Effect of a novel prior authorization and management program on HCV treatment adherence and cost

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Background	Results		Results		
nronic Hepatitis C (CHC) is a blood-borne, viral infection that	Table 1. Descriptive summary of HCV patient socio-demographic and study outcomes by management program status (N=284)	Table 3. Multivariable Analysis of Total Amount Paid			
rects an estimated 2.7 million persons in the United States.	and study outcomes by management program status (N=384)		exp(b)	p-value	95% CI

(HCV) offer new curative approaches, though with a potential to markedly increase short-term medical or pharmacy budgets.

The high medication acquisition costs of new direct-acting antiviral (DAA) treatment regimens places a significant burden on the payer system, and provokes further analysis of the treatment populations.

Given the importance of medication adherence and readiness to treat, management programs for HCV treated patients are being implemented by payers.

This prior authorization (PA) and management program included patient and pharmacy agreements, prescriber verification of appropriate treatment, detailed counseling, frequent follow-up, and ongoing PAs at each refill with required pill counts.

Objectives/Specific Aims

Compare adherence and cost between HCV patients included in a novel prior authorization (PA) and management program versus no intervention in Medicaid members undergoing treatment.

	Pre-Prior Authorization (n = 156) (1/1/2014 to 6/30/2014)	Prior Authorization (n = 228) (7/1/2014 to 11/30/2015)	Overall (n = 384)
Age (mean, sd)	50.0 ± 11.3	53.9 ± 8.6	52.3 ± 10.0
Female Sex	59.5%	49.5%	53.6%
Rural/Micropolitan Residence	41.7%	34.7%	37.0%
Deyo-Charlson Comorbidity Index (mean, sd)	4.0 ± 2.6	4.7 ± 3.0	4.4 ± 2.8
Medication			
Sofosbuvir	96.5%	39.3%	63.2%
Ledipasvir/ Sofosbuvir	0.0%	59.7%	34.8%
Simeprevir	3.5%	0.8%	1.9%
Daclatasvir	0.0%	≤0.1%	≤0.1%
Medication Possession Ratio (MPR) (mean, sd)	55.4 ± 31.3	80.2 ± 20.2	69.9 ± 28.2
Amount Paid (mean, sd)	\$29,342 ±1,144	\$31,676 ±2,254	\$30,703 ±2,198

Age	1.000	0.434	(0.999, 1.001)
Female Sex	1.001	0.371	(0.998, 1.004)
Rural/Micropolitan Residence	0.998	0.224	(0.995, 1.001)
Deyo-Charlson Comorbidity Index	1.000	0.732	(0.999, 1.001)
Medication (baseline: Sofosbuvir) [†]			
Ledipasvir/Sofosbuvir	1.129***	<0.001	(1.124, 1.133)
Olysio	0.791***	<0.001	(0.783, 0.800)
Medicaid Prior Authorization Program	0.997	0.171	(0.994, 1.001)
Generalized Estimating Equation: gamma distribution, log link, independent correlation			

structure; n = 1,238 observations, 384 patients exp(b) = Exponentiated beta coefficient; CI = confidence interval + Daclatasvir omitted from analysis due to small sample size *** Statistically significant at p<0.001

Conclusions

This evaluation of a novel Medicaid PA and management program for HCV patients undergoing treatment indicated large and significant increases in medication adherence without higher overall costs.

Methods

- A retrospective, cross-sectional, time-series study design was used.
- Study participants were Oklahoma Medicaid enrollees (≥18 years) diagnosed with HCV.
- Pharmacy and medical claims from January 1, 2014 through November 30, 2015 were analyzed.
- Multivariable generalized estimating equations (GEE) were employed to assess outcomes of cost from the perspective of the payer and medication possession ratio (MPR).
- Variables controlled for included sex, age, Deyo-Charlson Comorbidity index, micropolitan/rural patient residence, medication regimen, and implementation of the Medicaid PA and management program which began in 07/2014.

Results

- Average age 52.5 years with 52% female
- Average adjusted MPR and costs prior to PA: 55.7 and \$29,109
- Average adjusted MPR and costs after PA: 80.7 and \$31,424

number of	516	772	1 729
Observations	510	122	1,230
sd = standard deviation			

 Table 2. Multivariable Analysis of Medication Possession Ratio
(MPR)

	exp(b)	p-value	95% CI
Age	0.999	0.924	(0.996, 1.003)
Female Sex	0.984	0.625	(0.921 <i>,</i> 1.050)
Rural/Micropolitan Residence	0.996	0.911	(0.934, 1.063)
Deyo-Charlson Comorbidity Index	0.990	0.101	(0.978, 1.002)
Medication (baseline: Sofosbuvir) ⁺			
Ledipasvir/Sofosbuvir	1.051	0.249	(0.965 <i>,</i> 1.146)
Simeprevir	1.276	0.057	(0.992, 1.642)
Medicaid Prior Authorization Program	1.337***	<0.001	(1.226, 1.467)

While longer-term studies are required to assess the relationship between increased adherence, improved outcomes, and cost changes, these findings suggest that intensive programs for Medicaid beneficiaries provide benefit in a condition where treatment adherence is crucial to achieving a cure.

Limitations

As administrative claims data are predominantly used for billing purposes, these data may have coding errors and omissions. Minimal use of some products required their exclusion from the

Disclosure Statement

- Keast, Cothran, Holderread, and Skrepnek disclose contractual employment with the Oklahoma Health Care Authority.
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No change in total average costs

treated

Potential reduction in unused medication fills: \$3,064 per member

Generalized Estimating Equation: Gaussian distribution, identity link, independent correlation

structure; n = 1,238 observations, 384 patients

umber of

+ Daclatasvir omitted from analysis due to small sample size

exp(b) = Exponentiated beta coefficient; CI = confidence interval *** Statistically significant at p<0.001

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analyses.

