

Persistence with Newly Initiated Antidepressant Medication in Rhode Island Medicaid: Analysis and Insights for Promoting Patient Adherence

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ABSTRACT

OBJECTIVE: To describe persistence to newly prescribed antidepressant medications within the Rhode Island Medicaid population.

METHODS: This retrospective study analyzed antidepressant medication persistence in a cohort of new users for a period spanning 2013-2014, focusing on the acute treatment phase (first 12 weeks of treatment). Covariates assessed included patient gender, age, comorbidity status, and measures of health system utilization.

RESULTS: Only 53.8% of patients persisted with medication for at least 12 weeks. (Figure 1). Persistence was increased with age ≥ 35 , and lower among patients lacking a follow-up visit. Multivariable analyses revealed that patients having at least one office visit during the follow-up period were nearly 2.5 times more likely to persist as compared to patients lacking such visits (OR 2.44, 95% CI 1.77–3.35). Persistence was 22% more likely among patients receiving psychiatric services (OR 1.22; 95% CI 1.00–1.48).

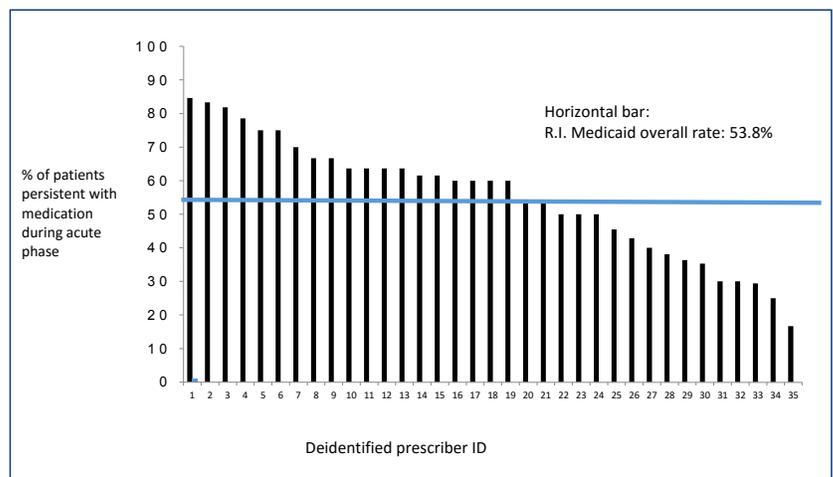
CONCLUSIONS: Antidepressant treatment persistence within the R.I. Medicaid population is suboptimal, and lowest among patients lacking follow-up care.

KEYWORDS: depression, medication persistence, Medicaid, antidepressant

INTRODUCTION

Depression is a significant cause of morbidity and disability. National survey results from 2009-2012 indicate that 7.6% of Americans report experiencing moderate or severe symptoms of depression within the past 2 weeks,¹ while nearly 1 in 5 adults will experience a major depressive disorder within their lifetime.² Antidepressant medications are prescribed for roughly 10% of U.S. adults, and approximately 20% of females 40 years of age or older.³ The prevalence of depression is significantly higher within Medicaid, as individuals living below the poverty level are more than twice as likely to have experienced an episode of depression as

Figure 1. Acute Phase Persistence with Antidepressant Medication: Provider-Specific Rates among R.I. Prescribers having 10 or more Cases Qualifying for the Measure (n = 35).



compared to individuals with higher incomes.¹ The societal economic burden of major depression has been estimated at \$188 billion (2012 dollars); which exceeds societal cost estimates for cancer (\$131 billion) and diabetes (\$173 billion).⁴

Psychotherapy and medication are long-standing cornerstones of depression treatment. While medication should not necessarily be considered an alternative to depression-focused psychotherapy,⁵ U.S. practice guidelines recommend antidepressant medication during the acute phase of illness, and continuing for at least 4-9 months.⁶ However, even with good compliance, the effectiveness of antidepressant medications is limited, and evidence suggests that at least half of patients will fail to experience a meaningful response during the first months of medication therapy.⁷ Yet treatment success can be enhanced by medication augmentation and other regimen adjustments such that nearly 70% of patients can ultimately experience a favorable treatment response within one year.⁸

Patient adherence to prescribed antidepressant medication is perhaps the most important predictor of treatment success. A performance measure evaluating antidepressant medication persistence has been reported by the National Committee for Quality Assurance for more than a decade.⁹ Within Medicaid managed care nationally, persistence with antidepressant medication during the acute phase in 2013 was 50.5%, indicating a substantial opportunity for

improving this critical aspect of depression care.¹⁰

Within this context, researchers from the University of Rhode Island College of Pharmacy and the R.I. Executive Office of Health and Human Services (R.I. Medicaid) partnered to implement a quality improvement project addressing antidepressant medication persistence. This effort included examining antidepressant medication persistence across a range of patient and health system factors. These results are presented in this report, supplemented by insights from our review of the published literature. We believe that this information will be of value to practitioners as they strive to partner with patients to increase persistence with antidepressant medications.

METHODS

We conducted a retrospective analysis of antidepressant medication dispensings among Rhode Island Medicaid beneficiaries during a period spanning March to November 2014. The study population included all R.I. Medicaid program enrollees in both managed care and fee-for-service arrangements. Patients who were dually enrolled in Medicaid and Medicare were not included, as these patients receive pharmacy benefits through Medicare Part D drug plans. The study does not include individuals with commercial (employer-based) insurance, or those receiving health insurance coverage through the state health exchange.

Persistence was measured according to the antidepressant medication management measure developed by the National Committee for Quality Assurance, focusing on medication use during the acute phase of therapy (first 12 weeks). This measure requires patients to be new users of antidepressant medication, defined as being without an antidepressant medication prescription during the previous 105 days, and having a diagnosis of depression documented within 60 days of the initial antidepressant prescription. The measure considers patients to be persistent during the acute treatment phase if they continued antidepressant medication for at least 84 days during the initial 114 days of treatment, measured by analysis of medication dispensings using pharmacy claims data. Various antidepressant medication classes and types qualify for the measure (e.g. selective serotonin reuptake inhibitors (SSRI), serotonin and norepinephrine reuptake inhibitors (SNRI), tricyclic antidepressants (TCA), bupropion, mirtazapine, trazodone, etc), and a patient does not need to persist with the same particular medication during the measurement period to be classified as persistent (i.e. patients may switch medications).

Using the 84-day threshold for medication continuation during the acute phase, persistence with antidepressant medication was classified as the dichotomous dependent variable. We examined a range of factors in relationship with acute-phase antidepressant persistence. These independent variables included patient gender and age group, plan type (fee-for-service Medicaid versus managed care plan

enrollment), and the type of antidepressant medication prescribed. We evaluated the influence of concomitant diseases separately, and in aggregate using the Charlson comorbidity index.¹¹ We also assessed health system characteristics, including the occurrence of follow-up office visits, hospitalizations, and visits for psychiatric services.

In bivariate analyses we evaluated each of these factors in relation to antidepressant medication continuation (dichotomized as <84 days versus \geq 84 days). The statistical significance of differences in persistence across these categorical variables was assessed using Pearson's chi-square test. We next conducted a multivariable logistic regression analysis to assess these variables as predictors of acute-phase antidepressant persistence. The initial model included variables associated with medication persistence at the level of significance where $p < 0.2$ in bivariate analyses. Using a backward elimination process, we removed variables from the model in order of least significance, with model fit assessed at each iteration according to changes in Akaike information criterion and by the Hosmer-Lemeshow test. We assessed 2-way variable interactions by comparing differences in the -2log statistics between full and reduced models using a hierarchical approach. Analyses were completed using SAS 9.3. This study was approved by the University of Rhode Island Institutional Review Board.

RESULTS

We identified 1,983 R.I. Medicaid beneficiaries who were newly treated with antidepressant medication during the study time frame, with a documented diagnosis of depression. Our analyses revealed that 53.8% of these patients were persistent during the acute phase of therapy. Persistence was lower among beneficiaries in managed care as compared with patients in fee-for-service Medicaid (53.2% versus 59.7%, respectively; $p < 0.001$). Persistence was also lower among younger patients (age 18-35 years) as compared with patients age 35 years or older (45.3% versus 54.7%, respectively). Only 11 patients were age 65 years or older (0.6%), as most older adults in Medicaid receive their prescription benefit through Medicare Part D plans.

Higher persistence rates were observed among patients having diabetes (61.0%) and among patients receiving 2 or more different classes of antidepressants (78.8%). Follow-up care was also associated with increased medication persistence: patients having at least 1 subsequent office visit during the period were more frequently classified as persistent (56.5% versus 34.5%, $P < 0.001$); and patients having visits specifically for psychiatric services also persisted with their antidepressant medication more frequently (56.9% versus 51.1%, $P = 0.009$).

Patients who were hospitalized within the 30 days preceding their index antidepressant medication persisted with medication less frequently as compared with patients without a hospitalization during the period of diagnosis,

although this difference did not reach statistical significance (45.7% versus 54.7%, respectively, $p = 0.053$). Statistically significant differences in persistence rates were not observed for comparisons by gender, by the type of antidepressant medication prescribed, or by patient comorbidity (other than diabetes). These results are summarized in **Table 1**.

Table 2 presents the results of a multivariable logistic regression analysis of predictors of acute phase antidepressant medication persistence, which included patient age category, plan type, regimen type (monotherapy versus poly-therapy), hospitalization during the index period, subsequent office visits, and visits specifically for psychiatric services during the follow up period. We retained patient gender in the final model. Receiving more than 1 type of antidepressant (i.e. users of poly-therapy) was the most significant predictor (adjusted Odds Ratio 5.31, 95% CI 4.24–6.34). Patients having at least one office visit during the follow-up period were nearly 2.5 times as likely to persist as compared with patients lacking a follow-up visit (adjusted OR 2.44, 95% CI 1.77–3.35), while patients with visits for psychiatric services specifically were approximately 22% more likely to have persisted with medication as compared to patients lacking such visits (adjusted OR 1.22, 95% CI 1.00–1.48). Older patients were 57% more likely to persist than patients under the age of 35 years (adjusted OR 1.57, 95% CI 1.29–1.91).

DISCUSSION

Approximately half (53.8%) of R.I. Medicaid patients who were newly started on a medication for a new episode of depression did not continue the medication for at least 12 weeks. This finding is consistent with other published results. In its State of Healthcare Quality report, the National Committee for Quality Assistance reports a national rate of performance on this measure of 50.5% for Medicaid managed care in 2013.¹⁰ Despite substantial efforts by commercial health plans and managed Medicaid organizations to improve rates on this measure during the past decade, improving persistence with antidepressant medication has proven to be a formidable challenge.

Table 1. Acute-Phase Persistence with Antidepressant Medication in R.I. Medicaid in 2014 (N = 1,983)

Characteristic	Persisted with Medication			
	%	N	p-value	
	53.8	1067	-	
Age (years)	18 – 34	45.3	898	<0.001
	35 +	54.7	1,085	
Gender	Male	52.6	481	0.492
	Female	54.4	1,502	
Plan type	Fee for service	59.7	243	<0.001
	Managed care	53.2	1,740	
Index Antidepressant	SSRI	54.2	1,285	0.804
	Other class of antidepressant	53.6	698	
Regimen type	Monotherapy	41.6	1,326	<0.001
	Poly-therapy	78.8	657	
Comorbidity*	Cardiovascular disease	47.6	63	0.305
	Respiratory disease	52.2	314	0.503
	Diabetes mellitus	61.0	195	0.037
	Anxiety	55.4	634	0.390
	Bipolar disorder	52.1	144	0.639
	Schizophrenia	46.2	39	0.323
Charlson comorbidity score	0	53.0	1,374	0.191
	1+	56.2	609	
Office visits in follow-up	0	34.5	229	<0.001
	1+	56.5	1,754	
Hospitalizations	0 during 30-day baseline	54.7	1,781	0.053
	1+ during 30-day baseline	47.5	202	
	0 during follow-up period	53.8	1,742	0.787
	1 during follow-up period	54.8	241	
Visits for psychiatric services	0	51.1	995	0.009
	1+	56.9	988	

* p values for comparison of the presence/absence of the comorbidity

Table 2. Multivariable Analysis of Selected Patient Characteristics Associated with Acute Phase Antidepressant Medication Persistence (n = 1,983)

Characteristic	Adjusted Odds Ratio	95% CI	
Age Group	younger (18-34)	ref	
	older (35+ years)	1.57	1.286 – 1.907
Gender	male	ref	
	female	1.18	0.936 -1.484
Plan type	managed care	ref	
	fee for service	1.273	0.934 – 1.734
Regimen type	monotherapy	ref	
	poly-therapy	5.31	4.244-6.338
Hospitalization at baseline	yes	0.624	0.448 – 0.868
	no	ref	
Office visits during follow up	0	ref	
	1+	2.436	1.774 – 3.346
Visits for psychiatric services	0	ref	
	1+	1.218	1.001 – 1.483

Table 3. Patient and Health System Themes for Promoting Antidepressant Medication Persistence

Patient	Adherence improves when patients are told:	<ul style="list-style-type: none"> • How long to expect to take the medication • How to manage minor side effects • Whom to contact if there are questions about the medication
	These groups are at greater risk for non-adherence:	<ul style="list-style-type: none"> • Younger patients (age under 35 years) • Patients of lower socioeconomic status • Patients who were recently hospitalized
Health-system	The intensity of follow-up care after a new diagnosis of depression affects treatment adherence	<ul style="list-style-type: none"> • Symptom assessment using an instrument such as the PHQ-9 repeated at each visit helps guide medication dosing and the need for regimen change
	Integrate primary care and behavioral health	<ul style="list-style-type: none"> • The collaborative management of depression is superior to usual care

Our analyses revealed that persistence was increased with age > 35, and lower among patients lacking a follow-up visit. Additionally, patients receiving care from mental health providers were 22% more likely to have persisted with treatment. In an analysis of data from the MarketScan Commercial Claims and Encounter database, Robinson et al¹² also identified the use of mental health specialist care as a significant predictor of acute phase treatment persistence (OR 1.38, 95% CI 1.33-1.43). Yet while their study identified dissimilarities in persistence for various antidepressant medication classes, we did not find differences in persistence according to the type of antidepressant medication prescribed.

While our study did identify several factors that were associated with treatment continuance, a wide range of factors can influence patient persistence, most of which cannot be measured by an analysis of health care utilization. Lack of treatment persistence is a well-known problem, with as many as half of patients failing to adhere with medication therapies for chronic diseases.¹³ While the cost of medication may be considered a barrier to adherence, most individuals in state Medicaid programs are not required to provide a co-payment for prescription drugs. What else might explain the high rate of non-adherence revealed by this measure?

A framework developed by the World Health Organization identifies relevant dimensions of medication adherence that can be instructive in considering barriers to antidepressant medication persistence.¹⁴

Social and Economic: Family and community support systems are integral to depression care.

Health Care System: The collaborative management of depression is superior to usual care. Improving coordination among primary care providers, care managers, and mental health providers, in addition to other core elements of chronic care, improves the effectiveness of depression treatment.¹⁵

Condition Related: Lack of motivation is associated with both medication nonadherence and depression. The American Psychiatric Association recommends that practitioners collaborate with the patient's family (if possible) to help overcome this important barrier to depression care.⁶

Therapy Related: Antidepressant treatment persistence is enhanced when patients are told how long to expect to take the medication and whom to contact if there are questions

about the medication.¹⁶ Patients should also be informed that medication regimen changes may be necessary before symptoms improve.

Patient Related: Such factors are varied yet critical to identify. Alcohol use and other substance abuse are particularly important barriers to adherence.¹⁷

Key findings from our analyses and evidence review are presented in **Table 3**, which identifies health-system and patient-directed themes for promoting antidepressant medication persistence.

Our study had several limitations. First, the performance measure we applied does not have a specification to identify patients who have discontinued their antidepressant medication for a valid reason (e.g. adverse reaction, change in diagnosis). An additional bias of this measure has been reported by Hong et al,¹⁸ who note that while the measure aims to include only newly treated cases, patients with ongoing depression may be inadvertently captured, thus channeling non-adherent patients into the denominator. Lastly, actual persistence rates may be lower than reported by this measure, as it is not known if the patient actually consumed the medication dispensed by the pharmacy.

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