

Strategies for Prescribing the Best Drug at the Best Price

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In today's health care market, many patients with chronic diseases cannot afford the drugs they're prescribed. Here's what practitioners can do to ease the financial burden of out-of-pocket costs for their patients.

It is easy to be cynical about the state of U.S. health care when we learn that Americans spend more of their income on prescription medications than citizens of other developed countries^{1,2}; that prescription costs increased more than threefold between 1993 and 2002³; that almost 15% of patients with common chronic diseases underuse their medications at least once a month as a result of high out-of-pocket expenses^{4,5}; and that wholesale prices of brand name drugs increased, on average, over 6% from 2004 to 2005, at nearly twice the rate of inflation.⁶ Moreover, it's common for patients and front-line health care providers to feel frustrated with their lack of influence over public policy.

In reality, however, we are not powerless. While most of us might have a very limited ability to shape legislation or policy at the highest levels, there are steps we providers with prescribing privileges can take to help ease the burden of high out-

of-pocket pharmaceutical costs our patients face.

The first thing we can do is confront the issue of cost head on. At present, it is extremely rare for health care providers to discuss costs with their patients.⁷ According to a recent survey, insufficient visit length and patient discomfort are the two leading barriers preventing these discussions from occurring.⁸ Nevertheless, it is possible for providers to surmount these apparent obstacles to assist patients in obtaining the best drug at the best price.

This article presents a series of practical, easy-to-implement strategies for accomplishing this goal. Included in this discussion are resources—many available online—that providers can use for such tasks as comparing drug costs, reviewing clinical practice guidelines and other evidence-based data, and referring patients to sources of financial assistance. At the outset it is important to recognize that, in the federal health system, many of these strategies are integrated into the daily practice of primary care and chronic disease management through national formulary revisions, electronic ordering, and availability of pharmacist consultants. Nevertheless, VA staff members, in particular, are increasingly

engaged in comanaged care. Patients frequently come with requests for medications prescribed by primary care providers in the private sector. Education and assistance provided by VA clinicians can prove to be beneficial in helping patients learn to weigh their medication choices and preferences and participate actively in their own health care.

ENGAGE YOUR PATIENTS

Physicians can set the stage for reducing costs by reviewing all of their patients' medications at each visit. Medication lists can take various forms, from an informal written record to an electronic entry in a structured personal health record (Table). Reviewing the list offers opportunities to eliminate nonessential medications, decrease polypharmacy, recommend less costly but equally effective alternatives,⁹ and discuss realistic expectations and indications regarding medication use.

The dialogue that ensues is particularly important, as patients and health care providers frequently overestimate the usefulness of medications to treat certain conditions. For example, group A beta-hemolytic streptococcus accounts for a relatively small proportion (5% to 15%) of all cases of sore throat, and the vast majority of

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Table. Internet resources for helping patients obtain affordable medications

Resource name	Web address	Content/purpose
Engaging patients		
AARP—Using Medications Wisely: My Personal Medication Record	www.aarp.org/health/rx_drugs/usingmeds/my_personal_medication_record.html	Personal health record for developing and maintaining a medication list
Oregon Alliance Working for Antibiotic Resistance Education (AWARE)	www.oregon.gov/DHS/ph/antibiotics/provider.shtml	Treatment algorithms, toolkits, and other resources for judicious use of antibiotics
Medication Management and Polypharmacy (Beer’s List)	tahsa.org/files%2FDDF%2Fmedbeer1.pdf	Lists of medications to avoid in patients over 65 years of age
Prescribing over-the-counter and generic medications		
Electronic Orange Book	www.fda.gov/cder/ob/default.htm	Information on drugs with therapeutic equivalents (generics)
Comparing costs		
Consumer Reports—Best Buy Drugs	www.crbestbuydrugs.org	Drug reports that compare costs of common medications, <i>Shoppers Guides to Prescription Drugs</i> publications, and news and alerts about medications
AARP—Prescription Drugs: Cost & Availability	www.aarp.org/health/comparedrugs/	Consumer guide for comparing efficacy and affordability of drugs
West Virginia Attorney General Rx Price Website	www.wvagr.com/home.aspx	Surveys of prices of commonly prescribed medications at pharmacies located in West Virginia
Reviewing evidence-based data		
Oregon Health & Sciences University—Drug Effectiveness Review Project	www.ohsu.edu/drugeffectiveness	Evidence-based data literature reviews
VA/DoD Clinical Practice Guidelines	www.oqp.med.va.gov/cpg/cpg.htm	Clinical practice guidelines endorsed by the VHA National Clinical Practice Guidelines Council
Exploring assistance programs		
VA Health Care Eligibility and Enrollment for Veterans	www.va.gov/healtheligibility/eligibility/	Information about access to VA health care, including medication services
Centers for Medicaid and Medicare Services	www.medicare.gov	Information about Medicare medication programs
Rx Hope—The Heart of the Pharmaceutical Industry	www.rxhope.com	Information on and links to private financial assistance programs

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coughs of infectious origin are caused by viruses. Yet in 1998, nearly 60% of patients presenting with cough and over 60% presenting with sore throat received antibiotics.¹⁰ To decrease antibiotic resistance, expert consensus panels recommend that physicians apply accepted criteria before treating respiratory infections with antibiotics.^{11–13} Strategies to limit antibiotic use represent the best clinical care, the most appropriate utilization of precious resources, and the least risk to public health. The good news is that there has been a decline in antibiotic prescription for respiratory disorders,^{10,14} and research indicates that interactive educational programs for physicians can succeed in reducing inappropriate antibiotic prescribing.¹⁵

Reviewing medications with our patients also gives us leverage in counterbalancing direct-to-consumer advertising, a \$4.35 billion enterprise in 2004.¹⁶ Pharmaceutical companies frequently have utilized nationally recognized and respected figures to help sell their products. For example, the drugs rofecoxib (Vioxx; Merck & Co., Inc., Whitehouse Station, NJ), ramipril (Altace; King Pharmaceuticals, Inc., Bristol, TN), and sildenafil (Viagra; Pfizer, New York, NY) all have been promoted by popular sports figures. And in one advertisement for meperidine hydrochloride (Demerol; Sanofi-Synthelabo, Inc., New York, NY)—noted in Greg Crites's 2005 book, *Generation Rx: How Prescription Drugs Are Altering American Lives, Minds, and Bodies*—the late U.S. Supreme Court Chief Justice William H. Rehnquist tells patients to “insist that your physician prescribe Demerol. You pay a little more than for aspirin, but you get a lot more relief.”¹⁶

Understandably, patients will ask physicians about drugs mentioned in such advertisements—in part,

because of the popularity (or notoriety) of the celebrity involved. But what effect does this have on physicians? In 2005, researchers reported on a randomized, controlled trial, funded by the National Institute of Mental Health, in which simulated patients portraying symptoms of either major depression or adjustment disorder with depressed mood made appointments with primary care physicians and either asked for the antidepressant paroxetine by its brand name (Paxil; GlaxoSmithKline, Philadelphia, PA), made a general request for medication, or made no explicit medication request. The results showed that physicians were far more likely to prescribe an antidepressant when patients asked for one (by brand name or as a general request) than when they didn't. The physicians rarely prescribed paroxetine (which was not available in generic form when the study began and was priced higher than generic alternatives, such as fluoxetine) to the simulated patients portraying major depression unless they specifically asked for it. The study's researchers, as well as the author of an accompanying editorial, concluded that direct-to-consumer advertising may have competing effects on the quality of health care—both reducing underuse of appropriate pharmacologic therapy (as in the case of major depression) and promoting overuse (as in the case of the less severe adjustment disorder).^{17,18} Ultimately, our goal is to encourage the patient, through interactive discussion, to move from passive consumer to informed participant.

PRESCRIBE OTC AND GENERIC MEDICATIONS

In some cases, over-the-counter (OTC) medications can be viable alternatives clinically and financially.

For example, at one local pharmacy, esomeprazole (Nexium; AstraZeneca Pharmaceuticals LP, Wilmington, DE) was priced at \$4.67 per capsule, whereas the OTC stereoisomer omeprazole (Prilosec; Proctor & Gamble Company, Cincinnati, OH) was \$0.64 per tablet. In a 2001 review published in *The Medical Letter on Drugs and Therapeutics*, data from trials comparing esomeprazole and omeprazole suggested a possible advantage for esomeprazole in treating erosive esophagitis but equivalent efficacy in treating gastroesophageal reflux disease (GERD).¹⁹ Given the fact that erosive esophagitis is considerably less prevalent than GERD, why not use the less expensive OTC alternative (omeprazole) first, based on the assumption that it will work for most patients? Esomeprazole could be reserved for those patients who do not respond to omeprazole.

In most cases, OTC drugs are considerably less expensive than brand name drugs because a physician's prescription is unnecessary, the competition among manufacturers is stiffer once the patent expires, and there usually—though not always—is less need to monitor adverse effects. As providers, we must resist the lure of prescribing a very expensive drug (esomeprazole) to treat the large number of patients with dyspeptic and reflux symptoms for fear of not treating the infrequent case of esophageal ulcer. On the negative side, OTC drugs are packaged in a manner necessitating removal of each pill separately. This could represent some difficulty for elderly and disabled patients. Furthermore, there are times when purchasing the cheaper OTC drug actually results in higher out-of-pocket expenses since insurers will cover the more expensive prescription drug but offer no reimbursement for the OTC drug.

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In the May 13, 2004 issue of *USA Today*, the author of an article on using generics to cut drug costs indicated that, for each 1% increase in generic medication usage, \$1.5 to \$2 billion per year could be saved nationally.²⁰ And a study published in June 2005 demonstrated that at least \$2.9 billion per year could be saved in the senior population if generics were prescribed more uniformly.²¹ For example, there is a generic version of lisinopril (Zestril; AstraZeneca Pharmaceuticals LP) available, and taking this generic formulation instead of the brand name version can save over \$250 per patient in yearly drug costs. Similarly, the hypnotic agent zopiclone is available in Canada and other countries as a generic drug, but in the United States, eszopiclone, with the identical chemical composition but mirror image to zopiclone, is sold as a brand name drug (Lunesta; Sepracor, Marlborough, MA). Not surprisingly, zopiclone sells for \$0.54 per tablet and eszopiclone for \$3.30 per tablet.²²

Many class A generic drugs have been proven to be of biochemical equivalence to their brand name counterparts.²³ The "Electronic Orange Book"—available on the FDA web site—is an excellent up-to-date reference for identifying available generic agents.

LIMIT USE OF FREE DRUG SAMPLES

Providing patients with drug samples from the office is a common and perhaps a well intentioned practice of physicians and pharmaceutical companies.²⁴ Despite endorsements of the value of drug samples,⁹ the relative high frequency of their use in practice,⁸ and some evidence indicating that eliminating drug samples in uninsured and underinsured populations increased out-of-pocket ex-

penses,²⁵ the risk that offering brand name drug samples will increase overall drug costs is high. Once the supply of the sample is exhausted, patients may find that purchasing the same brand name drug is prohibitive. One might wonder whether pharmaceutical companies preferentially provide expensive brand name samples to physicians' offices, just as they market expensive drugs on television, in web site pop-up ads, and in medical journals.

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An increasing number of private practice physicians, health care organizations, and academic institutions prohibit detailing by drug representatives. When such interaction is not prohibited, a good approach is for providers to accept and distribute samples of only the less costly medications (especially generics) that are similar in efficacy and safety to more expensive, brand name medications and that would not present a hardship for patients to purchase once the samples run out. Another approach is to use prescription vouchers instead of free samples.²⁶ Under this system, vouchers for a specific amount of drug can be taken, along with a prescription, to a pharmacy where the patient receives the medication free. The drug manufacturer subsequently reimburses the pharmacy. The use of vouchers preserves the positive value of samples while also establish-

ing a medication history database; providing for adequate labeling; and permitting the pharmacist to offer counseling regarding dosing instructions, adverse events, and drug-drug interactions.

COMPARE COSTS

Cost comparisons between drug classes, within classes, and among retailers offer effective strategies to save dollars on medications. For example, when treating hypertension,

the cheaper class of drug—diuretics—has been shown to decrease cardiovascular deaths to the same degree as other, more expensive antihypertensive medications^{27,28} and to reduce renal impairment in patients with hypertension.^{29,30}

A similar case could be made for initiating treatment of dyspepsia with lower cost histamine-2 (H2) blockers before prescribing the more effective but certainly more costly proton pump inhibitors (PPIs). In a review of multiple studies of dyspepsia, there were two randomized trials in which there was no statistically significant difference in the relief of symptoms between the H2 blocker and the PPI.³¹ Comparisons at a major national retailer indicate that PPIs cost between three and 4.8 times more than H2 blockers.

There are situations in which, within a particular drug class, some

drugs cost less than others of similar efficacy. For instance, based on a price comparison at a local pharmacy, taking fluoxetine for depression instead of citalopram could result in a per patient savings of over \$550 per year. Similarly, with regard to angiotensin converting enzyme inhibitors, taking lisinopril instead of ramipril for high blood pressure could save as much as \$370 per patient over one year. If safety, efficacy, and convenience are similar or comparable, the best rule of thumb is to prescribe the drug of lower cost.

It's not surprising that the cost of the same prescription medication can vary significantly between pharmacies. Confirming suspicions in the contentious debate over drug pricing in this country compared with others, a review of costs of 44 brand name drugs purchased from online pharmacies in Canada versus major drug store chains in the United States demonstrated that 41 of the drugs were cheaper when obtained from Canadian sources.³² What may be less well known is that prices differ even within the United States. A quick check of two local pharmacies reveals that 30 esomeprazole capsules at pharmacy A cost \$140 per month, whereas at pharmacy B the price is \$123 per month. Several web sites offer information allowing patients and providers to compare prices of common medications.³³

Practically, there are times when the most expensive drug is, indeed, the best drug because of efficacy or safety. If using the most expensive drug would likely result in fewer provider visits and fewer laboratory tests to monitor adverse effects, it could very well be the best drug and the best overall price for the condition. Or, if it is easier for the patient to take a medication on a once daily schedule rather than multiple times per

day, the more expensive drug may be the best option.

REVIEW EVIDENCE-BASED DATA

Physicians can expand their knowledge to prescribe more appropriately by becoming more familiar with the published reports from national evidence-based practice centers (EPC).³⁴ The Agency for Healthcare Research and Quality initiated a network of EPC centers to conduct evidence-based reviews for many topics, including drug effectiveness, alternative medications, and therapeutic devices.³⁵ These centers are funded by 15 states and two nonprofit organizations. The results of these reviews assist physicians, regulatory bodies, insurance companies, and health policy consultants in making decisions regarding local and regional formularies and preferred treatments.³⁶

The use of evidence-based, clinical practice guidelines also can play a role in cost savings. In a study of over 130,000 elderly patients with uncomplicated hypertension, investigators projected an annual cost savings of approximately \$1.2 billion nationally provided physicians adhered to current antihypertensive guidelines.³⁷

SPLIT TABLETS

For some drugs that treat diabetes, hypertension, depression, hyperlipidemia, and other conditions, patients can be prescribed tablets that contain double the intended treatment dose and then instructed to cut the tablets in half and take one half-tablet at each administration.³⁸ In some cases, when the two doses are the same price, this practice is analogous to buying the medication at a two-for-one discount.

Even when there is a small price difference between the two doses, however, tablet splitting still can result in substantial savings. For example, patients can save over \$150

per year by taking one half of a 40-mg tablet of lovastatin as opposed to one whole 20-mg tablet, and splitting the larger dose sertraline tablets could result in savings of almost \$540 per year on average.³⁹ Stafford and Radley, analyzing data from a managed care program covering 19,000 patients, projected an annual cost savings of \$259,500 (\$1.14 per program member per month) if patients could make a commitment to split tablets for 11 medications listed on the formulary.⁴⁰ In another study of mental health drugs in the Oregon Health Plan, tablet splitting—along with dose consolidation—resulted in a savings of \$32,000 per month for all plan members for a continuous six-month period.³⁹ As a note of caution, not all tablets may be split safely, tablet splitting can complicate care, and it is technically difficult for some patients to undertake this task.⁸

PRESCRIBE A LARGER SUPPLY

In some cases, prescribing a three-month supply of a medication, as opposed to a 30-day supply, can be cost saving. At the very least, this practice saves the administrative costs of filling a prescription three times instead of one. Exercising this option, however, is appropriate only if the patient's condition has proven to be stable with the current dosage for some time and if the patient's health benefit plan includes this provision. Due to concerns about abuse, controlled substances and psychotropic drugs should be restricted to small amounts or, at most, 30-day intervals.

EXPLORE ASSISTANCE PROGRAMS

Depending on eligibility, the VHA and the Centers for Medicaid and Medicare Services include medications as part of their benefits package. State Health Insurance Programs

(SHIPS) counselors provide assistance and education regarding benefits. In a comparison between the VHA and Medicare, costs to VHA patients were significantly lower for 49 of the 50 medications reviewed, and the median price difference per drug per year was over \$200 to the benefit of VHA patients.⁴¹ The greatest price differential was \$770 for pravastatin (Pravachol; Bristol-Myers Squibb Company, Princeton, NJ) 40 mg, and the lowest was \$5.33 for furosemide (generic) 20 mg.

In 1999, over 50% of the 200 most commonly prescribed medications in the United States were offered through assistance programs sponsored by pharmaceutical companies.⁴² Although eligibility criteria vary from one company to another, categories common to many are: (1) lack of adequate insurance, (2) assessment of income and assets, and (3) ineligibility for a federal assistance program. The challenges for patients are that each manufacturer requires completion of a different application form and many require a new application for renewals.⁴³ Furthermore, an existing antitrust law prohibits collaboration, cooperation, and uniformity between pharmaceutical companies in administering their assistance programs.⁴⁹ With the initiation of Medicare Part D in 2006, many drug companies have severely curtailed their assistance programs. Nevertheless, these programs remain options to be explored.

CONSULT WITH PHARMACISTS

Pharmacists have an excellent understanding of clinically relevant pharmaco-economic issues and drug formulary policies, and, as such, they can provide practical tips on patient adherence issues and tablet splitting. In a 2001 report, investigators found that physicians, though predisposed to embrace cost-effective principles

in practice, lacked specific knowledge.⁴⁵ Of the physicians surveyed, 80% were unaware of medication costs, and their estimates of costs for 33 commonly used medications were accurate in only 45% of the cases presented. In another survey, which followed interactive conferences and distribution of guides with pricing references, Korn and colleagues learned that physicians were more likely to query patients about “out-of-pocket” medication costs after the interventions.⁴⁶

In a VA setting, pharmacists working collaboratively with primary care physicians were able to reduce the average number of prescriptions per patient by 2.4 and the average doses per day by 6.9.⁴⁷ In an academic group practice setting, pharmacists were able to reduce costs substantially by participating in a medication clinic, reviewing data to develop a formulary, analyzing trends, disseminating information, conducting quality assurance, and providing outreach to physicians.⁴⁸ Another study compared a managed health care plan’s monthly per-member drug costs for physicians from general medicine clinics who were exposed to varying degrees of interaction with pharmacists: no new interactions (control), a pharmacist-conducted presentation, or the presentation followed by ongoing face-to-face meetings. The results showed that the more interaction that occurred, the greater the reduction in drug costs.⁴⁹ Finally, a collaborative model involving patients, who monitored their blood pressure at home, and pharmacists, who reviewed the data and made recommendations to the treating physician, resulted in improved diastolic blood pressure control.⁵⁰

The American Society of Health System Pharmacists has published a statement outlining the roles of phar-

macists in the primary care setting.⁵¹ It appears, unfortunately, that physicians who are solo practitioners or work in small groups are less likely to have access to pharmacists compared with those who work in large groups or hospital settings.

IN SUMMARY

Providers and patients have the tools to be more assertive in ensuring that they use the best drugs at the best price. Collaborative efforts among patients, primary care providers, and, when possible, pharmacists can result in real savings—not only for patients as individuals but also for insurers and taxpayers. By being aware of and judiciously utilizing the many options, strategies, and resources at our disposal, we providers can make an impact on the lives of our patients. Perhaps, by effecting seemingly small changes in this way, we can influence those with greater power in government and industry to take more dramatic steps toward reigning in health care costs nationwide. ●

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REFERENCES

1. Krugman P. Passing the buck. *New York Times*. April 22, 2005:A25.
2. Norris F. Pricing drugs as if they were cars. *New York Times*. November 4, 2005. Available at: select.nytimes.com/gst/abstract.html?res=F30F13FA3C5A0C778CDDA80994DD404482&n=Top%2FNews%2FBusiness%2FColumns%2FFloyd%20Norris. Accessed February 14, 2007.
3. Levit K, Smith C, Cowan C, Sensenig A, Catlin A, and the Health Accounts Team. Health spending rebound continues in 2002. *Hlth Aff (Milwood)*. 2004;23:147-159.
4. Piette JD, Heisler M, Wagner TH. Cost-related medication underuse among chronically ill adults: The treatments people forgo, how often, and who is at risk. *Am J Public Health*. 2004;94:1782-1787.
5. High costs cause chronically ill patients to skip medication at least once per month [Data Watch]. *Intern Med News*. June 15, 2005;38(12):52.
6. Binder C, Gross Purvis L, Gross DJ, Raetzman SO, Schondelmeyer SW. *Trends in Manufacturer Prices of Brand-Name Drugs Used by Older Americans—Third Quarter 2006 Update*. Washington, DC: AARP Public Policy Institute; January 2007. Available at: assets.aarp.org/rgcenter/health/dd151_drugprices.pdf. Accessed February 7, 2007.
7. Shrank WH, Fox SA, Kirk A, et al. The effect of pharmacy benefit design on patient-physician communication about costs. *J Gen Intern Med*. 2006;21:334-339.
8. Alexander GC, Casalino LP, Meltzer DO. Physician strategies to reduce patients' out-of-pocket prescription costs. *Arch Intern Med*. 2005;165:633-636.
9. Alexander GC, Tseng CW. Six strategies to identify and assist patients burdened by out-of-pocket prescription costs. *Cleve Clin J Med*. 2004;71:433-437.
10. Thomas AR. *Judicious Use of Antibiotics: A Guide for Oregon Clinicians*. 2nd ed. Portland, OR: Oregon Alliance Working for Antibiotic Resistance Education (AWARE) and Oregon Department of Human Services; March 2005. Available at: www.oregon.gov/DHS/ph/antibiotics/pdfs/cme2.pdf. Accessed February 7, 2007.
11. Snow V, Mottur-Pilson C, Gonzales R, for the American College of Physicians—American Society of Internal Medicine. Principles of appropriate antibiotic use for treatment of nonspecific upper respiratory tract infections in adults. *Ann Intern Med*. 2001;134:487-489.
12. Snow V, Mottur-Pilson C, Cooper RJ, Hoffman JR, for the American College of Physicians—American Society of Internal Medicine. Principles of appropriate antibiotic use for acute pharyngitis in adults. *Ann Intern Med*. 2001;134:506-508.
13. Snow V, Mottur-Pilson C, Gonzales R, for the American College of Physicians—American Society of Internal Medicine. Principles of appropriate antibiotic use for treatment of acute bronchitis in adults. *Ann Intern Med*. 2001;134:518-520.
14. Roumie CL, Halasa NB, Grijalva CG, et al. Trends in antibiotic prescribing for adults in the United States—1995 to 2002. *J Gen Intern Med*. 2005;20:697-702.
15. Juzych NS, Banerjee M, Essenmacher L, Lerner SA. Improvements in antimicrobial prescribing for treatment of upper respiratory tract infections through provider education. *J Gen Intern Med*. 2005;20:901-905.
16. Crisier G. *Generation Rx: How Prescription Drugs Are Altering American Lives, Minds, and Bodies*. New York, NY: Houghton Mifflin Company; 2005.
17. Kravitz RL, Epstein RM, Feldman MD, et al. Influence of patients' requests for direct-to-consumer advertised antidepressants: A randomized controlled trial [published correction appears in: *JAMA*. 2005;294:2436]. *JAMA*. 2005;293:1995-2002.
18. Hollon ME. Direct-to-consumer advertising: A haphazard approach to health promotion. *JAMA*. 2005;293:2030-2033.
19. Esomeprazole (Nexium) [published correction appears in *Med Lett Drugs Ther*. November 12, 2001;43(1118):101]. *Med Lett Drugs Ther*. April, 30 2001;43(1103):36-37.
20. Findlay S. Easy way to cut costs of drugs: Generics. *USA Today*. May 13, 2004:A23.
21. Haas JS, Phillips KA, Gerstenberger EP, Seger AC. Potential savings from substituting generic drugs for brand-name drugs: Medical expenditure panel survey, 1997-2000. *Ann Intern Med*. 2005;142:891-897.
22. Sack R. New drugs are coming to the market, right and left. *Open Spaces*. 2005;8(1):30-34.
23. Generic drugs. *Med Lett Drugs Ther*. October 14, 2002;44(1141):89-90.
24. The unwritten rules of drug sampling [press release]. Marysville, WA: MedZilla.com; September 3, 2004. Available at: www.medzilla.com/press90304.html. Accessed February 7, 2007.
25. Lurk JT, DeJong DJ, Woods TM, Knell ME, Carroll CA. Effects of changes in patient cost sharing and drug sample policies on prescription drug costs and utilization in a safety-net-provider setting. *Am J Health Syst Pharm*. 2004;61:267-272.
26. Debrovner D. Swamped by a sea of samples. *Am Druggist*. 1993;208(5):29-35.
27. Psaty BM, Lumley T, Furberg CD, et al. Health outcomes associated with various antihypertensive therapies used as first-line agents: A network meta-analysis. *JAMA*. 2003;289:2534-2544.
28. Alkhenizan A. Diuretic-based therapy reduced cardiovascular mortality in older patients with isolated systolic hypertension and diabetes. *ACP J Club*. May-June 2005;142(3):64.
29. Rahman M, Pressel S, Davis BR, et al. Renal outcomes in high-risk hypertensive patients treated with an angiotensin-converting enzyme inhibitor or a calcium channel blocker vs a diuretic: A report from the Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial (ALLHAT). *Arch Intern Med*. 2005;165:936-946.
30. Tonelli M, McFarlane P. Amlodipine or lisinopril was not better than chlorthalidone in reducing renal outcomes in hypertension and impaired renal function. *ACP J Club*. September-October 2005;143(2):45.
31. Moayyedi P, Delaney BC, Vakil N, Forman D, Talley NJ. The efficacy of proton pump inhibitors in non-ulcer dyspepsia: A systematic review and economic analysis. *Gastroenterology*. 2004;127:1329-1337.
32. Quon BS, Firszt R, Eisenberg MJ. A comparison of brand-named drug prices between Canadian-based internet pharmacies and major U.S. drug chain pharmacies. *Ann Intern Med*. 2005;143:397-403.
33. Bousquet S. Florida web site compares drug prices. *St. Petersburg Times*. June 2, 2005. Available at: sptimes.com/2005/06/02/news_pt/State/Florida_Web_site_comp.shtml. Accessed February 13, 2007.
34. Atkins D, Fink K, Slutsky J. Better information for better health care: The Evidence-based Practice Center program and the Agency for Healthcare Research and Quality. *Ann Intern Med*. 2005;142(12 pt 2):1035-1041.
35. Helfand M, Morton S, Guallar E. A guide to this supplement. *Ann Intern Med*. 2005;142(12 pt 2):1033-1034.
36. Santaguida PL, Helfand M, Raina P. Challenges in systematic reviews that evaluate drug efficacy or effectiveness. *Ann Intern Med*. 2005;142(12 pt 2):1066-1072.
37. Fischer MA, Avorn J. Economic implications of evidence-based prescribing for hypertension. *JAMA*. 2004;291:1850-1856.
38. Tablet splitting. *Med Lett Drugs Ther*. November 8, 2004;46(1195):89-91.
39. Pill splitting saves dollars. *Oregon Health News*. May 2006;16:11.
40. Stafford RS, Radley DC. The potential of pill-splitting to achieve cost savings. *Am J Manag Care*. 2002;8:706-712.
41. *Getting the Best Price: Lessons Learned from the Medicare Discount Card Program*. Washington, DC: Families USA; September 2005:1-28. Publication no. 05-105
42. Chisholm MA, DiPiro JT. Pharmaceutical manufacturer assistance programs. *Arch Intern Med*. 2002;162:780-784.
43. Montemayor K. How to help your low-income patients get prescription drugs [published correction appears in: *Fam Pract Manag*. January 2003;10(1):12]. *Fam Pract Manag*. November-December 2002;9(10):51-56.
44. Hassan F. A plan for better access. *Intern Med News*. August 2004;37(15):12.
45. Reichert S, Simon T, Halm EA. Physicians' attitudes about prescribing and knowledge of the costs of common medications. *Arch Intern Med*. 2000;160:2799-2783.
46. Korn LM, Reichert S, Simon T, Halm EA. Improving physicians' knowledge of the costs of common medications and willingness to consider costs when prescribing. *J Gen Intern Med*. 2003;18:31-37.
47. Galt KA. Cost avoidance, acceptance, and outcomes associated with a pharmacotherapy consult clinic in a Veterans Affairs Medical Center. *Pharmacotherapy*. 1998;18:1103-1111.
48. Abourjaily P, Kross J, Gouveia WA. Initiatives to control drug costs associated with an independent physician association. *Am J Health Syst Pharm*. 2003;60:269-272.
49. Zunker RJ, Carlson DL. Economics of using pharmacists as advisers to physicians in risk-sharing contracts. *Am J Health Syst Pharm*. 2000;57:753-755.
50. Zillich AJ, Sutherland JM, Kumbera PA, Carter BL. Hypertension outcomes through blood pressure monitoring and evaluation by pharmacists (HOME study). *J Gen Intern Med*. 2005;20:1091-1096.
51. ASHP statement on the pharmacist's role in primary care. *Am J Health Syst Pharm*. 1999;56:1665-1667.