Does Florida Medicaid's State-Mandated Formulary Provision Influence Prescription Drug Utilization and Costs?

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ABSTRACT:

BACKGROUND: Medicaid managed care plans participating in Florida's Statewide Medicaid Managed Care program were required to use a State-mandated preferred drug list (PDL) instead of their own drug formularies starting July 2014.

OBJECTIVE: To compare health plan drug utilization and plan costs between members in a Florida Medicaid managed care health plan after implementation of the State-mandated PDL policy to those among Medicaid members in a comparable Medicaid managed care health plan.

METHODS: A retrospective cohort study with a pre-post design was conducted using de-identified administrative claims data from a large pharmacy benefit manager. Pre-policy evaluation period was Jan. 1 - June 30, 2014 while post-policy period was Jan. 1 - June 30, 2015. Continuously enrolled Florida Medicaid plan members were matched on sociodemographic and health characteristics to their counterparts enrolled in a comparable Medicaid health plan without State-mandated formulary. Outcome measures were number of 30-day adjusted traditional drug prescriptions per member per period and total drug plan costs per member per period for all drugs, and separately for generics, formulary brand and non-formulary brand drugs. Bivariate comparisons were conducted using t-test. Multivariate negative binomial regression and multivariate regression with generalized estimating equations were used to analyze pre-post changes in utilization and plan costs, respectively.

RESULTS: The final sample consisted of 9,182 members in each plan for a total of 18,364. A higher proportion of brand drugs switched their status from non-formulary in the pre-period to formulary in the post-period in the Florida plan (79%) compared to the comparable plan (1%). Findings from the multivariable regression analyses validated the bivariate findings of changes in post-period utilization and plan costs. Overall drug, generic and non-formulary brand drug utilization declined by 9%, 13% and 97%, respectively, while formulary brand drug utilization increased by 50% among Florida Medicaid members in the post-policy period (P< 0.001). Overall plan costs, and formulary brand drug plan costs increased by 45% and 49%, respectively, while generic plan cost declined by 13% (P< 0.001). None of the utilization and plan cost changes among the comparable Medicaid members over the same time period were statistically significant (P>0.05).

CONCLUSION: Our findings highlight the unintended consequences of decreased drug utilization and increased plan costs that may result from State-mandated PDLs. Partnership between State Medicaid agencies and health plans are essential for ensuring access to appropriate medications while cost-effectively managing access to these medications.

Introduction:

In 2011, the Florida Legislature passed HB 71072, creating the Statewide Medicaid Managed Care (SMMC) program. The SMMC required the Florida Agency for Health Care Administration (AHCA) to create an integrated managed care program for Medicaid enrollees. In particular the State stipulated that Medicaid managed care plans participating in MMA use a State-mandated formulary drug list (PDL) and guidelines to cover prescription medications, rather than maintaining their own pharmacy-management programs as in the past.[1]

Early information suggests that Medicaid MCOs serving Florida are incurring monetary losses, which seem to be driven by higher than expected prescription drug utilization and associated costs after the implementation of this program.[2] Given these early indications of the impact of the State-mandated PDL on overall MCO costs, it is critical to examine the impact of the switch to a State-mandated PDL on various prescription drug utilization and cost outcomes.

Objectives:

Compare any changes in drug utilization and plan costs observed among Florida Medicaid members required to use the State-mandated PDL to those among members enrolled in a similar Medicaid managed care health plan where no such State-mandated PDL policy was implemented.

Methods:

Research Design: Retrospective claims analyses with pre-post design

Study cohort: De-identified pharmacy claims data from a large national pharmacy benefits manager between January 1, 2014 and June 30, 2015 were used to construct the cohort study.

Study Timeline: Pre-Policy Evaluation Period: January 1, 2014 – June 30, 2014. Post-Policy Evaluation Period: January 1, 2015 – June 30, 2015.

Prescription Drug Claims: All non-specialty drug claims were identified for analysis and further subdivided into generic, formulary brand, non-formulary brand. Single-source and multi-source brands were combined together due to low sample sizes for the multi-source brands.

Identification of Formulary Cohort: Members enrolled in a Florida Medicaid managed care health plan and part of the Temporary Assistance for Needy Families (TANF) group were the group of interest and were compared to a control group consisting of TANF members enrolled during the same time period in a comparable Medicaid managed care health plan from a state with no State-mandated PDL policy.

Inclusion Criteria: Members had to belong to the TANF Medicaid group and be continuously eligible during the pre-policy evaluation and post-policy evaluation periods.

Exclusion Criteria: Members in other Medicaid groups such as Children's Health Insurance Program (CHIP), Aged, Blind and Disabled (ABD) and dual-eligible beneficiaries.

Matching: Members in the Florida health plan who met the inclusion criteria were matched to members in the comparable health plan using a one-to-one greedy matching algorithm on the covariates listed below.

Covariates:

- Age (in years) as of Jan. 1, 2014
- Gender
- Disease burden proxy score (number of unique 2-level generic product identifiers)
- Median family income at the residential zip code-level.

Outcome Measures:

- **Prescription Drug Utilization:** Utilization of prescription medications was defined as the total number of 30-day adjusted prescription claims per member. Two drug utilization measures were calculated for each patient, one for the pre-policy period and one for the post-policy period.
- **Prescription Drug Plan Costs:** Plan costs (includes ingredient costs, taxes, dispensing fees and administrative fees) were summed up for each patient. Two separate measures of per patient plan costs were calculated, one for pre-policy period and one for post-policy period.

Statistical Analysis:

Bivariate analysis was conducted using t-test and chi-square test. Multivariate negative binomial regression analysis was conducted to evaluate the association between drug utilization and time period (post-policy vs. pre-policy periods). Multivariate generalized estimating equation model with gamma distribution and log link was used to evaluate the changes in drug plan costs over time.

Results

We found a significantly higher proportion of brand drugs with a formulary status change from non-formulary to formulary brand drugs after the policy implementation in the Florida plan (79%) compared to the comparable control Medicaid health plan (1%). After matching the two Medicaid member groups, the final analytic sample consisted of 9,182 members in each group for a total study sample of 18,364 members. All differences in demographic and health characteristics were no longer statistically significant **(Table 1)**.

Table 1. Baseline Characteristics Across Study Groups After Matching

Covariates	Florida Plan (N=9,182)		Comparable Plan (N=9,182)		
	Mean or Percent	Standard Error	Mean or Percent	Standard Error	P-value
Age (Mean)	11.66	0.10	11.76	0.10	0.491
Female (%)	54.36%	--	54.36%	--	1.000
Disease Burden Proxy¥	2.87	0.03	2.95	0.03	0.072
Median Household income ($)	22,199.50	49.84	22,098.30	49.79	0.151

¥ Number of unique 2-level generic product identifier(s) for each patient.

Bivariate Analysis of Utilization and Cost Outcomes:

Table 2. Bivariate Comparison of Drug Utilization and Plan Costs Between Pre- and Post-Policy Periods

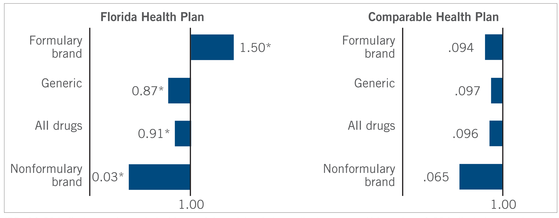
	Florida Plan (N=9,182)		Comparable Plan (N=9,182)	
Per Member Drug Utilization				
	Pre-Period	Post-Period	Pre-Period	Post-Period
All Drugs	2.42	2.16*	2.51	2.47
Generic Drugs	2.22	1.90*	2.20	2.16
Formulary Brand Drugs	0.18	0.27*	0.30	0.30
Non-Formulary Brand Drugs	0.02	0.001*	0.01	0.01
Per Member Drug Plan Costs				
	Pre-Period	Post-Period	Pre-Period	Post-Period
All Drugs	$68.67	$93.19*	$64.23	$69.34
Generic Drugs	$41.40	$37.41*	$29.16	$29.89
Formulary Brand Drugs	$21.54	$55.75*	$30.94	$36.29
Non-Formulary Brand Drugs	$5.73	$0.03*	$4.13	$3.17

*P<0.05 for difference between pre-policy and post-policy periods, indicating the change was statistically significant.

Multivariate Analysis of Drug Utilization:

Among the Florida Medicaid plan members, utilization of overall traditional drug claims declined by about 9% (P<0.001), generic utilization declined by 13% (P<0.001), non-formulary brand utilization decreased by over 95% (P <0.001), and the incidence of brand drug claims increased by 50% in the post-period when compared to pre-period (P<0.001) **(Figure 1)**. None of the utilization outcome measures were statistically significant in the control group Medicaid population.

Figure 1. Multivariate negative binomial regression results displaying the change in drug utilization in Post-period vs. Pre-period as Incidence Rate Ratios (IRR)†



IRR of 1.00 indicates no change in incidence of drug claims between the two groups. Values above 1.00 indicate increase in incidence, while those below 1.00 indicate decrease in incidence.

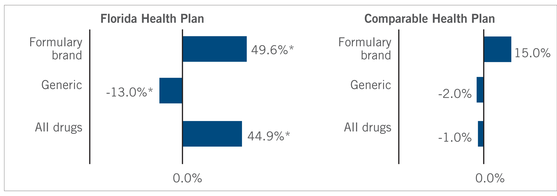
*P<0.05 for difference between pre-policy and post-policy periods, indicating the change was statistically significant.

†Each drug utilization measure was analyzed in separate negative binomial regression models for both study member groups, with time period as the main independent variable of interest. All regression models were adjusted for age, gender, disease burden proxy score and median household income at residential zip code-level.

Multivariate Analysis of Drug Plan Costs:

Overall plan costs for the Florida members increased by about 45.0% (P<0.001), which were mainly driven by a 49.6% increase in formulary brand drug plan costs in the post-period (P<0.001). Generic drug plan costs declined by about 13% (P<0.001) **(Figure 2)**. None of the changes in plan costs were statistically significant for the comparable Medicaid control group.

Figure 2. Multivariate regression results displaying the % change in drug plan costs in Post-period vs. Pre-period†



†For non-formulary brand drugs, the model fit was questionable due to low sample size. Results are not displayed.

†Each drug plan cost measure was analyzed in separate generalized estimating equation regression models for both study member groups, with time period as the main independent variable of interest. All regression models were adjusted for age, gender, disease burden proxy score and median household income at residential zip code-level.

*P<0.05 for difference between pre-policy and post-policy periods, indicating the change was statistically significant.

Limitations:

- This analysis has not evaluated specific differences in the formularies before and after the State-mandated PDL policy implementation, but only differences in utilization and plan costs using pharmacy claims data for the matched cohort of patients. However, any major shifts in formularies would be reflected in the changes in drug claims between the two time periods examined.
- This study did not take into account rebates that may have been obtained by the State from drug companies for inclusion of brand drugs in the formulary.
- Our findings are limited to the plan members examined and are not generalizable to the all Medicaid plans.
- Estimates did not account for new drugs coming into the market or brand drugs losing patent and going generic during the time periods evaluated.

Discussion:

The study findings offer evidence that State-mandated formularies are associated with greater proportion of brand drugs being available as formulary drugs. The changes in formulary in the Florida health plan brought about by the State-mandated PDL policy implementation significantly increased formulary brand utilization and associated plan costs compared to changes observed in a comparable control Medicaid member group over the same time period. The findings have important financial implications for states who adopt a State-mandated PDL policy. By ensuring that any provisions mandating drug formularies for Medicaid beneficiaries take into consideration drug utilization changes among beneficiaries and health plan financial viability, states may be able to prevent any unforeseen effects on medication use and plan costs.

Conclusions:

Our findings indicate that a State-mandated PDL policy implementation may contribute to unintended consequences of decreased generic drug utilization and increased plan costs, potentially resulting from the increased number of brand drugs that became part of the drug formulary. Partnership between State Medicaid agencies and health plans is essential for ensuring access to appropriate medications while cost-effectively managing access to these medications. States need to anticipate increased drug costs for health plans and make equitable adjustments to plan capitation rates.

References:

1 The Florida Senate: Bill analysis and fiscal impact statement. Available at https://flsenate.gov/Session/Bill/2014/1354/Analyses/2014s1354.hp.PDF. March 22, 2014. Accessed on July 21, 2015.

2. Gentry C. (2015). Medicaid HMOs Losing money on drugs. Health News Florida. Available at http://health.wusf.usf.edu/post/medicaid-hmos-losing-money-drugs. April 16, 2014. Accessed on July 21, 2015.