

Cost Reductions Attained from an Evidence Based Preferred Drug List Policy on Less Sedating Antihistamines in a Medicaid Population

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BACKGROUND

The Evidence Based Prescription Drug Program (EBRx) was established in the State of Arkansas to ensure that Arkansas Medicaid Preferred Drug List (PDL) policies provides access to medications with superior clinical efficacy and to control the rising drug costs. On March 25, 2005, the Arkansas Medicaid program implemented a prior approval policy whereby all less sedating antihistamines (LSA), except loratadine, required prior approval to be reimbursed. The impact of the policy change on LSA utilization and cost has not been evaluated.

OBJECTIVES

The objectives of this study are:

- To estimate the impact of prior approval policy on the Less Sedating Antihistamines (LSA) utilization and cost.
- To estimate the changes in utilization pattern of the possible substitute drugs (nasal steroids, other antihistamines, and leukotriene inhibitors)

METHODS

DESIGN:

This study utilized a segmented time series panel design whereby monthly prescription data in the prior policy period (January 2003 – February 2005) were used to forecast expenditures in the post policy period. Savings were determined by taking the difference between forecasted and actual expenditures.

DATA and SUBJECTS:

The administrative Arkansas Medicaid claims data for the period January 2003 through May 2006 were obtained. Subjects included in the study were any Medicaid recipients eligible for prescription benefits with a monthly enrollment of approximately 1,000,000 recipients. Subjects dually eligible for Medicare benefits were excluded after December 2005.

UTILIZATION AND COST CALCULATIONS:

Therapeutic class designations and national drug codes (NDC) were used to identify LSA and possible substitute prescriptions. Utilization and costs were calculated for each study month. Analyses of the possible LSA substitutes drugs were limited to Jan 2003 through Dec 2005. The Medicaid payer perspective was used and all prescription costs were calculated based on the amount paid for each claim adjusted for product specific CMS rebates. Because CMS rebate information was only available for the fourth quarter of 2004, percentage discounts observed in the 4th quarter of 2004 were estimated for each drug product and these percentage discounts were used to estimate the net cost for all periods other than the 4th quarter of 2004.

To Account for the transition of dually eligible Medicare recipients to the Part-D prescription program, time series forecasts based only on recipients solely eligible for Medicaid were utilized to estimate changes in cost and utilization from January 2006 forward.

ANALYSIS:

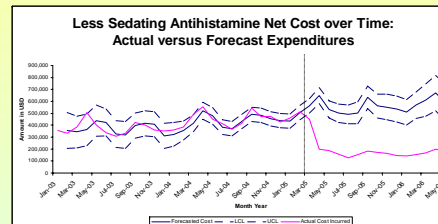
All models were differenced to control for trend. Auto-Regressive Integrated Moving Average (ARIMA) time series models including autoregressive and moving average terms were estimated in order to obtain 'white noise' of the residuals.

- Inspection of ACF, IACF, and PACF plots
- non significant Q statistics

RESULTS

COST SAVINGS:

Annual LSA forecast expenditures for April 2005 – March 2006 were \$6,650,590 and observed expenditures were \$1,954,280. Thus the policy was associated with a 71% reduction in LSA expenditures or \$4,696,310 (95%CI: \$3,546,819 – 5,845,801) in annual savings. Over the 14 month study period, the average monthly savings were estimated to be \$397,898 (95% CI 294,372 – 513,832).

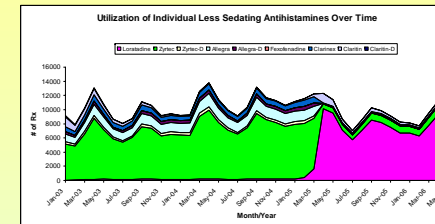
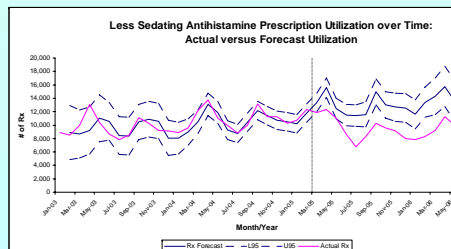


SAVINGS IN THE POST POLICY PERIOD:

Month	Actual Paid Amount	Forecast Paid Amount	Monthly Savings	L95	U95
Apr-05	199,030	648,840	449,810	383,454	516,166
May-05	186,035	533,105	347,070	274,977	419,163
Jun-05	156,755	501,144	344,389	266,983	421,794
Jul-05	127,051	490,799	363,748	285,954	441,541
Aug-05	153,721	504,286	350,545	260,243	440,848
Sep-05	182,692	633,768	451,076	355,474	546,678
Oct-05	171,304	560,823	389,519	288,896	490,142
Nov-05	166,163	552,756	386,593	278,917	494,269
Dec-05	147,790	536,968	389,178	280,303	498,054
Jan-06	143,311	508,794	365,483	258,288	472,698
Feb-06	152,050	568,886	416,836	305,795	527,877
Mar-06	168,377	610,440	442,063	307,856	578,571
Apr-06	200,250	669,785	469,535	322,529	616,540
May-06	183,132	587,860	404,728	251,869	557,588
Total	2,337,662	7,908,235	5,570,573		

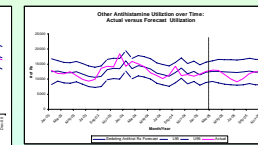
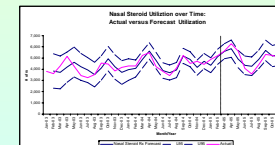
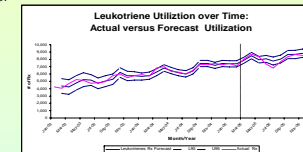
LESS SEDATING ANTIHISTAMINE UTILIZATION:

The policy was associated with a 29% (95%CI: 17%-39%) reduction in total LSA utilization. In the pre policy period the non-preferred LSA accounted for 98% of the prescription share, which was reduced to 18% in the post policy period.



POSSIBLE SUBSTITUTE DRUG UTILIZATION:

There were no significant differences between forecast and actual utilization for leukotriene inhibitors, nasal steroids, or other antihistamine products.



CONCLUSIONS & LIMITATIONS

- The prior approval policy for LSAs resulted in persistent substantial cost reductions to AR Medicaid of approximately \$400,000 per month.
- Utilization of LSA prescription claims was reduced by 29%. It is unclear if the reductions in utilization obtained from the claims files represents recipients foregoing LSA use or purchasing over the counter loratadine out of pocket.
- The prior approval policy did not influence the utilization of nasal steroids, leukotriene inhibitors, or other antihistamine utilization.

LIMITATIONS:

- There was no control group for this study, however, given the strong temporal change in costs, other explanations for the reduction in expenditures is unlikely
- Medicare Part-D coincided with the post policy period which required different estimates of Medicaid only recipients after January 2006.
- This study could not detect out of pocket expenditures