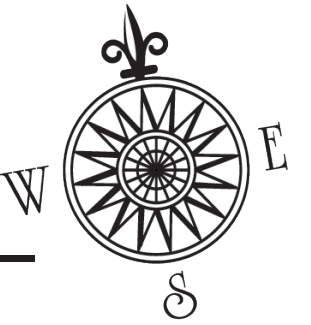


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 Idaho Drug Utilization Review (DUR) Program
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The DUR Discovery

Exploring ways to improve pharmacotherapy

WHAT'S INSIDE!

Strategies for Reducing Idaho Medicaid Drug Costs
 Appropriate Use of Angiotensin Receptor Blockers
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The last Pharmacy and Therapeutics (P&T) Committee Meeting held by Idaho Medicaid was August 17, 2007. Recommendations from the meeting can be found on the Medicaid website at: www.healthandwelfare.idaho.gov Follow the Medical link to Prescription Drugs and then P&T Committee.

The next P&T Meeting will be held on October 19, 2007, at Idaho Medicaid, 3232 Elder Street, Boise, ID 83705

Table 1: Cost Comparison of ACEIs and ARBs

ACEIs	Retail Cost †	Medicaid Cost#
Enalapril (Vasotec®)* ☺	\$10.99-\$16.99	\$
Lisinopril (Zestril®, Prinivil®)* ☺	\$12.99-\$24.99	\$
Captopril (Capoten®)* ☺	\$12.99-\$25.97	\$
Quinapril (Accupril®) ☺	\$12.99-\$25.97	\$\$\$\$
Benazepril (Lotensin®)* ☺	\$21.99-\$21.99	\$
Fosinopril (Monopril®) ☺	\$23.99-\$23.99	\$\$\$
Ramipril (Altace®)*	\$29.99-\$30.99	\$\$
Trandolapril (Mavik®)	\$38.68-\$39.99	\$\$
Moexipril (Univasc®) ☺	\$40.79-\$46.16	\$\$\$
Perindopril (Aceon®)*	\$42.50-\$63.00	\$\$
ARBs		
Irbesartan (Avapro®)*	\$49.48-\$69.99	\$\$\$
Telmisartan (Micardis®)*	\$50.32-\$58.70	\$\$\$
Valsartan (Diovan®)*	\$51.59-\$83.38	\$\$\$
Olmesartan (Benicar®)*	\$52.70-\$60.94	\$\$\$\$
Candesartan (Atacand®)	\$53.29-\$65.99	\$\$\$
Losartan (Cozaar®)*	\$58.42-\$79.41	\$\$\$
Eprosartan (Teveten®)	\$64.18-\$78.45	\$\$\$

† Cost range of available strengths based on 30-day supply at www.drugstore.com. Accessed May 2007.

#Relative cost to Idaho Medicaid including supplemental rebate adjustments

*Medicaid preferred agent

☺Generic available

Strategies for Reducing Idaho Medicaid Drug Costs

By Chris Owens, PharmD BCPS
 and
 Tami Eide, PharmD, BCPS

In order to help stem rising prescription drug costs, Idaho Medicaid has a number of strategies for promoting cost-effective drug therapy for its clients. Such strategies are not unique to Idaho and include implementation of prior authorization criteria for certain drugs or drug classes, selection of "preferred drugs," and providing education to physicians and other healthcare professionals regarding clinically appropriate, lower cost drug therapies.

Two important groups who report to Idaho Medicaid and who are responsible for contributing to these cost-savings strategies are the Drug Utilization Review (DUR) Board and the Pharmacy & Therapeutics (P&T) Committee. Both of these groups are composed of Idaho physicians, pharmacists, and other healthcare professionals who are committed to ensuring the best drug therapy for Medicaid clients.

The DUR Board is charged with reviewing the appropriateness of prescription drug therapy for Medicaid recipients and providing educational information to Medicaid providers. The Board meets quarterly to review and discuss trends in the prescribing practices of physicians and other health care providers and dispensing practices of pharmacists in Idaho. The results of their reviews and discussions are forwarded to the P&T Committee.

The P&T Committee meets every other month to review available clinical evidence on a variety of drug classes ranging from ACE inhibitors and antidepressants to long-acting narcotics and skeletal muscle relaxants. Following in-depth discussions of these drug classes, the Committee makes recommendations to Medicaid regarding which drugs should be included on the preferred drug list (PDL) and whether or not prior authorization criteria should be implemented.

Following the P&T's clinical review of comparative drug efficacy, rebate offers are obtained from pharmaceutical manufacturers whose drug products are under review. These rebates are so-named because they are in addition to the standard Centers for

Medicare and Medicaid Services (CMS) rebate that all manufacturers are required to pay as a stipulation for Medicaid coverage of their specific drugs. In the event that the agents in a given drug class are deemed equally efficacious and equally safe from a therapeutic standpoint, net cost and rebate offers are used to help finalize preferred drug decisions. The goal of the entire process is to allow for the most efficacious drug therapy for Medicaid clients at the lowest price.

It is well-known that generic versions of drugs generally result in substantial cost savings, and while this is good practice for most patients, it does not always hold true for Medicaid programs. In fact, as a result of negotiations with pharmaceutical manufacturers, sometimes seemingly counter-intuitive decisions regarding drug inclusion on the PDL are made. For example, the current PDL for long-acting narcotics includes brand name Duragesic patches, but not the generic equivalent. Similarly, for the SSRI antidepressants, brand name Zoloft is included as a preferred agent, but not generic sertraline. The reason for this apparent inconsistency is explained by manufacturers' supplemental rebate offers.

It should be noted that such rebates are accepted as routine parts of Medicaid activities in Idaho and many other states. Sometimes, these rebates can translate into a brand name drug actually costing less than the generic equivalent, especially if it is agreed that the generic competitor will not be included on the PDL. For this reason, apparently more expensive drugs become less costly when rebates are factored in.

Continuous reviews are conducted by the DUR Board and evaluated by the P&T Committee to ensure that Medicaid's decisions uphold the highest standards of patient care and allow for therapeutically sound medical treatments that have the added benefit of reducing overall costs to the state. For more information on DUR Board activities, visit <http://idahodur.isu.edu>. For more information on P&T Committee activities, visit www.medicaidpharmacy.idaho.gov.

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Appropriate Use of Angiotensin Receptor Blockers

By Brooke Pugmire, PharmD and Billie McCracken, PharmD

Angiotensin receptor blockers (ARBs) and angiotensin converting enzyme inhibitors (ACEIs) are used in the treatment of hypertension, heart failure, coronary heart disease, diabetic nephropathy, and secondary stroke prevention. ARBs are often preferred by prescribers as first-line agents over other therapies, including ACEIs, due to their ease of use, safety, tolerability, and the availability of samples. However, ARBs have not been shown to be superior to ACEIs in randomized controlled trials and their costs are, on average, 4-5 times that of generic ACEI therapy as shown in Table 1, page 4. None of the ARBs are available generically; a generic losartan is expected by the year 2010.

Currently, these drugs are heavily sampled and promoted by drug manufacturers which often translates into increased overall costs and the potential for over-utilization as well as inappropriate use. Although ARBs are effective treatment options for their labeled indications and are attractive from a tolerability standpoint, according to guidelines published by the American College of Cardiology (ACC), American Heart Association (AHA), American Diabetes Association (ADA) and the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7), the use of ARBs is best reserved for select patient populations, including individuals who are intolerant to or who have failed other therapies. Key guideline recommendations are summarized below.

- The JNC 7 guidelines consider both ACEIs and ARBs effective treatment options for decreasing the rate of complications in patients with hypertension. Heart failure, diabetes and chronic kidney disease are compelling indications for use of an ACEI or an ARB.ⁱ
- Both ACEIs and ARBs have been shown to delay the progression of nephropathy in hypertensive patients with diabetes. ACEIs are considered first-line therapy; ARBs are recommended in patients intolerant to ACEIs or who have macroalbuminuria.^{ii, iii}
- ACEIs are still considered first-line therapy for patients with chronic heart failure; ARBs with demonstrated morbidity and mortality benefit (valsartan and candesartan) are reasonable alternatives for patients unable to tolerate ACEIs due to cough.^{iv}
- Current ACC/AHA guidelines for the management of patients with ST-elevation MI recommend patients be initiated and maintained long-term on ACEI therapy following acute myocardial infarction. ARBs may be used in patients intolerant to ACEIs.^v
- Combination ACEI and ARB therapy is not routinely recommended but is appropriate in select patients with heart failure or proteinuric renal disease.^{iii, iv, vi, vii, viii}

ⁱ Chobanian AV, Bakris GL, Black HR, et al. Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension* 2003;42:1206-52.

ⁱⁱ American Diabetes Association Position Statement. *Standards of Medical Care in Diabetes--2006*. *Diabetes Care* 2006;29 (suppl 1):S4-43.

ⁱⁱⁱ National Kidney Foundation. K/DOQI clinical practice guidelines on hypertension and antihypertensive agents in chronic kidney disease. *Am J Kidney Dis* 2004 May;43:S33-S64.

^{iv} Hunt SA, Abraham WT, Chin MH, et al. ACC/AHA 2005 guideline update for the diagnosis and management of chronic heart failure in the adult: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Writing Committee to Update the 2001 Guidelines for the Evaluation and Management of Heart Failure). *J Am Coll Cardiol* 2005;20:e1-82.

^v Antman EM, Anbe DT, Armstrong PW, et al. ACC/AHA guidelines for the management of patients with ST-elevation myocardial infarction-executive summary. *Circulation* 2004;110:588-636.

^{vi} Nakao N, Yoshimura A, Morita H, et al. Combination treatment of angiotensin-II receptor blocker and angiotensin-converting-enzyme inhibitor in non-diabetic renal disease (COOPERATE): A randomized controlled trial. *Lancet* 2003;361:117-24.

^{vii} Mogensen CE, Neldam S, Tikkanen I, et al. Randomised controlled trial of dual blockade of renin-angiotensin system in patients with hypertension, microalbuminuria, and non-insulin dependent diabetes: the candesartan and lisinopril microalbuminuria (CALM) study. *BMJ* 2000;321:1440-44.

^{viii} McMurray JJ, Ostergren J, Swedberg K, et al. Effects of candesartan in patients with chronic heart failure and reduced left-ventricular systolic function taking angiotensin-converting-enzyme inhibitors: the CHARM-Added trial. *Lancet* 2003;362:767-71.

Management of Acute Conjunctivitis

By Brooke Pugmire, PharmD

Acute conjunctivitis (bacterial, viral, and allergic) or “red-eye” is the most common ophthalmologic complaint in primary care and is often self-limiting or easily treatable. Clinical trial data has demonstrated that acute bacterial conjunctivitis usually resolves within 10-14 days without treatment and serious complications occur very infrequently regardless of treatment. However, bacterial eradication with broad-spectrum antibiotics has been advocated on the grounds they hasten recovery and may prevent relapse and/or person-to-person spread.^{1,ii} When diagnosing acute conjunctivitis, more serious eye conditions (iritis, keratitis, corneal ulcers, and angle closure glaucoma) should be ruled out.

Several topical ointment and drop formulations are currently available for use in the treatment of bacterial conjunctivitis. While most antibacterial agents are relatively inexpensive (~\$10), the newer generation fluoroquinolones gatifloxacin (Zymar) and moxifloxacin (Vigamox), may cost in excess of \$60 for a 3-5mL bottle. Ophthalmic fluoroquinolones should not be used as first-line treatment for bacterial conjunctivitis due to cost, concern for resistance, and availability of other effective, well-tolerated, less expensive agents. The fourth-generation fluoroquinolones have an established place in therapy for sight-threatening conditions including keratitis, endophthalmitis, and for surgery prophylaxis. Ophthalmic corticosteroids may be indicated in select patients but should only be used under the direction of an eye care specialist.

Commonly used ophthalmic antibiotics are shown in Table 2. Idaho Medicaid has selected Vigamox as the preferred fourth-generation fluoroquinolone, all other fluoroquinolones as non-preferred, and all other ophthalmic antibiotics as preferred.

Table 2: Commonly Used Ophthalmic Antibiotics^{iii, iv, v}

Antibacterial Agent	Preparations	Retail Cost*	Medicaid Cost#	Comments
First-line Agents				
Polymyxin B/ trimethoprim	Polytrim	\$13.99	\$	
Bacitracin/ polymyxin B	Polysporin	\$9.99	\$	Ointment Only
Sulfacetamide	Sulf-10, Bleph-10, Sulamyd, Isopto-Cetamide, AK-Sulf	\$7.99	\$	S. aureus resistance increasing
Erythromycin	Ilotycin, AK-Mycin	\$7.99	\$	Ointment only
Alternative Agents				
Bacitracin	AK-Tracin	\$7.99	\$	Ointment only
Neomycin/polymyxin B/ bacitracin	Neosporin	\$7.99	\$\$	High rate of allergic reaction to neomycin
Aminoglycosides	Garamycin, Genoptic, Tobrex	\$7.99 - \$9.99	\$	Corneal damage with several days use
Fluoroquinolones	Ciloxan, Iquix, Ocuflax, Quixan, Vigamox, Zymar	\$45.03-\$68.58	\$\$	Expensive, concern for emerging resistance

*Approximate cost of one treatment course with generic agent (if available) www.drugstore.com. Accessed May 2007.

#Relative cost to Idaho Medicaid including supplemental rebate adjustments

ⁱ Schiebel NE. Use of antibiotics in patients w/ acute bacterial conjunctivitis. *Ann Emerg Med*. 2003;41:407-9.

ⁱⁱ Sheikh A, Hurwitz B. Antibiotics versus placebo for acute bacterial conjunctivitis. *Cochrane Database Syst Rev*. 2006 Apr 19;(2):CD001211.

ⁱⁱⁱ American Optometric Association. Care of the patient with conjunctivitis. 2nd ed. St. Louis (MO): American Optometric Association; 2002 Nov 8. 55 p. Accessed online October 17, 2006, at: <http://www.aoa.org/documents/CPG-11.pdf>

^{iv} Zymar and Vigamox for Bacterial Conjunctivitis. *Pharmacist's Letter/Prescriber's Letter* 2003;19(5):190514.

^v Prochazka AV. Diagnosis and treatment of red eye. *Primary Care Case Reviews*. 2001;4:23-31.