Healthcare Costs Associated With Escitalopram and Alternative SSRIs

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Treatment of depressive disorders has changed dramatically over the past 2 decades. Since 1987, when fluoxetine was approved for marketing in the United States, the total number of prescriptions for selective serotonin reuptake inhibitors (SSRIs) and other antidepressants has grown rapidly to more than 232 million annually, making them among the most frequently prescribed medications in the country.[1] Expenditures for antidepressants have increased by more than 450% over this time.[2] These circumstances make antidepressant prescribing a significant concern for policy makers seeking to improve the quality and effectiveness of healthcare while simultaneously reducing costs.

Recent randomized studies comparing escitalopram, the S-enantiomer of citalopram, with other SSRIs suggest clinically meaningful improvements in outcomes and cost-effectiveness associated with the choice of escitalopram for the initial treatment of new episodes of depression. In particular, several studies demonstrate that escitalopram has a more rapid onset of action when compared with alternative SSRIs.[3-5] Additionally, escitalopram has been shown to exhibit greater cost-effectiveness in studies when compared with duloxetine and venlafaxine.[6-8] There is also evidence of higher response rates and overall treatment effects in those taking escitalopram compared with those taking citalopram.[9-11]

Conceptually, a more rapid response to treatment and higher response rates could be associated with less premature discontinuation and more appropriate (longer) lengths of therapy, improved outcomes, and lower costs of care—a conclusion for which there is accumulating evidence.[12-15] Better and more rapid response to an initial treatment could reduce medical costs by (1) shortening the duration of symptoms, (2) decreasing the likelihood of changes in treatment, and (3) reducing side effects and drug interactions associated with augmentation. These cost reductions, however, could be balanced by higher drug and ambulatory care costs

ABSTRACT

Objective: To compare healthcare costs associated with initiating treatment on escitalopram or an alternative selective serotonin reuptake inhibitor.

Study Design: Retrospective cohort study using administrative claims data.

Methods: Patients were included if they had a depression-related diagnosis and 6 months or longer of health plan eligibility before and after the date of their first claim for a study antidepressant. Dependent variables included total healthcare costs and component pharmacy, medical, inpatient, and mental health treatment costs in the 6 months after initiation of antidepressant therapy. Propensity score analysis was used to account for selection bias in antidepressant choice (escitalopram vs other antidepressants). Incorporating this adjustment, regression analysis was used to examine the association between antidepressant choice and subsequent healthcare costs.

Results: Escitalopram initiators had lower total healthcare costs ($2327 vs $2383, P <.05), lower medical costs ($1666 vs $1807, P <.01), higher inpatient costs ($555 vs $541, P <.01), and higher total pharmacy costs ($587 vs $503, P <.01) in the 6 months after initiation compared with patients initiating with other antidepressants. There was a statistically significant difference in lower total healthcare costs for escitalopram initiators. Escitalopram was also associated with higher mental healthcare costs ($377 vs $304, P <.01).

Conclusions: Total healthcare costs were only slightly lower for patients initiating treatment with escitalopram. These reductions are unlikely to reflect improved clinical outcomes associated with escitalopram. Their impact on health plan budgets is unknown.

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PRACTICAL IMPLICATIONS

- Higher prescription drug costs of escitalopram initiators were offset by decreasing medical costs for other healthcare in the 6 months after therapy initiation.
- These findings highlight the important relationship between treatment choice and the subsequent costs of medical care and suggest that therapeutic substitution of generic medications for branded medications might not result in overall cost savings.

associated with longer lengths of treatment. Moreover, the price of escitalopram, a branded drug, is higher than many alternative SSRIs now available in generic form in the United States.[16]

The objective of this study is to assess the costs of healthcare associated with escitalopram and 3 alternative SSRIs that are now available as generic products. Specifically, we test the null hypothesis that total healthcare costs in the 6 months after therapy initiation would be no different for patients initiating treatment with escitalopram or those initiating treatment on citalopram, fluoxetine, or paroxetine. We also examine differences between these groups for non-pharmacy medical, inpatient, pharmacy, and mental health–related costs, as well as inpatient visits and length of stay.

METHODS

This is a retrospective cohort study with propensity-score–weighted multivariate regression.

Data and Sample

We used administrative claims data from the HealthCore Integrated Research Database that contains linked medical, pharmacy, and eligibility data beginning in January 2000 from health plans in the southeastern, mid-Atlantic, central, and western regions of the United States. Common insurance arrangements, including health maintenance organizations (HMOs), point of service, preferred provider organizations (PPOs), and indemnity plans, are represented. Patients' identities were masked throughout the study in a limited data set format, in accordance with the Health Insurance Portability and Accountability Act (HIPAA) Privacy Rule.

Patients were included in the study sample if they initiated therapy with escitalopram or another study antidepressant—citalopram, fluoxetine, or paroxetine in either generic or branded version—that was selected as the comparator drug because each was available in generic form during the study period. Patients also must have had a depression-related diagnosis (*International Classification of Diseases, Ninth Revision, Clinical Modification* [*ICD-9-CM*] codes 296.2, 296.3, 300.4, or 311.x) and 6 months or longer of eligibility in their health plan before and after the date of the first prescription fill of a study antidepressant (the index date) without an antidepressant fill during that period. Patients were excluded from the study sample if they had evidence of bipolar or psychotic disorders (*ICD-9-CM* codes 296.0x, 296.4x, 296.5x, 296.6x, 296.7x, 296.80, 296.81, 296.82, or 296.89), claims for lithium or antipsychotic medications, or claims for anticonvulsant medications used to treat bipolar or psychotic disorders without an indication of a seizure disorder (*ICD-9-CM* codes 345.xx or 780.3x). Since escitalopram first became available in mid-2002, only patients who initiated therapy between July 2002 and April 2005 were included in the study sample.

Cost Measures

We calculated 8 cost measures in the 6 months before and after antidepressant therapy initiation. Four measures were calculated using all available healthcare, pharmacy, non-pharmacy medical (both ambulatory and inpatient), and inpatient-only claims, while the other 4 are based on only those claims with an associated mental health diagnosis or procedure code, psychiatric physician specialty, or generic product identifier codes indicating a psychotropic medication. See the **Appendix** for a description of the classification for each type of service. The study takes the societal perspective; costs were thus measured as health plan–allowed amounts and include the amount paid by the plan, as well as patient copayment, coinsurance, and deductible.

Regression Analysis

In any retrospective analysis, there is always the potential for selection bias. In this study, for example, patients who are more likely to initiate therapy with one antidepressant or another might also be more likely to use less healthcare services and thus have lower healthcare costs, regardless of the drug's effect. To account for potential selection bias, we used a propensity score approach to estimate the effect of initial antidepressant choice (escitalopram vs other antidepressants) on healthcare costs in the 6 months after initiation, modeling treatment choice with a logistic regression. To investigate total, nonpharmacy medical, and pharmacy costs, the predicted propensity to initiate treatment with escitalopram was used to weigh[17-19] generalized linear models (GLMs) with a log-link function to account

Table 1. Explanatory Variables, by Regression Specification

	Propensity Score Model (Logit)	Logit for Any Hospitalization	GLMs for Costs
Initiation on escitalopram		❑	❑
Age[a]	❑	❑	❑
Gender	❑	❑	❑
Geographic region[b]	❑	❑	❑
Insurance type[c]	❑	❑	❑
Year of therapy initiation[d]	❑		❑
Type of depression[e]	❑	❑	❑
Type of comorbid anxiety[f]	❑	❑	❑
Deyo-Charlson comorbidity index	❑	❑	❑
Psychiatric encounter[g]	❑		❑
Number of unique drugs used before antidepressant initiation	❑	❑	❑
Claims for benzodiazepines before initiation	❑		❑
Cost-sharing for all psychotropics before initiation	❑		
6-Month pre-index healthcare costs			❑
6-Month pre-index hospitalization use		❑	❑

GLM indicates generalized linear model.
[a]Specified as a categorical variable (≤35, 36-55, 56-64, ≥65) with <35 as the reference group.
[b]Specified as 6 indicator variables (West1, West2, Mid-Atlantic, SouthEast1, SouthEast2, and Midwest) with West1 as the reference group.
[c]Specified as 8 indicator variables (fee-for-service, health maintenance organization, indemnity, Medicare, point of service, preferred provider organization, traditional, and other) with fee-for-service as the reference group.
[d]One indicator variable for each calendar year 2002–2005 with 2002 as the reference year.
[e]An indicator variable for each of the 4 depression diagnoses included in the study.
[f]An indicator variable for each of the 4 anxiety diagnosis codes included in the study.
[g]Any inpatient or outpatient claim with a mental health diagnosis in the 6-month pre-index period.

for skewness.[20,21] To account for an overabundance of zero costs in the hospital cost models, estimated inpatient costs (from the GLM) were multiplied by the likelihood of hospitalization estimated by logistic regression.[20] We used the modified Park test to determine the appropriate error structure for each GLM equation; all tests confirmed that use of the gamma distribution was appropriate.[21]

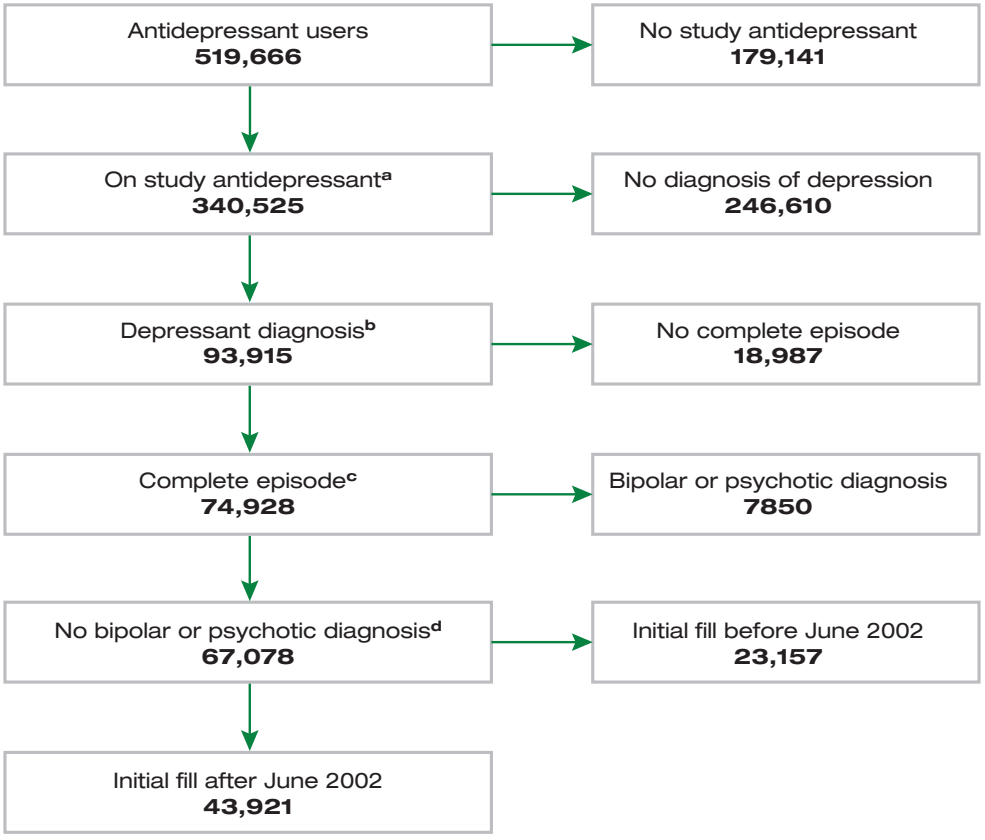
Independent variables used in the propensity score and cost models included demographic characteristics, indicators of disease severity, and patient utilization of medical services and prescription drugs (**Table 1**), all assessed in the 6 months before therapy initiation. Demographic characteristics included age, gender, geographic region, type of insurance coverage, and year of therapy initiation. Disease severity variables included type of depression (major depression, single episode; major depression, recurrent episode; dysthymia; and depressive disorder, not otherwise specified), type of comorbid anxiety (when present), and a measure of comorbid medical conditions prior to therapy initiation (Deyo-Charlson comorbidity index). Medical service and pharmaceutical variables included a binary measure for having 1 or more psychiatric encounters (inpatient or outpatient), a count of the number of distinct medications filled in the 6-month pre-period (the sum of unique 8-digit generic product identifier codes), an indicator of having a drug claim for a benzodiazepine, and total patient cost-sharing for all psychotropic medications.

RESULTS

The **Figure** shows the effects of study inclusion and exclusion criteria on the final research sample of 43,921 patients. Of the 519,666 patients initiating antidepressants in the data set, 179,141 patients were excluded because they did not take a study antidepressant or their initial fill was for more than 45 days; 246,610 because there were no medical claims indicating a depressive disorder; 18,987 because of truncated episodes of care; 7850 because of the presence of a bipolar or psychotic disorder; and 23,157 because the patient filled the initial prescription before June 2002.

On average, sample members were about 40 years old and nearly one-third were male (**Table 2**). The

Figure. Selection Process Schematic



GPI indicates generic product identifier; *ICD-9-CM*, *International Classification of Diseases, Ninth Revision, Clinical Modification*.
[a]Study antidepressants include escitalopram, citalopram, fluoxetine, paroxetine. This group also excludes patients with index fills >45 days in length.
[b]Depression defined by the occurrence of ≥1 claim that included *ICD-9-CM* codes 296.2, 296.3, 300.4, or 311.x.
[c]Patient had ≥6 months of health plan eligibility before and after the initial antidepressant fill. In the 6 months before this fill, each patient had no fills for study medication.
[d]Bipolar and psychotic disorders defined by *ICD-9-CM* codes 296.0x, 296.4x, 296.5x, 296.6x, 296.7x, 296.80, 296.81, 296.82, 296.89, or use of lithium (GPI 4 code 5950), antipsychotics (GPI 2 code 59), or anticonvulsants (GPI 2 code 72, excludes benzodiazepines) except when claims indicated a seizure disorder (*ICD-9-CM* codes 345.xx or 780.3x).

predominant insurance types were HMO (28.1%) and preferred provider organization (57.8%), and 45% of patients were enrolled in 1 plan in a western state (not shown). The most common type of depression diagnosis was "depressive disorder, not otherwise specified," and about one-quarter of the sample also had evidence of an anxiety disorder. Approximately 20% of the sample had claims for a benzodiazepine before antidepressant initiation while the average number of unique prescription drugs used before initiation of antidepressant therapy was 3.

Propensity Score Model

To account for potential selection effects based on the choice of initial antidepressant, we estimated a logit model of the probability of initiating therapy with escitalopram or other antidepressants (not shown). Several observable variables were statistically significant predictors of being prescribed escitalopram (Table 2), including age (36-55 and 56-64 years), index year, having a psychiatric office visit in the 6 months prior to therapy initiation, some types of depression, geographic region, type of insurance arrangement, use of benzodiazepines before therapy initiation, and total psychotropic drug costs before therapy initiation.

Pre-Treatment Healthcare Costs

Healthcare costs in the pre-treatment period were significantly different among drug cohorts. In the 6 months before antidepressant therapy initiation, total healthcare costs were 13% higher ($3010 vs $2659; $P < .05$) among patients who initiated therapy with escitalopram compared with other antidepressant initiators (**Table 3**). For escitalopram initiators, nonpharmacy medical costs were 13% ($2662 vs $2360; $P < .05$), pharmacy costs 16% ($348 vs $299; $P < .01$),

Table 2. Research Sample Characteristics (Percentages, Unless Otherwise Specified)

	Initiate With Escitalopram	Initiate With Other	All
Age[a,b]			
Mean	39.9	38.5	39.2
Median	40	39.0	39.0
SD	14.3	15.0	14.7
Gender			
Male	32.3	31.8	32.0
Female	67.7	68.2	68.0
Type of Insurance[a]			
HMO	27.0	29.1	28.1
PPO	58.8	57.0	57.8
POS	6.3	6.2	6.2
Other[c]	7.9	7.8	7.8
Region[a]			
Mid-Atlantic	3.9	3.7	3.8
SouthEast1	15.7	16.2	16.0
SouthEast2	17.5	15.1	16.2
Central	12.0	10.6	11.2
West	45.4	48.1	46.9
Midwest	5.6	6.3	6.0
Index Year			
2002	27.5	3.8	16.9
2003	32.4	34.5	33.4
2004	25.6	39.2	31.7
2005	14.5	22.4	18.0
Deyo-Charlson Score[a,d]			
Mean	0.2	0.2	0.2
Median	0	0	0
SD	0.8	0.7	0.7
Type of Depression			
Major depression, single episode	20.9	20.6	20.7
Major depression, recurrent episode	17.3	16.9	17.1
Dysthymia[e]	18.0	18.8	18.5
Depressive disorder, NOS[a]	62.5	60.7	61.5
Evidence of Anxiety	25.6	25.9	25.8
Claims for Benzodiazepines[a]	21.1	17.6	19.2
Psychotropic Drug Out-of-Pocket Costs[a,d]			
Mean	$11.16	$7.60	$9.20
SD	42.5	34.4	38.3
Number of Unique Drugs Used Before Antidepressant Initiation[a,d]			
Mean	3.1	2.9	3.0
Median	2.0	2.0	2.0
SD	3.2	3.1	3.2
Number of Patients (%)	**19,755 (45.0)**	**24,166 (55.0)**	**43,921 (100.0)**

HMO indicates health maintenance organization; NOS, not otherwise specified; POS, point of service; PPO, preferred provider organization; SD, standard deviation.
[a] $P < .01$.
[b] Statistical significance determined by logit model (see text).
[c] Other includes indemnity, traditional, fee-for-service, and other types of insurance.
[d] Measured in the 6-month, pre-index period.
[e] $P < .05$.

Table 3. Healthcare Costs in the 6 Months Before Antidepressant Initiation, Unadjusted and Adjusted With Propensity Score Weights

	Unadjusted			Adjusted With Propensity Score Weights		
Measure	Initiate With Escitalopram	Initiate With Other Drugs	Difference	Initiate With Escitalopram	Initiate With Other Drugs	Difference
Total Costs	$3010 (16,088)	$2659 (13,039)	351[b]	$3215 (17,423)	$3019 (12,521)	196
Pharmacy costs	$348 (820)	$299 (809)	49[c]	$386 (978)	$341 (811)	45
Medical costs[a]	$2662 (15,987)	$2360 (12,861)	302[b]	$2828 (17,303)	$2678 (12,305)	150
Inpatient costs	$1313 (15,468)	$1191 (12,175)	122	$1382 (16,775)	$1331 (11,626)	51
Total Mental Health Costs	$76 (249)	$57 (252)	19[c]	$90 (334)	$77 (303)	13
Psychotropic medications	$27 (161)	$23 (184)	4[b]	$37 (252)	$34 (239)	3
Mental health medical costs	$50 (184)	$35 (165)	15[c]	$53 (214)	$43 (176)	10
Mental health inpatient costs	$7.28 (77)	$5.88 (64)	1.4[b]	$8.48 (91)	$7.82 (69)	0.7
Number of Patients	**19,755**	**24,166**	—	**19,755**	**24,166**	—

[a]Medical costs include all nonpharmacy ambulatory and inpatient costs.
[b]Statistically different from zero at the 0.05 level, 2-tailed *t* test.
[c]Statistically different from zero at the 0.01 level, 2-tailed *t* test.

and inpatient costs 10% ($1313 vs $1191, not significant) higher than other antidepressant initiators. Total pre-treatment mental health–care costs among escitalopram initiators were 25% higher than costs for other antidepressant initiators (P <.01), but the absolute value of average mental health–care costs was small ($76 vs $57; P <.01), reflecting the fact that 80% or more of patients had no mental health specialty care prior to initiating antidepressant treatment. Similarly, pretreatment costs for psychotropic drugs was higher for those initiating treatment with escitalopram, but the absolute value was very small ($27 vs $23; P <.05).

To examine whether the estimated propensity scores helped to account for some of the unadjusted differences in pre-initiation costs, we calculated propensity-score–weighted cost differences among initiators of escitalopram and other antidepressants (Table 3). For all cost measures, weighted differences between patients who initiate with escitalopram or other antidepressants were smaller than the unweighted differences and none were statistically significant at the 10% level, suggesting that the propensity score model may have mitigated some of the selection bias attributable to observable characteristics.

Regression-Adjusted Estimates of Post-Treatment Healthcare Costs

Our regression analysis suggests that the difference in prescription drug costs of escitalopram initiators, compared with other antidepressant users, is similar to the differences in costs for other healthcare (**Table 4**). We estimate that in the 6 months after antidepressant therapy initiation, total healthcare costs were only about 2% lower ($2327 vs $2383; P <.05) among escitalopram users compared with other antidepressant initiators. Total pharmacy costs for those who initiated treatment with escitalopram were 17% higher ($587 vs $503; P <.01) and costs for nonpharmacy medical (outpatient and inpatient) services were 8% lower ($1666 vs $1807; P <.01); this difference was not explained by reductions in hospital costs, which were slightly higher for escitalopram initiators ($555 vs $541; P <.01).

Regression-adjusted total mental health–care costs were 24% higher ($377 vs $304; P <.01) for escitalopram initiators. Nonpharmacy medical costs attributable to mental health care were about 20% lower ($38 vs $48; P <.01) for escitalopram initiators compared with other antidepressant initiators (although the absolute value of these costs was low); costs of psychotropic medications were also higher among escitalopram initiators ($319 vs $234, estimated difference = $85; P <.01).

In a sensitivity analysis, we examined costs for only those patients with mental health claims (8274) and found that total mental health–care costs were still 7% greater ($741 vs $694; P <.01) for escitalopram initiators. While medication costs were 33% higher ($384 vs $289; P <.01), medical costs attributable to mental health–related services were 10% less ($346 vs $386; P <.01) when compared with other antidepressant initiators. In other sensitivity analyses, we attempted to model the number of hospitalizations (both total and mental health–related) and length of stay, but the proportion of the research sample (5%) that had a hospitalization in the 6 months after antidepressant initiation was too small to make

Table 4. Regression-Adjusted Healthcare Costs in the 6 Months After Antidepressant Initiation (95% Confidence Intervals Below Cost Estimates)

	Initiate With Escitalopram	Initiate With Other Drugs	Difference
Total Costs	$2327 ($2285-$2370)	$2383 ($2343-$2424)	-56[a]
Medical costs	$1666 ($1625-$1707)	$1807 ($1766-$1849)	-141[b]
Inpatient costs	$555 ($548-$562)	$541 ($534-$548)	14[b]
Pharmacy costs	$587 ($579-$594)	$503 ($497-$510)	86[b]
Total Mental Health Costs	$377 ($372-$383)	$304 ($300-$308)	73[b]
Mental health medical costs	$38 ($37-$39)	$48 ($46-$49)	-10[b]
Mental health inpatient costs	$3.32 ($3.18-$3.46)	$3.59 ($3.43-$3.74)	-0.27[b]
Psychotropic medications	$319 ($314-$324)	$234 ($231-$238)	85[b]
Sample Size	**19,755**	**24,166**	

[a]Statistically different from zero at the 0.05 level, 2-tailed *t* test.
[b]Statistically different from zero at the 0.01 level, 2-tailed *t* test.

meaningful inferences about the association between antidepressant initiation and inpatient utilization.

DISCUSSION

The objective of this study was to compare healthcare costs among patients initiating therapy on a branded SSRI, escitalopram, with costs of patients who initiate therapy on 1 of several SSRIs available in generic form. Taking the societal perspective, our results show that use of escitalopram is associated with a small but statistically significant reduction in total healthcare costs. Assessment of component costs suggests that higher pharmaceutical costs are offset by lower nonpharmacy medical (total outpatient and inpatient) costs. However, use of escitalopram is associated with a small but significant increase in the total costs of mental health care, where higher antidepressant costs more than offset reduced costs of ambulatory and inpatient mental health care.

Our finding that escitalopram is associated with higher drug costs but lower overall costs is consistent with prior empirical and model-based economic analyses in adult[21-23] and older adult[12,13] populations. However, our findings regarding component costs differ from these other studies in important ways. In particular, 2 studies based on cost data collected during randomized clinical trials in adults with major depressive disorder suggest that use of escitalopram is associated with lower inpatient hospital costs but higher ambulatory care costs,[21,22] whereas 2 studies among older adults show lower inpatient hospital costs but similar costs of ambulatory care.[12,13] There are many differences between these studies and the study presented here, including significant differences in the patient population, perspective, and analytical strategy. There is much to be learned about the reasons for the differences in costs observed in various studies and their implications for policy.

Our study contributes to understanding of the costs associated with treatment of depressive disorders and antidepressants in several ways. The mix of available antidepressants has changed considerably over the past 5 years: new branded drugs are entering the market while older SSRIs are becoming available in generic form. Although we did not model or examine drug substitution patterns, our findings hint at a relationship between treatment choice and the subsequent costs of medical care, suggesting that substituting cheaper, generic medications for therapeutically similar ones might not automatically result in overall cost savings. The cost of healthcare for patients treated for depressive disorders represents a complex interaction of the cost of the specific treatment,

in this case medications, with the associated costs of monitoring treatment, the clinical outcomes that result from treatment, and any spillover effects that might reduce the costs of treatment for comorbid conditions.

In this study, we found that medication costs were significantly higher for those initiating treatment on escitalopram. While this finding is consistent with the notion that the price of escitalopram is higher than the price of generic alternatives,[16] it may reflect longer lengths of treatment associated with use of escitalopram.[12-15] For example, the likelihood of changing treatments among patients is lower after initiating treatment with escitalopram.[24] Moreover, because the societal perspective includes patient cost-sharing for drugs, which are higher for escitalopram than for the generically available antidepressants studied here, taking the payer perspective would have the effect of reducing the difference in the pharmacy costs.

Understanding the reasons for and clinical correlates of changes in healthcare costs associated with treatment for depression will provide greater acceptance of the results of economic assessments and better cost projections for policy makers during formulary discussions of new treatments. There are many unanswered questions that will require deeper exploration (eg, longer lengths of treatment associated with escitalopram might be expected to be associated with a longer period of monitoring the course of the depressive disorder and therefore higher costs). These higher costs, however, might be subsumed by regular visits for treatment of other conditions, or they might be offset by reductions in the number of visits required for changes in treatment. Further research is needed to determine which theory is correct.

As in any comparison of treatment effects that relies on observational data, our study provides only limited opportunity to make causal inferences. Although the propensity-score approach used here mitigates this limitation, unobserved characteristics could still result in an imperfect balance between the escitalopram and other antidepressant cohorts. An additional limitation is that the diagnosis of a depressive or anxiety disorder on insurance claims is imperfect at best; patients with these disorders that were not coded in claims data but are treated with antidepressants were excluded from our research sample. We found very low costs associated with mental health care following initiation of treatment in both the escitalopram and other antidepressant cohorts (and that <20% of the research sample had mental health–care claims after initiation of antidepressant treatment), a finding suggestive of failure to code for depressive or other mental disorders.[25] Another limitation may be the inclusion of higher-cost, treatment-resistant patients who initiated escitalopram therapy at launch. This may have inaccurately demonstrated cost differences during the first 6 to 12 months, as many of these patients are typically prescribed new agents subsequent to the failure of another. While our study makes use of a large sample, it is also not representative of all antidepressant users. Finally, because we take the societal perspective in our analysis, we are unable to draw conclusions regarding the effects of the small differences in costs observed here on health plan budgets.

CONCLUSION

Despite higher medication costs, total healthcare costs were slightly lower for patients initiating treatment with escitalopram compared with those starting treatment with 1 of several alternative, generically available SSRIs. While statistically significant, these reductions in costs most likely do not reflect improved clinical outcomes associated with escitalopram.

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Appendix. Type of Claim or Service Use

Claim or Service	
Inpatient	Physician specialty code is psychiatry OR *CPT* codes 90801-90802, 90816-90899
Emergency department	Physician specialty code is psychiatry OR *ICD-9-CM* codes 290.xx-319.xx OR *CPT* codes 90801-90899
Outpatient	Physician specialty code is psychiatry OR *CPT* codes 90801-90815, 90830-90899
Drugs	GPI 2 codes 57-62

CPT indicates *Current Procedural Terminology*; GPI, generic product identifier; *ICD-9-CM*, *International Classification of Diseases, Ninth Revision, Clinical Modification.*