

UNIVERSITY OF ARKANSAS  
FOR MEDICAL SCIENCES  
COLLEGE OF PHARMACY

# ARKANSAS MEDICAID EVIDENCE-BASED PRESCRIPTION DRUG PROGRAM (EBR<sub>x</sub>)

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QUARTERLY REPORT – THIRD QUARTER 2008



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# INTRODUCTION

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## OVERVIEW OF THE EVIDENCE-BASED PRESCRIPTION DRUG PROGRAM

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The Evidence-Based Prescription Drug Program (EBRx) came into existence in November 2004. The program is a collaboration between the University of Arkansas for Medical Sciences (UAMS) College of Pharmacy and the Arkansas Department of Health and Human Services (DHHS) Medicaid Program, with the support and input of the Arkansas Medical Society and the Arkansas Pharmacist's Association. The primary role of EBRx for DHHS is to facilitate development of an Evidence-based Preferred Drug List and provide related Prior Authorization review services for Medicaid and ARKids recipients.

Medicaid is an entitlement program for individuals and families with low-income or disabilities. Prior to January 1, 2006, the Medicaid program provided prescription benefits for qualifying elderly patients whose primary insurance was through the Federal Medicare program. With the availability of Medicare Part D prescription drug coverage, the Arkansas Medicaid enrollee population is now predominantly children. In fact Arkansas' Medicaid and ARKids programs are estimated to provide healthcare coverage to approximately half of all Arkansas children.

In the years before development of the Evidence-based Preferred Drug List, medication cost growth was a major contributor to increased costs of the Arkansas Medicaid program. In the nine years before EBRx began, Medicaid prescription drug spending grew at a compound annual growth rate exceeding 16 percent. This growth was due to increases in the costs of medications as well as increases in the numbers of enrollees. The largest contributor to the increase in total medication expenditures was increases in average medication costs. The rate of medication cost growth far exceeds state revenue growth, and jeopardizes continuation of the optional Medicaid drug benefit, or other benefits at current levels.

The goals of the EBRx program are to: identify differences between medication options; recommend inclusion on the PDL of superior medications, if they exist; enhance predictability and reduce costs of medications whenever possible; and to provide access to medications not on the PDL through Prior Authorization Call Center activities. These efforts are hoped to ensure the continued ability of the state to provide appropriate medical coverage for Arkansas' Medicaid and ARKids recipients.

# Preferred Drug List Summary

## PDL CATEGORIES, SELECTIONS, RATIONALE, AND SPECIAL CONSIDERATIONS

Medication Class	Medicaid Preferred Agents (Brand Name Agents in Bold)	Drug Review Committee Recommendation Summary	Special Considerations
Less Sedating Antihistamines	loratadine	No difference in patient total symptom scores	Patients under age 2 years
Proton Pump Inhibitors	omeprazole capsules <b>Nexium capsules</b> <b>*Prevacid Solutabs</b> <b>Prevacid capsules</b> (removed after re-review effective 4/1/08)	No difference in outcomes with equipotent dosing	*Patients under age 7 years, Patients with feeding tubes
HMG-CoA Reductase Inhibitors (statins)	<b>Zocor (generic now available)</b> pravastatin	Two of the three agents that have both primary and secondary outcome data should be available	Need for more potent agent
Calcium Channel Blockers	diltiazem ER capsules (equiv to Dilacor XR) <b>Dynacirc CR</b> <b>Norvasc</b> nifedipine ER tablets verapamil SR tablets	Diltiazem, verapamil, amlodipine and at least one other dihydropyridine should be available.	Dosage strengths of extended release diltiazem not available as Dilacor XR
Beta Blockers	atenolol metoprolol tartrate propranolol IR bisoprolol (only for CHF) <b>Toprol XL (only for CHF)</b> (generic now available) carvedilol (only for CHF)	No significant differences among the agents for most indications although there are differences in approved indications and data supporting use of specific products in specific conditions. 3 agents superior for treatment of congestive heart failure.	Diagnosis of Congestive Heart Failure
Long-Acting Opioids	methadone morphine sulfate ER tablets <b>Opana ER</b>	No clinical advantage for one agent over another for treatment of chronic pain.	Terminal cancer diagnosis, Patients with long-term care eligibility, Patients unable to swallow pills
Angiotensin-Converting Enzyme (ACE) Inhibitors	<b>Altace (generic now available)</b> benazepril lisinopril captopril benazepril/amlodipine	No significant differences among the agents for most indications although there are differences in approved indications and data supporting use of specific products in specific conditions.	Patients under age 18 years

<b>Medication Class</b>	<b>Medicaid Preferred Agents (Brand Name Agents in Bold)</b>	<b>Drug Review Committee Recommendation Summary</b>	<b>Special Considerations</b>
Serotonin 5-HT1 Receptor Agonists (triptans)	<b>Maxalt</b> <b>Maxalt MLT</b> <b>Imitrex tablets, nasal spray, injection</b> <b>Trexima</b>	No significant difference among the agents that any one agent is clinically superior to another, different dosage forms should be available	Criteria in place for injectable formulation
Angiotensin II Receptor Blockers	<b>Cozaar, Hyzaar</b> <b>Diovan, Diovan HCT</b>	No significant advantage or disadvantage among the agents.	Congestive Heart Failure
Skeletal Muscle Relaxants	chlorzoxazone cyclobenzaprine 10mg methocarbamol baclofen (spasticity only) tizanidine (spasticity only)	Muscle spasms and spasticity disorders have different preferred agents, no advantage of one product over another.	None
Hormone Replacement	estradiol 0.5mg,1mg,2mg estropipate	No difference in the products at equipotent doses.	Dosage forms, combination products
Non-Benzodiazepine Sedative Hypnotics	<b>Ambien CR</b> <b>Rozerem</b> <b>Sonata</b> zolpidem	No significant differences among the agents.	None
Targeted Immune Modulators	<b>Enbrel</b> <b>Humira</b> <b>Raptiva</b>	No significant differences among the agents for most indications although there are differences in approved indications and data supporting use of specific products in specific conditions.	Subject to DUR clinical edits
Inhaled Corticosteroids	<b>Asmanex</b> <b>Azmacort (removed after contract terminated)</b> <b>Flovent (only to age 12)</b>	No significant differences among the products at equipotent doses	Patients under age of 12 years
Anticholinergics for Overactive Bladder	<b>Detrol LA</b> oxybutinin syrup,5mg tablet <b>Vesicare</b>	No significant differences among the products at equipotent doses. None particularly effective	Patients under age of 18 years with spina bifida diagnosis
Antiemetics 5-HT3 and NK1 Receptor Antagonists	ondansetron	No significant differences among the products at equipotent doses.	None
Nasal Corticosteroids	<b>Nasacort AQ</b> <b>Nasonex</b>	No significant differences among the agents.	None

Medication Class	Medicaid Preferred Agents (Brand Name Agents in Bold)	Drug Review Committee Recommendation Summary	Special Considerations
Antidiabetics-meglitinides	<b>Starlix</b>	At least one agent from each of the sub-classes of antidiabetics should be included. No significant differences in efficacy among the agents.	None
Antidiabetics-First Generation Sulfonylureas	chlorpropamide tolazamide		
Antidiabetics-Second Generation Sulfonylureas	glimepiride glipizide glyburide glyburide micronized metformin metformin/glipizide metformin/glyburide		
Antidiabetics-Thiazoladinediones	<b>Actos 30mg, 45mg</b> <b>Actosplus Met</b> <b>Avandamet</b> <b>Avandaryl</b> <b>Avandia</b>		
Antidepressants	bupropion regular release citalopram fluoxetine 10mg,20mg caps, 20mg/5ml solution <b>Lexapro</b> 10mg,20mg mirtazapine 15mg,30mg,45mg paroxetine <b>Pexeva</b> sertraline venlafaxine regular release <b>Wellbutrin XL (generic now available)</b>	No significant differences in efficacy among the agents but at least 3 should be available due to high initial failure rates. Fluoxetine should be available to those<18yo	Patients stable and compliant on non-preferred agents.
Beta <sub>2</sub> Agonists	<b><u>Short Acting</u></b> albuterol 90mcg inhaler albuterol 5mg/ml soln albuterol 0.83mg/ml soln <b>Maxair Autohaler</b> <b>Proair HFA</b> <b>Ventolin HFA</b>  <b><u>Long Acting</u></b> <b>Serevent Diskus</b>	No significant differences among the agents in regards to efficacy or safety.	Long acting agents still subject to DUR clinical criteria edits.

Medication Class	Medicaid Preferred Agents (Brand Name Agents in Bold)	Drug Review Committee Recommendation Summary	Special Considerations
NSAIDs	ibuprofen suspension and strengths above 200mg indomethacin 25mg ketoprofen 50mg,75mg ketorolac meloxicam 7.5,15mg naproxen 250mg,375mg,500mg naproxen sodium 275mg,550mg naproxen 375mg, 550mg enteric coated tablets piroxicam salsalate	No significant differences exist among the agents in regards to safety or efficacy. At least 3 agents should be available.	None.
ADD/ADHD	amphetamine salts <b>Adderall XR</b> <b>Focalin</b> <b>Focalin XR</b> <b>Concerta</b> <b>Daytrana</b> methylphenidate tablets	At least 1 IR and SR methylphenidate and amphetamine preparation should be available. Absent some co-morbidities, methylphenidate and amphetamines are more likely to be appropriate initial choices than atomoxetine.	Patients compliant on non-preferred agents.
Neuropathic Pain Agents	amitriptyline nortriptyline carbamazepine IR and chew tablets gabapentin 600mg, 800mg tablets and all capsules <b>Lyrica</b> venlafaxine IR tabs	At least 2 antiepileptics, 1 SNRI, 2 TCAD and 1 topical lidocaine preparations should be available.	Patients taking these medications for uses other than neuropathic pain.

## MARKET SHARE IMPACT OF PDL RECOMMENDATIONS

The success of the PDL depends in large part on participation by prescribers with the recommendations of the Drug Review and Drug Utilization and Cost Committees. Prescribing compliance with the Preferred Drug List is monitored by EBRx. The following table presents data on the percentage of prescriptions that were filled for preferred product(s) in each of the therapeutic categories reviewed and implemented to date. This percentage is commonly called market share in the pharmaceutical industry. Outcomes and cost savings are maximized as market share approaches 100 percent compliance with the Preferred Drug List recommendations. However, it should be noted that complete compliance with the Preferred Drug List is unlikely as there remains individual variation in response to any medicine.

**Percent Market Share of PDL Preferred Agents by Drug Class and Month**

	Q107	Q207	Q307	Q407	Q108	Q208	Q308
<b>Less Sedating Antihistamines</b>	84	83	83	83	86	83	89
<b>Proton Pump Inhibitors</b>	100	99	99	100	99	89	88
<b>Statins</b>	98	98	98	98	99	98	94
<b>Calcium Channel Blockers</b>	83	87	88	94	94	94	94
<b>Beta Blockers</b>	91	91	91	91	83	81	80
<b>Long-acting Opioids</b>	79	75	76	75	75	74	73
<b>ACE Inhibitors</b>	77	76	75	75	79	79	78
<b>Triptans</b>	92	93	93	99	99	100	100
<b>ARBs</b>	99	99	99	99	99	99	100
<b>Skeletal Muscle Relaxers</b>	99	99	99	100	100	99	99
<b>Estrogens</b>	90	88	88	87	89	87	83
<b>Newer Sleep Aids</b>	99	99	99	100	100	100	100
<b>Targeted Immune Modulators</b>	66	63	57	81	81	82	84
<b>Inhaled Corticosteroids</b>	66	67	68	68	68	68	68
<b>Overactive Bladder Agents</b>	89	90	89	90	89	90	90
<b>Newer Antiemetics</b>	96	97	97	98	99	98	97
<b>Oral Diabetes Agents</b>	98	97	96	95	94	94	93
<b>Nasal Steroids</b>	100	100	100	100	100	100	100
<b>Antidepressants</b>	-	<b>83</b>	86	87	88	88	88
<b>Beta<sub>2</sub> Agonists</b>	-	<b>87</b>	97	96	96	97	97
<b>NSAIDs</b>	-	-	<b>99</b>	99	100	100	100
<b>ADD/ADHD</b>	-	-	<b>85</b>	88	90	91	91
<b>Neuropathic pain</b>	-	-	-	-	-	-	N/A

# Prior Authorization Call Center Statistics

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## P.A. CALL CENTER OPERATIONS AS A RESULT OF THE PDL

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“Non-preferred” medications continue to be available to Medicaid recipients, but require prior authorization. Two processes are in place to provide prior authorization. The first is a computer-based system called Smart-PA. If the patient meets predetermined authorization guidelines, Smart-PA can grant an instantaneous prior authorization at the pharmacy counter with no additional effort by the provider or pharmacist. This occurs as a prescription claim is processed at the pharmacy

The second prior authorization process is the PDL Call Center. This center approves or denies prior authorization requests from physicians for products that have been placed in non-preferred status. The approval, denial, and appeal of denials are handled by the clinical pharmacists and medical directors of the EBRx Program. The statistics below represent the call center’s activity for CY 2008 to date.

<b>PA Call Center Statistics</b>	<b>1Q 2008</b>	<b>2Q 2008</b>	<b>3Q 2008</b>	<b>CY 2008- to date</b>
Incoming Calls from Healthcare Professionals	<b>6297</b>	<b>6742</b>	<b>6443</b>	<b>19,482</b>
Number of SmartPA Tickets Created	<b>4915</b>	<b>4865</b>	<b>4846</b>	<b>14,626</b>
Total Number of P.A. Requests at the Call Center	<b>3439</b>	<b>3404</b>	<b>3468</b>	<b>10,311</b>
Total Number of P.A. Requests Approved at the Call Center	<b>2429</b>	<b>2268</b>	<b>2555</b>	<b>7252</b>
Call Center P.A. Approval Percentage	<b>71%</b>	<b>67%</b>	<b>74%</b>	<b>70%</b>
Point of Sale SmartPA Requests	<b>172,815</b>	<b>173,862</b>	<b>206,554</b>	<b>553,231</b>
Point of Sale SmartPA Approvals	<b>144,884</b>	<b>144,104</b>	<b>170,170</b>	<b>459,158</b>
Point of Sale SmartPA Approval Percentage	<b>84%</b>	<b>83%</b>	<b>82%</b>	<b>83%</b>
Average Call Duration	<b>2 min 26 sec</b>	<b>2 min 38 sec</b>	<b>2 min 43 sec</b>	<b>2 min 35 sec</b>

# Budget Update

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## A GENERAL OVERVIEW OF THE PROGRAM BUDGET

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The Arkansas Medicaid Evidence-based Prescription Drug Program budget and expenditures to date are presented below. There remain a number of personnel positions initially budgeted but not filled. If needs for additional program personnel arise, the program will work within the existing budget to ensure that service obligations are met. After the first quarter of SFY2009, the program was approximately \$3,813,614 under budget.

	<b>SFY09 Budget</b>	<b>3Q08 EXPENDITURES</b>
<b>Personnel –(Salary and Fringes, includes DRC stipends)</b>	\$2,610,805	\$285,849
<b>Miscellaneous – (Supplies, Travel, etc)</b>	\$150,750	\$5,570
<b>Equipment – (computers, phones, furniture, renovation)</b>	\$13,000	\$3,396
<b>Indirect Costs</b>	\$1,491,240	\$157,366
<b>TOTAL</b>	<b>\$4,265,795</b>	<b>\$452,181</b>

# Data Evaluation

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## TRACKING OUTCOMES OF THE PDL DECISIONS

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### **Cost Savings Estimates**

In past quarters, this report provided estimates of the fiscal impact of PDL policies on net medication costs for the Medicaid program. These estimates provided an early indicator of the pharmacy budget implication of PDL policies. The estimates could not provide insights on other effects of the PDL policy, and were crudely derived using estimates of Medicaid Net Costs. At DHS' request the Net Cost estimates are no longer used, and therefore avoided cost estimates can no longer be calculated.

### **PEP Division Activities**

One of the most important aspects of the EBRx program is the evaluation of Medicaid data to determine what the long term ramifications of the PDL decisions are. Through the College of Pharmacy's Pharmaceutical Evaluation and Policy (PEP) Division, the Medicaid claims database is analyzed to determine impacts to the Medicaid program, beyond potential changes in medication costs.

There were two analyses of the Arkansas Medicaid PDL policies completed, the asthma inhaled controller policies and the long acting narcotic analgesia policy. The first is the analysis of the June 9, 2006 Arkansas Medicaid prior authorization (PA) policy for inhaled corticosteroid (ICS)-Beta agonist combination products (budesonide/formoterol-fumarate and fluticasone/salmeterol) such that non-chronic users required a PA to obtain these drugs and the July 11th, 2006, ICS-PDL policy where fluticasone, mometasone, and triamcinolone were preferred drugs, budesonide inhalation suspension was exempted from PDL status, and the following non-preferred drugs required a prior approval; beclomethasone, budesonide dry powder inhaler, flunisolide, fluticasone-diskus, mometasone, and (ICS)-Beta agonist combination products .

There were two phases of the analysis. The initial analysis was based on panel data using time series models to identify savings of the two policies jointly and to identify if there were any changes in substitute drugs associated with the policies. As anticipated the two policies were associated with a savings estimate of \$1.13 million over trend forecasts, however, the policies were associated with increases in leukotriene-modifiers (LRTA) and short-acting beta2-agonists (SABA) use. The second analysis utilized individual level data and employed a 'difference in difference' type of design to assess the impact of the policies on adherence to inhaled controllers, utilization of oral corticosteroids and SABA, and medical utilization measures. The policy group consisted of persons utilizing non-preferred inhaled controllers and the comparison group consisted of users unaffected by the policy and used preferred inhaled corticosteroids in the pre-policy time period. Adherence decreased in both groups but decreased further in the policy group, SABA and oral corticosteroid use decreased in both groups but decreased more in the comparison group, MD visits decreased in both groups but decreased further in the comparison group, and finally other outpatient claims such as rehabilitation services increased in the policy group and decreased in the comparison group. The interpretation of these findings is complex. Except for the increase in other outpatient claims, the policy was not associated with an increase in potential substitutes or the use of medical care indicative of worsening asthma, however, the policy may have influenced the rate of change of these measures that would have been

observed had the policy not been implemented. Abstracts from two manuscripts that are being prepared for submission are included below.

The second PDL analysis completed is the analysis of the October 26, 2005, policy where Arkansas Medicaid implemented a preferred drug list (PDL) policy for long acting narcotic analgesics (LANA) where only generic long-acting morphine and methadone could be obtained without prior-approval. The analysis utilized a time series analysis of panel data and found that the PDL was associated with a \$1.41 million (95%CI: \$0.37-\$2.43million) and a \$1.78 million (95%CI: \$0.48-\$3.05million) cost reduction for LANA and total narcotic analgesics over the 22-month post-policy period. The policy did not consistently affect the overall level of narcotic analgesia prescribed, however, the policy may have steered patients toward shorter acting narcotics. These results will be presented in poster format at the 2008 ISPOR European conference.

Additional details from both of these analyses are available upon requests to Dr. Bradley C. Martin.

## **THE IMPACT OF MEDICAID PRIOR APPROVAL POLICIES ON INHALED CONTROLLER USE AND PROGRAM COSTS**

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### **ABSTRACT**

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**BACKGROUND:** Preferred drug lists (PDL) and prior-approval (PA) policies are gaining popularity as a cost-containment measure among state Medicaid programs. On June 9, 2006 Arkansas Medicaid implemented a PA policy for an inhaled corticosteroid (ICS)-Beta agonist combination products (budesonide/formoterol-fumarate and fluticasone/salmeterol) such that non-chronic users required a PA to obtain these drugs. Thirty two days later, on July 11<sup>th</sup>, 2006, an ICS-PDL was implemented where fluticasone, mometasone, budesonide inhalation suspension and triamcinolone were preferred drugs and the following non-preferred drugs required a prior approval; beclomethasone, budesonide, flunisolide, fluticasone-diskus, mometasone, and (ICS)-Beta agonist combination products. There is limited experience and empirical evidence that assesses the impact of PDLs on low income individuals.

**OBJECTIVE:** To assess the impact of the ICS-PDL and ICS-Beta agonist combination PA policies on the prescription utilization and Medicaid prescription costs of ICS and ICS-Beta agonists (inhaled controllers) and substitute drugs; inhaled long-acting beta2-antagonists, methyl-xanthenes, leukotriene-modifiers (LRTA), cromolyn-sodium, short-acting beta2-agonists (SABA), anticholinergics, and systemic-corticosteroids.

**METHODS:** This study used a segmented time-series panel design of Arkansas Medicaid claims data using the prescription and enrollment records from July 1, 2003 to May 31, 2007. To be included in the study subjects were required to be eligible for full- prescription benefits for at least one month of the study period. Study measures included monthly aggregate measures of the prescriptions, standardized days supplied, net-

costs adjusted for the CMS price rebates for the inhaled controllers, and paid-amounts for the substitute drugs. Autoregressive-integrated-moving-average time series models were estimated utilizing the 3 year pre-policy data and forecasts were made for a one year period after ICS-beta agonist combination policy to estimate the trends in the monthly measures absent the policy. The difference between the forecasted and actual data was used to estimate the impact of the policies. Sensitivity-analyses were conducted by converting the aggregate study measures into per-member-per-month (PMPM) estimates and by excluding the recipients on inhaled combination products to analyze the impact of the ICS-PDL alone.

**RESULTS:** A total of 719,947 Medicaid enrollees were eligible for the study of which 45,377 recipients filled one or more inhaled controllers. The ICS-PA policies resulted in a transient decrease of 2,350 (4.1%) (95%CI: -7,748 – 12,499) inhaled controller prescriptions and a reduction in the number of standardized days supplied of 131,699 (6.9%) (95%CI: -155,199 – 418,597) over the 12 months post-policy. The policies were also associated with a significant reduction in the inhaled controller net-costs for the first 6 months following the policy resulting in an annual estimated savings of \$1,126,852 (95%CI: -21,745 – 2,275,449). The policies were associated with a 16,247 (14.5%) (95%CI: -4,187 – 36,681) increase in the inhaled SABA prescription counts which were significant for 4 months of the post policy period and a non significant increase of \$692,904 (95%CI: -\$1,284,520 – \$ 2,670,328) in the net-costs for SABA. Prescriptions for the LRTA increased by 6.3% (95%CI: -2.5% – 15.1%), days supplied increased by 5.4% (95%CI: -2.8% – 13.7%), and expenditures increased by \$493,641 (95%CI: -\$82,059 – \$1,069,341%) which was significantly higher for 4 months in the post-policy period. The sensitivity-analysis showed a significant reduction in the PMPM net-paid amount for inhaled controllers over the first 5 months in the post-policy and no differences were observed in the PMPM prescriptions and days supplied.

**CONCLUSION:** The ICS-PA policies were associated with an estimated annual savings of \$1.13 million for inhaled controllers and a transient decrease in the prescription counts and the days supplied of the inhaled controllers. The policies were associated with a significant temporal increase in LRTA costs and non-significant increases in SABA costs and when these increases are factored, the net savings of the policy range from no savings to a savings of \$550,000. The policies were also associated with a sporadic increase in the substitute drug use for SABA and the LRTA which may reflect the worsening of the asthma symptoms or greater reliance on these products as possible substitutes.

**KEYWORDS:** pulmonary, preferred drug list, prior-approval, pharmaceutical policy, Medicaid, Inhaled Corticosteroid, Advair

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## **THE IMPACT OF MEDICAID PRIOR APPROVAL POLICIES ON PULMONARY DRUG ADHERENCE, MEDICAL UTILIZATION and COSTS in ASTHMA**

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### ABSTRACT

**OBJECTIVES:** To assess the impact of two pharmaceutical drug policies, an inhaled corticosteroid (ICS)-PDL and an ICS-beta-agonist combination PA-policy on adherence to inhaled controllers, utilization of short acting beta agonists (SABA) and oral steroids, pharmacy costs, and total and disease specific medical utilization and costs in patients suffering from asthma.

**METHODS:** This study used a quasi-experimental design with a non-equivalent comparison-group of Arkansas Medicaid claims from June 09, 2005 to June 09, 2007. Study subjects met the following inclusion criteria: at least two paid claims for inhaled-controllers during the pre-policy period, of which at least one claim, was in the 60-day period immediately prior to the policy; primary or secondary diagnosis for asthma (ICD-9-CM:493. \*\*) at 2 outpatient-visits, or 2 or more emergency department visits, or during 1 or more hospitalizations; continuously enrolled with Medicaid; between 4 and 64 years of age, without a diagnosis of chronic obstructive pulmonary disease [ICD-9-CM: 491. \*\*, (emphysema 492. \*\*), (chronic airway obstruction 496. \*\*)], cystic fibrosis (ICD-9-CM: 277. 0\*), cancer (ICD-9-CM: 140. \*\* -- 239.\*\*), congestive heart failure (428. \*\*, 428.1, 428.9); eligible for prescription benefits; and not residing in nursing homes. Comparisons were made between the policy-group that included individuals utilizing non-preferred drugs and comparison-group utilizing preferred drugs in the pre-policy period. Multivariate differences-in-difference regression models were estimated to determine the impact of the policy on the outcome measures controlling for covariates at baseline

**RESULTS:** There were 1,735 recipients in the policy group and 887 recipients in the comparison group and the policy group was older, had a greater percentage of blacks, used more short acting beta agonists, and had more comorbidities than comparison subjects. After the policies, adherence decreased in both the policy group (pre policy MPR=0.57; post policy MPR=0.35) and the comparison group (pre policy MPR=0.49; post policy MPR=0.32), but decreased more in policy affected recipients ( $p<0.001$ ). Average pharmacy costs fell by \$267.35 in the policy group but fell less in the \$74.82 in the comparison group ( $p<0.001$ ). M.D. visits fell in both groups, but fell more sharply in the comparison group ( $p=0.0350$ ), and other outpatient claims increased for policy recipients and decreased in the comparison group. Prescription counts for SABA fell by 0.18 and 0.56 prescriptions in the policy and comparison groups ( $p=0.0024$ ) and oral steroid prescriptions fell by 0.06 prescriptions and 0.23 prescriptions. No differences were observed in the total all cause and disease specific emergency department, hospital visits, total and the disease specific non-pharmacy costs.

**CONCLUSION:** The policy was effective at reducing prescription expenditures, however there is some evidence that the PA and PDL policies may have un-intended consequences affecting the use of M.D. visits and other outpatient claims such as rehabilitation services. Also the policy group used less SABA in the post policy period, however, the decrease was greater in the comparison group which may suggest that the policy may have influenced asthma control or may be an intended consequence where persons were switched from LABA combinations with intermittent use to a SABA. Decision makers should be mindful of the potential consequences while implementing such policies.

**Keywords:** *prior-authorization, preferred drug list, Medicaid, adherence, medical services, cost*

# A NATURAL EXPERIMENT TO ESTIMATE THE IMPACT OF A PREFERRED DRUG LIST POLICY FOR LONG ACTING NARCOTIC ANALGESICS ON COSTS AND UTILIZATION

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**OBJECTIVES:** On October 26, 2005, Arkansas Medicaid implemented a preferred drug list (PDL) policy for long acting narcotic analgesics (LANA) where only generic long-acting morphine and methadone could be obtained without prior-approval. The objective was to determine the impact of the PDL on net costs and utilization of LANA, total narcotic analgesics, and non-narcotic substitute drugs.

**METHODS:** We obtained Arkansas Medicaid claims data from January 2003 to July 2007. Net costs based on CMS-rebates and mg of morphine equivalents (MEq) obtained from standardized conversion tables were the primary outcome variables. Autoregressive-integrated-moving-average ARIMA time series models of monthly measures were estimated. Interrupted OLS time series models were estimated to capture the impact of the policy on the shifts in trend and intercept.

**RESULTS:** There were 709,791 Medicaid eligibles, of which 3,227 used a LANA whom had an average age of 44.65 years, 39.36% male, and 80.54% white. The PDL was associated with a \$1.41 million (95%CI: \$0.37-\$2.43million) and a \$1.78 million (95%CI: \$0.48-\$3.05million) cost reduction for LANA and total narcotic analgesics over the 22-month post-policy period. Total narcotic utilization was not significantly different than trend utilization for 18 months of the post-policy period. The PDL was associated with a significant increase in C-II short-acting narcotic utilization of 202,828 (95%CI: 68,160 – 337,497) MEq and non-significant decreases in C-II LANA and CIII-V narcotic utilization. A sensitivity analysis with a term to capture the effect of generic fentanyl availability yielded more conservative cost saving estimates. There was no PDL-related increase in the utilization of benzodiazepines, migraine agents, NSAIDs, muscle-relaxants, anticonvulsants, or antidepressants.

**CONCLUSIONS:** The PDL resulted in significant cost savings for narcotic analgesics. The policy did not consistently affect the overall level of narcotic analgesia prescribed, however, the policy may have steered patients toward shorter acting narcotics.

## Other EBRx Activities

Work continues on the grant project funded by the Attorney General Consumer and Prescriber Grant Program. This program was funded from the settlement paid by Pfizer/Pharmacia relating to illegal promotion of Neurontin (gabapentin) for uses not approved by the FDA. UAMS College of Pharmacy was awarded \$370,000 over two years to study approaches to influence prescribers of medications for uses which are not approved by the Food and Drug Administration. This project will focus on uses of antidepressants and the treatment of depression and anxiety in Arkansas children.

Provider education on current treatment guidelines and recent research on the most effective/appropriate anxiety and depression treatments for children will be delivered through three approaches. An hour-long

educational presentation for health-care providers, complementary materials for academic detailing by AFMC, and a comprehensive set of web-based resources have been prepared. UAMS' Institutional Review Board (IRB) has reviewed the research protocol and approved the project. A waiver of informed consent has been granted by the IRB for this project meaning that the research meets all standards and requirements to protect the prescriber research subjects. In the view of the IRB adequate plans are in place to protect confidentially of all data used in this research.

The project will use changes seen in initial treatment selection as the measure of the effectiveness of the educational campaign. Providers will be targeted based on the numbers of children and adolescents treated with newer antidepressant medications. Every effort will be made to ensure that these providers receive the educational intervention through at least one of the different media/approaches. Comparisons between the changes seen among the providers receiving the educational material and those who are not exposed are expected to provide some insight on the effectiveness of the components used to elicit some treatment behavior change. Specific effects which will indicate a positive impact of the educational intervention will be an increase in the use of counseling as a primary treatment and more frequent use of medications for which evidence of usefulness in children is present.

# Drug Review Committee

## Activities

Date: August 21, 2008

Subject: DRC Recommendations to DCC and DHS

To: DHS, DCC, Dean's Office

From: Henry F. Simmons, Jr., MD, Ph.D.  
Chairman DRC

At its 08/21/2008 meeting, the Drug Review Committee considered the potential toxicity and therapeutic roles of seven angiotensin receptor blockers in the management of adult patients with the indications appearing below.

### **ARBs under consideration**

Candesartan [Atacand]

Eprosartan [Teveten]

Irbesartan [Avapro]

Losartan [Cozaar]

Olmesartan [Benicar]

Telmisartan [Micardis]

Valsartan [Diovan]

### **Indications under consideration in adults**

Essential hypertension

High cardiovascular risk

Recent myocardial infarction

Heart failure

Nephropathy

Throughout its deliberations various Committee members remarked that there is a paucity of head to head data to use in making decisions regarding these drugs.

Based upon the bulk of the best available evidence pertaining to the aforementioned drugs the Committee concluded the following:

There is insufficient evidence to exclude completely any of the agents from therapeutic consideration on the basis of either toxicity or an increased frequency of adverse effects.

All of the agents are efficacious in reducing blood pressure.

At least two different ARBs should be available and at least one of them should be chosen from candesartan, losartan and valsartan.

Although not framed as a separate motion, it is the Committee's opinion that an alternative to losartan should be available to African-American patients.