacies across the country. With a few keystrokes at a computer terminal, seniors can easily identify the plan under which pharmacies in their area offer the best deals on the specific drugs they take. The Web site also provides information on possible therapeutic substitutes that cost less — including the annual savings. To use this feature, seniors enter their current medications and monthly costs, and then select the tab “more ways to save.” The Web site also breaks down each senior's monthly cost for drugs, copays and premiums. This should assist with monthly cash-flow management.

By using smart-shopping techniques and the Medicare.gov Web site, seniors can reap the greatest savings from their new drug benefits.

Prices and Benefits Vary across Plans. Drug prices, out-of-pocket costs and premiums differ by plan, so seniors will want to compare benefits before making a selection. For example, a survey of more than 60 Medicare Part D plans in the Dallas area found:⁴

- Using the Humana PDP Standard plan, the estimated total annual spending on a three-drug regimen would be \$601, including premiums, copayments and deductibles.
- Using the SierraRx Plus plan, the comparable annual cost would be \$1,606.
- More than half of the plans surveyed had annual costs of less than \$1,000.

So why would any reasonable senior pay a monthly premium of \$95.50 for the SierraRx Plus plan when the Humana PDP Standard plan is only \$12.70 per month? Because the plans are designed for different needs. For 2007, the Humana plan has a \$265 deductible, pays only 75 percent of the cost of the next \$2,035 in drug spending (up to \$2,400), and then pays nothing additional until \$5,451 in total drug costs is reached. The SierraRx plan has a \$0 deductible and no gap in the drug costs it covers. Thus, a senior with high medication costs might find they save money with SierraRx, the more expensive plan. For example, a senior taking the previously mentioned three-drug regimen would fare worse, to the tune of \$1,005, by choosing the more expensive plan. But the same senior would fare better with the more expensive plan if they begin taking additional medications. For instance, if the senior were taking eight drugs, the annual cost of the Humana plan with deductibles and copays would climb to \$4,022. However, for the SierraRx Plus plan, total annual costs would be \$3,528 — \$494 less per year.⁵

Furthermore, the SierraRx Plus plan may be more attractive to some seniors since it has a consistent total monthly cost of \$294 for copayments and premiums. Under the Humana PDP Standard plan, the total cost per month varies widely due to the different thresholds for cost-sharing. For instance, the first month costs \$334 but then drops to \$133 per month February through May. From June to November, it increases to \$495 a month and then falls again in December to \$186. This is why it is so important for seniors to compare competing plans to see which one provides the best value for them based on the number of drugs they take and their cash-flow situation.

¹ Survey of Medicare.gov Web site. According to a recent *New York Times* article, in some regions seniors can choose among 45 different drug plans. Average premiums are about \$32 per month. Milt Freduenheim and Robert Pear, “New Medicare Plan Presents a Drug Benefit Conundrum,” *New York Times*, November 4, 2006.

² Ibid. In 2006, under the standard plan, a senior must pay a \$250 deductible before Medicare begins paying part of the drug bills. Once this threshold is reached, the drug plan pays 75 percent of the next \$2,000. After a total of \$2,250 in drug spending, seniors are responsible for 100 percent of the next \$2,850 spent on drugs. This is the so-called “gap” or “doughnut hole.” After a senior’s annual drug expenditure has reached \$5,100 (\$3,600 of which is out-of-pocket by the senior) the Medicare drug plan pays 95 percent of all remaining spending. The limits are set to rise to \$265, \$2,400 and \$5,451 in 2007. For information on how this is calculated, see “Medicare Part D Benefit Parameters for Standard Benefit: Annual Adjustments for 2007.” Available at http://www.ndsu.edu/pharmacy/alumni/documents/CY07PartDParameterUpdate1_000.pdf. Accessed October 16, 2006.

³ See “Quick Facts about Medicare’s Coverage for Prescription Drugs,” Centers for Medicare and Medicaid Services, CMS Publication No. 11102, revised July 2006. Available at <http://www.medicare.gov/Publications/Pubs/pdf/11102.pdf>.

⁴ Plans surveyed on Medicare.gov on October 16, 2006. Basket of drugs consisted of Atenolol 50mg tablet, Fluoxetine 20mg capsule and Lipitor 10mg tablet.

⁵ Calculations made at Medicare.gov on October 30, 2006. Drugs compared were Atenolol 50mg, Celebrex 200mg, Fexofenadine 180mg, Fluoxetine 20mg, Lipitor 10mg, Prevacid 30mg and Singulair CHW 5mg.

TABLE I

Therapeutic Substitutes

<u>Drug Class</u>	<u>Number of Drugs¹</u>	<u>Cheapest Cost / Yr.</u>	<u>Highest Cost / Yr.</u>
Antidepressants	13	\$52.42	\$2,501.64
Anti-ulcer	10	\$87.05	\$1,945.14 ²
Antihistamines	5	\$18.47	\$810.04 ³
Cholesterol lowering agents	11	\$219.48	\$1,403.06
ACE Inhibitors	12	\$60.66	\$1,084.16
Angiotensin Receptor Blockers	6	\$315.58	\$561.71
Calcium Channel Blockers	9	\$123.70	\$1,013.98
NSAIDS	15	\$70.27	\$2,030.25

“There are many therapies to treat most conditions.”

¹ List of options may not be inclusive of all that exist.

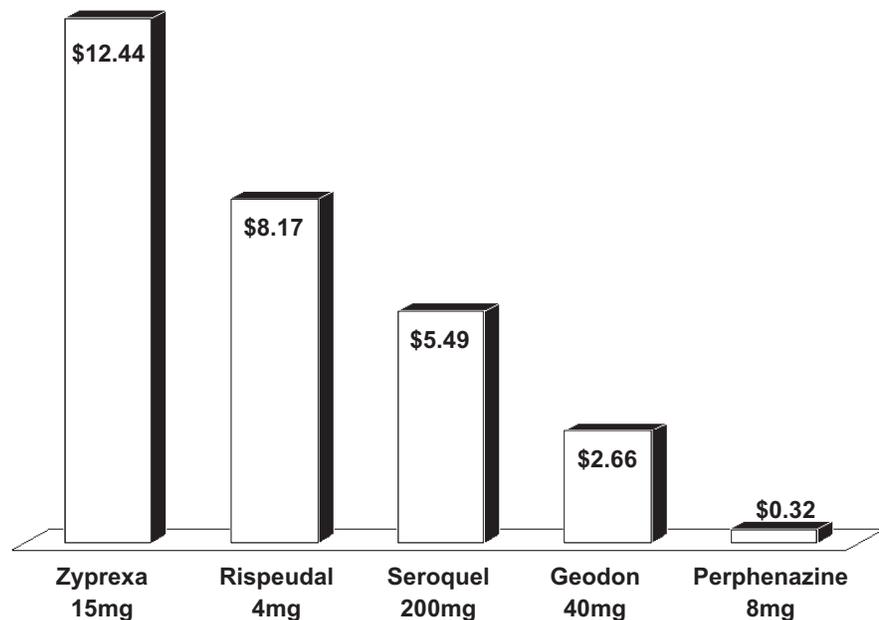
² Prilosec OTC would only cost \$228.56

³ OTC Claritin generic equivalent Loratadine could be substituted for any of the drugs listed and is available on Costco.com for \$32.42 per year.

Source: “Trinity Health Plan Pricing Guide,” Trinity Health, 2004.

FIGURE I

Daily Cost for Anti-Psychotics



“The cost of drug therapies for many conditions varies widely.”

Source: Author’s review of DestinationRx.com in November 2006.

“Smart Shopping: Consider therapeutic substitutes.”

There are many therapies to treat most conditions. [See Table I.] Some therapies cost more than others to treat the same conditions. Also, newer therapies may only offer modest improvement better than older ones. Take drugs to treat schizophrenia. Recent research has raised concerns that newer drugs cost many times more than older drugs that appear to work as well in most people.³¹ [See Figure I.]

In some cases, a drug class includes OTC medications, as well as brand-name prescription drugs and generics. Drugs within a therapeutic class may be similar, but their prices often vary substantially. For example, alternative therapies are readily available for two fairly common conditions: allergies and heartburn. Treatment options for these conditions are discussed below. Patients already taking prescribed drugs can explore alternatives using the Internet resources noted previously prior to scheduling their next doctor’s appointment.

Case Study: Allergy Medications. Patients suffering from seasonal allergies have a myriad of choices, including prescription drugs, OTC drugs, decongestants, antihistamines and nasal inhalers. All of them offer symptomatic relief, but some have fewer or less-severe side effects than others. The most popular sinus allergy medications are antihistamines, the cheapest of which are first-generation antihistamines.³² They are economical and available OTC.³³ Although they can cause drowsiness, studies have shown that they are often just as effective as newer, nonsedating drugs.³⁴

The allergy medication Claritin and its generic equivalent (Loratadine) are now available over the counter. Although they still cost more than older OTC antihistamines, they are cheaper than prescription alternatives, such as Allegra, Zyrtec and Clarinex. (Clarinex is a new prescription variant of Claritin from the same manufacturer; some critics claim it is about the same as the older drug.)³⁵ How much can patients save by considering other treatments for their allergies? As shown in detail in Appendices A-1 and A-2:

- For newer, prescription-only antihistamines, patients shopping at Costco.com can expect to pay about \$129.49 per 100 doses of Allegra compared to about \$192.89 for Zyrtec and almost \$268.17 for Clarinex.³⁶
- Allegra’s generic equivalent, Fexofenadine, is available at Drugstore.com at a cost of \$76.63 for 100 tablets.³⁷
- However, 100 doses of OTC Claritin costs only about \$76.63 at Walgreens’ Web site, while its generic equivalent, Loratadine, is available from Sam’s Club for \$5.28.³⁸
- Another substitute that may work for some patients is the first-generation antihistamine Benadryl and its generic equivalent, Diphenhydramine, which is available at Drugstore.com for about \$3.90 if purchased in quantities of 200 tablets.³⁹

- Research has shown that the first-generation, OTC drug Chlor-Trimeton (Chlorpheniramine) is more effective at binding to the histamine receptor than other antihistamines.⁴⁰ It can be purchased in bottle of 100 4mg tablets for \$4.79 from various vendors on Yahoo Shopping for about a penny per three-tablet dose.⁴¹

Although there are many medications to treat allergy symptoms, there are tradeoffs with respect to side effects. For example, antihistamines tend to raise blood pressure. Ideally, patients should confirm the safety of any drug taken regularly — including OTC medications — with a physician or pharmacist. However, side effects may not be an issue for some people. For example, Benadryl can cause drowsiness, but those suffering from nighttime allergies may find it is the ideal drug.⁴² For those with daytime allergies, Loratadine costs less than four cents per tablet, or about 98 percent less than newer prescription drugs.⁴³ *Consumer Reports* rates Loratadine a best buy among antihistamines.⁴⁴

Case Study: Heartburn Medications. Some newer therapies are only slightly more effective (or tolerable, with respect to side effects) for most patients than older therapies — but at a much higher price. Experts suggest this may be the case with the newest heartburn medications, known as proton pump inhibitors (PPIs).⁴⁵ For those with severe heartburn (called gastro-esophageal reflux disease or GERD), PPIs such as Nexium, Prevacid, Protonix or similar drugs are the treatment of choice. PPIs were the second most popular class of drugs in 2003 with \$13 billion in sales.⁴⁶ Prilosec was the leading prescription PPI until it was moved OTC in the fall of 2003.⁴⁷ Critics contend that Prilosec OTC is just as effective as Nexium, the prescription drug that replaced it, but at much less cost. However, Nexium is often prescribed for garden-variety heartburn. And drugs in an older class (called H₂-receptor antagonists) that includes Zantac and Pepcid are also much cheaper.

PPIs are not cheap:

- The cost for 100 doses of Nexium is more than \$493.30 if purchased in small quantities from Drugstore.com;⁴⁸ Prevacid is similarly priced.⁴⁹
- However, purchasing 100 doses of Protonix (Pantoprazole Sodium) from RxUSA.com would save more than \$140.⁵⁰
- Prilosec OTC is a less expensive option, currently available from Costco.com for \$61.88 for 100 doses.⁵¹

For patients with little more than occasional indigestion, Zantac or its generic equivalent, Ranitidine, may be sufficient.⁵² Although Ranitidine is now available over the counter in 75mg tablets, it is often prescribed in 150mg doses.⁵³ Among patients' options:

“Older, cheaper drugs may be just as effective as newer drugs.”

- Purchasing 100 (150mg doses) of Ranitidine from Sam’s Club would cost slightly less than \$5, or 5 cents a dose.⁵⁴
- Drugstore.com sells 400mg generic Tagamet (Cimetidine) in quantities of 100 tablets for \$28.32, or about 28 cents for a 400mg dose.⁵⁵
- Patients who do not do well on Zantac or Tagamet can choose the generic equivalent of Pepcid (Famotidine) for around 12 cents per 40mg dose at Sam’s Club.⁵⁶

Caution: Advertised and Sampled Drugs. Why is it so important to be an informed drug consumer? One reason is that the few drug therapies advertised are generally the most expensive. Free samples given to physicians are often expensive drug therapies. Critics also charge drug advertising is often not backed up by facts. A study of pharmaceutical advertising materials sent to German physicians revealed that about 94 percent of claims had no basis in scientific fact.⁵⁷

Direct-to-Consumer Advertising. Drug advertising is beneficial because it educates patients about new clinical treatments and often prompts them to seek care for previously untreated medical problems.⁵⁸ However, the drugs advertised are also likely to be the most expensive.⁵⁹ By 2005 drug advertising surpassed \$4 billion — about four times the level of spending in 1998, the first year after the Food and Drug Administration began to allow direct-to-consumer advertising.⁶⁰ Advertising is by no means representative of all therapies available. The newest innovative therapies are the ones most likely to be advertised because these drugs are under patent protection and the manufacturer profits by informing potential consumers. Drugs that have lost patent protection are rarely promoted because doing so benefits competing generic drug manufacturers.

Newer drugs may offer considerable advantages over older products. A new drug advertised on television may indeed be the correct therapy for some patients. But patients and their doctors should make the decision after considering all options — not just the ones seen on TV.

Free Samples. Drug company marketing also benefits patients by providing free samples to doctors. Drug samples allow patients to try new medications without cost. In fact, about half the marketing budgets of pharmaceutical companies are spent on distributing free samples.⁶¹ When offered samples by their doctors, however, consumers should also ask if there are nonsample medications that might have similar therapeutic benefits. Although samples are free at the doctor’s office, refills may be costly. Trying both free samples and alternatives (usually generic medications that must be purchased) will allow patients to compare whether the benefits of the newer drug outweigh the cost. Furthermore, many clinics and university teaching hospitals no longer use free samples. They claim it is cheaper in the long run to prescribe and pur-

“Drugs that are advertised and given out as free samples are usually expensive.”

chase generic medications than to offer patients free samples of medications that are expensive to refill.⁶²

Bulk Buying

Consumers can save the most on medications when they purchase in quantity. About 85 percent of employer-sponsored health plans offer members medicine by mail order.⁶³ Under these plans, a 90-day supply often costs the same as a 30-day to 60-day supply at a community pharmacy. Generic drugs are especially subject to deep discounts. In many cases, ordering quantities of 100 tablets costs only a few dollars more than ordering 30 tablets.⁶⁴ Mail-order pharmacies are extremely useful to treat chronic diseases requiring the same medication month after month. Although drugstore chains still sell the most drugs, accounting for 42 percent of the market, mail-order pharmacies are gaining ground and now command about 17 percent of retail sales.⁶⁵

Consumers without a mail-order option through their health plan can order drugs from an Internet mail-order pharmacy that serves the general public. For example:⁶⁶

- At CVS.com, 30 Atenolol tablets costs \$7.99.
- The cost for 60 doses at HomeMed.com is \$7.99.
- At Costco.com, 100 Atenolol tablets costs \$8.29.

Larger packages of OTC medications may also be cheaper:

- At Drugstore.com, 20 Loratadine tablets (generic Claritin) cost \$5.99.
- A 60-count box of the same brand sells for \$11.89 and a 120-count box is only \$14.99 at Drugstore.com.⁶⁷
- At Sam's Club, a 300-count box sells for \$15.84.⁶⁸

Ordering a prescription by mail may not work for new prescriptions where treatment must begin immediately or for drugs taken occasionally, but many patients regularly taking a medication for a chronic ailment can save by using mail-order pharmacies. Certain drugs, however, are not suitable for bulk sales due to the need for periodic monitoring and the potential for abuse. In some cases physicians may be resistant to prescribing the equivalent of a three- or six-month supply.

Pill Splitting

Another way to lower drug costs is to purchase medications in doses double the prescribed amount and split them in half. Pill splitting saves money because many medications sell for about the same price regardless of dosage. Take Viagra, for example. If ordered from Costco.com, six Viagra

“Smart Shopping: Buy drugs in larger quantities.”

tablets cost \$57.67 (\$9.61 each), regardless of whether the dose is 25mg, 50mg or 100mg.⁶⁹

Many tablets are scored across the center to facilitate splitting. Viagra, however, is an odd-shaped tablet that is difficult to split into two perfect halves.⁷⁰ To solve this problem, several firms produce splitters designed just for the diamond-shaped tablet. Thus, patients will save 50 percent when they buy double-dose tablets and split them in half. For a variety of pill shapes, Precision Pill Splitters makes pill splitting devices that create two perfect halves. One model has interchangeable pill beds that exactly fit the shape of specific medications. The company also makes a device to quarter a pill.⁷¹

While many popular medications may be suitable for splitting or quartering, others are not, including extended release tablets, capsules and medications for many serious disorders.⁷² An important consideration is whether or not a patient is able to accurately cut a tablet. Elderly patients may find pill splitting difficult; however, some pharmacists will split or crush and encapsulate pills.

Some public health advocates question whether splitting can result in halves equal enough in weight to be safe — especially if pill splitting is required by the insurance company's formulary.⁷³ But research from the University of Maryland found that pill splitting is a viable option.⁷⁴ And researchers at Stanford University found substantial consumer savings from splitting 11 of 265 of commonly prescribed medications.⁷⁵ Potential savings range from 23 percent to 50 percent for these drugs.⁷⁶ Table II illustrates the potential savings for selected drugs.

TABLE II

Candidates for Pill Splitting

Drug	Potential Saving
Cardura (Doxazosin), hypertension	46%
Celexa (Citalopram), depression	46%
Klonopin (Clonazepam), panic disorder	41%
Lipitor (Atorvastatin), high cholesterol	33%
Paxil (Paroxetine), depression	46%
Pravachol (Pravastatin), high cholesterol	23%
Serzone (Nefazodone), depression	49%
Viagra (Sildenafil), impotence	50%
Zestril (Lisinopril), congestive heart failure	38%
Zoloft (Sertraline), depression	46%
Zyprexa (Olanzapine), schizophrenia; bipolar disorder	31%

Source: Randal S. Stafford and David C. Radley, "The Potential of Pill Splitting to Achieve Cost Savings," *American Journal of Managed Care*, Vol. 8, No. 8, August 2002, pages 706-12.

"Smart Shopping: Split higher-dose pills."

Generic Drug Substitutes

Consumers can also lower drug bills by seeking generic equivalent medications whenever possible. Although half the drugs sold are generic medications — up from just over 20 percent in 1985 — they are still underutilized. According to the Prime Institute at the University of Minnesota, only 10 of the 50 medications most frequently used by seniors in 2001 were generics; the remaining 40 were more expensive brand-name drugs.⁷⁷ For example, two-thirds of the drugs dispensed by the Veterans Affairs (VA) health system are generic, but they represent only 8 percent of the VA's prescription costs; the rest are branded and account for 92 percent of the VA's drug costs.⁷⁸

For retail customers, generic drugs are generally priced 20 percent to 80 percent lower than the original branded drug.⁷⁹ In 1993 the cost difference between buying a name-brand medication and its generic equivalent was \$22.46. A dozen years later the savings had more than tripled to \$71.89. Thus, the average cost for a generic prescription was \$29.82 in 2005, compared to \$101.71 for branded medications.⁸⁰ Only those medications whose patent has expired are available in generic form, however. Some well-known drugs that have recently lost patent protection include Prozac and Zoloft (for depression), Claritin (for allergy relief), Zocor (to lower blood cholesterol) and Prilosec (for ulcers and gastric reflux disease).

“Smart Shopping: Consider generic drugs.”

Patents and Drug Prices. The number of generic equivalents available will increase over the next few years as many so-called blockbuster drugs lose patent protection and face generic competition. More than 30 of the nation's 57 largest-selling drugs will lose patent protection by 2008.⁸¹ According to estimates by the pharmacy benefit manager Express Scripts, brand-name drugs with annual sales of \$12 billion are expected to lose patent protection in 2006.⁸² From 2006 to 2010, blockbuster drugs with combined annual sales of about \$45 billion per year will become available in generic form.⁸³

Both the Bush administration and Congress are taking additional steps to speed generic drugs to market.⁸⁴ For example, generic drug producers have complained that major pharmaceutical firms delay competition through time-consuming legal maneuvers (and effectively extend the life of the original patent). However, a regulatory change by the Bush administration that became effective in 2003 limits patent holders to one 30-month delay while contesting competition from generic products.⁸⁵ Thus consumers will find more opportunities to substitute generics for brand-name medications over the next few years.

The cholesterol-lowering medication Lipitor has been the single best-selling drug for several years running. In June 2006, a closely competing drug, Zocor, lost patent protection;⁸⁶ a generic version has won tentative approval.⁸⁷ As a result, the price of the generic drug will likely fall nearly 80 percent by mid-2007. Consumers taking either Lipitor or Zocor will soon

have opportunities for significant savings.⁸⁸ Additionally, three of the seven popular statin drugs will be available in generic form by 2007 — up from only one (Lovastatin) in 2005.⁸⁹

Chronic Disease Management. Today, insurers and patients themselves have the ability to manage chronic conditions better. Kaiser Permanente's health maintenance organization (HMO) and the Veterans Affairs health system have both installed sophisticated electronic medical records systems combined with chronic disease management. Both also use generic medications whenever possible. For instance, high cholesterol is under-treated in the United States and is thought to result in heart disease — the number-one killer of Americans. Lipitor is a powerful cholesterol-lowering drug and the number-one seller. Lipitor and newer drugs like Zocor and Crestor are thought to better control cholesterol than older drugs, like Lovastatin, but are more expensive. Both the VA and Kaiser have found that by using information systems that intensively monitor progress, they can control most patients' cholesterol with less-expensive drugs.⁹⁰ Controlling cholesterol through a combination of diet, exercise and generic Lovastatin may work as well or better for most people than relying on the newest drug available.

Switching to Over-the-Counter Drugs

About 80 percent of the time, patients initially treat their medical problems with over-the-counter drugs. Americans buy OTC drugs more than 5 billion times each year.⁹¹ Today's consumer can choose from more than 100,000 different OTC drugs.⁹² And physicians recommend them more frequently than in the past.⁹³ Although most people probably assume prescription drugs have been around as long as doctors,⁹⁴ in reality virtually all drugs were sold over the counter until the FDA created prescription drugs in 1951.⁹⁵ Moving some prescription drugs OTC saves patients the cost of a physician visit just to renew a prescription, which may sometimes be valuable, but is probably unnecessary. A recent study by the European Self-Medication Industry found that moving a mere 5 percent of prescription drugs to the OTC market would save public-funded health systems across Europe more than \$20 billion a year.⁹⁶

Drugs Switched from Prescription to Over-the-Counter.⁹⁷ Increasing access to medications where self-treatment is appropriate is an important way to save money and empower patients to take responsibility for their own health. In the future this will increasingly include medications for chronic ailments.⁹⁸

The FDA can approve a prescription drug for OTC sale once it decides the benefits outweigh the risks, the potential for abuse is low, consumers can self-diagnose their condition, labels can be easily understood, and the advice of health practitioners is unnecessary. The 90 prescription products the FDA

“Smart Shopping: Consider over-the-counter versions of prescription drugs.”

has switched to over-the-counter during the past 30 years include such familiar brands as Advil, Afrin, Drixoral, Aleve, Pepcid AC, Zantac-75, Nicorrette, Rogaine and Lamisil.⁹⁹ The FDA also recently approved an OTC version of Xenical (Orlistat) — a fat-blocking drug to promote weight loss.¹⁰⁰

In years past, drugs were usually only switched from prescription to OTC status at the request of the drug maker, and only when patent protection was about to expire.¹⁰¹ In 2002, however, an FDA panel voted to recommend OTC status for Claritin (one of the best-selling allergy medications) on a request from the health plan manager, WellPoint Health Networks. It was the first time the FDA took such action without an initial request from the manufacturer. In response, Claritin's manufacturer asked for OTC status — which the FDA granted — so it would be able to market the drug as a nonprescription medication while it was still under patent.¹⁰²

When products move to the OTC market their prices drop sharply.¹⁰³ For example, when Claritin moved to the OTC market in December 2002,¹⁰⁴ sales increased dramatically, but the dollar-value of prescription antihistamines fell 28 percent the following year due to lower prices for Claritin.¹⁰⁵

“Prices drop sharply when prescription drugs move to over-the-counter sale.”

Utilizing OTC medications can save patients money. For instance:

- Before moving to the OTC market, prescription Claritin cost \$2.92 per day;¹⁰⁶ currently, OTC Claritin costs 52 cents per day at Costco, and its generic equivalent costs as little as five cents per day at Sam's Club.¹⁰⁷
- Before moving to the OTC market, Prilosec cost \$122.99 for 30 capsules at Walgreens.com, a daily cost of about \$4.10;¹⁰⁸ currently, Costco.com sells a box of OTC Prilosec with 42 capsules for \$25.99, or a daily cost of 62 cents.¹⁰⁹

Recently, however, FDA approval for OTC sale has slowed dramatically; in the past five years, it has reclassified only seven prescription drugs (including the best-selling drugs Claritin and Prilosec). Over a 20 year period, by contrast, European countries approved about four times as many prescription medications for OTC sale as the United States, according to a 2003 report from the Tufts Center for the Study of Drug Development.¹¹⁰

Missed Opportunity. Consumers lost a money-saving opportunity when an FDA advisory panel voted against OTC access to the cholesterol-reducer Mevacor.¹¹¹ This is the third time the FDA has turned down a request to make cholesterol-lowering drugs available without a prescription, thus denying consumers the power to control an important aspect of their medical care.

Why should consumers be concerned? Cholesterol-control medicine is the most widely used type of prescription drug from the powerful class of medications known as statins. For instance, Lipitor, a popular prescription cholesterol-reducer, has been the best-selling drug in the United States for the

past several years. Several other cholesterol medications round out the top 50 drugs most widely used by seniors. Americans spend about \$14 billion per year on cholesterol reducers. Add the cost of diagnostic tests and doctor visits to obtain prescriptions and this figure probably approaches \$20 billion per year.

Depending on the guidelines used, an estimated 40 million to more than 100 million Americans have high cholesterol. Many of them could benefit from a cholesterol-reducing drug, but aren't currently taking one. Most don't seek treatment because it is inconvenient and expensive to visit a doctor and pay for prescription medication.

Statins can reduce the risk of cardiac events, such as heart attacks, by nearly one-third. These drugs are so beneficial that some health experts compare them to the public health benefits of fluoride. A recent BBC news feature whimsically asked, "Is the threat of cardiovascular disease so great that statins may as well be added to the water supply?"¹¹² Another recent article appearing in the prestigious *British Medical Journal* declared, "Statins are the new aspirin..."¹¹³ On balance, the benefit of statins far outweighs their risks, spurring the British government to approve an OTC version of the cholesterol-control drug Zocor in 2004.¹¹⁴

Weighing the Costs and Benefits of a Drug

To receive FDA approval, drug manufacturers must prove their drug is both safe and effective. They don't have to prove the new drug works better than comparable therapies, only that the drug works better than a placebo.¹¹⁵ Some drugs are more effective in treating a condition than others, but some expensive drugs only work marginally better than cheaper alternatives.¹¹⁶ The idea of comparing the cost-effectiveness of drugs — that is, separating clinical evidence from economic considerations — is controversial when it comes to public programs, yet consumers do it every day when purchasing other goods and services.¹¹⁷

Consumers Union has created a Web site to help patients determine which drugs are a good buy versus those that may not be.¹¹⁸ They have also published reports on 12 drug classes, accounting for about 40 percent of drugs sold in the United States.¹¹⁹

Another avenue for information available to patients is testimonials from Web sites and message boards. One such Web site, AskAPatient.com, rates more than 2,500 medications based on average responses from thousands of patients. Each report lists the total number of responses and the average rating. Patients who want to delve deeper can examine the sex, age and comments of those who have provided feedback.¹²⁰

"New drugs may have fewer side effects, but cost much more than older drugs."

Patients often begin taking a drug and never question its necessity later. They should periodically ask their doctors if they still need to take a prescribed drug.¹²¹ Furthermore, not all prescriptions are appropriate for older patients. According to studies published in the *Archives of Internal Medicine*, a senior receives one inappropriate medication for roughly every 12 doctor visits.¹²² Currently, some 20 percent of seniors are taking at least one medication that is not recommended for their age group, 15 percent are taking two inappropriate drugs and 4 percent have been prescribed three drugs deemed inappropriate.¹²³ The likelihood of inappropriate medication is about double for women and increases when multiple drugs are prescribed.¹²⁴

“Some conditions can be treated with lifestyle changes.”

There seems to be a pill for about every condition — real or imagined.¹²⁵ However, patients are in the best position to decide if so-called “lifestyle” drugs are really worth the cost. There are undoubtedly millions of people who would not agree that drugs such as Viagra for erectile dysfunction¹²⁶ or Propecia¹²⁷ for baldness have no medical necessity.

However, patients taking expensive medications often overlook non-drug alternatives. For instance, statins (antihyperlipidemics) are one of the drugs most widely used by seniors. Statins have been proven to extend life — but the greatest benefit is for seniors who have a serious heart condition. They have only a marginal effect in healthy seniors,¹²⁸ and many seniors would probably be healthier if they controlled cholesterol through diet.¹²⁹ Physicians say losing weight and exercise are the best option for controlling high blood pressure.¹³⁰ The first line of defense in preventing obesity and Type-II diabetes is prevention by changing diet and exercise.¹³¹ The same is true for GERD. Gastroenterologists suggest most patients with GERD should first change their lifestyle before trying H₂-receptor antagonists or before taking the more costly PPI drugs.¹³²

Patients also often overlook cheaper drug options. For example, research has found that a diuretic — a water pill — is more effective than newer, more expensive antihypertensive medications.¹³³ In addition, a recent study in the *Journal of the American Medical Association* found that two aspirins daily were as effective in preventing recurrent strokes in African Americans as a daily 500mg dose of the drug Ticlopidine.¹³⁴ This is a significant finding, given the fact that Ticlopidine can easily cost patients more than \$100 per month.¹³⁵

Treatment of migraine headaches provides another example. A drug trial found that Acetaminophen combined with aspirin and caffeine (AAC) provided more sustained relief than the prescription drug Sumatriptan.¹³⁶ Those taking Sumatriptan reported faster relief — 29 percent versus 19 percent of those on AAC — and had little or no pain after 30 minutes. But at two hours, the AAC treatment group fared significantly better (84 percent versus 65 percent).¹³⁷

TABLE III

Yearly Cost for Arthritis Pain Relievers

<u>Drug</u>	<u>Daily Dose</u>	<u>Annual Cost</u>
Cox-2 Inhibitors		
Celebrex 100mg	2	\$1,199.17
Celebrex 200mg	1	\$944.15
Celebrex 100mg	1	\$599.59
Nonselective NSAIDs¹		
Etodolac 200mg	4	\$656.71
Salsalate 500mg	6	\$327.05
Naproxen 375mg	3	\$273.53
Naproxen 500mg	2	\$218.85
Naproxen 250mg	4	\$189.36
Naproxen 220mg	5	\$51.97
Ibuprofen 400mg	6	\$369.75
Ibuprofen 800mg	3	\$201.91
Ibuprofen 200mg	12	\$39.65
PPI²		
Prilosec OTC 20mg	1	\$225.86

¹ Nonsteroidal anti-inflammatory drug.

² Patients experiencing, or at risk for, gastrointestinal symptoms can combine a proton pump inhibitor (PPI) with a less expensive pain reliever such as Ibuprofen or Naproxen. Recent research suggests many seniors might do as well on a nonselective NSAID when paired with a PPI such as Prilosec as they do on newer COX-2 inhibitors. See Francis K.L. Chan et al., "Celecoxib Versus Diclofenac and Omeprazole in Reducing the Risk of Recurrent Ulcer Bleeding in Patients with Arthritis," *New England Journal of Medicine*, Vol. 347, No. 26, December 26, 2002, pages 2,104-10.

Note: Two additional Cox-2 Inhibitors, Vioxx and Bextra, were taken off the market in 2004 and 2005, respectively. Their annual cost averaged more than \$900.

Source: Author's Web site surveys conducted fall 2006.

"There are many drugs to relieve arthritis pain."

Choosing a Pain Reliever. Some seniors may not be getting their money's worth from the new generation of "super-aspirins" called Cox-2 inhibitors. They relieve pain and inflammation without the stomach irritation sometimes experienced by taking daily doses of aspirin, Ibuprofen or Naproxen. But they may offer most seniors only modest benefits over cheaper drugs,¹³⁸ and they may cause heart attacks.¹³⁹

A recent study found that two-thirds of patients on Cox-2 inhibitors were not at risk for gastrointestinal conditions like ulcers or bleeding, but most of them had not tried cheaper alternatives.¹⁴⁰ Another study, by the pharmacy benefits management company Express Scripts, found that more than three-

fourths (76 percent) of these prescriptions are written for patients who are not at risk of gastrointestinal side effects. On average, patients who receive new prescriptions of Cox-2 inhibitors use the drugs for less than 60 days. This suggests that the drug is not necessarily prescribed for conditions that require long-term therapy, where the risk of serious gastrointestinal bleeding is a concern.¹⁴¹ Furthermore, a recent study found that many patients taking Cox-2 inhibitors also take aspirin daily to benefit their heart, which can negate the gastrointestinal benefits associated with the more expensive pain reliever.¹⁴²

There are more than a dozen selective and nonselective nonsteroidal anti-inflammatory drugs (NSAIDs) to relieve pain from such diseases as arthritis.¹⁴³ [See Table III.] The price per dose ranges from \$2.59 per capsule for Cox-2 inhibitors to mere pennies for aspirin. Cox-2 inhibitors and other nonselective NSAID pain relievers are equally effective at controlling pain, but Cox-2 inhibitors cost more — up to \$1,199.17 per year for someone taking 200mg per day of Celebrex, for example.¹⁴⁴ Some experts question whether they are always worth the additional price.¹⁴⁵ In fact, many patients taking the more expensive Cox-2 inhibitors may fare as well on NSAID pain relievers taken with proton pump inhibitors.¹⁴⁶ For example, 20mg Prilosec OTC costing 62 cents per day, if taken with 12 tablets of 200mg Ibuprofen throughout the day, would cost only \$266 annually compared with \$900 or more for most COX-2 inhibitors.

“The effectiveness of a drug may depend on the dose.”

Choosing an Allergy Medication. Consumers also may not be getting their money’s worth from expensive, prescription-only, second-generation antihistamines like Zyrtec, Clarinex and Allegra. On the drug-rating Web site AskAPatient.com, patients tended to give antihistamines a rather low overall rating.¹⁴⁷ Antihistamines received an average score of only 2.6 out of a possible 5 points. By comparison, people rated Viagra 4.2 out of 5. In addition, experts often claim Claritin (Loratadine) works only slightly better than a sugar pill. For instance, in two clinical studies, Loratadine outperformed a placebo by a mere 11 percentage points.¹⁴⁸ The older, first-generation antihistamines work just as well as the newer, second-generation nonsedating antihistamines. In fact, research has shown that the first-generation antihistamine Chlor-Trimeton (Chlorpheniramine), which is now available over the counter, is more effective than other antihistamines at binding to the histamine molecules and reducing allergy symptoms. But the molecules of first-generation antihistamines can pass through the blood-brain barrier into the central nervous system, causing sedation. When it was developing Claritin, Schering-Plough knew that it only had a lucrative product if it did not cause drowsiness. Thus, it only applied for approval of a 10mg dose since some patients experienced drowsiness at higher doses.¹⁴⁹ Some critics within the FDA worried that the dose was too low to be effective.¹⁵⁰

Even though Loratadine's patent has run out, generic manufacturers cannot increase the dosage they produce without going through an expensive FDA approval process. Only the 10mg dose is FDA-approved, so that is the only dosage manufacturers are allowed to sell.¹⁵¹ People who have had little success with Claritin (Loratadine) may find that it is more effective if they take 20mg (2 pills) per day, if they can do so without feeling drowsy.¹⁵² Some conditions may warrant even higher doses.¹⁵³ [Note: Patients should always consult a physician before taking more than the recommended dosage of any medication.]

Those whose allergies are not controlled well with Loratadine or who cannot tolerate side effects such as sedation associated with Benadryl (Diphenhydramine) now have cheaper options. For example, some of the patents for Allegra (Fexofenadine) recently expired,¹⁵⁴ and the first generic version became available in 2006.¹⁵⁵ Currently, 100 60mg generic Fexofenadine tablets are available at Drugstore.com for \$111.08 — \$18.90 less than for Allegra.¹⁵⁶ The price for Fexofenadine should drop even lower in the future. The first company to apply for permission to produce a generic drug is granted a 180-day period of exclusive sales. Once this six-month period has lapsed, many other companies will enter the market and drive prices down. When that happens, the price for 100 60mg tablets of Fexofenadine will likely fall below \$30, which could happen by late 2007. Before this occurs, however, some experts expect Allegra's manufacturer, Aventis Pharmaceuticals, to introduce an OTC version of Allegra to counter the popularity of OTC Claritin.¹⁵⁷ The patent on Zyrtec will also expire in 2007, so a generic (or an OTC) version should appear within the next year or two.¹⁵⁸

Experts also point out that inhaled corticosteroids tend to offer quicker symptomatic relief than antihistamines.¹⁵⁹ Flonase (Fluticasone Propionate) is now approved in generic form and will probably be available shortly.¹⁶⁰ Patients spending \$50 to \$80 per month on expensive prescription antihistamines (such as Allegra, Clarinex and Zyrtec) may find their symptoms of hay fever are better controlled with 1) low-cost OTC Chlorpheniramine, 2) an inhaled nasal corticosteroid such as generic Flonase, or 3) a higher dose of low-cost OTC Loratadine.

Case Studies: Price Comparisons for Specific Drugs

Consumers can use one of the methods previously discussed or combine them all. Total savings can be significant, as the following case studies show. [For an additional example, see Appendix D for potential savings on anti-anxiety drugs.]

Case Study: Cardiovascular Drugs. Patients prescribed 50mg of Tenormin daily can save money by comparison shopping for the best price and quantity. [See Table IV.] For instance:

“Competition reduces prices for generic versions of name-brand drugs.”

“Smart Shopping: Buy the lowest price generic equivalent of the antiplaque (beta-blocker) drug Tenormin.”

- An NCPA survey found the price of 100 (50mg) doses of Tenormin ranged from \$139.74 at Drugstore.com to \$125.49 Costco.com.
- But patients could save nearly 90 percent over the lowest cost brand-name drug by switching to the generic alternative Atenolol.

TABLE IV

How to Save 96 Percent on a Cardiovascular Drug

<u>Tenormin (brand) 50mg</u>	<u>Cost of 100 doses</u>	
Drugstore.com (buying 30 at a time)	\$155.66	} Comparison Shopping Savings: 19%
Costco.com (buying 30 at a time)	\$145.63	
Drugstore.com (buying 100 at a time)	\$139.74	
Costco.com (buying 100 at a time)	\$125.49	
		} Generic Substitution Savings: 88%
<u>Atenolol (generic) 50mg</u>		
HomeMed.com (buying 30 at a time)	\$26.63	} More Comparison Shopping Savings: 69%
Costco.com (buying 30 at a time)	\$13.97	
Drugstore.com (buying 100 at a time)	\$12.21	
Costco.com (buying 100 at a time)	\$8.29	
		} Pill Splitting Savings: 32%
<u>Atenolol (generic) 100mg split in half</u>		
Costco.com (buying 100 at a time)	\$5.65	

Consumers can choose one of the following methods or combine them all. Total savings can be significant. Using all of these methods, a consumer for whom the cardiovascular drug Tenormin (Atenolol) is prescribed can save as much as 96 percent from an Internet pharmacy.

Comparison Shopping for the Lowest-Price Brand-Name Drug: By shopping for the best price and quantity, a consumer can save 19 percent off the price of the branded drug Tenormin.

Substituting a Generic: The generic equivalent Atenolol would save about 88 percent over the branded drug.

Shopping for the Lowest Price for Generic Drug: A consumer can save 69 percent off the price of its generic equivalent Atenolol.

Pill Splitting: Splitting a double-strength pill might save an additional 32 percent.

Source: Author's review of Web sites in November 2006 and Appendix C.

TABLE V

How to Save 87 Percent on a Heartburn Drug

<u>Nexium 20mg</u>	<u>Cost of 100 doses</u>	
Drugstore.com (buying 30 tablets at a time)	\$493.33	} Comparison Shopping Savings: 12%
Walgreens.com (buying 90 tablets at a time)	\$456.32	
Costco.com (buying 100 tablets at a time)	\$434.67	
 <u>Protonix 20mg</u>		
Drugstore.com (buying 100 tablets at a time)	\$365.17	} Therapeutic Substitute Savings: 22%
RxUSA.com (buying 90 tablets at a time)	\$353.16	
 <u>Omeprazole (generic) 20mg</u>		
Drugstore.com (buying 90 tablets at a time)	\$70.00	} Generic Substitution: 80%
 <u>Prilosec OTC 20mg</u>		
Drugstore.com (buying 42 tablets at a time)	\$61.88	} OTC Savings: 87%

Combining all of these methods, a consumer prescribed a heartburn drug can save as much as 87 percent.

Comparison Shopping for the Lowest-Price Brand-Name Drug: By shopping for the best price and quantity, a consumer can save more than 12 percent off the price of the branded drug Nexium.

Substituting a Generic: A therapeutic substitute in generic form from the same class versus the brand name Nexium would save about 22 percent.

Shopping for the Lowest Price for Generic Drug: A consumer can save 80 percent off the price of the generic equivalent Omeprazole.

Switching: Switching to the OTC version of the generic drug Omprazole would save an additional 87 percent.

Source: Author's review of Web sites in November 2006 and Appendix B-1.

"Smart Shopping: Buy the least expensive alternative therapy for common heartburn."

- One hundred doses of the generic drug ranged from \$26.63 at HomeMed.com to \$8.29 at Costco.com.
- Finally, consumers could save another 32 percent (from \$8.29 to \$5.65) by buying larger, 100mg pills and splitting them in half.¹⁶¹

Smart buying of this drug lowered the potential overall cost by 96 percent — from a high of \$155.66 to a low of \$5.65.

Case Study: Heartburn Drugs. By smart shopping, a consumer prescribed the heartburn drug Nexium can save as much as 87 percent. [See Table V.] For example:

- If purchased in small quantities (30 capsules at a time) from Drugstore.com, Nexium (20mg) costs about \$493.33 per 100 doses; however, a shopper opting for Costco.com would pay \$434.67 for 100 capsules, a 12 percent savings.
- Buying the generic equivalent of a therapeutic substitute, such as 20mg Omeprazole, would only cost \$70.
- Furthermore, because Prilosec, a branded form of the generic drug Omeprazole, is now available over the counter, a savvy consumer opting to pay \$61.88 for a 100-day supply from Drugstore.com would save 87 percent off the most expensive option.

Buying Drugs Abroad

Some consumers have turned to foreign Internet pharmacies, mostly based in Canada, to lower their drug bills.¹⁶² However, due to problems consumers may encounter in purchasing drugs from out-of-country Web sites, these purchases may not be a bargain. Furthermore, it is illegal to do so since federal law prohibits anyone except the original manufacturer from importing pharmaceuticals.

Problem: Many Drugs Aren't Cheaper in Canada. Pundits claim that drugs are cheaper in Canada. However, this is true only for branded drugs still under patent protection. Generic medications — the ones that represent the best value for most patients — tend to be cheaper in the United States than in Canada.¹⁶³

Problem: Drugs May Be Confiscated. Under the Prescription Drug Marketing Act of 1988, only drug manufacturers can legally import large quantities of drugs into the United States from foreign countries. Travelers with a prescription can return to the United States with a 90-day supply of legal pharmaceuticals. Several attempts have been made to change laws to legalize drug importation. Proposed legislation would not merely make it legal for patients to order medications from Canada — it would allow large-scale importation by pharmacies, drug wholesalers and distributors. However, even though it is technically illegal, the U.S. Customs Service recently reversed its policy of confiscating small drug shipments being shipped to U.S. citizens for personal use.¹⁶⁴

Currently, however, large quantities of prescription drugs brought back by travelers from abroad are subject to confiscation. Drugs from overseas pharmacies shipped through the mail are subject to confiscation by postal inspectors.

“Drugs are not always cheaper in Canada.”

“Some foreign Web sites sell fake, expired or adulterated drugs.”

Problem: Seller Misrepresentation. Consumers who think they are buying from Internet pharmacies in Canada may actually be buying from the Web sites of substandard pharmacies in less-developed nations. A study in the *Annals of Internal Medicine* found that only about 11 percent of Internet pharmacies revealed the actual location of their business.¹⁶⁵ It is very difficult to ascertain the exact location of online pharmacies. Internet addresses indicating the country of origin are often falsified.¹⁶⁶ For instance, many Web sites registered as Canadian pharmacies are far from Canada. The Web site CanadaRXfree.com appears to be a Canadian pharmacy, but the name is registered to an address in Mexico City. Another Web site, TrustedCanadianPharmacy.com was registered in Barbados.¹⁶⁷ Many others have covered their tracks so well it is impossible to tell where they are located. A more recent study found about one-third of Internet pharmacies claiming to be Canadian were located elsewhere.¹⁶⁸

Problem: Drug Safety and Efficacy. Another problem is that not all drugs sold on Canadian Web sites come from developed nations with FDA-type safeguards. One Canadian Web site was selling drugs made in Mexico.¹⁶⁹ In fact, according to Marv Shepherd, director of the Center for Pharmacoeconomic Studies at the University of Texas at Austin, Canada obtains drugs “from over 100 countries including Ecuador, Mexico, Brazil and China.”¹⁷⁰

An article in *Science* illustrates how drugs manufactured in some countries may not be of the same quality as those made domestically. The drug Zocor (Simvastatin), a powerful cholesterol-lowering drug made in the United States, was compared to generic copies purchased over the Internet from Mexico, Thailand, India and Brazil. Analysis of the imported versions showed that the active ingredients were not uniformly mixed with inert fillers in the tablets. These lumps may not be absorbed into the bloodstream at the same rate, affecting the efficacy of the medication.¹⁷¹ Furthermore, due to this lumping, consumers who split tablets would not receive a consistent dose, making the medication less effective. About two-thirds of countries in which drugs are manufactured either do not have or do not enforce regulatory controls comparable to the United States. And about half the countries that have controls lack the ability to enforce them.¹⁷² Consequently, officials say it is impossible for the FDA to vouch for the safety and authenticity of drugs shipped from abroad.¹⁷³

Problem: Counterfeit Drugs. The 1988 law that restricted drug imports was passed in response to smuggled counterfeit drugs that found their way onto some U.S. pharmacy shelves.¹⁷⁴ In one case, U.S. customs inspectors seized 1,800 counterfeit bottles of the antibiotic Ceclor. In another case, about two million counterfeit birth control pills containing little or no active ingredient were smuggled into the United States.

Counterfeit and fake drugs are a growing problem.¹⁷⁵ Global sales of counterfeit drugs are predicted to reach \$75 billion by 2010.¹⁷⁶ As more people order drugs from unknown Web sites abroad, this is likely to increase. Recently, for example:

- Several Web sites were found to be selling contraceptive patches containing no active ingredients.¹⁷⁷
- When the U.S. Government Accountability Office made straw purchases from 68 Web-based pharmacies, in four cases it received counterfeit drugs and in six cases it never received the order for which it paid.¹⁷⁸
- Fourteen Web sites from which the GAO made purchases were under investigation for selling counterfeit drugs.¹⁷⁹

Over the past few years, the number of counterfeit drug cases investigated by the FDA has risen four-fold.¹⁸⁰ As more Americans turn to foreign sources for prescription medications, the market in counterfeit drugs is bound to grow. And of course, drugs obtained out of the country at low prices are not bargains if they jeopardize the patient's health.

"Drug price controls limit foreign supplies."

Problem: Drug Availability. Some brand-name drugs are cheaper in other countries because prices are controlled. Due to price controls, there may be only a limited supply available. In fact, in some countries, if a new, more effective (and expensive) medication has not been added to the list of drugs the government will pay for, it may not be available to most patients in that country. As a result, drug distributors may stock few of these medications, or they are simply unavailable. At just under \$25 billion dollars, prescription drug expenditures in Canada are only a fraction of spending in the United States.¹⁸¹ The United States is simply too populous for Canada to fulfill all our drug needs.¹⁸² Consider:

- Americans could exhaust the entire supply of Canadian drugs in just 38 days.
- Canada would need to boost its supply of drugs by a factor of five just to meet the needs of elderly Americans.

American-manufactured drugs are sold in some other national markets at lower prices to compensate for lower average incomes in those countries. Pharmaceutical companies are financially able to do so because they can recoup the cost of drug development in the United States. Importation would tend to equalize drug prices worldwide — at a level much closer to, if not the same as, current prices found in the United States. Less prosperous countries would buy fewer American-made drugs. They could also follow India's lead by violating patents and producing low-priced copies for their own citizens.

Financial Assistance to Lower Drug Costs

There are programs to assist patients who must pay some or all of their drug bills. In addition to smart shopping, patients can save by taking advantage of these opportunities.

Pharmaceutical Company Assistance Programs. Many drug companies have programs to assist low-income, disabled or elderly individuals.¹⁸³ For example, the Partnership for Prescription Assistance is a national organization of drug companies, physicians and patient advocates. Qualifications vary but generally include uninsured individuals earning less than 200 percent of the federal poverty level. Patients who want to find out if they are eligible can begin on the Web site www.pparx.org. Patients can check to see whether or not a medication they are taking is part of a low-cost partnership program or patient assistance program. Multiple medications can be entered and a simple form assesses eligibility. Some people may be eligible for a patient assistance program for a specific medication. Or they may be eligible for a low-cost drug card discount program, which patients can use at their local pharmacy.

One discount drug card program is called Together Rx Access. The program is free and covers more than 150 different drugs. Participating companies include Novartis, Abbott, AstraZeneca, Aventis, Ortho-McNeil, Bristol-Myers Squibb, GlaxoSmithKline and Janssen. Eligibility is limited to those who do not qualify for Medicare and do not have drug coverage through a public or private program. Income cannot exceed \$30,000 for an individual, \$40,000 for a family of two, \$50,000 for a family of three or \$60,000 for a family of four. Most participants save 25 percent to 40 percent on brand-name drugs.¹⁸⁴

State Drug Assistance Programs. Almost three-fourths of U.S. states have created or authorized a drug assistance program for low-income, elderly and/or disabled patients. Three-fifths of the states provide direct subsidies, while two-fifths offer drug discounts.¹⁸⁵ In addition, all states provide drug subsidies under the Medicaid program. Patients can find out if they qualify for a government or private drug assistance plan by filling out the questionnaire on the Web site of the National Council on Aging (<http://www.benefitscheckup.com>).

“Many states and drug companies have programs to assist with drug prices.”

Conclusion

Drug therapy is the most effective treatment for many illnesses, but drugs can be expensive. The cost can be especially high for seniors with chronic conditions, and those without health insurance or drug coverage. Yet most patients can easily lower their annual medicine bills through smart shopping. Patients who have prescription drug coverage have little incentive to be wise consumers. Still, they should note that while drug coverage by an insurer

makes the high cost of pharmaceuticals easier to bear at the time of purchase, yearly premium increases are partly due to the lack of cost control.

Consumers can use a number of strategies to lower their drug costs. Which ones are appropriate will depend on their medical conditions and circumstances. But if patients treat drugs like other consumer goods — by informing themselves, shopping among alternatives and comparing prices — they are almost assured of lower drug bills.

NOTE: Nothing written here should be construed as necessarily reflecting the views of the National Center for Policy Analysis or as an attempt to aid or hinder the passage of any bill before Congress.

Notes

- ¹ In 2005 Americans spent more than \$230.3 billion on prescription drugs. Over-the-counter drugs probably increased total expenditure by an additional \$20 billion. See “Industry Facts-at-a-Glance, Rx Sales 2005,” National Association of Chain Drug Stores. Available at <http://www.nacds.org/wmspage.cfm?parm1=507#retail>. Accessed June 6, 2006. Consumer Healthcare Products Association put yearly OTC drug sales at \$15 billion (excluding Wal-Mart).
- ² See, for example, James M. Hoffman et al., “Projecting Future Drug Expenditures — 2004,” *American Journal of Health-System Pharmacists*, Vol. 61, No. 2, February 2004, pages 145-158.
- ³ A drug was either provided or prescribed in 64.8 percent of office visits. The average number of prescriptions written is 2.25 per patient when they receive one during the course of an office visit. David A. Woodwell and Donald K. Cherry, “National Ambulatory Medical Care Survey: 2002 Summary,” National Center for Health Statistics, Advance Data from Vital and Health Statistics, No. 346, August 26, 2004.
- ⁴ See “Industry Facts-at-a-Glance,” National Association of Chain Drug Stores. Available at <http://www.nacds.org/wmspage.cfm?parm1=507#retail>. Accessed June 6, 2006.
- ⁵ Ibid.
- ⁶ “2002 Missouri Prescription Drug Pricing Survey,” Public Issue Management, 2002.
- ⁷ Al Tompkins, “Monday Edition: Generic Drug Prices,” KHOU (News 11, Houston), November 30, 2003.
- ⁸ Fred Gebhart, “Chain Stores Top Generic Price Charts,” *Drug Topics*, Drug Topics Supplements, April 3, 2006. Also see Kathy Times, “Independents Often Beat Chains in Prescription Prices,” NBC13.com, November 25, 2002.
- ⁹ Although some of the following anecdotes are from regional surveys conducted by the news media, the results are consistent with a recent multistate survey by a research institute. See RetireSafe.org, “Take the Rx Challenge: 2003 Retail Pharmacy Pricing Survey,” Council for Government Reform, June 2003.
- ¹⁰ Barbara West, “Massive Mark-Ups Found on Generic Drugs,” WFTV (Channel 9, Orlando), October 21, 2002.
- ¹¹ Steve Wilson, “Steve Wilson Exposes Huge Prescription Drug Price Markups,” WXYZ.com (Channel 7, Detroit), February 6, 2004.
- ¹² Editorial, “Generic Meds Not Panacea Some Believe,” Iowa City Press-Citizen, June 18, 2003.
- ¹³ ABC Action News, “Pill Patrol: Generic Drugs Marked Up as Much as 3,000 Percent,” abcactionnews.com (WFTS ABC Action News Tampa, Fla.), November 27, 2003.
- ¹⁴ Prices verified October 16, 2006 at MyFloridaRx.com.
- ¹⁵ Prices verified on October 16, 2006 on DestinationRx.com.
- ¹⁶ Julius A. Karash, “The \$4 Drug Gambit,” *Kansas City Star*, October 27, 2006.
- ¹⁷ The 314 drugs includes different doses and forms of the same medications. The number of chemically distinct medications is closer to 150. For a list of generic drugs and doses that Wal-Mart will sell at low prices, see <http://www.usatoday.com/money/industries/health/drugs/walmart-druglist.pdf>.
- ¹⁸ Julie Appleby, “Target Says It Will Match Wal-Mart’s \$4 Generic Drug Price,” *USA Today*, September 21, 2006.
- ¹⁹ Wegmans has stores in New York, Pennsylvania, New Jersey, Virginia and Maryland. See <http://www.wegmans.com/about/storeLocator/>.
- ²⁰ “Wal-Mart Adds 12 States to \$4 Generic Drug Plan,” *USA Today*, October 26, 2006. Available at http://www.usatoday.com/money/industries/retail/2006-10-26-walmart-drugs_x.htm.
- ²¹ The five states include Ohio, Illinois, Indiana, Kentucky and Michigan. Tracy Turner, “Supermarkets Offer Generic Drugs Free as Lure,” *Columbus Dispatch*, October 25, 2006. Available at <http://www.dispatch.com/health/health.php?story=dispatch/2006/10/25/20061025-A1-02.html>.
- ²² Tracy Turner, “Supermarkets Offer Generic Drugs Free as Lure.”
- ²³ Price verified on October 16, 2006 on MyFloridaRx.com.
- ²⁴ Ibid.

- ²⁵ “Bid for Rx Web Site Now Online Using Auctions to Reduce Prescription Drug Costs,” PharmaLive.com, August 17, 2006.
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- ²⁸ Newt Gingrich, “Taking Health Care to the Next Level,” *Des Moines Register*, September 1, 2005.
- ²⁹ The Web site is www.Rxaminer.com; address confirmed on October 16, 2006.
- ³⁰ John D. Piette, Michele Heisler and Todd H. Wagner, “Cost-Related Medication Underuse: Do Patients with Chronic Illnesses Tell Their Doctors?” *Archives of Internal Medicine*, Vol. 164, No. 16, September 13, 2004, pages 1,749-1,755.
- ³¹ Jeffrey A. Lieberman et al. (Clinical Antipsychotic Trials of Intervention Effectiveness Investigators), “Effectiveness of Antipsychotic Drugs in Patients with Chronic Schizophrenia,” *New England Journal of Medicine*, Vol. 353, No. 12, September 22, 2005, pages 1,209-1,223.
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- ³³ First-generation antihistamines also include Clistin (Carbinoxamine), Tavist (Clemastine), Chlor-Trimeton (Chlorpheniramine) and Dimetane (Brompheniramine).
- ³⁴ Philipp S. Muether and Jack M. Gwaltney Jr., “Variant Effect of First- and Second-Generation Antihistamines as Clues to Their Mechanism of Action on the Sneezing Reflex in the Common Cold,” *Clinical Infectious Diseases*, Vol. 33, November 1, 2001, pages 1,483-88.
- ³⁵ Ibid.
- ³⁶ Allegra was 60mg, Zyrtec 10mg and Clarinex 5mg. Prices surveyed at Costco.com on October 2006.
- ³⁷ Prices surveyed at Drugstore.com on October 2006.
- ³⁸ Price of 10mg Claritin for 100 doses purchased 50 tablets at a time from Walgreens.com. Price surveyed November 2006. The price for Loratadine (10mg) was based on buying two bottles of 150 tablets packaged together. Prices were surveyed on May 24, 2006, at Sam’s Club (Greenville at Park Lane), Dallas, Texas.
- ³⁹ Benadryl (25mg) is available in quantities of 100 for \$14.29 and generic diphenhydramine (25mg) is available in quantities of 200 for \$7.79 at Drugstore.com. Price sampled on November 2006.
- ⁴⁰ Dose for Chlorpheniramine tends to be from 4mg to 12mg. Raymond Woosley conducted research which led him to believe that it is effective at doses low enough to be nonsedating. See Matthew Herper, “Five Generic Drugs, Cheap But Ignored,” *Forbes.com*, November 2, 2001. Available at <http://www.forbes.com/2001/11/02/1102drugs.html>. Accessed November 2006. Also see Stephen Hall, “The Claritin Effect: Prescription for Profit,” *New York Times Magazine*, March 11, 2001.
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- ⁴⁷ Gardiner Harris, “F.D.A. Approves Over-Counter Sales of Top Ulcer Drug,” *New York Times*, June 21, 2003.

- ⁴⁸ Purchasing 100 20mg doses of Nexium (30 doses at a time) from Drugstore.com costs \$493.33. Price sampled on November 2006.
- ⁴⁹ Purchasing 100 30mg doses of Prevacid (30 doses at a time) from Drugstore.com costs \$509.97. Price sampled on November 2006.
- ⁵⁰ Purchasing 100 doses of Nexium (30 capsules at a time) would cost \$436.57 at Costco.com. Switching to Protonix and purchasing larger quantities (40 at a time), Protonix would bring the cost of 100 doses down to \$353.16 at RxUSA.com.
- ⁵¹ The price for 100 capsules of Prilosec 20mg at Costco.com is \$61.88 if purchased 42 at a time. Price was verified on November 2006. Consumers Union rates Prilosec a Best Buy. See “Drugs to Treat Heartburn, Ulcers and Stomach Acid Reflux: The Proton Pump Inhibitors,” Consumers Union, Consumer Reports Best Buy Drugs, November 2004. Available at <http://www.crbestbuydrugs.org/PDFs/Antihistamines.pdf>. Accessed June 6, 2006.
- ⁵² Zantac (Ranitidine), Pepcid (Famotidine) and Tagamet (Cimetidine) are histamine H₂-receptor antagonists.
- ⁵³ Ranitidine is available over the counter in 75mg tablets but is often prescribed in 150mg or even 300mg doses.
- ⁵⁴ In this example, purchasing 100 150mg doses would require buying 240 75mg tablets and taking two at a time. This is often more economical than purchasing the 150mg prescription strength. Price Members Mark Ranitidine, available in packages of 240 75mg tablets, costs \$5.88 at Sam’s Club, 8282 Park Lane, Dallas, Texas. Price verified on November 2006.
- ⁵⁵ Price verified June 6, 2006.
- ⁵⁶ Purchased in quantities of 260 10mg tablets for \$7.42 at Sam’s Club, 8282 Park Lane, Dallas, Texas. A 40mg dose requires four tablets, for a cost of 11.42 cents per dose. Price verified June 6, 2006. Similar price at Costco.com November 2006.
- ⁵⁷ Annette Tuffs, “Only 6% of Drug Advertising Material Is Supported by Evidence,” *British Medical Journal*, Vol. 328, No. 7438, February 28, 2004.
- ⁵⁸ Pat Kelly, “DTC Advertising’s Benefits Far Outweigh Its Imperfections,” *Health Affairs*, Web Exclusive, April 28, 2004; Joel S. Weissman et al., “Physicians Report on Patient Encounters Involving Direct-to-Consumer Advertising,” *Health Affairs*, Web Exclusive, April 28, 2004.
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- ⁶¹ In 2000, about \$7.9 billion in drugs were distributed free as samples — about half of the \$15.7 billion the pharmaceutical industry spent on marketing. The retail value of free samples increased to \$16 billion by 2004. Drug companies employ an estimated 90,000 drug industry reps, and spent \$22 billion in 2003 to inform physicians about their products and influence prescribing behavior. For an exposé on many of the drug industry’s marketing efforts, see Jeff Gammage and Karl Stark, “Under the Influence,” *Philadelphia Inquirer*, March 9, 2002. Also see Liz Szabo, “Health Systems Cutting Costs by Closing Door on Drug Reps,” *USA Today*, August 25, 2004.
- ⁶² Leigh Page, “More Clinics Ban Drug Samples, Citing Cost, Safety Concerns,” *American Medical News*, October 16, 2000.
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- ⁶⁴ Price surveys conducted June 1, 2004.
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- ⁶⁶ All prices are for Atenolol 50mg. Prices surveyed October 16, 2006, at DestinationRx.com.
- ⁶⁷ Prices verified on October 16, 2006, at Drugstore.com.
- ⁶⁸ Purchase made May 24, 2006, at Sam’s Club, Greenville at Park Lane, Dallas, Texas.
- ⁶⁹ Price verified with DestinationRx.com on June 5, 2006.
- ⁷⁰ Amanda Gardner, “How to Break a Blockbuster Drug in Half: Man Invents Device to Cut Odd-Shaped Viagra Pill,” *Health-Scout News*, December 5, 2002.
- ⁷¹ Information obtained from Parrish Blaszk (communications director), Precision Pill Splitters (www.precisionpillsplitters.com).
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manufacturer, some common medications that may be candidates for quartering are Accupril, aspirin, Fosamaxx, Imitrex Oral, Levaquin, Lipitor, Norvasc, Pravachol, Viagra, Vioxx, Zocor, Zyprexa and Zyrtec.

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⁷⁸ William M. Welch, “VA Offers Medicines at Bargain Prices,” *USA Today*, June 18, 2003.

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⁸⁰ The average cost for generic prescriptions was \$12.82 in 1993, compared to \$35.28 for branded medications. By 2003 this had risen to \$30.58 and \$83.66 respectively. See “Retail Prescription Prices for Generic Drugs,” National Association of Chain Drug Stores, Issue Brief, October 2004. Also see “Industry Facts-at-a-Glance,” National Association of Chain Drug Stores. Available at <http://www.nacds.org/wmspage.cfm?parm1=507#retail>. Accessed June 6, 2006.

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⁸² Fred Gebhart, “Major Drugs Lose Patent Protection in 2006,” *Drug Topics*, Generic Supplement, April 3, 2006.

⁸³ *Ibid.*

⁸⁴ Leila Abboud, “Bush Acts to Speed Generics to Market,” *Wall Street Journal*, June 12, 2003, page A3.

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APPENDIX A-1

Prescription Sinus Allergy Medications**Cost of 100 doses****Clarinet 5mg**

Walgreens.com (buying 30 tablets at a time)	\$313.30
Drugstore.com (buying 100 tablets at a time)	\$272.47
Costco.com (buying 100 tablets at a time)	\$268.17
HomeMed.com (buying 90 tablets at a time)	\$224.29
Walmart.com (buying 30 tablets at a time)	\$221.43

Zyrtec 10mg

RxUSA.com (buying 30 tablets at a time)	\$221.90
Drugstore.com (buying 100 tablets at a time)	\$210.72
Costco.com (buying 30 tablets at a time)	\$193.30
Costco.com (buying 100 tablets at a time)	\$192.89

Allegra 60mg

Costco.com (buying 30 tablets at a time)	\$136.63
Drugstore.com (buying 100 tablets at a time)	\$129.98
Costco.com (buying 100 tablets at a time)	\$129.49

Fexofenadine 60mg

Drugstore.com (buying 100 tablets at a time)	\$111.08
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Note: Standard daily doses. Some antihistamines may be available in multiple doses while others may be available only in a standard dosage. Some are available in syrup form (more easily given to children). Many antihistamines also include decongestants and pain relievers or come in time-release formulations. Nonsedating antihistamines are usually taken only once a day.

Source: Author's Web site surveys in fall 2006.

APPENDIX A-2

Over-the-Counter Sinus Allergy Medications

<u>Claritin (Loratadine) 10mg</u>	<u>Cost of 100 Doses¹</u>
Walgreens.com (buying 10 tablets at a time)	\$99.90
Walgreens.com (buying 30 at a time)	\$76.63
Drugstore.com (buying 30 tablets at a time)	\$76.63
<u>Loratadine (generic) 10mg</u>	
Walgreens.com (buying 100 tablets at a time)	\$29.99
Drugstore.com (buying 60 at a time)	\$19.82
Sams.com (buying 300 at a time)	\$5.33
<u>Benadryl (Diphenhydramine) 25mg</u>	
Walgreens.com (buying 24 tablets at a time)	\$16.63
Drugstore.com (buying 100 tablets at a time)	\$14.29
<u>Diphenhydramine (generic) 25mg</u>	
Walgreens.com (buying 24 capsules at a time)	\$14.54
Drugstore.com (buying 200 capsules at a time)	\$3.90
<u>Chlorpheniramine maleate 4mg</u>	
Walgreens.com (buying 150 tablets at a time)	\$9.98
Drugstore.com (buying 100 tablets at a time)	\$4.79

¹ Standard daily doses. Some antihistamines may be available in multiple doses while others may be only available in a standard dosage. Some are available in syrup form (more easily given to children). Many antihistamines also include decongestants and pain relievers or come in time-release formulations.

Nonsedating (Claritin, Loratadine) antihistamines are usually taken only once a day. First-generation (OTC) antihistamines, because they are inexpensive (and sedating), might be taken in smaller doses two or more times throughout the day. A drug taken in smaller doses several times per day might cost more than one larger dose taken once per day. Multiple dose medications generally cost more than a single daily dose.

Source: Author's Web site surveys in fall 2006.

APPENDIX B-1

Prescription Heartburn Medications

<u>Nexium 20mg</u>	<u>Cost of 100 Doses¹</u>
Drugstore.com (buying 30 capsules at a time)	\$493.33
Walgreens.com (buying 90 capsules at a time)	\$456.32
Costco.com (buying 100 capsules at a time)	\$434.67
<u>Prevacid 30mg</u>	
Costco.com (buying 30 capsules at a time)	\$509.97
RxUSA.com (buying 100 capsules at a time)	\$476.49
Drugstore.com (buying 90 capsules at a time)	\$466.77
<u>Protonix 20mg</u>	
Drugstore.com (buying 30 capsules at a time)	\$396.23
Drugstore.com (buying 90 capsules at a time)	\$365.17
RxUSA.com (buying 90 capsules at a time)	\$353.16

¹ Standard daily therapeutically equivalent doses. Some ulcer medications may be available in multiple doses, many come in time-release formulations or might be taken more than once a day.

Source: Author's Web site surveys in fall 2006.

APPENDIX B-2

Over-the-Counter Ulcer Medications

<u>Prilosec (Omeprazole) 20mg¹</u>	<u>Cost of 100 doses²</u>
Drugstore.com (buying 14 capsules at a time)	\$78.50
Costco.com (buying 42 capsules at a time)	\$61.88
<u>Pepcid (famotidine) 40mg</u>	
Walgreens.com (buying 25 tablets at a time)	\$87.92
Drugstore.com (buying 90 tablets at a time)	\$63.16
Costco.com (buying 85 tablets at a time)	\$49.39
<u>Famotidine (generic) 40mg</u>	
Walgreens.com (buying 60 tablets at at time)	\$93.20
Drugstore.com (buying 30 tablets at a time)	\$47.88
Costco.com (buying 240 tablets at a time)	\$11.65
<u>Zantac (Ranitidine) 150mg</u>	
Walgreens.com (buying 65 tablets at a time)	\$33.83
OTCWholesale.com (buying 105 tablets at a time)	\$33.36
Drugstore.com (buying 80 tablets at a time)	\$27.49
Costco.com (buying 65 tablets at a time)	\$20.94
<u>Ranitidine (generic) 150mg</u>	
Drugstore.com (buying 80 tablets at at time)	\$22.48
Costco.com (buying 240 tablets at at time)	\$4.99
<u>Tagamet (Cimetidine) 400mg</u>	
Walgreen.com (buying 30 tablets at a time)	\$66.60
Drugstore.com (buying 50 tablets at a time)	\$63.96
OTCWholesale.com (buying 70 tablets at a time)	\$46.69
<u>Cimetidine (generic) 400mg</u>	
CVS.com (buying 50 tablets at a time)	\$43.96
Walgreens.com (buying 30 tablets at a time)	\$33.96
Drugstore.com (buying 100 tablets at a time)	\$28.32

¹The generic form of OTC Prilosec (Omeprazole) is still available only by prescription. Proton pump inhibitors (PPIs) are usually taken once per day.

²Standard daily therapeutically equivalent doses. Some ulcer medications may be available in multiple doses, many come in time-release formulations or might be taken more than once a day.

Source: Author's Web site surveys in fall 2006.

APPENDIX C

Cardiovascular Medications

<u>Tenormin (brand) 50mg</u>	<u>Cost of 100 doses¹</u>
Drugstore.com (buying 30 tablets at a time)	\$155.66
Walgreens.com (buying 60 tablets at a time)	\$149.98
Drugstore.com (buying 100 tablets at a time)	\$139.74
Costco.com (buying 100 tablets at a time)	\$125.49
<u>Tenormin (brand) 100mg split in half</u>	
Walgreens.com (buying 60 tablets at a time)	\$111.66
Drugstore.com (buying 100 tablets at a time)	\$100.49
Costco.com (buying 30 tablets at a time)	\$98.95
Costco.com (buying 100 tablets at a time)	\$91.44
<u>Atenolol (generic) 50mg</u>	
Walgreens.com (buying 60 tablets at a time)	\$19.98
Wal-Mart.com (buying 30 tablets at a time)	\$12.57
Drugstore.com (buying 90 tablets at a time)	\$12.21
Costco.com (buying 100 tablets at a time)	\$8.29
<u>Atenolol (generic) 100mg split in half</u>	
HomeMed.com (buying 30 tablets at a time)	\$14.15
Drugstore.com (buying 100 tablets at a time)	\$8.83
RxUSA.com (buying 100 tablets at a time)	\$7.06
Costco.com (buying 100 tablets at a time)	\$5.65

¹ One dose = 50mg

Source: Author's Web site surveys in fall 2006.

APPENDIX D

Anti-Anxiety Medications

<u>Xanax (brand) 0.5mg</u>	<u>Cost of 100 doses¹</u>
Walgreens.com (buying 100 tablets at a time)	\$146.65
Costco.com (buying 30 tablets at a time)	\$137.97
Costco.com (buying 100 tablets at a time)	\$130.79
Drugstore.com (buying 100 tablets at a time)	\$122.30
<u>Xanax (brand) 1mg split in half²</u>	
Walgreens.com (buying 60 tablets at a time)	\$95.83
Costco.com (buying 30 tablets at a time)	\$90.65
Costco.com (buying 30 tablets at a time)	\$87.55
Drugstore.com (buying 100 tablets at a time)	\$82.77
<u>Alprazolam (generic) 0.5mg</u>	
Walgreens.com (buying 30 tablets at a time)	\$28.32
Costco.com (buying 30 tablets at a time)	\$19.97
Drugstore.com (buying 100 tablets at a time)	\$12.19
Costco.com (buying 100 tablets at a time)	\$9.19
<u>Alprazolam (generic) 1mg split in half</u>	
Costco.com (buying 30 tablets at a time)	\$15.00
Walgreens.com (buying 60 tablets at a time)	\$8.25
Costco.com (buying 100 tablets at a time)	\$6.48
Drugstore.com (buying 90 tablets at a time)	\$6.10

¹ One dose = 0.5mg

² Xanax, due to its addictive nature, may not be a good candidate for bulk buying and pill splitting since many physicians may be reluctant to prescribe 100 double-strength tablets at a time.

Source: Author's Web site surveys in fall 2006.

About the Author

Devon Herrick, Ph.D., is a senior fellow with the National Center for Policy Analysis. He concentrates on such health care issues as Internet-based medicine, health insurance and the uninsured, and pharmaceutical drug issues. His research interests also include managed care, patient empowerment, medical privacy and technology-related issues. Herrick also serves as the Chair of the Health Economics Roundtable of the National Association for Business Economics.

Herrick received a Ph.D. in Political Economy and a Master of Public Affairs degree from the University of Texas at Dallas with a concentration in economic development. He also holds an M.B.A. with a concentration in finance from Oklahoma City University and an M.B.A. from Amber University, as well as a B.S. in accounting from the University of Central Oklahoma.

About the NCPA

The NCPA was established in 1983 as a nonprofit, nonpartisan public policy research institute. Its mission is to seek innovative private sector solutions to public policy problems.

The center is probably best known for developing the concept of Medical Savings Accounts (MSAs), now known as Health Savings Accounts (HSAs). The *Wall Street Journal* and *National Journal* called NCPA President John C. Goodman “the father of Medical Savings Accounts.” Sen. Phil Gramm said MSAs are “the only original idea in health policy in more than a decade.” Congress approved a pilot MSA program for small businesses and the self-employed in 1996 and voted in 1997 to allow Medicare beneficiaries to have MSAs. A June 2002 IRS ruling frees the private sector to have flexible medical savings accounts and even personal and portable insurance. A series of NCPA publications and briefings for members of Congress and the White House staff helped lead to this important ruling. In 2003, as part of Medicare reform, Congress and the President made HSAs available to all non-seniors, potentially revolutionizing the entire health care industry.

The NCPA also outlined the concept of using tax credits to encourage private health insurance. The NCPA helped formulate a bipartisan proposal in both the Senate and the House, and Dr. Goodman testified before the House Ways and Means Committee on its benefits. Dr. Goodman also helped develop a similar plan for then presidential candidate George W. Bush.

The NCPA shaped the pro-growth approach to tax policy during the 1990s. A package of tax cuts, designed by the NCPA and the U.S. Chamber of Commerce in 1991, became the core of the Contract With America in 1994. Three of the five proposals (capital gains tax cut, Roth IRA and eliminating the Social Security earnings penalty) became law. A fourth proposal — rolling back the tax on Social Security benefits — passed the House of Representatives in summer 2002.

The NCPA’s proposal for an across-the-board tax cut became the focal point of the pro-growth approach to tax cuts and the centerpiece of President Bush’s tax cut proposal. The repeal by Congress of the death tax and marriage penalty in the 2001 tax cut bill reflects the continued work of the NCPA.

Entitlement reform is another important area. With a grant from the NCPA, economists at Texas A&M University developed a model to evaluate the future of Social Security and Medicare. This work is under the direction of Texas A&M Professor Thomas R. Saving, who was appointed a Social Security and Medicare Trustee. Our online Social Security calculator, found on the NCPA’s Social Security reform Internet site (www.TeamNCPA.org), allows visitors to discover their expected taxes and benefits and how much they would have accumulated had their taxes been invested privately.

Team NCPA is an innovative national volunteer network to educate average Americans about the problems with the current Social Security system and the benefits of personal retirement accounts.

In the 1980s, the NCPA was the first public policy institute to publish a report card on public schools, based on results of student achievement exams. We also measured the efficiency of Texas school districts. Subsequently, the NCPA pioneered the concept of education tax credits to promote competition and choice through the tax system. To bring the best ideas on school choice to the forefront, the NCPA and Children First America published an *Education Agenda* for the new Bush administration,

policymakers, congressional staffs and the media. This book provides policymakers with a road map for comprehensive reform. And a June 2002 Supreme Court ruling upheld a school voucher program in Cleveland, an idea the NCPA has endorsed and promoted for years.

The NCPA's E-Team program on energy and environmental issues works closely with other think tanks to respond to misinformation and promote commonsense alternatives that promote sound science, sound economics and private property rights. A pathbreaking 2001 NCPA study showed that the costs of the Kyoto agreement to halt global warming would far exceed any benefits. The NCPA's work helped the administration realize that the treaty would be bad for America, and it has withdrawn from the treaty.

NCPA studies, ideas and experts are quoted frequently in news stories nationwide. Columns written by NCPA scholars appear regularly in national publications such as the *Wall Street Journal*, the *Washington Times*, *USA Today* and many other major-market daily newspapers, as well as on radio talk shows, television public affairs programs, and in public policy newsletters. According to media figures from Burrelle's, nearly 3 million people daily read or hear about NCPA ideas and activities somewhere in the United States.

The NCPA home page (www.ncpa.org) links visitors to the best available information, including studies produced by think tanks all over the world. Britannica.com named the ncpa.org Web site one of the best on the Internet when reviewed for quality, accuracy of content, presentation and usability.

What Others Say about the NCPA

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- TIME

"Oftentimes during policy debates among staff, a smart young staffer will step up and say, 'I got this piece of evidence from the NCPA.' It adds intellectual thought to help shape public policy in the state of Texas."

- Then-GOV. GEORGE W. BUSH

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