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Medicaid Expenditures on Psychotropic Medications for Maltreated Children: A Study of 36 States

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Abstract

Objective—Children with histories of abuse or neglect are the most expensive child population to insure for their mental health needs. This paper quantifies the magnitude of Medicaid expenditures incurred on the purchase of psychotropic drugs for these children.

Methods—Child participants (N=4445) in the National Survey of Child and Adolescent Well-Being (NSCAW) – consisting of children investigated for suspected abuse and neglect – were linked to their Medicaid claims from 36 states. Expenditures on psychotropic mediations between the NSCAW sample and a propensity score-matched comparison sample were compared using a two-part regression of logistic and generalized linear models.

Results—Children surveyed in NSCAW had twice the odds of psychotropic drug use, and $190 higher mean annual expenditures on psychotropic drugs than those in the comparison sample. Increased expenditures on antidepressants and antimanic drugs were the primary drivers of these increased expenditures. Male gender and white race/ethnicity were associated with significantly

Human Participant Protection
These analyses were approved by the Washington University Human Research Protection Office and the Institutional Review Board of Research Triangle Institute (RTI International).

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increased expenditures. Children in primary care case management had $325 lower expenditures than those in fee-for-service Medicaid. Among NSCAW children alone, male gender, older age, being in poorer health, and scoring in the clinical range of the Child Behavior Checklist all increased expenditures on psychotropic drugs.

Conclusions—Medicaid agencies should focus their cost containment strategies on antidepressants and antimanic drugs, consider expanding primary care case management arrangements, and expand use of instruments such as the Child Behavior Checklist to identify and treat high-need children.

INTRODUCTION

Children with histories of abuse and neglect – collectively, *child maltreatment* – are the dominant consumers of child mental health services in the United States today. In federal fiscal year 2011, around 6.2 million children were reported to child welfare/child protection agencies (hereafter, *child welfare*) nationwide for suspected maltreatment (1); half of all maltreated children have clinically significant emotional or behavioral problems (2, 3). Medicaid is the dominant pay or for the treatment of these problems (4), and quantifying such expenditures is of critical importance to Medicaid agencies, especially as the Affordable Care Act exerts new pressures upon Medicaid budgets.

Approximately half of all spending for the treatment of emotional and behavioral disorders occurs on psychotropic drugs (5). Understanding this driver of mental health expenditures is critical for Medicaid agencies because children in child welfare receive psychotropic medications at a rate between 2–3 times that of comparable children in the community (6). These children also receive more drugs concomitantly (7, 8), which makes children in the child welfare system the largest consumers of psychotropic drugs among all child populations in the United States today.

The magnitude of such use has serious fiscal consequences for Medicaid agencies. Mental health costs for maltreated children can reach $16,848/month (9), and total behavioral health expenditures incurred by each child in foster care are over 8 times higher than expenditures on non-foster children (10). There is little information on the extent to which psychotropic medications are responsible for these expenditures, and extant studies examining this question have focused on either single-state analyses (11), or on smaller groupings of Medicaid states (12). Other child characteristics that might explain the need for such medications are also understudied at a population level. The fiscal utility of instruments purporting to capture mental health need such as the Child Behavior Check List (CBCL; described below) (13, 14), and maltreatment status, is not well understood in large population-level data. Such a lack of data has been identified as one of the principal challenges facing Medicaid agencies in their attempts to contain costs of care for their child welfare beneficiaries (15).

This study links data from a national panel survey of children and adolescents coming into contact with child welfare agencies to their Medicaid claims in 36 states. In this paper, we quantify Medicaid expenditures on psychotropic medications among maltreated children, and compare them to a propensity score-matched sample of child Medicaid beneficiaries

without putative child welfare involvement. We model expenditures for both of these groups to identify differential drivers of expenditures, and end by modeling expenditures among a sample of child welfare-involved children. Through such analyses, we provide Medicaid agencies with information designed to help them anticipate, better predict, and deliberately plan for mental health expenditures for their child welfare-involved beneficiaries.

METHODS

Data Sources, and Creation of Analytic Data Set

The National Survey of Child and Adolescent Well-Being (NSCAW) is the first nationally representative, panel study of children and adolescents coming into contact with child welfare agencies. The survey contains data on 5501 youth investigated by Child Protective Services for possible abuse and neglect and 727 youth in long-term foster care placement in 92 primary sampling units in 97 counties throughout the United States. NSCAW's baseline wave was conducted over a 15-month period beginning October 1999 (16, 17), and these data were used for information on child and caregiver characteristics. We also obtained Medicaid claims files [Medicaid Analytic Extract or "MAX" (18)] for years 2000 through 2003 and Medicaid enrollment files with Social Security Numbers (SSNs) and residence data of beneficiaries. We obtained data on all 36 states that were part of the NSCAW sampling frame.

We used SSNs to link 2371 NSCAW children to Medicaid records. For NSCAW children without an SSN match but for whom permission to match was available, we used all unique 5-digital ZIP code, date of birth, gender, and race/ethnicity combinations to link these two data sets, for a linked sample of 4445 children. (The remaining 1,783 children in NSCAW were not linkable either because their caregivers did permit such linkage, or because we lacked appropriate identifiers.)

We linked Medicaid enrollment files to drug claims files (RX file) across four years, and aggregated individual claims within a single calendar year for a given NSCAW child. We deleted from our sample all children younger than 2 years at NSCAW wave 1 because NSCAW's version of the Child Behavior Checklist (CBCL) (13, 14), is not normed for that age group. Children who were not enrolled in select Medicaid plan types—fee-for-service (FFS), primary care case management (PCCM), or "other" managed care plans with non-mental health care carve-out—for at least 10 months in a calendar year were also deleted, since we observe only enrollment, not claims or services, for children in Medicaid managed care. These steps left an analysis sample (nT) of 4701 child-year observations, consisting of 1861 unique children.

We generated a comparison sample of4701 child-year observations using propensity score matching(19). We identified a cohort of Medicaid beneficiaries without any Medicaid codes for eligibility based upon foster care status across all years, and then developed propensity scores using age, gender, race/ethnicity, year of data, Medicaid plan type, and ZIP code of residence for all children. We then matched NSCAW children to their nearest Medicaid neighbor with replacement. The resulting process yielded a sample that did not display statistically significant differences from NSCAW children with respect to age, gender, race/

ethnicity, and plan type. Absence of foster care eligibility codes in Medicaid is an imperfect proxy for absence of maltreatment. It is likely that some of the children in the comparison group may have been subjected to maltreatment, or have child welfare involvement that did not result in foster care placement; the magnitude of this bias is currently unknown.

Medicaid Expenditures on Psychotropic Medications

First, we used codes from Medicaid RX (MRX) (20), the most widely used Medicaid pharmacy risk adjustment model, to aggregate drugs by indications of attention-deficit disorder, depression/anxiety, psychotic illness/bipolar, and seizure disorder (which contains anticonvulsants). Second, we used drug categories from the Red Book (21) in order to present information on drug classes of relevance to psychiatric practice. We purposively selected mental health-relevant MRX and Red Book categories, so results from these two approaches are not expected to be equivalent. Outcomes are measured as mean total annual Medicaid expenditure per child.

Covariates

Except where otherwise noted, all NSCAW variables were obtained from the child's primary caregiver. Child-level covariates included child age, gender, and race/ethnicity. Identification of behavioral problems was based on whether the child scored in the clinical range (*t* score of 64 or greater) on the internalizing or externalizing scales of the CBCL (13, 14), a well-established measure of mental health need among child populations (6, 22, 23). Categories of physical abuse, sexual abuse, neglect, and abandonment were obtained from caseworkers, and dichotomized such that a child could have more than 1 type of abuse coded. We also used a binary indicator variable representing "fair" or "poor" physical health, with "excellent, "very good," or "good" as a referent, reported by the child's caregiver.

Each child's placement status was grouped into two mutually exclusive categories of in-home (i.e., living with their permanent primary caregiver, usually their birthparent), or out-of-home (in family foster care or in congregate care, such as a group home or residential treatment center). Information on whether the child lived in an urban or rural area was obtained from NSCAW data as a control for the availability of health care resources in the child's community. We also included dummy variables for insurance type (FFS, PCCM, or both types) from the Medicaid enrollment files. All covariates were measured at baseline, except insurance type, which is measured at the child-observation (i.e., calendar year) level for an individual child.

Analyses

We first developed an aggregate expenditure figure per child per year, for both NSCAW and comparison samples, and adjusted all expenditures to 2010 dollars (24, 25). Bivariate analyses showing mean differences in rates of annual use of, and expenditures on, psychotropic medications between NSCAW and comparison group children were performed using two-sample proportions and *t*-tests.

Differences in psychotropic medication expenditures between NSCAW and comparison group children were examined using a two-part (26) model with expenditures per child per year as its outcome. In the first part we used logistic regression to estimate the annual probability of having any medication expenditures, and in the second part we used a generalized linear model (GLM) with a log link and a gamma distribution (27, 28). We estimated similar models on an NSCAW-only sample (nT=3520 child-year observations after some missing values; no propensity-score matched sample) to examine the association between NSCAW's rich set of explanatory variables and expenditures. We present the combined marginal effect showing the joint impact of both differences in use (part 1) and levels of expenditure (part 2) on Medicaid expenditures.

We report unweighted expenditure data in keeping with prior literature (12, 29). All models include corrections for the clustering of multiple years' worth of expenditure observations per child. We also include state dummies to control for unobserved state-level variables, and year dummies to control for secular trends (not shown in tables). All analyses were performed in Stata version 13.1(30). NSCAW participants provided informed consent to these data linkages, and these analyses were approved by two separate Institutional Review Boards.

RESULTS

Among the NSCAW youth observations (measured at the child-year level), 2289 (48.7%) were male. At NSCAW's baseline wave, 1634 (34.8%) were aged between 2 and 5 years, 1666 (35.4%) between 6 and 11 years, 521 (11.1%) between 12 and 13 years, and 880 (18.7%) were 14 years of age or older. Most children (2480, 52.8%) were of non-Hispanic white race/ethnicity, others were African-American (1532, 32.6%), Hispanic (411, 8.8%), other (81, 1.7%), and the remainder were of unknown race/ethnicity (197, 4.2%).

Table 1 shows bivariate analyses of the mean differences in utilization of, and annual expenditures on, psychotropic medications between NSCAW and comparison group children. Prescriptions in the MRX classifications shown were used by 25% of the NSCAW sample versus 16% of the comparison sample ($p<.001$). Among those who received these medications, mean drug expenditures for NSCAW children were significantly higher ($1559) than those of children in the comparison group ($1300; $p<.001$). NSCAW children had significantly higher use and expenditures for each class of drugs used in the MRX system. Results of differences in pharmaceutical class (Red Book classifications) were similar in direction and significance. NSCAW children displayed significantly increased expenditures on antimanic agents ($143 difference) and antidepressants ($82 difference), and significantly lowered expenditures on benzodiazepines ($158 lower expenditures), when compared to the non-NSCAW sample.

Differences in cumulative drug expenditures between NSCAW and comparison group children are reported in Table 2. Odds ratios from Part 1 of the model indicate the odds of incurring any expenditures on psychotropic drugs using the MRX classification; for brevity, we do not show expenditure differences for the Red Book classifications. An NSCAW child had nearly twice the adjusted odds of incurring an expenditure on a psychotropic drug when

compared to a non-NSCAW child (OR=1.9; 95% CI=1.7 to 2.2; p<.001). Across both groups, males and older children, had significantly higher odds of incurring any expenditures, while children of African American or Hispanic race/ethnicity had lower odds of incurring any expenditures when compared to white children. Children of other/mixed race/ethnicities had significantly higher odds of medication use, but their small numbers makes interpretation of these odds ratios problematic. Children in primary care case management Medicaid plans had about 50% lower odds of any expenditure than children in Medicaid plans that paid using fee-for-service (OR= 0.5; 95% CI= 0.4 to 0.6; p<0.001).

Table 2 also displays coefficients of the GLM model (Part 2) showing predictors of expenditure among children with any (non-zero) expenditures on psychotropic drugs. The direction of these predictors largely parallels the odds ratios from Part 1 of the model. Among only those with positive expenditure in these MRX categories, NSCAW children incur an average of $189 more in annual psychotropic drug expenditures compared to non-NSCAW children. The purchase of psychotropic drugs for a male child costs Medicaid $200 more on average annually, and $1801 more for a child of age 14 or older. African American and Hispanic children incur $153 and $112 lower mean annual expenditures compared to white children. A child whose Medicaid program reimbursed providers on a primary care case management basis incurred $325 less in expenditures when compared to a child whose Medicaid program paid its providers on a fee-for-service basis.

Table 3 displays results from a 2-part model of differences in psychotropic medication expenditures conducted on a stratified sample of NSCAW-only children. Many of the demographic findings are similar to those shown in Table 2. Importantly, children placed in foster care or in residential care incur an average expenditure of $168 more each year on psychotropic drugs. Children in poor or fair health incur $228 more in expenditures when compared to those in excellent or good health. CBCL scores are good predictors of expenditures; a clinically significant externalizing CBCL score is associated with $555 more, while a clinically significant internalizing score is associated with $152 more, in annual psychotropic drug expenditures. Maltreatment history does not seem to be an independent risk factor for psychotropic drug expenditures.

DISCUSSION

In this study we examine Medicaid expenditures in 36 states on psychotropic drugs among a sample of child respondents to the National Survey of Child and Adolescent Well-Being (NSCAW). NSCAW children had almost twice the odds of using medications, and incurred between 20% and 30% higher expenditures on medications than Medicaid child enrollees without apparent foster care involvement. Each maltreated child enrolled into Medicaid increased the program's expenditures on psychotropic medications by approximately $190 in mean annual psychotropic drug expenditures among children with non-zero expenditures. These estimates, spread over 36 state Medicaid programs, provide greater precision than prior attempts to identify the magnitude of incurred expenditures upon this population. These mean annual expenditures also need to be considered longitudinally. Median lengths of stay for children in foster care who are finally adopted is nearly 3 years (31). Even after departure from foster care, children maintain Medicaid eligibility for a mean of 3 months

(32). Consequently, cumulative median Medicaid expenditures on medications can approximate $600 at a lower bound, with a large proportion of children – especially older children who leave foster care when they attain the age of legal adulthood – costing Medicaid agencies several thousand dollars throughout their stay in the child welfare system.

Our findings are conservative when compared to prior research that suggested that maltreated children increase Medicaid expenditures by between $237 and $840 per year (12). One reason for this difference is that ours is a much larger sample, with greater precision in its estimates. But, more importantly, prior work on expenditures has used conditional marginal effects (examining only children with non-zero expenditures) to arrive at expenditure estimates. In this paper, we present the joint marginal effect (which includes information from both part 1 and part 2 of the 2-part model). Hence, even though the expenditure difference looks smaller, it may be the more relevant number for Medicaid programs because the full budgetary impact of child maltreatment is felt through both differences in use (part 1) as well as through expenditures conditional upon use (part 2).

The implications for Medicaid cost containment policies are also clearer in this study. The use of antimanic and antidepressant medications seem to drive much of the expenditure differences between NSCAW and comparison children. Focusing quality improvement and prior authorization programs (33) on these two drug classes may be worthwhile. It is also intriguing that primary care case management, when compared to traditional fee-for-service plans, produces mean annual cost savings of $355 on psychotropic medications. Because our focus is on costs, and not on quality or outcomes, we cannot comment on the appropriateness of such a structural arrangement. However, if these savings are due to better care coordination rather than increased unmet need, then this may support the efforts of Medicaid agencies to move child welfare-involved children into medical home models.

Finally, the CBCL remains a powerful predictive instrument to estimate costs of psychotropic medications. Clinical scores on the externalizing and internalizing subscales are associated with an increase of $555 and $152 in mean annual expenditures for psychotropic drugs. The CBCL is highly rated in the child welfare field (34), and our findings offer Medicaid agencies a financial reason for its adoption as a population-level screening instrument.

Our study is subject to a few limitations. The design of our data linkage and our inability to use weights means that our data are convenience samples of children in 36 states. Second, we used Medicaid eligibility codes to identify a comparison sample of child Medicaid beneficiaries without foster care involvement. It is possible that some of these children may have been maltreated, in which case our estimates of expenditure differences between NSCAW children and comparison children is conservatively biased. Third, our data are only reflective of children in non-managed Medicaid systems, which form the largest type of payment systems for children in child welfare (4), and were the dominant plan types for child welfare children in our sample.

CONCLUSIONS

Despite these limitations, this linkage between survey data and Medicaid claims data in 36 states provides insights to Medicaid policymakers on better predicting psychotropic medication expenditures among a highly vulnerable population. Planning for these expenditures, and ensuring that the needs of the most emotionally disturbed children are adequately resourced is critical important to Medicaid agencies as they attempt to resource care for children in the child welfare system within an increasingly unstable and uncertain fiscal climate.

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Table 1

Utilization rate and mean expenditures among individuals using each type of medication (nT = 9402 child observations)

Drug	Comparison Sample			NSCAW Sample				
	Utilization nT=4701	(%)	Expenditure ($)	Utilization nT=4701	(%)	p	Expenditure ($)	p
MRX Classification								
Attention Deficit	471	10	561	719	15.3	<.001	594	ns
Depression/Anxiety	360	7.7	512	593	12.6	<.001	599	<.01
Psychotic Illness/Bipolar	200	4.3	1,724	391	8.3	<.001	1,797	ns
Seizure disorders	185	3.9	1,003	327	7	<.001	954	ns
Total for any of these	753	16	1,300	1,152	24.5	<.001	1,559	<.001
Red Book Classification								
Sedatives/hypnotics, Barbiturates	21	.4	77	9	.2	<.01	117	ns
Sedatives/hypnotics, Benzodiazepines	34	.7	220	29	.6	ns	62	<.01
Anticholinergic/Antimuscarinic/Antis pasmodic	53	1.1	73	39	.8	ns	46	ns
Anticholinergic/Antiparkinsonian Agent	10	.2	62	28	.6	<.001	74	ns
Anticholinergic, Not Elsewhere Classified	12	.3	261	14	.3	ns	167	ns
Anticonvulsants, Hydantoin Derivative	17	.4	238	5	.1	<.01	143	ns
Anticonvulsants, Oxazolidinediones	0	-	-	0	-	ns	-	
Anticonvulsants, Succinimides	1	-	-	0	-	ns	-	
Anticonvulsants, Benzodiazepine	13	.3	156	23	.5	<.05	161	ns
Anticonvulsants, Miscellaneous	168	3.6	1,047	319	6.8	<.001	970	ns
Antimanic Agents, Not Elsewhere Classified	18	.4	112	44	.9	<.001	255	<.01
Anxiolytics/Sedatives/Hypnotics Not Elsewhere Classified	168	3.6	100	185	3.9	ns	91	ns
Central Nervous System Agents, Miscellaneous	39	.8	440	60	1.3	<.01	499	ns
Opiate Antagonists, Not Elsewhere Classified	1	-	-	1	-	ns	-	
Antidepressants	323	6.9	519	564	12	<.001	601	<.01
Antipsychotics	197	4.2	1,743	382	8.1	<.001	1,810	ns
Stimulant, Amphetamine Type	458	9.7	540	704	15	<.001	565	ns
Stimulant, Non-Amphetamine	3	.1	-	0	-	<.05	-	
Total for any of these	909	19.3	1,097	1,277	27.2	<.001	1,417	<.001

Note: Utilization is the row mean and is non-exclusive, so the sum may exceed the MRX or Red Book total. Expenditures reflect means for child observations who are using a particular type of medication. Zeros are not included in the means.

Table 2

2-part regression model of cumulative drug expenditures (MRX classification), NSCAW vs. Comparison Sample (nT = 9402 child observations)

	Part I: Odds Ratio for any expenditure	95% CI	p	Part II: GLM Coefficients for expenditure if > $0	95% CI	p	Combined marginal effect (Parts 1 and 2)	95% CI	p
NSCAW sample	1.93	1.67 to 2.24	<.001	.25	.12 to .39	<.001	189.83	136.32 to 243.34	<.001
Male	1.90	1.63 to 2.22	<.001	.15	.001 to .30	<=.05	200.32	129.37 to 271.27	<.001
Age									
3–5	(omitted)			(omitted)					
6–11	9.03	7.12 to 11.47	<.001	.62	.33 to .92	<.001	894.86	602.97 to 1186.76	<.001
12–13	12.19	9.31 to 15.97	<.001	.97	.66 to 1.28	<.01	1,790.35	1165.39 to 2415.30	<.001
14 or older	13.89	10.65 to 18.12	<.001	1.11	.81 to 1.42	<.001	1,801.08	1261.39 to 2340.76	<.001
Race/ethnicity									
White	(omitted)			(omitted)					
Black	.68	.56 to .82	<.001	−.20	−.38 to −.02	<=.05	−153.80	−223.86 to −83.74	<.001
Hispanic	.68	.48 to .95	<=.05	−.10	−.39 to .19	ns	−112.84	−221.30 to −4.38	<=.05
Other/unknown	1.59	1.15 to 2.20	<.01	.39	.11 to .68	<.01	331.94	91.33 to 572.55	<.01
Insurance									
Fee-for-service (FFS) only	(omitted)			(omitted)					
Other and multiple insurance types	1.17	.72 to 1.90	ns	.23	−.41 to .87	ns	139.70	−223.07 to 502.48	ns
Primary Care Case Management (PCCM) only	.48	.39 to .61	<.001	−.60	−.81 to −.39	<.001	−325.06	−409.83 to −240.28	<.001
nT =	9,402			1,905			9,402		

Note: Combined marginal effect reflects both differences in the likelihood of use (Part 1) and levels of expenditure (Part 2). All models include state and year dummy variables (not shown) to control for state Medicaid differences and time trends. All insurance categories in the model include full behavioral health coverage.

Table 3

2-part regression model of cumulative drug expenditures (MRX classification), NSCAW only (nT = 3520 child observations)

	Part I: Odds Ratio for any expenditure	95% CI	p	Part II: GLM Coefficients for expenditure if > $0	95% CI	p	Combined marginal effect (Parts 1 and 2)	95% CI	p
Male	2.11	1.76 to 2.52	<.001	.20	.04 to .36	<.05	252.88	135.71 to 370.06	<.001
Age									
3–5	(omitted)			(omitted)					
6–11	6.27	4.31 to 9.12	<.001	.19	−.20 to .58	ns	441.49	147.86 to 735.12	<.01
12–13	6.54	4.32 to 9.90	<.001	.36	−.05 to .78	ns	676.93	175.47 to 1178.39	<.01
14 or older	6.88	4.62 to 10.24	<.001	.46	.05 to .87	<.05	723.44	288.76 to 1158.12	<.01
Race/ethnicity									
White	(omitted)			(omitted)					
Black	.65	.53 to .81	<.001	−.38	−.57 to −.19	<.001	−251.89	−370.88 to −132.90	<.01
Hispanic	.92	.67 to 1.25	ns	−.01	−.28 to .27	ns	−20.78	−215.55 to 173.99	ns
Other/unknown	1.03	.73 to 1.46	ns	−.20	−.51 to .10	ns	−86.43	−285.48 to 112.63	ns
Insurance									
Fee-for-service (FFS) only	(omitted)			(omitted)					
Other and multiple insurance types	.91	.46 to 1.81	ns	.82	.08 to 1.55	<.05	532.34	−99.39 to 1164.08	ns
Primary Care Case Management (PCCM) only	.62	.47 to .82	<.01	−.67	−.91 to −.43	<.001	−355.36	−472.39 to −238.33	<.001
Out-of-home care vs. in-home care	2.03	1.67 to 2.47	<.001	.04	−.12 to .21	ns	168.47	46.55 to 290.38	<.01
Fair or poor health vs. excellent or good health	1.97	3.35	<.001	.14	−.07 to .35	ns	228.25	12.87 to 443.63	<.05
Rural vs. urban	1.08	.39	ns	−.03	−.24 to .19	ns	1.57	−153.14 to 156.28	ns
CBCL Score Externalizing *t* score >= 64 vs. *t* score <64	4.43	3.65 to 5.37	<.001	.49	.32 to .67	<.001	555.39	425.04 to 685.73	<.001
CBCL Internalizing *t* score >=64 vs. *t* score <64	1.38	1.13 to 1.68	<.01	.17	.004 to .34	<.05	152.31	23.35 to 281.28	<.05
Maltreatment history:									
Physical abuse	1.41	1.14 to 1.73	<.01	−.03	−.21 to .15	ns	55.85	−79.93 to 191.63	ns
Sexual abuse	1.30	1.00 to 1.67	<.05	.22	.01 to .44	<.05	179.34	−21.80 to 380.47	ns
Neglect	.82	.66 to 1.01	ns	−.01	−.20 to .18	ns	−47.42	−187.53 to 92.69	ns
Abandonment	1.30	.90 to 1.89	ns	.50	.17 to .82	<.01	385.28	−7.70 to 778.25	ns
nT =	3,520			1,066			3,520		

Note: Combined marginal effect reflects both differences in the likelihood of use (Part 1) and levels of expenditure (Part 2). All models include state and year dummy variables (not shown) to control for state Medicaid differences and time trends. All insurance categories in the model include full behavioral health coverage.