



The DUR Discovery

Exploring ways to improve pharmacotherapy

Idaho Health Initiatives

by Chris Owens, PharmD

Over the past two decades, many health maintenance and disease prevention guidelines have been proposed by the U.S. Surgeon General and other departments of the federal government. These recommendations, most recently brought together under the umbrella of "Healthy People 2010," are a direct result of several years of clinical trials and evidence-based medicine that have the objective of reinforcing strategies for the appropriate treatment of asthma, hypertension, diabetes, and other common chronic conditions.

One of the main goals of "Healthy People 2010" is to help individuals of all ages increase both life expectancy and quality of life. The Idaho Drug Utilization Review (DUR) Program is likewise committed to this goal and seeks to assist in this effort by monitoring the drug therapy of Idaho Medicaid recipients and providing educational information to both healthcare professionals and patients.

Starting in April 2005, the DUR program has been sending out educational interventions designed to highlight different aspects of "Healthy People 2010." These Health Initiatives will identify potential areas for heightened awareness on the part of practitioners and patients throughout the state and will include

educational information to help in both the provision of appropriate drug therapy on the part of practitioners and in reinforcing the importance of compliance with therapy on the part of patients.

Keeping up with the ever-changing face of modern healthcare is daunt-

Idaho Health Initiative Topics

- ❖ Cardiovascular Health
- ❖ Appropriate Asthma Treatment
- ❖ Appropriate Diabetes Management
- ❖ Smoking cessation
- ❖ Obesity and Physical Activity
- ❖ Fluoride Use in Children
- ❖ Vaccinations

ing and it is hoped that the Idaho Health Initiatives will not only be a help to you in your professional practice, but that the result will be better care and improved quality of life for all patients in Idaho. Both healthcare professional and patient-oriented educational information is available for download in PDF format on the ISU College of Pharmacy's website at: <http://idahodur.isu.edu>.

Project Director

Vaughn Culbertson, PharmD

DUR Program Coordinator

Tami Eide, PharmD

Clinical Coordinator

Christopher Owens, PharmD

Board Members

Wayne Baures, RPh

Kevin Clifford, MD

Suzette Cooper, RPh

Nancy Mann, MD

Myrna Olson-Fisher, FNP

Joseph Steiner, PharmD

Cost Corner: Proton Pump Inhibitors

by Tracy Pettinger, PharmD and Tim Young, PharmD Candidate

Gastroesophageal reflux disease (GERD) is a common medical condition sometimes referred to as heartburn and although associated with low mortality, it has a high impact on quality of life. A 2003 survey showed that over 50 million Americans reported having heartburn symptoms two or more days per week. Heartburn symptoms may be treated using over-the-counter (OTC) antacids, H2-receptor antagonists (such as ranitidine or famotidine), or proton-pump inhibitors (PPIs).

Due to their high effectiveness and good tolerability, PPIs have become the agents of choice for a variety of GI conditions including GERD, peptic ulcer disease (PUD), and in the management of hypersecretory states such as Zollinger-Ellison syndrome. Currently avail-

also among the top 100 drugs by total cost per year for Idaho Medicaid in 2004. At equivalent dosages, all PPIs are believed to be equally efficacious and currently there is insufficient clinical evidence to determine differences in efficacy or safety among the various agents.

Prilosec OTC® is the newest addition to the PPIs and is available at pharmacies and other retail locations. It was released by AstraZeneca in September of 2003 when omeprazole was reformulated from capsule to tablet and made available without a prescription. Prilosec OTC® was added to the Medicaid preferred drug list in April 2004, with other preferred agents in the class being lansoprazole and esomeprazole. **Although available over-the-counter, Prilosec OTC® is covered by Idaho Medicaid, but a written prescription is required.** It is available at a lower price than prescription PPIs (see Table 2) and has been shown to have similar efficacy to prescription omeprazole. While manufacturer shortages have resulted in times of limited availability of the agent, improved production and distribution appear to have remedied the situation.

Table 2: Proton Pump Inhibitors (PPIs)

Status	Generic Name	Brand Name	Strength	Cost/Month drugstore.com*
Preferred [†]	Esomeprazole	Nexium®	40mg QD	\$125.99
Preferred [†]	Lansoprazole	Prevacid®	30 mg QD	\$124.99
Preferred [†]	Omeprazole	Prilosec OTC®	20 mg QD (28 tabs)	\$19.99
Non-preferred ^{††}	Omeprazole	Prilosec®	20 mg QD	\$115.99
Non-preferred ^{††}	Omeprazole	Generics	20 mg QD	\$33.39
Non-preferred ^{††}	Pantoprazole	Protonix®	40 mg QD	\$107.99
Non-preferred ^{††}	Rabeprazole	Aciphex®	40 mg QD	\$119.99

* Prices may not reflect acquisition cost to Idaho Medicaid

[†] Idaho Medicaid Preferred PPIs

^{††} Idaho Medicaid Non-preferred PPIs

able PPIs include: lansoprazole (Prevacid®), rabeprazole (Aciphex®), pantoprazole (Protonix®), esomeprazole (Nexium®) and omeprazole (Prilosec® and Prilosec OTC®).

Prescription PPIs are relatively expensive agents, with average wholesale prices (AWPs) ranging from \$100 to \$150 per month for typical once daily dosing. In 2004, Idaho Medicaid spent nearly \$5.2 million on PPI claims. Four prescription PPIs: lansoprazole, pantoprazole, omeprazole, and esomeprazole were

Prilosec OTC® has only made up 9% of the total PPI claims (April 2004-February 2005) and appears to have been underutilized as an alternative to the more expensive prescription PPIs. This is likely due, at least in part, to drug shortages. It is important to note that on average, \$21 is spent on each Prilosec OTC® fill compared to approximately \$130 per fill for the other preferred PPI agents. Increased utilization of Prilosec

Pergolide-Associated Valvular Heart Disease

By Ron Malouf, PharmD Candidate and Chris Owens, PharmD

Pergolide (Permax®) is an ergot-derived, dopamine receptor agonist that mimics the inhibitory effects of the endogenous neurotransmitter dopamine and has FDA approval for use in the treatment of Parkinson's disease. In addition, it is commonly used off-label for restless leg syndrome and other motor disorders. Since its release in 1989, pergolide has been used to treat an estimated 500,000 patients with the most common adverse effects reported being dyskinesias, nausea, hallucinations, sudden and profound somnolence, and postural hypotension. Rare but serious adverse effects including pleural, pericardial, or retroperitoneal fibrosis have also been reported.

In 2003, an additional serious adverse effect involving valvular heart disease (VHD) was identified. At that time, the manufacturer of pergolide sent a letter to health care providers stating that valvulopathy associated with the drug had been reported in a small fraction of users and warnings were made regarding patient selection and appropriate monitoring for this effect.

Because higher cumulative doses (3-6mg daily for 3 or more years) of pergolide appear to be most associated with cardiac valve regurgitation, appropriate monitoring with echocardiography every 6 to 12 months is recommended, especially in long-time users. If VHD is

suspected, pergolide use should be discontinued. If feasible, some experts recommend switching patients from pergolide to a non-ergot derivative (i.e. pramipexole or ropinirole) as valvular damage has not been observed with these agents. Recommended dosing schedules for switching drugs are available and often involve at least three weeks of overlap as dosages of different agents are titrated up and down, respectively.

References

1. Baseman DG, O'Suilleabhain PE, Reimold SC, et al. Pergolide use in Parkinson disease is associated with cardiac valve regurgitation. *Neurology* 2004 Jul 27;63(2):301-304.
2. Hanna PA, Ratkos L, Ondo WG, Jankovic J. Switching from pergolide to pramipexole in patients with Parkinson's disease. *J Neural Transm* 2001;108:63-70.
3. Pritchett AM, Morrison JF, Edwards WD, et al. Valvular heart disease in patients taking pergolide. *Mayo Clin Proc* 2002 Dec;77(12):1280-1286.
4. Rahimtoola SH. Drug-related valvular heart disease: here we go again: will we do better this time? *Mayo Clin Proc* 2002 Dec;77(12):1275-1277.
5. Simmons VE. 2003 Safety Alert - Permax (pergolide mesylate). Available at: www.fda.gov/medwatch/SAFETY/2003/permax.htm. Accessed April 2005.
6. Van Camp G, Flamez A, Cosyns B, et al. Treatment of Parkinson's disease with pergolide and relation to restrictive valvular heart disease. *Lancet* 2004 Apr 10;363(9416):1179-1183.

Proton Pump Inhibitors

(continued from page 2)

OTC® could potentially result in substantial cost savings to the Idaho Medicaid program, while providing an equally efficacious treatment option for patients.

References

1. McDonagh MS, Carson S. Oregon Health & Science University Drug Class Review on Proton Pump Inhibitors. Final Report Oregon Evidence-based Practice Center. Oregon Health & Science University. April 2004.
2. Pricing info: www.drugstore.com Accessed 10/04.
3. Prilosec OTC Product Monograph. Cincinnati, Ohio: Procter & Gamble; 2004
4. Oliveria SA, Christos PJ, Talley NJ, et al. Heartburn risk factors, knowledge, and prevention strategies: a population-based survey of individuals with heartburn. *Arch Intern Med*. 1999;159:1592-1598.
5. National Heartburn Alliance. National Heartburn Alliance Survey 2000 Results: A Community Perspective. Chicago, Ill: National Heartburn Alliance;2000.
6. Massoomi F, Savage J, Destache CJ. Omeprazole: a comprehensive review. *Pharmacotherapy*. 1993;13:46-59.

Idaho Drug Utilization Review Program
College of Pharmacy
Idaho State University
Campus Box 8288
Pocatello ID 83209
211 035 59

Nonprofit Org
US Postage
PAID
Pocatello ID
Permit No 42

WHAT'S INSIDE!

Cost Corner: Proton Pump Inhibitors
Idaho Health Initiatives
Idaho Medicaid "Perferred Drug" List
Pergolide-Associated Valvular Heart Disease

Idaho Medicaid Preferred Drug List*

Current as of June 1, 2005

ACEIs	ARBs	BBs	CCBs	Hypoglycemics	Opioids	PPIs	Triptans
Altace®	Avapro®	Atenolol	Cardene SR®	Acetohexamide	Avinza®	Nexium®	Imitrex®
Captopril	Cozaar®	Acebutolol	Cardizem LA®	Amaryl®	Kadian®	Prevacid®	Maxalt MLT®
Captopril/HCTZ	Micardis®	Betaxolol	Diltiazem ER	Chlorpropamide	Methadone	Prilosec OTC®	Maxalt®
Enalapril		Bisoprolol	Diltiazem HCl	Glipizide			Relpax®
Enalapril/HCTZ		Labetalol	DynaCirc®	Glipizide ER			Zomig ZMT®
Lisinopril		Metoprolol tartrate	DynaCirc CR®	Glyburide			Zomig®
Lisinopril/HCTZ		Nadolol	Nicardipine HCl	Glyburide micro			
		Pindolol	Nifedipine	Prandin®			
		Propranolol	Nifedipine ER	Starlix®			
		Innopran XL®	Nimotop®	Tolazamide			
		Timolol	Norvasc®	Tolbutamide			
		Toprol XL®	Plendil®				
		Coreg® (HF only)	Sular®				
			Vascor®				
			Verelan PM®				
			Verapamil ER				
			Verapamil HCl				
			Verapamil SR				

*Agents subject to change upon P&T annual review

Other Classes and Preferred Agents:

Atypical Antipsychotics: All agents preferred
 Antidepressants: All agents preferred (generic if available)
 Antihistamines: Claritin OTC®, Claritin-D OTC®, loratadine OTC, loratadine-D OTC
 Estrogens: All agents **except** brand name Estrace®, Gynodiol®, Ogen®
 Skeletal Muscle Relaxants: All agents preferred (Carisoprodol (Soma®) discouraged)
 Statins: All agents **except** brand-name Mevacor®
 Urinary Incontinence: Detrol®, Ditropan XL®, oxybutynin, Oxytrol®

Idaho Medicaid “Preferred Drug” List

by Chris Owens, PharmD

Beginning in July 2003, the Pharmacy & Therapeutics (P&T) Committee for Idaho Medicaid has been meeting every other month to review certain drug classes, including available clinical evidence, drug utilization trends, and cost modeling. It is the responsibility of the committee to make recommendations to the Department of Health and Welfare regarding the selection of “preferred agents” from these classes for Medicaid patients and to decide whether or not prior authorization criteria should be implemented. The purpose of this process is to provide Medicaid participants with the most effective drug therapy at the right price. Following the initial review, the committee then re-reviews each drug class annually, at which time changes in preferred agents may also be recommended.

Although preferred agents may be changed following re-review, look for the current list on the back of this page. For up-to-date information on preferred agents and P&T Committee activities, visit their website at:

<http://www.healthandwelfare.idaho.gov/site/3533/default.aspx>

Prior authorization criteria and request forms may also be downloaded from this site.

P&T Committee Members

Voting Members

Bob Comstock, R.Ph. (Ashton)
Catherine Gundlach, Pharm.D. (Boise)
Cindy Bunde, P.A. (Pocatello)
George Pfoertner, M.D. (Boise)
Phil Petersen, M.D. (Orofino)
Richard J. Pines, D.O (Vice Chair, Boise)
Rick Sutton, R.Ph. (Meridian)
Thomas Rau, M.D. (Coeur D’Alene)

Non-Voting Members

Richard Markuson, R.Ph. (Boise)
Selma Gearhardt, Pharm.D. (Boise)
Stephen Montamat, M.D. (Boise)
W. Terry Gipson, M.D. (Committee Chair)

P&T Drug Class Review Schedule

Meeting Date	Initial Drug Class Reviews	Scheduled Re-Reviews
May 13, 2005	Alzheimer’s Drugs	Estrogens Urinary Incontinence Proton Pump Inhibitors
July 15, 2005	Anti-Platelet Agents	Statins LA Opioids Calcium Channel Blockers Skeletal Muscle Relaxants
September 16, 2005 November 18, 2005	ADHD Drugs Anti-TNF Agents	Antidepressants Proton Pump Inhibitors ARBs
January 20, 2006	TZDs	Beta Blockers Oral Hypoglycemics ACE Inhibitors Triptans
March 17, 2006	To be announced	Antiepileptics Antihistamines