

# Cost Reductions Attained from an Evidence Based Preferred Drug List Policy on HMG-CoA Reductase Inhibitors 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 June 08, 2005, the Arkansas Medicaid program implemented a prior approval policy whereby all HMG-CoA reductase inhibitors (statins), except simvastatin, required prior approval to be reimbursed. The impact of the policy change on statin utilization and cost has not been evaluated.

## OBJECTIVES

The objectives of this study are:

- To estimate the impact of prior approval policy on statin costs and utilization.
- To estimate the changes in utilization pattern of the possible substitute drugs (non-statin antihyperlipidemic drugs).

## METHODS

### DESIGN:

This study utilized a segmented time series panel design whereby monthly prescription data in the prior policy period (January 2003 – June 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 statin and possible substitute prescriptions. Utilization and costs were calculated for each study month. Analyses of the possible statin 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 4<sup>th</sup> 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 4<sup>th</sup> 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:

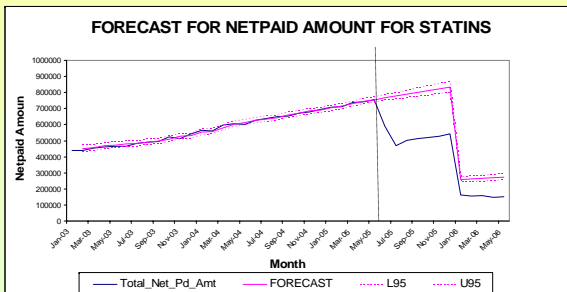
All models were differenced to control for trend. Auto-Regressive Integrated Moving Average (ARIMA) time series models including autoregressive and moving average terms were estimated in order to obtain 'white noise' of the residuals.

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

## RESULTS

### COST SAVINGS:

Annual statin forecast expenditures for June 2005 – May 2006 were \$6,939,193 and observed expenditures were \$4,437,322. Thus the policy was associated with a 36% reduction in statin expenditures or \$2,501,872 (95%CI: \$2,235,607-\$2,768,136) in annual savings. The prior approval policy for statins resulted in substantial antihyperlipidemic cost reductions to AR Medicaid of approximately \$195,000 per month.

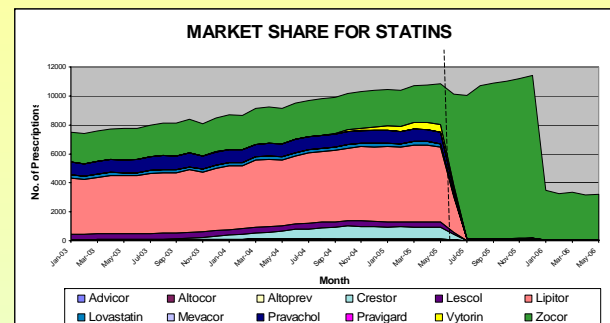
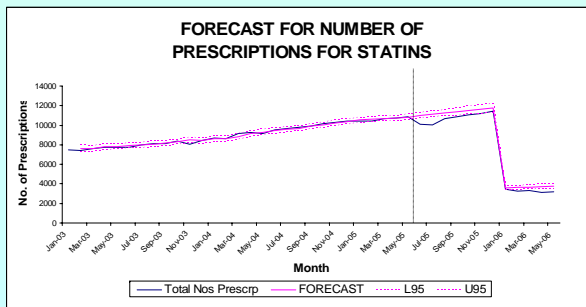


### SAVINGS IN THE POST POLICY PERIOD:

Month	Actual Paid	Forecast	Monthly Savings	L95	U95
Jun-05	591,835	769,357	177,522	160,741	194,303
Jul-05	469,438	777,158	307,720	289,011	326,429
Aug-05	501,941	789,750	287,809	267,353	308,265
Sep-05	511,393	800,947	289,554	263,259	315,850
Oct-05	518,776	812,300	293,523	264,477	322,570
Nov-05	528,004	823,652	295,648	264,089	327,207
Dec-05	541,988	835,004	293,016	259,131	326,902
Jan-06	163,678	257,923	94,245	78,123	110,367
Feb-06	153,445	262,064	108,619	91,559	125,678
Mar-06	156,904	266,205	109,301	91,353	127,250
Apr-06	147,986	270,346	122,360	103,565	141,156
May-06	151,934	274,487	122,553	102,947	142,159
Total Savings	4,437,322	6,939,193	2,501,872	2,235,607	2,768,136

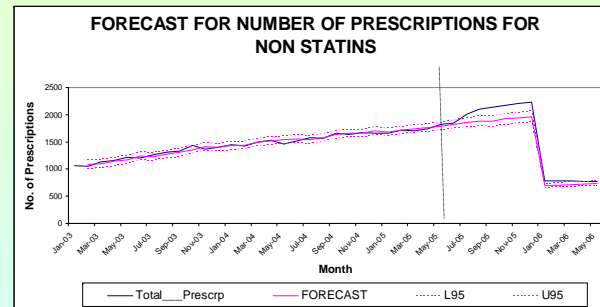
### TOTAL STATIN UTILIZATION:

The policy was associated with a 6% (95%CI: 3%-10%) reduction in total statin utilization which averaged 516 rx / month. In the pre policy period, the non-preferred statins accounted for 74% of the prescription share, which was reduced to 6% in the post policy period.



### POSSIBLE SUBSTITUTE DRUG UTILIZATION:

There was a significant increase in utilization of non-statin atihyperlipidemics of approximately 146 rx / month in months 2 through 10 following the policy change which partially offset the decrease in statin utilization. Nearly all of the increased non-statin utilization consisted of increased ezetimibe (ZETIA) utilization.



## CONCLUSIONS & LIMITATIONS

- The prior approval policy for statins resulted in persistent substantial cost reductions to AR Medicaid of approximately \$195,000 per month.
- Utilization of statin prescription claims was reduced by 6% which was partially offset by increases in ezetimibe utilization. Further study is necessary to determine the impact of the policy on statin adherence, persistence, and switching.

### 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 did not examine the impact of the policy on cardiovascular outcomes and costs.