Online Appendix

Prioritizing Benefit? How Low-Income Patients Respond to Prescription Cost-Sharing

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A Reasons for Losing Medicaid Eligibility

A common reason patients lose Medicaid is administrative, not necessarily for cause. For example, during COVID Medicaid rolls were frozen for several years with states beginning to process unfrozen rolls in the beginning 2023. Nearly 70% of the patients that lost Medicaid eligibility after the freeze was lifted was attributed to purely administrative reasons like not having the correct paperwork. [22] Even specifically in the Medicare-Medicaid population, administrative issues are believed to be the common reason patients lose access (Zhanlian et al., 2019). Statistics from the Health and Retirement Study, support that large changes in resources are not driving the loss of Medicaid. Table A1 reports the average and median change in both income and assets of patients from the year before patients lost Medicaid and the year they lost Medicaid and neither change in income or assets is substantial.

Table A1: Resource Changes Around Losing Medicaid

Income	
Avg. Change	-441
Median Change	388
Assets	
Avg. Change	2614
Median Change	0

Notes: The descriptive statistics are calculated using data from the 1992-2018 waves of the Health and Retirement Study from patients 65 and older who reported enrollment in Medicaid in one wave and reported no enrollment in Medicaid in next. The reported numbers are the change from the year with Medicaid to the year without Medicaid. All statistics are weighted using person weights.

Many patients who lose Medicaid do so for the entirety of the period. Figure A1 shows the average fraction of patients receiving Medicaid over the three year relative time panel. Medicaid recovery is sharpest right after Medicaid loss, and by the end of the period just under half of all patients will regain Medicaid coverage.

[22] See https://www.kff.org/report-section/medicaid-enrollment-and-unwinding-tracker-unwinding-data-archived/

Figure A1: Medicaid receipt over Time by Relation to the Cutoff

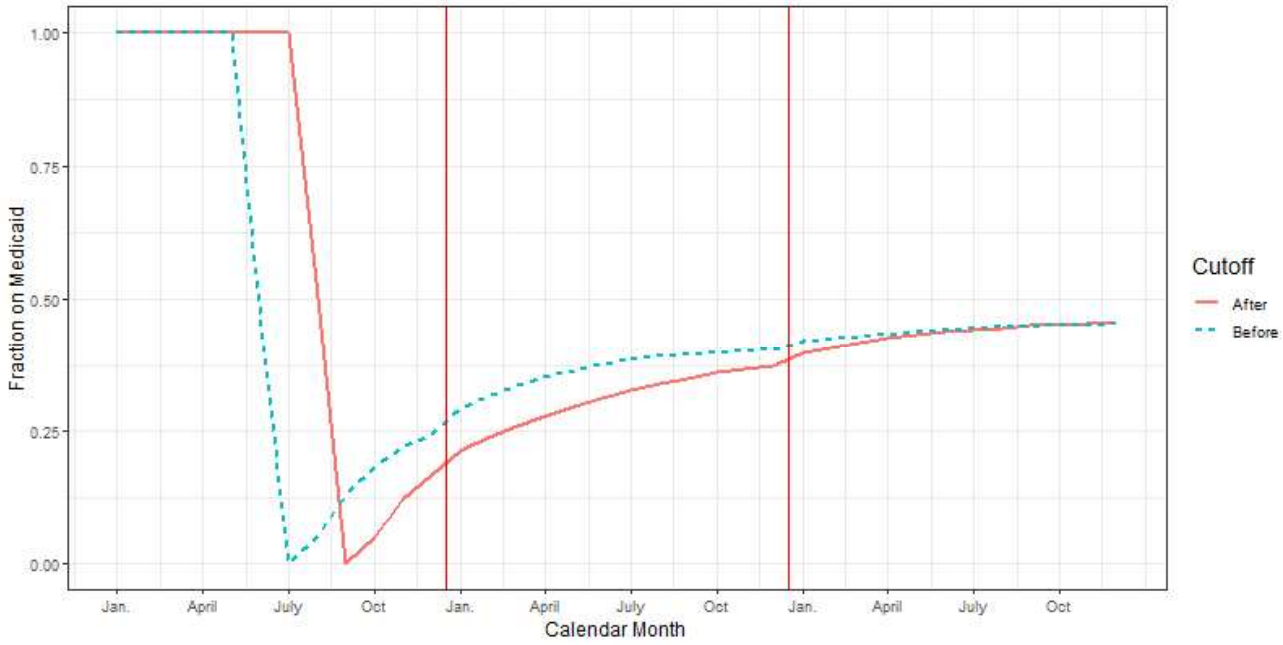


Figure shows aggregates over the three year relative time panel beginning the year a patient loses Medicaid. The aggregates are calculated by grouping patients who lose Medicaid between June and September by their relation to the July cutoff. The blue dashed line corresponds to patients who lose Mediacid prior to July and the solid red line to patients who lose Medicaid after July.

B Subsidy loss affects Insurance Enrollment

A notable fraction of patients who lose the subsidy will no longer maintain prescription drug insurance. Without the subsidy, the average insurance premium for a standalone Part D prescription drug plans falls between $35 and $40, with prescription coverage through a Medicare Advantage plan being a few dollars less on average. This paper reports the effect on whether a patient is enrolled in any Part D drug plan, including ones bundled together with a Medicare Advantage plan, in Figure A2. Panel (a) of the figure shows that there is a 5pp reduction in any Part D enrollment as a result of subsidy loss. The 5pp reduction is 14 percent of patients still without the subsidy by the end of the year.

There is clear evidence of adverse selection in who maintains prescription insurance. Panel (b) of the figure reports estimates of the effect of subsidy loss on prescription insurance enrollment for patients with higher expected expenditures, split by the median of prescription expenditures in the year covered by the subsidy. Patients are more likely to maintain prescription insurance the higher their expenditures. However, even patients above the median where the value of prescription insur-

ance should exceed its cost, 7 percent of these patients are no longer enrolled in drug insurance. The reduction in insurance even among those who should value it highly shows that a relatively modest monthly premium will impact insurance enrollment for low-income groups.

An additional factor that could lead to a drop in prescription insurance enrollment is inattentiveness. The timing of the increase in Medicare Advantage enrollment shown in Figure A3 is consistent with at least some inattentiveness. The 1 percentage point increase in Medicare Advantage enrollment directly coincides with when patients begin to lose prescription drug insurance following subsidy loss. The timing is consistent with patients noticing their prescription drug insurance lapsed and then electing to choose a new type of health plan, a Medicare Advantage plan, that better aligns with their preferences. That patients would wait until drug insurance lapsed instead of the open enrollment period months earlier suggests inattentiveness. Moreover, 10% of subsidy enrollees pay a premium for prescription drug plans, even though all subsidy enrollees are eligible to enroll in a plan without one (Cubanski et al., 2018).

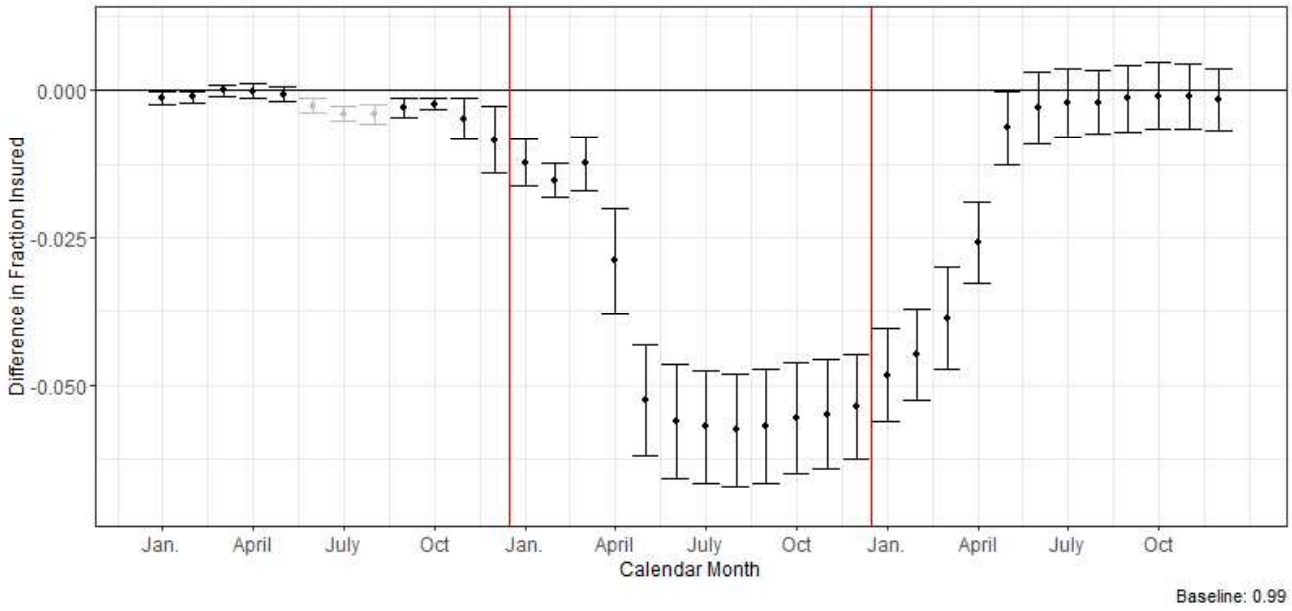
Within Figure A3 is also the interaction between Medicaid loss and Medicare Advantage plans. Some patients in the sample may be enrolled in a Special Needs Plan that requires dual-eligibility. In the case a patient was enrolled in such plan, they will lose access to that plan at the end of a grace period of at least one month (Centers for Medicare & Medicaid Services, 2011), unlike the Low-Income Subsidy that almost always runs through the end of a calendar year. The effect on patients losing these dual-eligible specific plans is partly picked up in Figure A3. During the pre-period, there is a mechanical difference in Medicaid receipt since all before cutoff patients will lose Medicaid before any of the after cutoff patients. The difference means that during a brief window of the Medicaid loss year, differences in outcomes can be solely attributed to Medicaid loss. While not statistically significant, the point estimate shows a nearly 0.5 percentage point decrease in Medicare Advantage enrollment beginning in September, which would line up with some patients losing access to dual-eligible specific plans, granted some of those same patients may re-enroll in a different Medicare Advantage plan pushing the difference toward zero.

C Out-of-pocket Prices and Deductibles

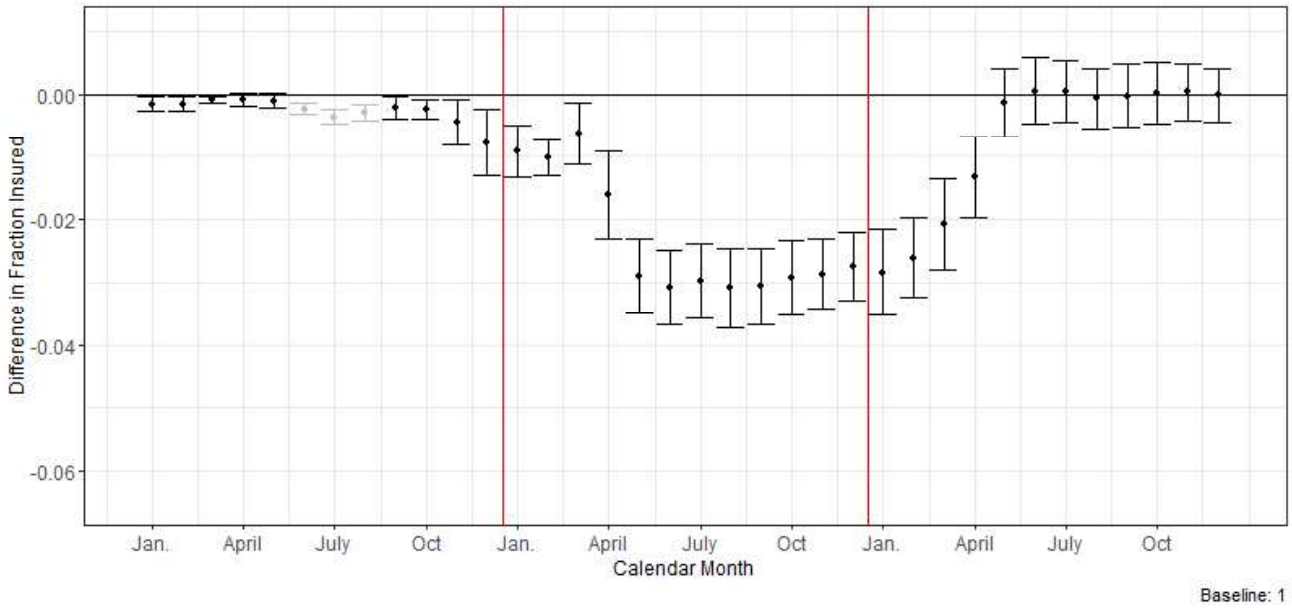
The main benefit of the Low-Income Subsidy is the cap on out-of-pocket prescription costs. Within this cap is an explicit elimination of the deductible. As such, when patients lose the subsidy, some of them will be exposed to a deductible depending on their prescription insurance plan. Deductible

Figure A2: Monthly RD Coefficients of Insurance Loss

(a) Full Sample

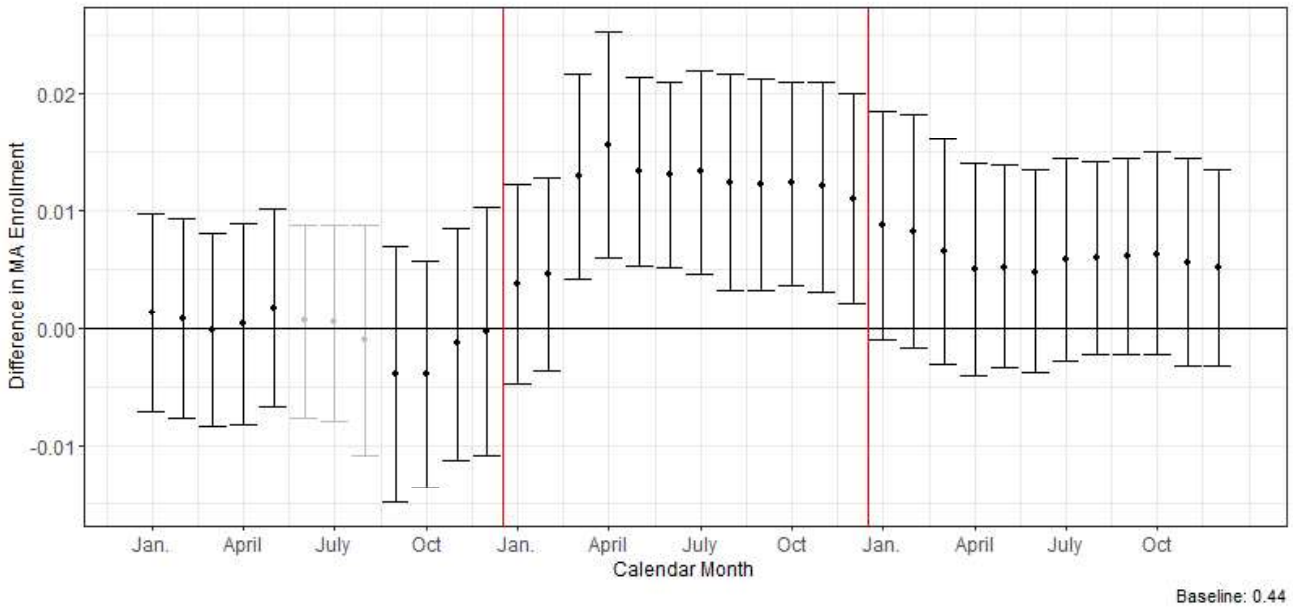


(b) Above Median Expenditures in Baseline Period



Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. The annualized median first quarter prescription expenditures in the baseline is $1000. Robust standard errors clustered at the state level.

Figure A3: Monthly RD Coefficients of Medicare Advantage Enrollment



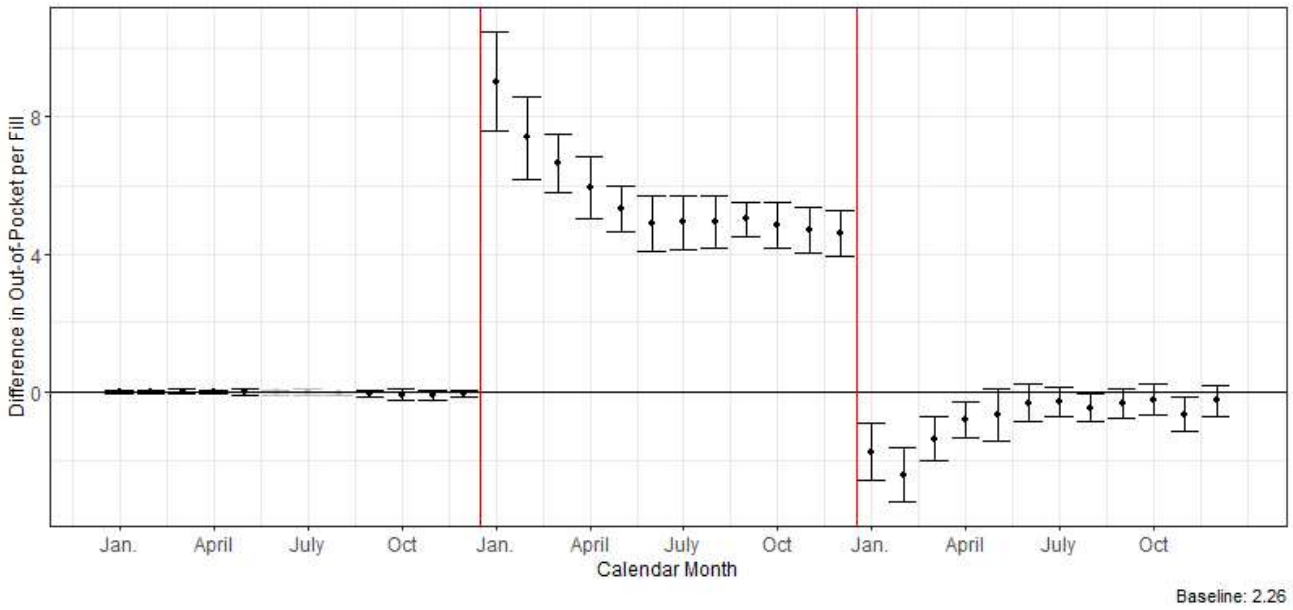
Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

plans will typically carry lower premiums, in exchange for patients paying a higher total fraction of prescription out-of-pocket over the year.

Figure A4 shows the deductible has a notable impact on the out-of-pocket price paid. The average out-of-pocket price peaks in the first month, when all deductible patients face the deductible, and then falls throughout the year as more patients enter the initial coverage period of their plans.

Patients with deductibles reduce prescription utilization slightly more than those without, consistent with these patients bearing a larger fraction of the costs. Table A2 shows regression discontinuity estimates for the cumulative yearly difference in prescription usage split by whether patients were in a deductible plan. The reduced form estimates of prescription utilization as compared to their baseline means are similar across both groups. However, patients with the deductible are a few percentage points less likely to lose the subsidy, so there is suggestive evidence that the effect is consistent with patients facing a larger price increase.

Figure A4: Monthly RD Coefficients of Out-of-pocket Price per Fill



Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

D Robustness to alternative specifications

The paper reports several analyses to asses if the results are robust to alternate specifications. The first is to conduct all analyses using only a single month of bandwidth around the cutoff instead of two. The main results from this specification are shown in figure A5. Estimating the model on this sample does not change the results, but does reduce the precision due to the more limited sample size.

The second approach instead estimates the following difference-in-difference (DiD) model that assigns treatment and control groups based on relation to the cutoff and individual fixed effects (i). The main difference in assumptions between DiD and discrete RD is the parallel trends assumption versus the local randomization assumption. Parallel trends requires the average difference in potential outcomes to be the same across the cutoff absent losing Medicaid, whereas local randomization requires that potential outcome to be the same across the cutoff. Under the DiD assumptions, the treatment effect estimate is valid for only the treated patients. Under the discrete RD assumption, treatment is valid for both treatment and control patients, allowing complier analysis in this setting. To estimate

Table A2: RD Estimates of Subsidy Receipt and Prescription Utilization by Deductible

	Deductible Plan			No Deductible Plan		
	Lost Subsidy	Days' Supply	Expenditures	Lost Subsidy	Days' Supply	Expenditures
RD Estimate	0.519	-129.270	-767.414	0.558	-105.349	-888.838
	(0.022)	(16.721)	(144.981)	(0.025)	(22.032)	(163.981)
Frac. Mean	0.525	0.095	0.239	0.561	0.07	0.234
N	28381	28381	28381	15152	15152	15152
Complier Mean	0.989	1357.176	3213.189	0.995	1515.435	3798.008

Notes: Notes: Coefficients presented are estimated using discrete regression discontinuity. Robust standard errors clustered at the state level and displayed in parentheses. P-values calculated using randomization inference. Significance levels: *=10%, **=5%, ***=1%. Plan information on deductibles available from 2013-2019.

the most comparable DiD model to the RDs presented, the estimates are normalized to January in the year of Medicaid loss, so that patients are normalized to have the same utilization before any changes in Medicaid or subsidy status. Below is the estimating equation:

$$y_{igt} = \alpha_i + \gamma_{gt} + \sum_{l=-11}^{23} \mu_l D_{i,t}^l + \varepsilon_{igt} \tag{4}$$

Figure A6 shows the near zero coefficients absent the mechanical difference caused by Medicaid between June and August that suggest the parallel trends assumption is true in the pre-period. The magnitude of the results are also comparable. The total yearly reduction on expenditures estimated from the RD is 639 and 575 from the DiD. The difference in difference estimate should be smaller because normalizing to the full pre-period year includes a the differences in access to Medicaid as seen in Figure 5. Similarly, the yearly reduction in day's supply estimated from the RD is 118 and 105 from the DiD. The main takeaway is either set of assumptions yield similar results, with the findings not sensitive to the model specification.

The third approach is to relax the inclusion of state fixed-effects. In practice this would be estimating Equation (1) with a single β_0 instead of γ_g. Figure A7 shows the estimates are minimally affected by this change. The inclusion of state-effects is for improved precision of the estimates, not identification.

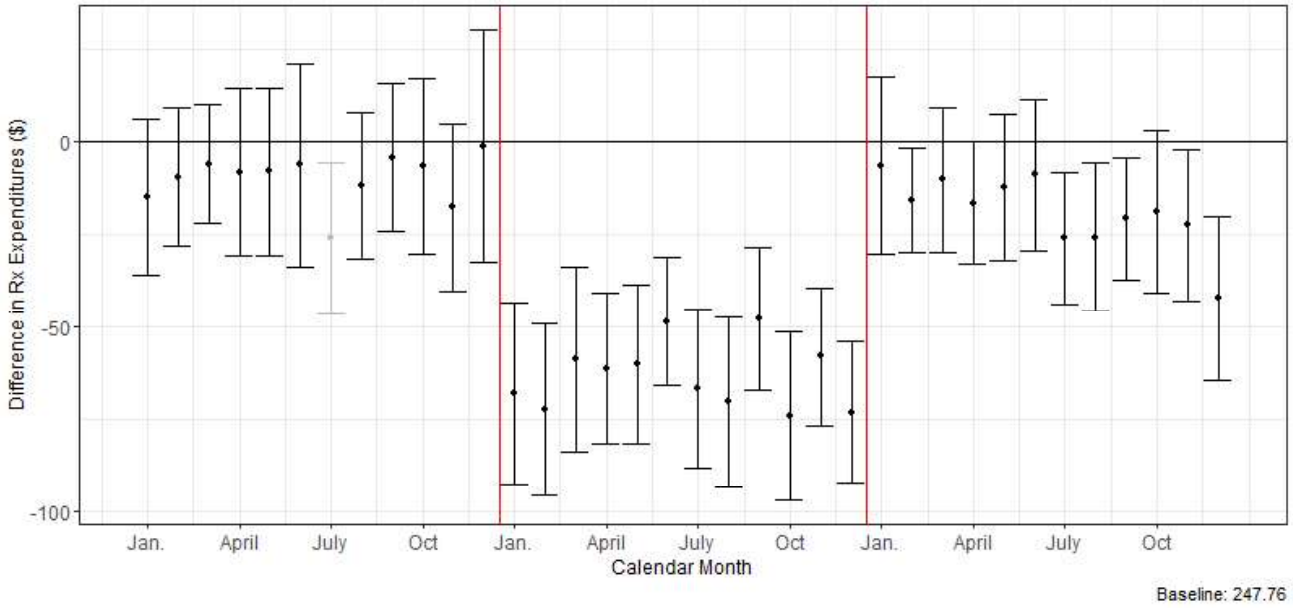
The fourth approach is to relax some of the sample restrictions made, namely to require a patient enter the year with Medicaid or have filled at least one prescription and is shown in figure A8. Here the estimates scaled by the complier means are still quite similar. The levels of both the complier means and reductions in utilization shrinks, reflecting a change in the composition of the sample.

A potential other factor of concern is utilization is not observed for patients who do not have

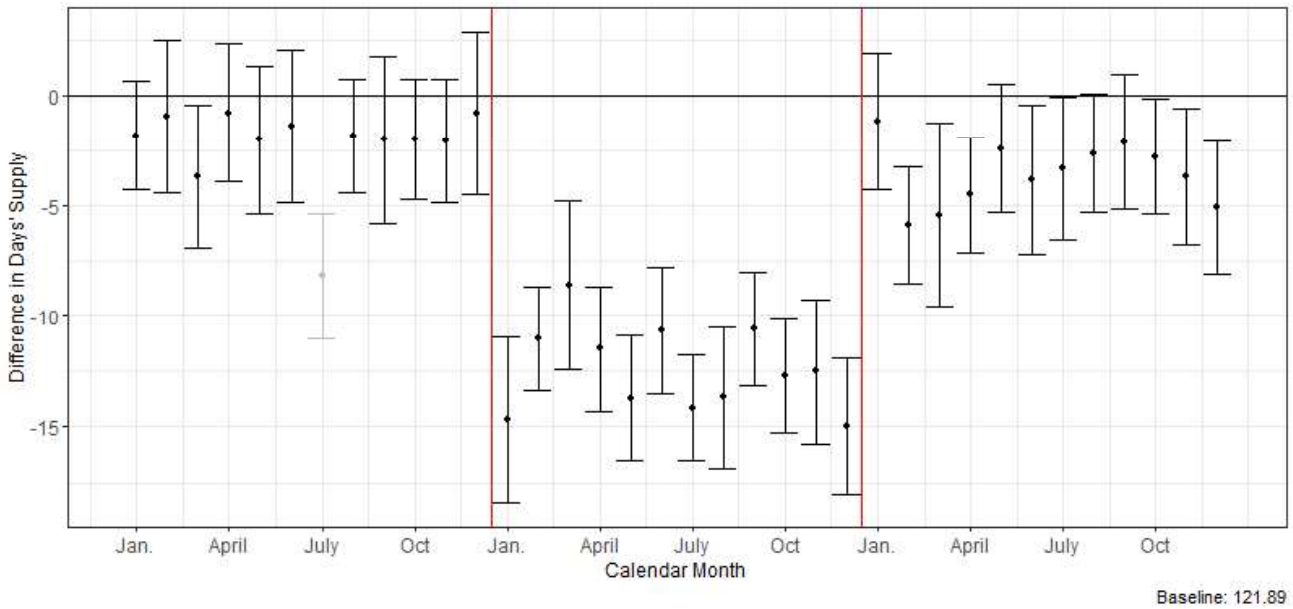
prescription drug insurance. In the main analysis, patients without drug insurance are assumed to fill no prescriptions. If these patients are still able to purchase some prescriptions without insurance, this would overstate their decrease in utilization. Figure A9 provides an upper bound on the effect these patients could have by replacing these zeros with the usage in the month prior to losing prescription insurance. The main results are quite similar to the original results.

Figure A5: Monthly RD Coefficients of Prescription Utilization: 1-Month Bandwidth

(a) Prescription Expenditures



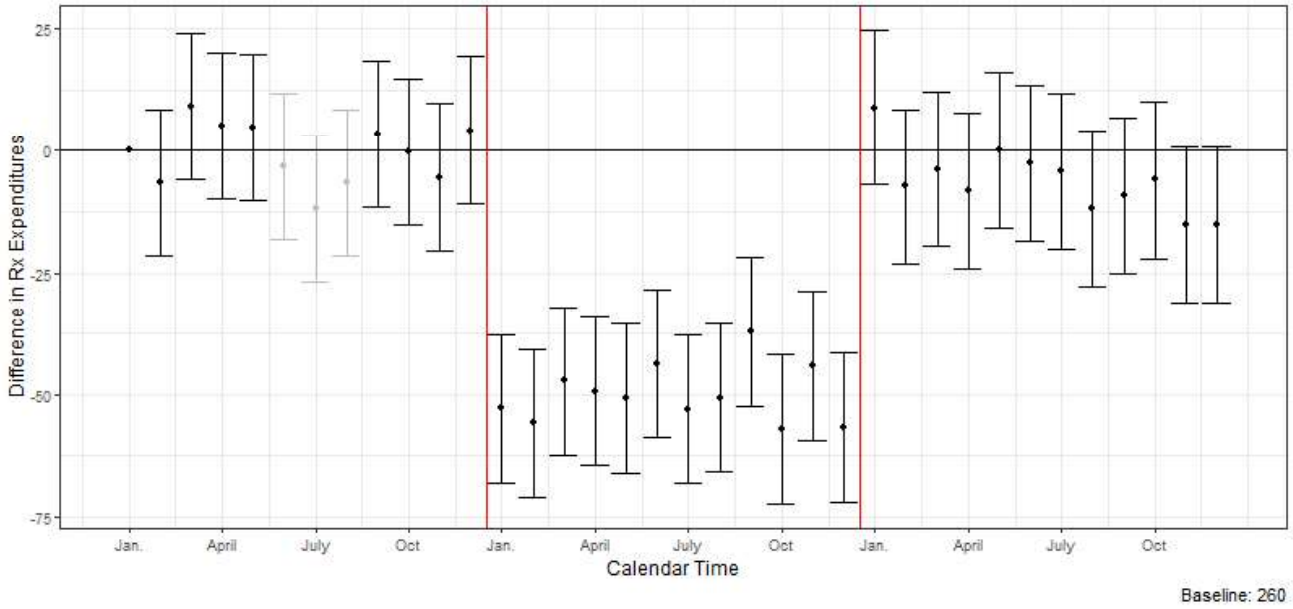
(b) Prescription Days' Supply



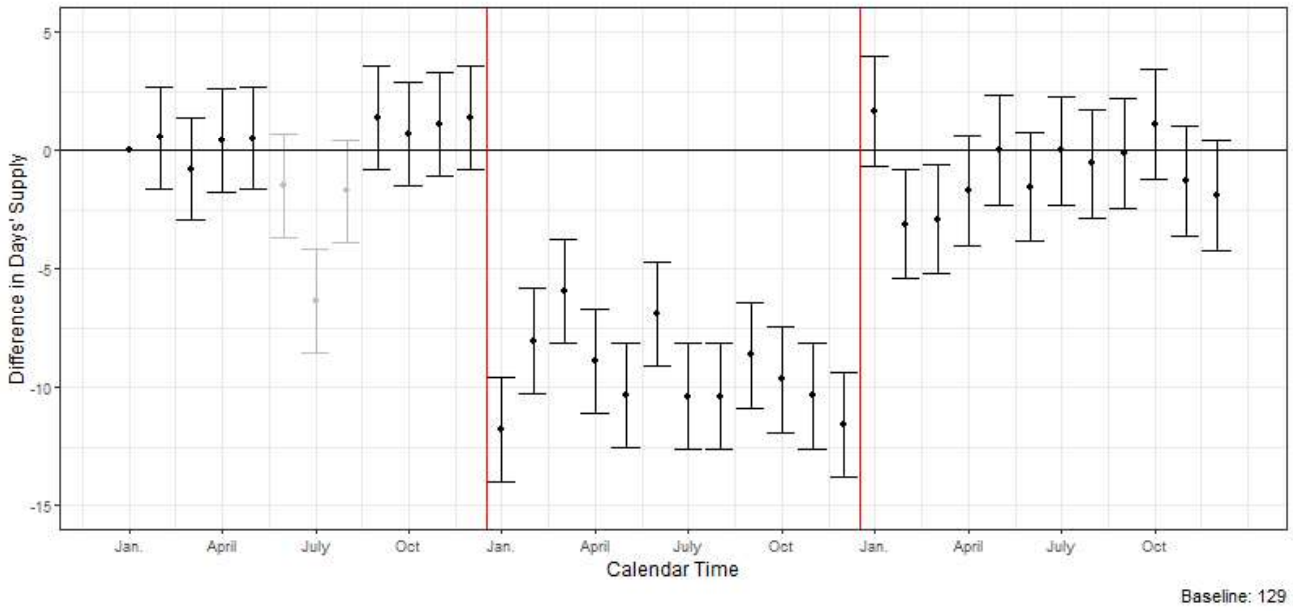
Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

Figure A6: Difference-in-difference Coefficients of Prescription Utilization

(a) Prescription Expenditures



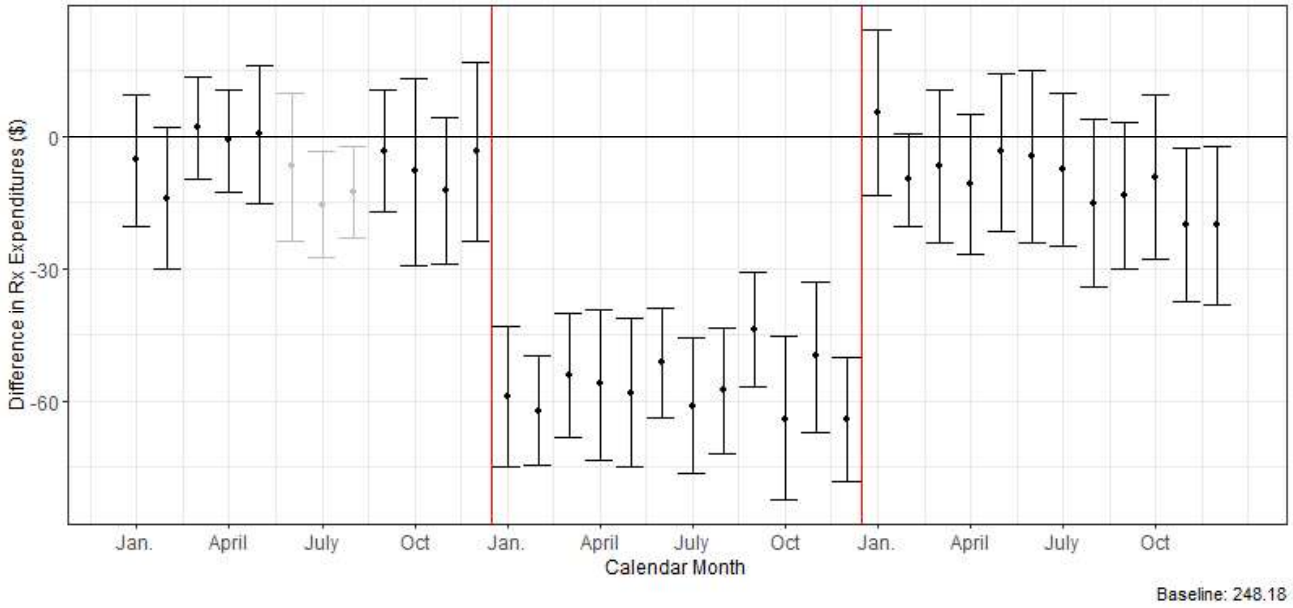
(b) Prescription Days' Supply



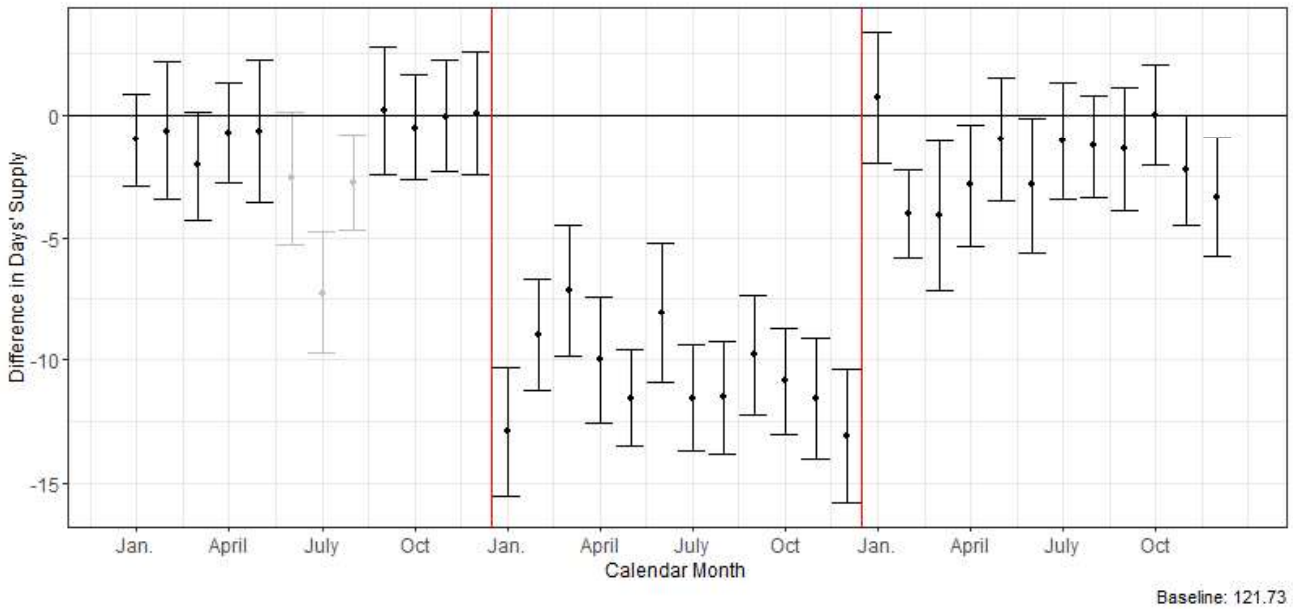
Note: Figure shows difference-in-difference estimates comparing patients who lose Medicaid before the cutoff to patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

Figure A7: Monthly RD Coefficients of Prescription Utilization: No Fixed Effects

(a) Prescription Expenditures



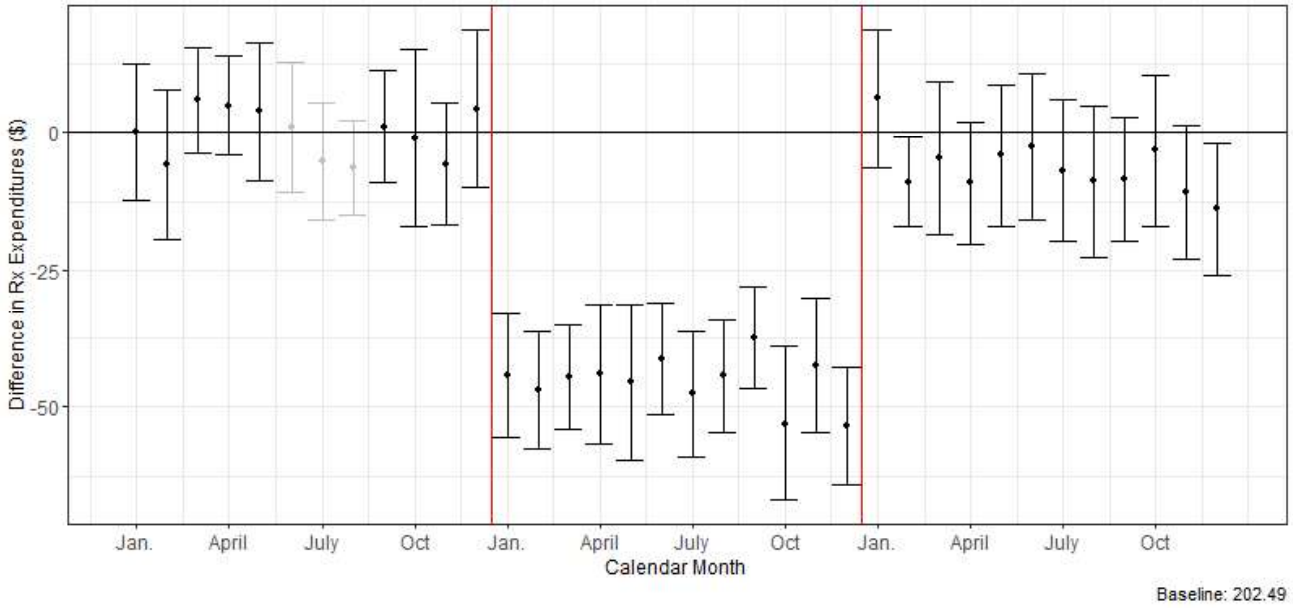
(b) Prescription Days' Supply



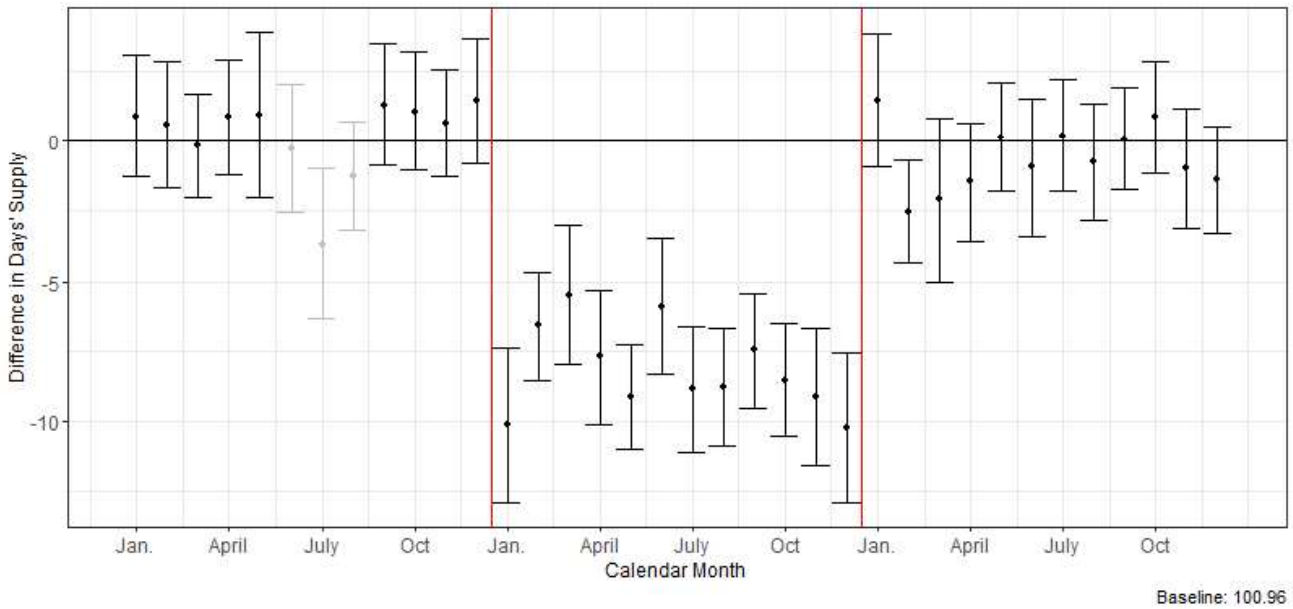
Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

Figure A8: Monthly RD Coefficients of Prescription Utilization: Relaxed Sample

(a) Prescription Expenditures



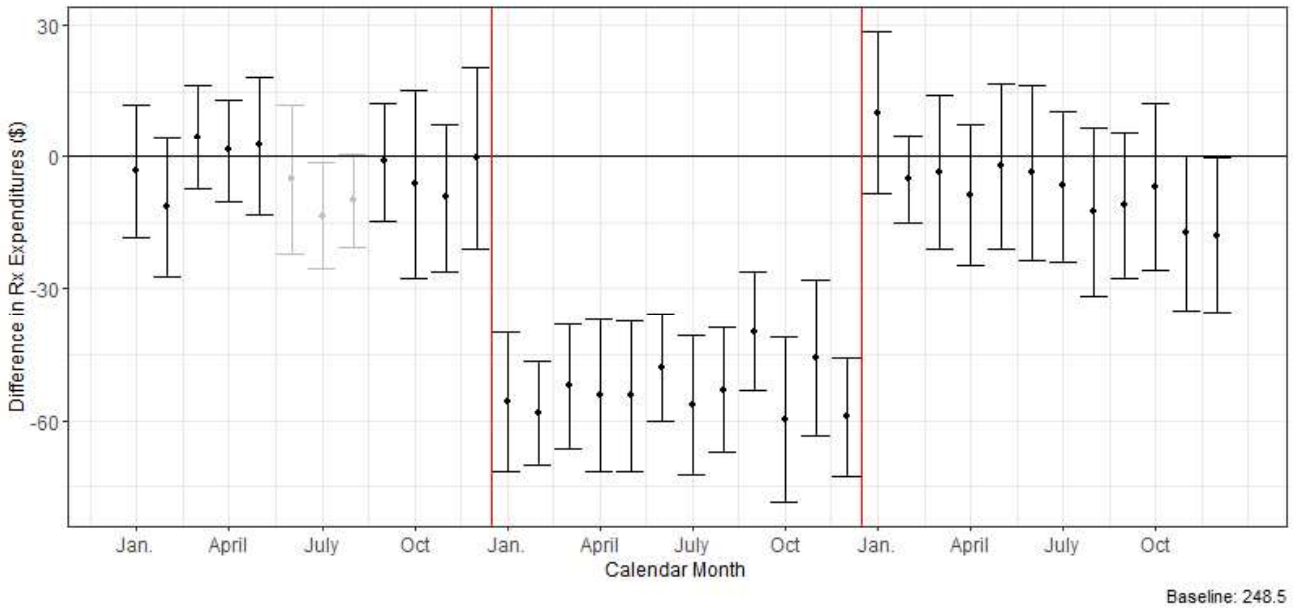
(b) Prescription Days' Supply



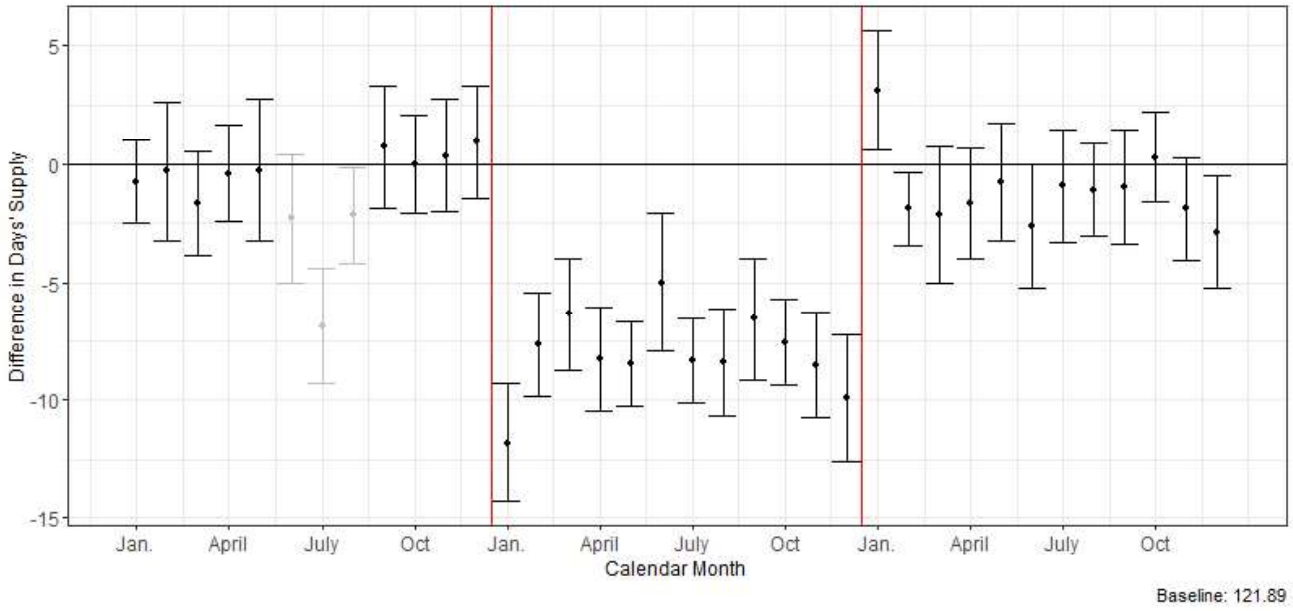
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Figure A9: Monthly RD Coefficients of Prescription Utilization: Assume Utilization Unchanged Without Insurance

(a) Prescription Expenditures



(b) Prescription Days' Supply

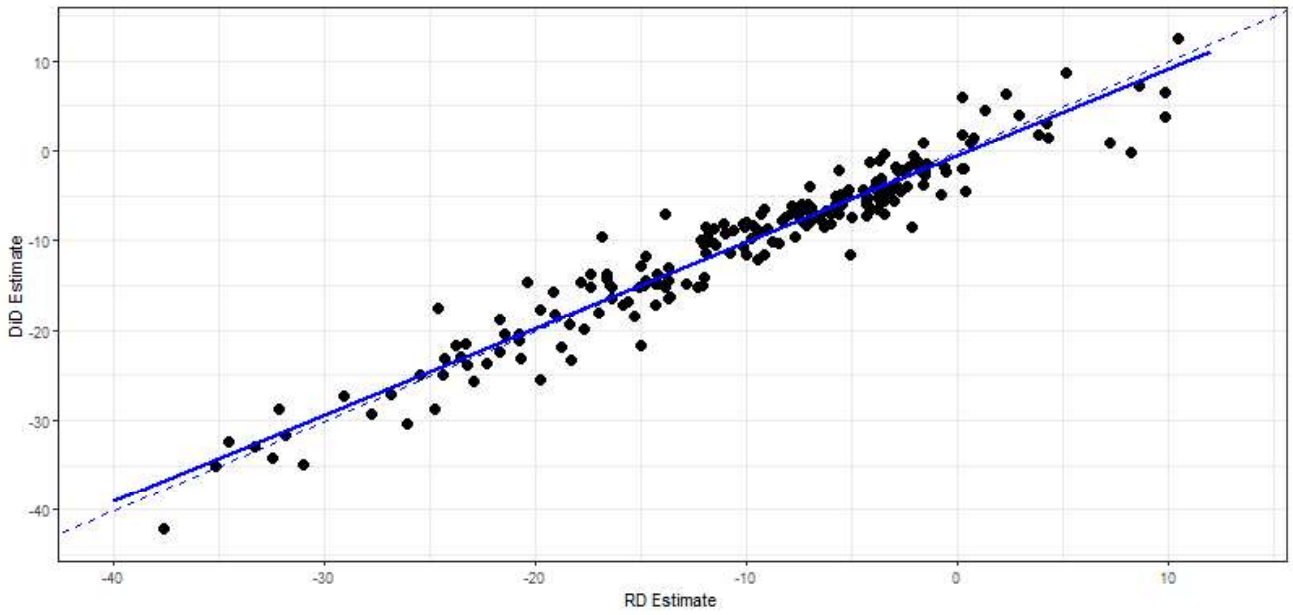


Note: Figure shows 36 separate discrete regression discontinuity estimates, one for each relative time period, of the difference between patients who lose Medicaid before the cutoff versus patients who lose Medicaid after. The reported baseline is yearly average of patients who lose Medicaid before the cutoff and lose the subsidy in the following year. The coefficients of June through August in the pre-treatment year are greyed out since they capture a mechanical difference in Medicaid receipt. Robust standard errors clustered at the state level.

The paper provides robustness for the individual prescription responses as well. I test whether the RD or DiD methodologies consistently produce lower estimates. To be more comparable to the RD, the pre-period is taken to the first quarter of the Medicaid loss year when Medicaid access is the same, instead of the entire year. Figure A10 plots the RD estimates against the DiD estimates for each drug with the linear relationship between the two types of estimates and a 45-degree line imposed on the graph for context. There is effectively no meaningful systematic difference between the two types of estimates. The paper additionally shows the finding of benefit measures adding minimal predictive power is unaffected by model choice, benefit classification or within class substitutions in Tables A3, A4, A5.

Overall, these analyses show that the results are not sensitive to choice of model or sample.

Figure A10: Scatterplot of RD Estimates Against DiD Estimates for Individual Drug Responses



Note: Blue dashed line shows 45 degree line. Blue dashed line shows OLS estimate of the difference-in-difference estimate against the regression discontinuity estimate.

Table A3: OLS Estimates of Factors Predicting DiD Percent Reductions of Individual Drugs

	OOP Only	Health Only	Combined
Intercept	-3.894***	-8.727***	-4.092***
	(0.451)	(0.835)	(0.864)
OOP	-0.217***		-0.202***
	(0.018)		(0.025)
Lower Type		-0.236	-1.245
		(1.451)	(1.493)
Medium Type		2.635*	0.814
		(1.040)	(1.059)
OOP × Lower Type			-0.001
			(0.057)
OOP × Medium Type			-0.049
			(0.042)
N	200	200	200
Adj. R^2	0.420	0.023	0.419

Notes: Table shows the OLS estimates of how much variation in the percentage reduction of individual prescriptions as estimated using a difference-in-difference model are explained with the out-of-pocket cost and broad benefit classifications Significance levels: *=10%, **=5%, ***=1%.

Table A4: OLS Estimates of Factors Predicting Percent Reductions of Individual Drugs

	OOP Only	Surplus Only	Combined
Intercept	-4.201***	-6.686***	-3.953***
	(0.532)	(0.569)	
OOP	-0.201***		-0.200***
	(0.020)		(0.023)
SS		-0.013**	-0.007
	(0.004)		(0.005)
OOP × SS			0.000
			(0.000)
N	186	186	186
Adj. R^2	0.352	0.052	0.352

Notes: Table shows the OLS estimates of how much variation in the percentage reduction of individual prescriptions are explained with the out-of-pocket cost and switcher surplus (SS) measure defined in Lavetti and Simon (2018). Significance levels: *=10%, **=5%, ***=1%.

Table A5: OLS Estimates of Factors Predicting Percent Reductions of Individual Drug Classes

	OOP Only	Health Only	Combined
Intercept	-4.799***	-7.883***	-3.870***
	(0.539)	(0.614)	(0.896)
OOP	-0.207***		-0.222***
	(0.031)		(0.041)
Lower Type		-0.279	-2.634*
		(0.896)	(1.570)
Medium Type		0.280	-0.151
		(0.821)	(1.299)
OOP × Lower Type			0.086
			(0.104)
OOP × Medium Type			-0.037
			(0.073)
N	100	100	100
Adj. R^2	0.305	-0.016	0.316

Notes: Table shows the OLS estimates of how much variation in the percentage reduction of 100 common individual therapeutic classes are explained with the out-of-pocket cost and broad value classifications. Classes are assigned a value classification if the majority of prescriptions filled are of that value. Significance levels: *=10%, **=5%, ***=1%.

E Expenditure Reductions by Benefit Classification

Table A6: RD Estimates of Prescription Expenditures by Benefit Type

	High Value	Medium Value	Lower Value
RD Estimate	-544.796***	-272.562***	-120.167***
	(73.574)	(32.477)	(16.881)
Frac. Mean	0.411	0.356	0.331
N	73513	73513	73513
Subsidy OOP	2.5	1.8	1.9
Non-Subsidy OOP	24.5	12.6	15.6
Complier Mean	1325.285	764.725	362.539

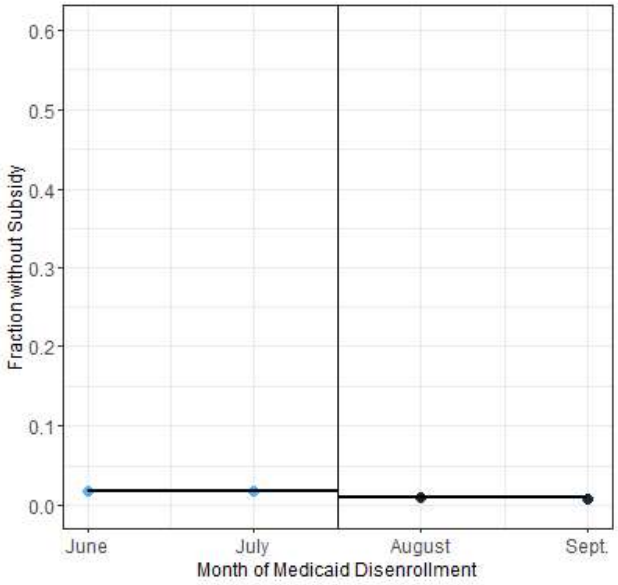
Notes: Coefficients presented are estimates from a 2SLS model instrumenting for subsidy loss using the relationship to the cutoff and are estimated using discrete regression discontinuity. Prescription expenditures are the total price paid by the insurer and the patient. Benefit classifications are based on likelihood of preventing adverse health event. 15% of prescription expenditures are not categorized. Robust standard errors are clustered at the state level. P-values are calculated using randomization inference. Significance levels: *=10%, **=5%, ***=1%.

F Regression Discontinuity Figure Examples

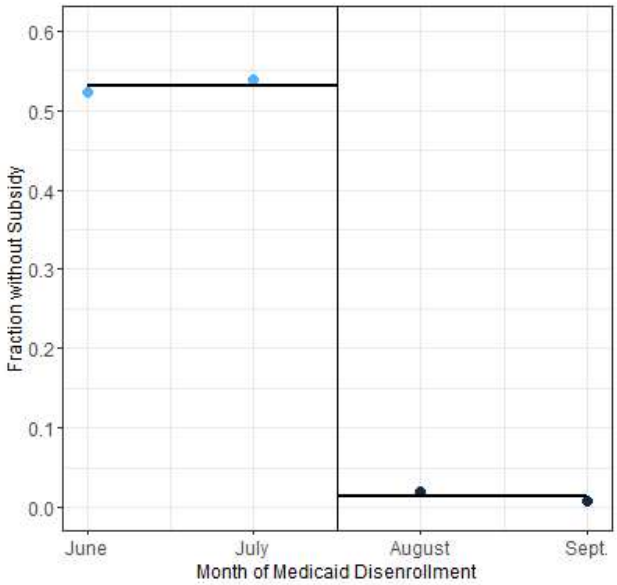
The paper primarily shows figures that append many regression discontinuity estimates together to form event-studies. Each of the estimates in these figures can be represented by a standard regression discontinuity figure as described in Lee and Lemieux (2010) showing the average of the outcome by relation to the cutoff. Figures A11, A12, A13 provide several examples of such figures for the main outcome variables: subsidy loss, prescription expenditures and days' supply filled. For each outcome, there are both pre-period and post-period figures to transparently show how the difference across the cutoff changes as a result of the treatment. Figure A11 shows subsidy loss in December of the Medicaid loss year in panel (a) and January one month later in panel (b). Figures A12, A13 each show the prescription utilization measures in December of Medicaid loss year in panel (a) and the monthly average over the following year in (b).

Figure A11: Fraction without Low-Income Subsidy by Medicaid Loss Month

(a) December of Medicaid Loss Year



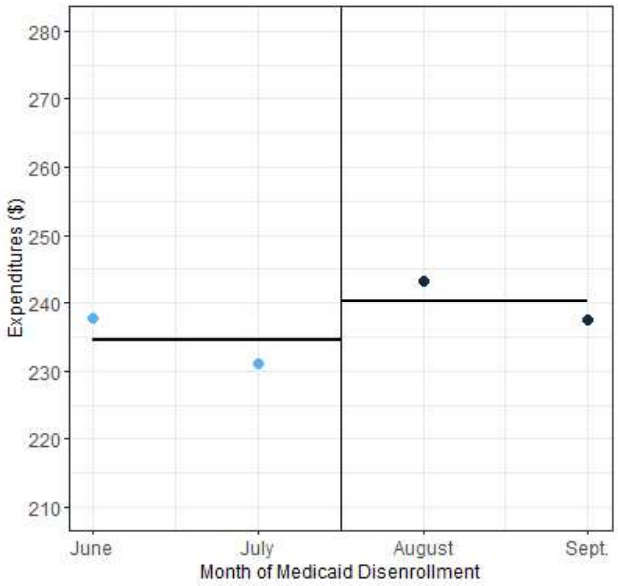
(b) January of Post Year



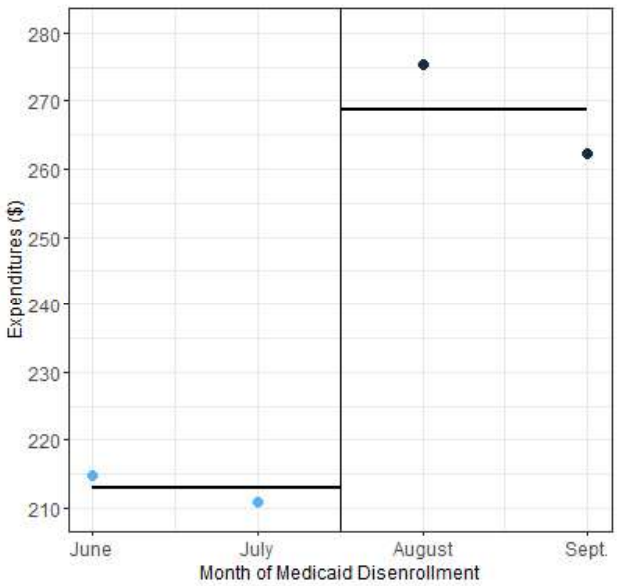
Note: Figure shows the fraction of patients that are without the Low-Income Subsidy by the month of Medicaid loss. Panel (a) shows the fraction during December of the Medicaid loss year and panel (b) shows the fraction in the following month.

Figure A12: Prescription Expenditures by Medicaid Loss Month

(a) December of Medicaid Loss Year



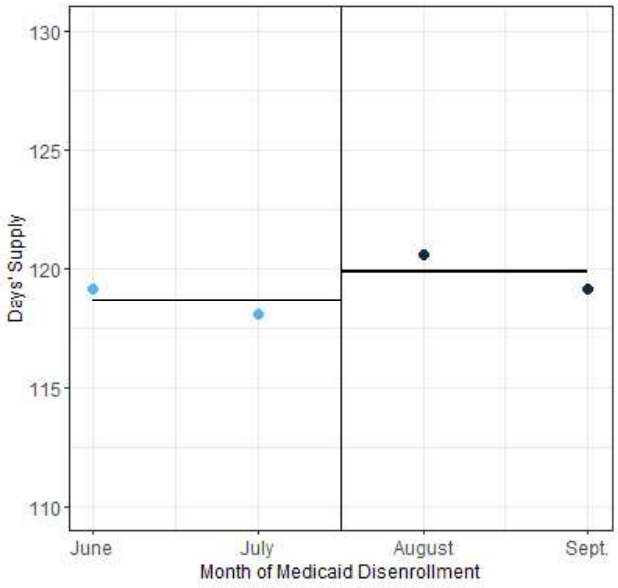
(b) Monthly Average of Post Year



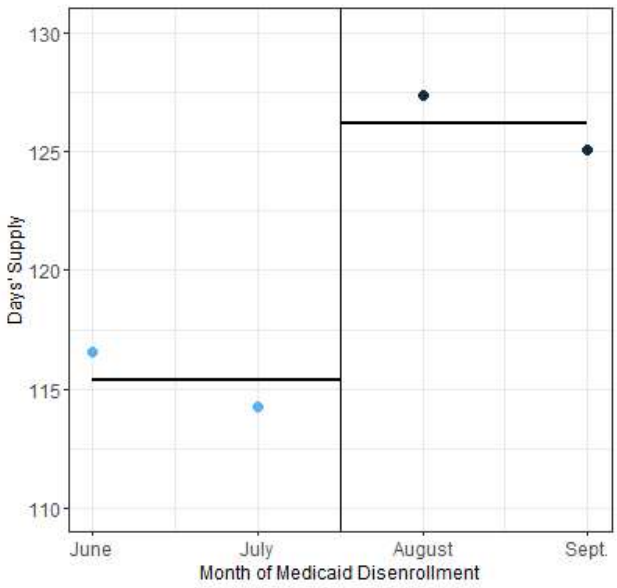
Note: Figure shows the average prescription expenditures of patients by the month of Medicaid loss. Panel (a) shows prescription expenditures during December of the Medicaid loss year and panel (b) shows the monthly average of prescription expenditures over the following year.

Figure A13: Days' Supply Filled by Medicaid Loss Month

(a) December of Medicaid Loss Year



(b) Monthly Average of Post Year



Note: Figure shows the average days' supply filled of patients by the month of Medicaid loss. Panel (a) shows days' supply filled during December of the Medicaid loss year and panel (b) shows the monthly average of days' supply filled over the following year.

G Estimates of Individual Prescription and Classes

The tables below contain the individual estimates of the 200 prescriptions and 100 4-digit ATC classes. Prescriptions that did have an NDC9 match to the Chandra et al. (2010a) list of prescriptions are not included in the tables.

Table A7: Individual Prescription Estimates

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
INSULIN GLARGINE,HUM.REC.ANLOG	Brand	High	78.31	-15.09 (4.49)	9.59	-0.19
CLOPIDOGREL BISULFATE	Brand	High	33.44	-3.41 (4.19)	20.92	-0.04
SITAGLIPTIN PHOSPHATE	Brand	High	80.80	-27.78 (4.83)	5.76	-0.42
FLUTICASONE/SALMETEROL	Brand	High	68.37	-21.69 (3.20)	6.48	-0.31
TIOTROPIUM BROMIDE	Brand	High	72.47	-22.32 (4.44)	6.45	-0.32
ROSUVASTATIN CALCIUM	Brand	Medium	63.20	-24.35 (5.09)	8.07	-0.37
ESOMEPRAZOLE MAGNESIUM	Brand	Medium	63.19	-26.05 (6.00)	4.84	-0.40
ATORVASTATIN CALCIUM	Brand	Medium	57.40	-16.38 (4.64)	8.94	-0.23
PREGABALIN	Brand	High	71.13	-11.95 (6.50)	3.08	-0.15
INSULIN DETEMIR	Brand	High	87.63	-31.88 (7.69)	2.58	-0.50
INSULIN ASPART	Brand	High	84.44	-23.77 (8.77)	2.62	-0.33
BUDESONIDE/FORMOTEROL FUMARATE	Brand	High	67.57	-15.33 (7.92)	3.25	-0.20
MEMANTINE HCL	Brand	High	69.07	-20.78 (7.24)	3.20	-0.27
PIOGLITAZONE HCL	Brand	High	72.74	-13.71 (3.60)	3.44	-0.18
VALSARTAN	Brand	High	54.68	-17.69 (4.08)	6.21	-0.25
ALBUTEROL SULFATE	Brand	High	34.11	-23.56 (4.76)	9.76	-0.39
INSULIN LISPRO	Brand	High	82.96	-19.07 (7.09)	1.92	-0.25
EZETIMIBE	Brand	Medium	67.16	-13.60 (6.27)	3.28	-0.18

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
IPRATROPIUM/ALBUTEROL SULFATE	Brand	High	56.96	-16.39 (4.89)	2.47	-0.21
ESOMEPRAZOLE MAG TRIHYDRATE	Brand	Medium	62.88	-23.23 (5.82)	2.85	-0.34
METOPROLOL SUCCINATE	Generic	Medium	14.19	-7.84 (3.63)	21.32	-0.10
SITAGLIPTIN PHOS/METFORMIN HCL	Brand	High	78.75	-31.02 (13.02)	1.54	-0.50
DONEPEZIL HCL	Brand	Medium	77.41	0.40 (6.86)	2.70	0.00
CYCLOSPORINE	Brand	Lower	70.76	-12.27 (7.42)	1.49	-0.15
ATORVASTATIN CALCIUM	Generic	Medium	9.78	-5.41 (1.62)	35.26	-0.07
OMEPRAZOLE	Generic	Medium	8.88	-7.39 (2.97)	33.96	-0.10
VALSARTAN/HYDROCHLOROTHIAZIDE	Brand	High	38.58	-6.44 (6.74)	5.37	-0.08
CELECOXIB	Brand	Lower	66.52	-15.60 (6.11)	2.29	-0.21
SIMVASTATIN	Generic	Medium	6.61	-2.55 (2.13)	47.14	-0.04
SOLIFENACIN SUCCINATE	Brand	Lower	67.37	-18.33 (7.48)	1.99	-0.25
QUETIAPINE FUMARATE	Brand	High	67.88	-9.97 (8.94)	1.49	-0.12
DULOXETINE HCL	Brand	Lower	67.99	-18.72 (9.01)	2.03	-0.25
LEVOTHYROXINE SODIUM	Generic	Medium	7.75	-3.87 (1.67)	43.75	-0.05
AMLODIPINE BESYLATE	Generic	Medium	5.69	-3.37 (1.98)	52.95	-0.05
METFORMIN HCL	Brand	High	8.28	-2.90 (5.32)	5.90	-0.04
MONTELUKAST SODIUM	Brand	High	57.90	-13.67 (5.90)	2.51	-0.18
BIMATOPROST	Brand	Lower	52.55	-14.27 (6.81)	2.27	-0.19

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
DILTIAZEM HCL	Brand	Medium	16.28	-10.15 (3.60)	9.50	-0.13
LISINOPRIL	Generic	Medium	5.17	-5.13 (1.32)	60.25	-0.09
LIDOCAINE	Brand	Lower	60.89	-1.74 (10.53)	0.78	-0.02
GABAPENTIN	Generic	High	8.80	-9.01 (2.08)	17.99	-0.13
TOLTERODINE TARTRATE	Brand	Lower	52.88	-9.95 (8.42)	2.02	-0.12
EZETIMIBE/SIMVASTATIN	Brand	High	65.79	-15.84 (8.36)	1.99	-0.21
DEXLANSOPRAZOLE	Brand	Medium	82.07	-32.44 (10.37)	1.41	-0.53
TRAVOPROST	Brand	Lower	51.45	-34.54 (10.15)	1.53	-0.61
FENOFIBRATE NANOCRYSTALLIZED	Brand	Medium	46.09	-7.68 (7.02)	2.87	-0.10
AMLODIPINE BESYLATE/BENAZEPRIL	Brand	High	22.22	-5.04 (4.29)	4.07	-0.06
HYDROCODONE/ACETAMINOPHEN	Brand	Lower	10.14	-5.48 (4.12)	8.15	-0.07
LANSOPRAZOLE	Brand	Medium	63.14	-4.28 (5.04)	1.55	-0.05
PANTOPRAZOLE SODIUM	Generic	Medium	10.26	-6.01 (3.95)	10.90	-0.08
METFORMIN HCL	Generic	High	5.04	-6.90 (2.02)	37.72	-0.12
OLMESARTAN MEDOXOMIL	Brand	High	56.67	-13.82 (5.79)	2.20	-0.19
POTASSIUM CHLORIDE	Generic	High	10.62	-7.00 (3.80)	12.37	-0.09
RISEDRONATE SODIUM	Brand	Medium	56.67	-33.34 (7.35)	1.78	-0.57
FLUTICASONE PROPIONATE	Brand	Lower	61.86	-32.15 (10.19)	1.24	-0.53
NIFEDIPINE	Brand	Medium	15.22	-4.30 (4.79)	6.25	-0.05

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ESCITALOPRAM OXALATE	Brand	Lower	51.17	-10.77 (6.57)	2.15	-0.14
PRAVASTATIN SODIUM	Generic	Medium	8.38	-6.21 (2.75)	16.92	-0.09
DONEPEZIL HCL	Generic	Medium	11.16	-16.97 (5.19)	5.38	-0.23
MOMETASONE FUROATE	Brand	Medium	49.19	-24.78 (4.13)	1.75	-0.38
OLMESARTAN/HYDROCHLOROTHIAZIDE	Brand	High	52.22	-3.43 (10.04)	1.89	-0.04
OXYCODONE HCL/ACETAMINOPHEN	Brand	Lower	11.27	-2.99 (6.11)	3.44	-0.04
DICLOFENAC SODIUM	Brand	Lower	34.77	-19.79 (7.85)	1.29	-0.29
TAMSULOSIN HCL	Brand	Medium	52.90	0.33 (6.29)	1.67	0.00
TAMSULOSIN HCL	Generic	Medium	11.63	-9.78 (4.57)	10.65	-0.13
VENLAFAXINE HCL	Brand	Lower	26.04	-16.63 (6.02)	3.07	-0.23
DULOXETINE HCL	Generic	Lower	28.04	-5.73 (8.48)	2.96	-0.07
HUM INSULIN NPH/REG INSULIN HM	Brand	High	42.15	0.28 (12.12)	1.05	0.00
NEBIVOLOL HCL	Brand	Medium	57.59	-20.66 (12.55)	1.48	-0.30
BRIMONIDINE TARTRATE	Brand	Medium	49.33	-14.33 (9.16)	1.11	-0.19
OLOPATADINE HCL	Brand	Lower	44.59	-37.59 (12.83)	0.86	-0.70
LOSARTAN POTASSIUM	Generic	High	6.65	0.76 (2.05)	20.60	0.01
BRIMONIDINE TARTRATE/TIMOLOL	Brand	Medium	51.49	-42.83 (16.08)	0.94	-0.88
HYDROCODONE BIT/ACETAMINOPHEN	Brand	Lower	6.18	-5.78 (4.50)	5.83	-0.09
CLOBETASOL PROPIONATE	Generic	Medium	17.11	-3.77 (5.79)	1.01	-0.05

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
FLUTICASONE PROPIONATE	Generic	Lower	8.85	-14.80 (3.50)	8.23	-0.23
ALENDRONATE SODIUM	Generic	Medium	7.47	-5.50 (3.55)	12.53	-0.08
CARVEDILOL	Generic	Medium	5.84	-4.31 (3.04)	16.42	-0.07
BUPROPION HCL	Brand	Lower	19.58	-11.91 (6.92)	3.76	-0.16
LOSARTAN/HYDROCHLOROTHIAZIDE	Brand	High	11.96	-2.97 (5.78)	6.86	-0.04
LEVOFLOXACIN	Brand	High	48.90	-4.08 (5.21)	0.27	-0.05
LATANOPROST	Brand	Lower	46.75	-6.95 (7.87)	1.19	-0.09
LOSARTAN POTASSIUM	Brand	High	55.69	-2.37 (6.51)	1.85	-0.03
METOPROLOL TARTRATE	Generic	Medium	4.45	-6.84 (2.34)	29.10	-0.12
WARFARIN SODIUM	Generic	High	6.53	-1.43 (3.44)	12.84	-0.02
DICLOFENAC SODIUM	Generic	Lower	11.29	-4.95 (5.72)	2.73	-0.07
ZOSTER VACCINE LIVE/PF	Brand	Lower	64.02	-24.33 (10.11)	0.14	-0.37
LEVOTHYROXINE SODIUM	Brand	Medium	22.48	-8.30 (5.11)	6.62	-0.12
OXYBUTYNIN CHLORIDE	Brand	Lower	26.74	-1.60 (11.45)	2.22	-0.02
LOVASTATIN	Generic	Medium	7.66	-7.03 (3.51)	10.07	-0.11
MOXIFLOXACIN HCL	Brand	High	43.99	-9.48 (6.49)	0.44	-0.12
PRAMIPEXOLE DI-HCL	Brand	Medium	27.08	-11.98 (11.39)	1.42	-0.15
POTASSIUM CHLORIDE	Brand	High	10.15	-11.91 (3.99)	7.02	-0.17
FUROSEMIDE	Generic	Medium	3.66	-8.18 (2.65)	28.21	-0.15

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
OXYCODONE HCL	Generic	Lower	11.73	-13.81 (12.07)	1.55	-0.19
HYDROCHLOROTHIAZIDE	Generic	Medium	3.97	-3.63 (2.61)	31.06	-0.07
AZITHROMYCIN	Generic	High	6.36	-3.70 (3.91)	1.34	-0.06
TRAMADOL HCL	Generic	Lower	5.10	-2.28 (4.11)	7.66	-0.04
GLIPIZIDE	Brand	High	8.75	-2.53 (5.46)	6.09	-0.04
CARBIDOPA/LEVODOPA	Brand	Lower	16.97	4.26 (10.48)	2.08	0.04
SERTRALINE HCL	Generic	Lower	6.37	-10.09 (4.25)	10.81	-0.15
FINASTERIDE	Generic	Medium	11.19	-5.61 (5.45)	5.01	-0.07
LANSOPRAZOLE	Generic	Medium	26.34	-22.89 (7.54)	1.57	-0.33
ATENOLOL	Generic	Medium	5.05	-2.92 (2.55)	20.50	-0.05
PIOGLITAZONE HCL	Generic	High	18.53	-4.41 (9.13)	1.99	-0.05
LISINOPRIL/HYDROCHLOROTHIAZIDE	Brand	High	6.00	-9.70 (3.68)	12.12	-0.18
ENALAPRIL MALEATE	Generic	Medium	6.43	-10.12 (3.82)	7.14	-0.16
HYDRALAZINE HCL	Generic	High	9.40	-3.24 (8.14)	4.35	-0.04
PREDNISOLONE ACETATE	Generic	Lower	15.56	-11.04 (6.80)	1.62	-0.15
DORZOLAMIDE HCL/TIMOLOL MALEAT	Brand	Medium	18.06	-25.43 (7.54)	2.03	-0.40
PAROXETINE HCL	Generic	Lower	8.87	-17.35 (6.78)	4.90	-0.28
RANITIDINE HCL	Generic	Medium	6.06	-1.56 (2.90)	8.97	-0.02
FENOFIBRATE	Generic	Medium	17.00	9.90 (10.86)	2.46	0.11

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ZOLPIDEM TARTRATE	Generic	High	6.46	-7.53 (3.40)	6.99	-0.12
ROSUVASTATIN CALCIUM	Generic	Medium	15.21	-35.16 (19.85)	2.08	-0.66
NITROGLYCERIN	Brand	High	12.99	0.25 (5.90)	1.73	0.00
VALSARTAN	Generic	High	19.76	-0.71 (6.89)	2.45	-0.01
ESCITALOPRAM OXALATE	Generic	Lower	11.97	-13.68 (6.64)	4.36	-0.19
MONTELUKAST SODIUM	Generic	High	10.38	-12.83 (7.19)	4.35	-0.19
ISOSORBIDE MONONITRATE	Brand	High	8.65	-7.47 (7.04)	5.41	-0.11
BRIMONIDINE TARTRATE	Generic	Medium	16.23	-8.47 (10.51)	1.23	-0.11
GLIMEPIRIDE	Generic	High	5.65	3.89 (5.36)	8.43	0.06
FLUOXETINE HCL	Generic	Lower	7.11	-3.74 (3.69)	6.41	-0.05
GLYBURIDE	Generic	High	8.00	-16.63 (5.71)	3.84	-0.28
LEVETIRACETAM	Generic	High	13.81	-24.61 (13.47)	1.49	-0.37
METHOTREXATE SODIUM	Brand	Medium	13.30	-14.75 (10.03)	1.72	-0.21
DOXYCYCLINE HYCLATE	Generic	High	13.75	-11.56 (8.69)	0.77	-0.16
LATANOPROST	Generic	Lower	8.78	-14.12 (6.72)	4.03	-0.22
CITALOPRAM HYDROBROMIDE	Brand	Lower	5.34	-10.64 (3.55)	10.36	-0.17
ALLOPURINOL	Generic	Medium	6.35	-5.20 (4.18)	8.82	-0.08
GLIPIZIDE	Generic	High	4.94	-2.83 (4.24)	10.44	-0.05
ROPINIROLE HCL	Generic	Medium	11.82	-3.41 (9.39)	2.13	-0.04

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
RAMIPRIL	Generic	Medium	10.77	-11.96 (7.69)	2.32	-0.18
MIRTAZAPINE	Generic	Lower	8.69	-11.48 (5.42)	3.40	-0.15
POLYETHYLENE GLYCOL 3350	Generic	Lower	9.00	-20.38 (8.09)	1.53	-0.31
VERAPAMIL HCL	Brand	Medium	13.47	-3.52 (7.86)	2.65	-0.05
RISPERIDONE	Generic	High	10.96	-2.72 (12.00)	1.39	-0.03
MELOXICAM	Generic	Lower	4.23	-0.55 (4.73)	8.03	-0.01
DOXAZOSIN MESYLATE	Generic	Medium	8.82	-9.33 (6.09)	3.69	-0.14
TIMOLOL MALEATE	Generic	Medium	9.51	-15.01 (6.61)	2.26	-0.23
DIGOXIN	Generic	High	8.00	2.98 (6.61)	3.62	0.04
TRIAMCINOLONE ACETONIDE	Generic	Medium	7.26	-5.59 (5.55)	1.85	-0.08
SPIRONOLACTONE	Generic	Medium	6.63	-5.61 (5.91)	5.19	-0.09
TRAZODONE HCL	Generic	Lower	5.38	-11.85 (5.34)	7.64	-0.19
TRIAMTERENE/HYDROCHLOROTHIAZID	Brand	High	7.01	-10.98 (5.35)	7.11	-0.19
MECLIZINE HCL	Generic	Lower	6.24	-7.14 (6.56)	2.10	-0.11
QUETIAPINE FUMARATE	Generic	High	11.10	-21.49 (13.41)	1.84	-0.31
CLOTRIMAZOLE/BETAMETHASONE DIP	Brand	Lower	13.14	-5.96 (8.25)	0.59	-0.08
AMOXICILLIN/POTASSIUM CLAV	Brand	High	8.45	-6.27 (5.52)	0.73	-0.10
PREDNISONE	Generic	Medium	3.67	0.63 (4.42)	5.22	0.01
OXYBUTYNIN CHLORIDE	Generic	Lower	9.09	-2.05 (5.49)	2.63	-0.03

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
LABETALOL HCL	Generic	Medium	12.85	-7.91 (9.80)	1.48	-0.10
KETOCONAZOLE	Generic	Lower	9.49	1.37 (6.77)	0.84	0.02
AMIODARONE HCL	Generic	High	9.73	-7.52 (10.90)	2.48	-0.10
CLONIDINE HCL	Generic	Medium	5.65	-11.52 (4.88)	5.60	-0.20
CIPROFLOXACIN HCL	Generic	High	4.56	-3.84 (2.42)	1.51	-0.07
ACYCLOVIR	Generic	Medium	8.54	5.14 (8.61)	0.86	0.06
METRONIDAZOLE	Generic	High	13.04	-9.17 (8.55)	0.50	-0.12
NITROFURANTOIN MONOHYD/M-CRYST	Brand	High	16.41	-19.77 (12.55)	0.39	-0.29
CYCLOBENZAPRINE HCL	Generic	Lower	6.85	-9.45 (7.45)	2.25	-0.15
GEMFIBROZIL	Generic	Medium	9.47	-1.93 (6.41)	2.43	-0.03
DIGOXIN	Brand	High	11.13	-2.64 (5.99)	2.20	-0.04
BENAZEPRIL HCL	Generic	Medium	5.52	8.66 (4.07)	6.05	0.12
IBUPROFEN	Generic	Lower	4.42	-7.03 (6.67)	3.89	-0.12
ACETAMINOPHEN WITH CODEINE	Brand	Lower	5.51	-21.69 (8.08)	1.47	-0.41
NAPROXEN	Generic	Lower	5.30	-1.99 (4.76)	3.90	-0.03
CILOSTAZOL	Generic	High	10.39	-23.29 (11.23)	1.19	-0.39
CHLORTHALIDONE	Generic	Medium	12.46	-26.84 (8.69)	1.86	-0.47
GLYBURIDE/METFORMIN HCL	Brand	High	10.14	-17.39 (8.97)	1.21	-0.28
QUINAPRIL HCL	Generic	Medium	9.66	-17.87 (9.09)	1.95	-0.30

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
METHYLPREDNISOLONE	Generic	Medium	7.57	-14.84 (5.59)	0.55	-0.26
FAMOTIDINE	Generic	Medium	6.94	-0.60 (4.86)	4.53	-0.01
LEVOFLOXACIN	Generic	High	8.01	-14.25 (3.57)	0.63	-0.22
VERAPAMIL HCL	Generic	Medium	9.32	-4.19 (9.44)	1.40	-0.06
SUCRALFATE	Generic	Medium	10.81	-16.83 (12.02)	0.87	-0.25
AMITRIPTYLINE HCL	Generic	Lower	7.20	-5.51 (6.94)	3.90	-0.09
PROPRANOLOL HCL	Generic	Medium	10.17	-16.43 (9.03)	2.00	-0.25
TIZANIDINE HCL	Generic	Lower	7.36	-19.11 (10.48)	1.17	-0.33
ISOSORBIDE MONONITRATE	Generic	High	6.96	0.29 (11.26)	1.97	0.00
NYSTATIN	Generic	Lower	9.58	-18.37 (6.93)	0.55	-0.27
HYDROXYZINE HCL	Generic	Lower	9.58	-12.08 (12.21)	1.09	-0.17
BUMETANIDE	Generic	Medium	10.60	-12.14 (11.05)	1.30	-0.17
BUSPIRONE HCL	Generic	Lower	7.88	-7.37 (9.17)	1.88	-0.10
BACLOFEN	Generic	Lower	6.97	-10.04 (8.73)	1.57	-0.14
NITROGLYCERIN	Generic	High	11.48	-15.01 (8.27)	0.57	-0.23
TERAZOSIN HCL	Generic	Medium	8.09	-4.16 (7.47)	2.71	-0.06
AMMONIUM LACTATE	Generic	Lower	8.86	8.24 (5.41)	0.63	0.10
SULFAMETHOXAZOLE/TRIMETHOPRIM	Brand	High	4.26	-20.79 (5.54)	1.22	-0.45
CEFUROXIME AXETIL	Brand	High	11.17	-6.50 (7.55)	0.24	-0.09

Table A7: *(continued)*

Drug Name	Generic	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
CEPHALEXIN	Generic	High	4.84	-8.77 (7.73)	0.83	-0.16
PROMETHAZINE HCL	Generic	Lower	6.62	-2.14 (9.93)	0.48	-0.03
AMOXICILLIN	Generic	High	3.45	-1.54 (3.31)	0.95	-0.03
MUPIROCIN	Generic	High	7.11	-9.15 (5.93)	0.52	-0.14
ONDANSETRON HCL	Generic	Lower	6.56	-29.10 (14.60)	0.38	-0.52
CLINDAMYCIN HCL	Generic	High	5.87	2.30 (7.23)	0.29	0.04
FLUCONAZOLE	Generic	Lower	4.99	9.89 (10.91)	0.39	0.14
METOCLOPRAMIDE HCL	Generic	Lower	4.85	7.27 (7.55)	1.34	0.10
DICYCLOMINE HCL	Generic	Lower	6.06	4.30 (9.54)	1.13	0.06
CEPHALEXIN MONOHYDRATE	Brand	High	5.54	-1.49 (8.09)	0.29	-0.02
AMOXICILLIN TRIHYDRATE	Brand	High	4.16	10.51 (10.22)	0.27	0.18

Notes: This table shows the reduced form estimates of a discrete regression discontinuity model of the days' supply filled for 200 of the most common prescriptions by fill volume. The estimates and standard errors are scaled to be a percent of the baseline mean. The baseline mean is four times the average of the first quarter in the year a patient loses Medicaid, to be prior to Medicaid loss. Robust standard errors clustered at the state level. Table is ordered by expenditures.

Table A8: Individual Class Estimates

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
BLOOD GLUCOSE LOWERING DRUGS, EXCL. INSULINS	A10B	High	21.09	-7.66 (1.78)	102.75	-0.10
INSULINS AND ANALOGUES	A10A	High	74.93	-20.28 (3.88)	22.08	-0.27
LIPID MODIFYING AGENTS, PLAIN	C10A	Medium	18.59	-7.39 (1.21)	146.36	-0.10
DIRECT ACTING ANTIVIRALS	J05A	Medium	76.90	-19.75 (10.73)	2.69	-0.26
ANTITHROMBOTIC AGENTS	B01A	High	36.79	-8.00 (2.56)	43.59	-0.10
ADRENERGICS, INHALANTS	R03A	High	46.51	-21.26 (3.63)	23.57	-0.31
DRUGS FOR PEPTIC ULCER AND GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD)	A02B	Medium	17.55	-9.22 (1.60)	75.23	-0.12
OTHER ANTINEOPLASTIC AGENTS	L01X	Lower	44.07	-16.22 (4.64)	5.09	-0.21
ANGIOTENSIN II RECEPTOR BLOCKERS (ARBS), PLAIN	C09C	High	25.03	-5.90 (1.52)	52.61	-0.08
ANTIDEPRESSANTS	N06A	Lower	10.55	-8.83 (1.27)	105.34	-0.12
ANTI-DEMENTIA DRUGS	N06D	Medium	45.64	-13.46 (4.70)	13.44	-0.16
BETA BLOCKING AGENTS	C07A	Medium	10.28	-6.92 (1.52)	105.56	-0.10
ANTIGLAUCOMA PREPARATIONS AND MIOTICS	S01E	Medium	26.21	-15.02 (2.94)	25.48	-0.21

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ANTIEPILEPTICS	N03A	High	17.33	-9.64 (2.14)	30.94	-0.12
INTESTINAL ANTIINFLAMMATORY AGENTS	A07E	Medium	17.46	-8.34 (2.99)	14.91	-0.11
UROLOGICALS	G04B	Lower	20.44	-6.89 (2.12)	22.92	-0.09
AGENTS FOR TREATMENT OF HEMORRHOIDS AND ANAL FISSURES FOR TOPICAL USE	C05A	Medium	15.82	-8.11 (2.63)	24.03	-0.11
ANTIPSYCHOTICS	N05A	High	33.90	-17.72 (4.24)	8.12	-0.23
OTHER ANALGESICS AND ANTIPYRETICS	N02B	Lower	10.21	-10.62 (1.93)	38.98	-0.16
ACE INHIBITORS, PLAIN	C09A	Medium	7.67	-6.34 (1.26)	116.69	-0.09
SELECTIVE CALCIUM CHANNEL BLOCKERS WITH MAINLY VASCULAR EFFECTS	C08C	Medium	9.55	-5.10 (1.56)	66.96	-0.07
ANTIINFLAMMATORY AND ANTIRHEUMATIC PRODUCTS, NON-STEROIDS	M01A	Lower	12.04	-5.83 (1.38)	32.73	-0.08
LOW-CEILING DIURETICS, THIAZIDES	C03A	High	10.28	-6.26 (1.36)	68.78	-0.09

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ADRENERGICS FOR SYSTEMIC USE	R03C	High	36.09	-20.34 (3.86)	12.51	-0.31
OPIOIDS	N02A	Lower	10.87	-7.45 (3.43)	20.63	-0.10
ANTIINFLAMMATORY AGENTS	S01B	Lower	16.74	-8.79 (2.13)	15.70	-0.12
ANTIHISTAMINES FOR SYSTEMIC USE	R06A	Medium	9.29	-8.38 (2.33)	67.84	-0.12
HORMONE ANTAGONISTS AND RELATED AGENTS	L02B	High	57.67	-8.87 (6.61)	3.86	-0.10
OTHER DERMATOLOGICAL PREPARATIONS	D11A	Medium	24.90	-12.46 (2.52)	13.96	-0.17
DRUGS FOR CONSTIPATION	A06A	Medium	10.46	-6.11 (2.75)	45.15	-0.08
ANTIINFECTIVES	S01A	High	13.68	-5.79 (1.46)	8.47	-0.08
ANTIARRHYTHMICS, CLASS I AND III	C01B	High	29.87	-8.27 (7.04)	6.19	-0.10
ANTIPRURITICS, INCL. ANTIHISTAMINES, ANESTHETICS, ETC.	D04A	Medium	12.93	-4.93 (2.35)	18.72	-0.06
ALL OTHER THERAPEUTIC PRODUCTS	V03A	High	48.13	-22.86 (9.16)	1.91	-0.32
CORTICOSTEROIDS, OTHER COMBINATIONS	D07X	Medium	16.31	-10.95 (3.41)	10.00	-0.15

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
COUGH SUPPRESSANTS, EXCL. COMBINATIONS WITH EXPECTORANTS	R05D	Lower	9.13	-10.02 (1.91)	28.96	-0.15
DRUGS USED IN BENIGN PROSTATIC HYPERTROPHY	G04C	Medium	18.34	-8.44 (4.12)	22.13	-0.11
THROAT PREPARATIONS	R02A	Lower	11.78	-4.86 (2.96)	12.16	-0.06
OTHER SYSTEMIC DRUGS FOR OBSTRUCTIVE AIRWAY DISEASES	R03D	High	18.78	-12.44 (2.80)	12.51	-0.17
TOPICAL PRODUCTS FOR JOINT AND MUSCULAR PAIN	M02A	Lower	9.78	-5.94 (2.51)	18.51	-0.08
ANESTHETICS, LOCAL	N01B	Lower	32.20	-9.04 (9.18)	1.81	-0.11
LOCAL ANESTHETICS	S01H	Lower	32.75	-12.61 (10.14)	1.66	-0.16
OTHER OTOLOGICALS	S02D	Lower	32.76	-12.96 (10.35)	1.66	-0.16
DRUGS AFFECTING BONE STRUCTURE AND MINERALIZATION	M05B	Medium	20.93	-8.14 (3.38)	15.43	-0.10
ANTACIDS	A02A	Medium	11.36	-6.83 (2.80)	17.17	-0.10
CORTICOSTEROIDS FOR SYSTEMIC USE, PLAIN	H02A	Medium	9.82	-6.35 (2.64)	13.22	-0.09
THYROID PREPARATIONS	H03A	Medium	9.60	-4.50 (1.68)	50.68	-0.06
I.V. SOLUTION ADDITIVES	B05X	High	12.99	-8.91 (3.08)	19.71	-0.12

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
OTHER ANTIBACTERIALS	J01X	High	21.40	-8.01 (4.39)	2.65	-0.10
SELECTIVE CALCIUM CHANNEL BLOCKERS WITH DIRECT CARDIAC EFFECTS	C08D	Medium	14.23	-7.06 (3.07)	14.70	-0.09
ANTIFUNGALS FOR TOPICAL USE	D01A	Lower	9.95	-8.68 (3.61)	7.89	-0.12
INTESTINAL ANTIINFECTIVES	A07A	Lower	18.86	-13.02 (5.33)	1.91	-0.17
QUINOLONE ANTIBACTERIALS	J01M	High	15.50	-8.48 (2.09)	3.45	-0.12
POTASSIUM	A12B	High	11.43	-8.49 (3.08)	19.75	-0.12
ANTIGOUT PREPARATIONS	M04A	Medium	16.28	-9.57 (4.33)	10.80	-0.13
CALCIUM	A12A	Medium	23.10	-14.74 (4.60)	6.08	-0.21
ESTROGENS	G03C	Medium	51.48	-17.19 (4.73)	5.10	-0.24
OTHER CARDIAC PREPARATIONS	C01E	Lower	8.06	-7.94 (4.21)	10.52	-0.11
CORTICOSTEROIDS	S02B	Lower	15.43	-10.47 (3.84)	5.22	-0.14
ANTIINFLAMMATORY AGENTS AND ANTIINFECTIVES IN COMBINATION	S01C	Lower	15.37	-9.59 (4.09)	5.22	-0.13
LIPID MODIFYING AGENTS, COMBINATIONS	C10B	High	65.75	-12.86 (7.26)	2.43	-0.17

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ANTIINFECTIVES AND ANTISEPTICS, EXCL. COMBINATIONS WITH CORTICOSTEROIDS	G01A	Lower	11.84	-10.12 (3.78)	4.67	-0.14
HYPNOTICS AND SEDATIVES	N05C	High	13.12	-14.27 (2.67)	9.82	-0.21
ANTIBIOTICS FOR TOPICAL USE	D06A	High	14.50	-6.91 (6.07)	1.44	-0.09
SPECIFIC ANTIRHEUMATIC AGENTS	M01C	Lower	8.97	-19.71 (7.63)	1.62	-0.30
CORTICOSTEROIDS	S03B	Lower	16.38	-12.36 (3.32)	3.79	-0.17
VASODILATORS USED IN CARDIAC DISEASES	C01D	High	10.88	-5.57 (5.50)	10.86	-0.08
DRUGS USED IN ADDICTIVE DISORDERS	N07B	Lower	24.86	-15.74 (6.41)	1.76	-0.21
MACROLIDES, LINCOSAMIDES AND STREPTOGRAMINS	J01F	High	7.91	-4.85 (2.57)	2.35	-0.07
PSYCHOSTIMULANTS, AGENTS USED FOR ADHD AND NOOTROPICS	N06B	Lower	7.34	-5.42 (6.26)	5.37	-0.08
ANTIMIGRAINE PREPARATIONS	N02C	Medium	13.24	-11.72 (4.14)	6.66	-0.16
OTHER GYNECOLOGICALS	G02C	Lower	5.49	-4.41 (3.32)	13.40	-0.07
CHEMOTHERAPEUTICS FOR TOPICAL USE	D06B	High	14.26	-2.43 (4.77)	1.74	-0.03

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ANTIINFECTIVES	S02A	High	7.52	-5.43 (2.91)	3.47	-0.08
HIGH-CEILING DIURETICS	C03C	Medium	4.33	-7.61 (2.56)	30.60	-0.13
ANXIOLYTICS	N05B	Lower	6.38	-7.01 (3.54)	14.31	-0.11
IRRIGATING SOLUTIONS	B05C	Lower	11.99	3.19 (4.51)	1.37	0.04
ANTIINFECTIVES	S03A	High	7.22	-4.43 (2.74)	3.08	-0.07
NASAL DECONGESTANTS FOR SYSTEMIC USE	R01B	Medium	5.08	-4.13 (2.58)	14.31	-0.06
BETA-LACTAM ANTIBACTERIALS, PENICILLINS	J01C	High	6.74	-0.39 (2.79)	2.40	-0.01
OTHER BETA-LACTAM ANTIBACTERIALS	J01D	High	11.36	-7.00 (4.73)	1.66	-0.09
ANTIADRENERGIC AGENTS, CENTRALLY ACTING	C02A	Medium	11.92	-11.94 (4.16)	6.33	-0.17
ANTIMYCOTICS FOR SYSTEMIC USE	J02A	Lower	8.79	0.38 (5.70)	1.28	0.00
MUSCLE RELAXANTS, CENTRALLY ACTING AGENTS	M03B	Lower	7.41	-11.37 (3.31)	6.20	-0.18
ALDOSTERONE ANTAGONISTS AND OTHER POTASSIUM-SPARING AGENTS	C03D	High	7.41	-9.82 (3.58)	13.01	-0.16

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ARTERIOLAR SMOOTH MUSCLE, AGENTS ACTING ON	C02D	High	10.21	-5.28 (8.25)	4.59	-0.07
AMINOGLYCOSIDE ANTIBACTERIALS	J01G	Lower	16.33	0.59 (4.47)	0.99	0.01
CARDIAC STIMULANTS EXCL. CARDIAC GLYCOSIDES	C01C	Lower	6.76	-8.02 (4.74)	5.38	-0.12
TETRACYCLINES	J01A	High	14.40	-9.69 (10.48)	1.12	-0.13
LOW-CEILING DIURETICS, EXCL. THIAZIDES	C03B	Medium	11.45	-15.21 (5.06)	4.68	-0.23
CARDIAC GLYCOSIDES	C01A	High	9.01	0.86 (4.29)	5.82	0.01
AGENTS AGAINST AMOEBIASIS AND OTHER PROTOZOAL DISEASES	P01A	High	15.86	-7.53 (5.98)	0.67	-0.10
MYDRIATICS AND CYCLOPLEGICS	S01F	Lower	5.63	-8.99 (4.12)	5.49	-0.14
EXPECTORANTS, EXCL. COMBINATIONS WITH COUGH SUPPRESSANTS	R05C	Lower	4.40	-8.21 (4.82)	4.93	-0.14
ANTIEMETICS AND ANTINAUSEANTS	A04A	Lower	10.25	-30.34 (10.67)	0.65	-0.52
OTHER MINERAL SUPPLEMENTS	A12C	Medium	18.73	2.08 (9.09)	0.25	0.03

Table A8: *(continued)*

Therapeutic class	ATC3 Code	Benefit	Non-Subsidy Out-of-pocket	Estimate	Baseline	Arc-Elasticity
ANTIADRENERGIC AGENTS, PERIPHERALLY ACTING	C02C	Medium	9.24	-10.01 (6.23)	4.00	-0.15
ANTISEPTICS AND DISINFECTANTS	D08A	Lower	4.82	-7.40 (8.56)	2.53	-0.13
SULFONAMIDES AND TRIMETHOPRIM	J01E	High	4.48	-10.22 (6.50)	1.69	-0.19
OTHER ALIMENTARY TRACT AND METABOLISM PRODUCTS	A16A	High	4.59	-2.96 (8.77)	0.35	-0.05

Notes: This table shows the reduced form estimates of a discrete regression discontinuity model of days' supply filled fro 100 of the most common prescription ATC3 classes by fill volume. The estimates and standard errors are scaled to be a percent of the baseline mean. The baseline mean is four times the average of the first quarter in the year a patient loses Medicaid, to be prior to Medicaid loss. Robust standard errors clustered a the state level. Classes are assigned a value classification if the majority of prescriptions filled are of that value. Table is ordered by expenditures.

H Prescription Linkages

The level a prescription is identified by is its generic compound and whether it is a generic or branded version. Identifying prescriptions this way means all branded versions of a prescription are treated as if they are the same brand, and all delivery methods (e.g. tablet or capsule) are combined into a single prescription type. The linking variable used to link the value classifications from Chandra et al. (2010b); Lavetti and Simon (2018) and therapeutic class information are the NDC9 codes. NDC codes are available at the NDC11 level, but as the last two digits are the delivery method, only the first nine are needed. Classifications are matched based on NDC9 codes, and a prescription is matched to a value as long as a single match occurs.

I Complier Means

Under the assumption of local randomization, the average outcomes of always takers (A), compliers (C) can be calculated directly. Here instrument (Z) refers to losing Medicaid before versus after the July cutoff. Patients who lose Medicaid after the cutoff are guaranteed access to the subsidy, and patients that lose Medicaid before the cutoff are not. Always takers are patients that maintain access to the subsidy without the guarantee. Compliers are patients that only maintain the subsidy with the guarantee. In this setting, never takers a patients for which the guarantee did not bind, and are less than 2 percent of the population. Note this population did not choose to lose the subsidy.

Of the patients that are not guaranteed access to the subsidy, 51 out of every 100 will maintain the subsidy, are treated (D). These patients are the always takers and since they are the only before cutoff patients with the subsidy, their outcomes can be directly observed. The observed outcomes of patients with the guarantee on the other hand are a weighted average of the compliers and the always takers. The weighted average is equal to the treated outcome of the always takers weighted by the proportion of always takers among patients guaranteed with the subsidy plus the treated outcome of the compliers, the object to recover, weighted by the the proportion of compliers among patient guaranteed the subsidy. A graphical example using prescription expenditures analagous to Kowalski (2023) is shown in appendix figure A14. Explicitly, the complier mean is:

$$E(Y|Z=1,D=1) = E(Y|Z=1,A=1)\left(\frac{E(A|Z=1}{E(P|Z=1)}\right) + E(Y|Z=1,C=1)\left(1-\frac{E(A|Z=1}{E(P|Z=1)}\right)$$

Under the assumption of local randomization, the mean is easy to calculate:

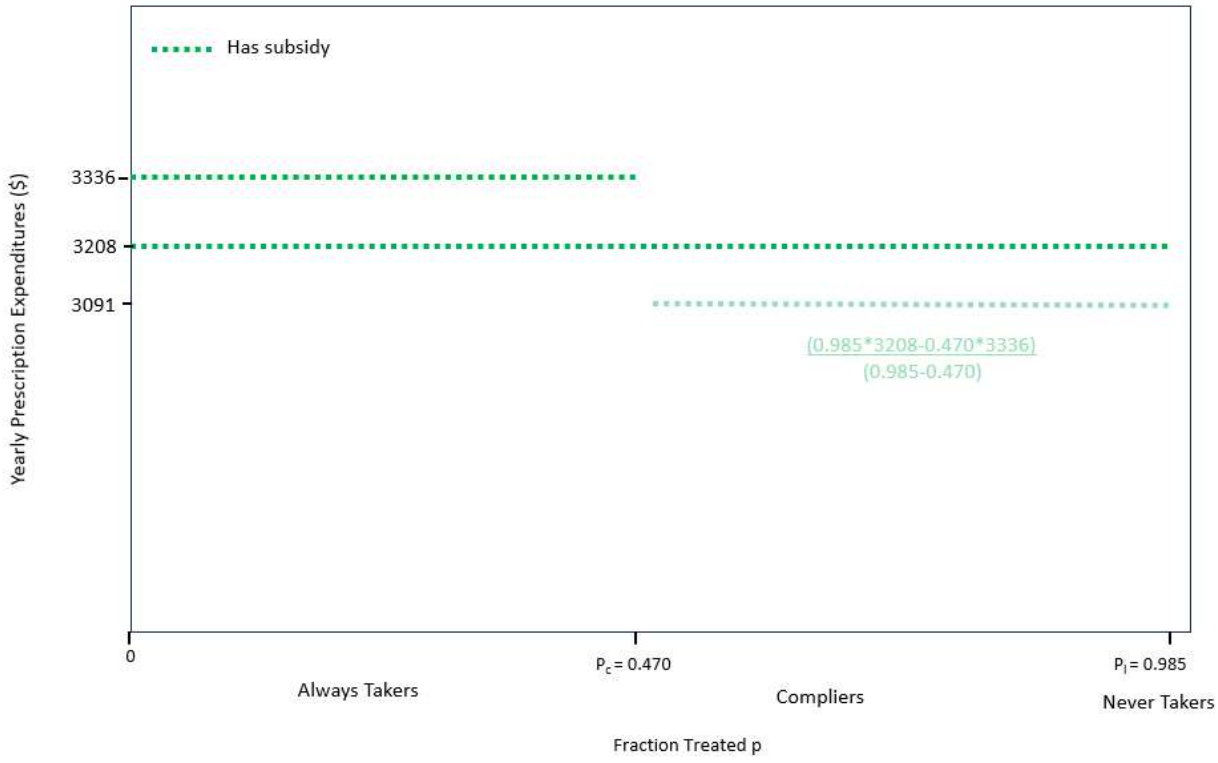
- The outcome of all patients with the guarantee $E(Y|Z=1, D=1)$ is directly observed.
- The outcome of the always takers $E(Y|Z=1, A=1) = E(Y|Z=0, A=1)$ is directly observed.
- The proportion of always takers $\left(\frac{E(A|Z=1}{E(P|Z=1)}\right) = \left(\frac{E(A|Z=0}{E(P|Z=1)}\right)$ is directly observed.
- The proportion of compliers $\left(1 - \frac{E(C|Z=1}{E(P|Z=1)}\right)$ is 1 less the proportion of always takers.

$$E(Y|Z=1, C=1) = E(Y|Z=1, D=1)\left(\frac{E(P|Z=1)}{E(P|Z=1) - E(A|Z=1)}\right) - E(Y|Z=1, A=1)\left(\frac{E(A|Z=1)}{E(P|Z=1) - E(A|Z=1)}\right)$$

A baseline complier mean can also be calculated using the pre-period of the panel directly since who is a complier is a realized event. Then under the randomization assumptions, it should generalize to be the same across the cutoff. In this case, the complier mean in the baseline period would be the mean of the outcome for patients who lost the subsidy. Reassuringly, the complier mean calculated from the baseline are very similar to the complier means using the post-period.

Valid estimates of the complier means can also be calculated under looser assumptions. The assumptions for an RD are the existence of a first stage, monotonicity, and independence (Almond and Doyle, 2011; Kim and Lee, 2017). The first stage assumption is empirically tested - patients without the guarantee are much more likely to lose the subsidy. Monotonicity would mean that patients that maintain the subsidy without the guarantee would also do so with the guarantee. Since the treatment is a guarantee, this must be true. Finally, independence will follow if assignment to treatment is as good as random. This cannot be observed, but the lack of manipulation around the cutoff and similarity of covariates across the cutoff suggests this is unlikely to be violated.

Figure A14: Example Calculation of Complier Mean of Prescription Expenditures



Note: Figure shows how to compute the complier means of prescription expenditures in the year after losing Medicaid as the example.