Does it Pay to Know Prices in Health Care?

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Online Appendix

Online Appendix A: Pretrends and First Stage Results

In this appendix, I provide additional information about the impact of access and search on prices paid. Table A.1 shows the difference in prices between corporate and noncorporate employees for each of the twenty weeks preceding access. These results are an expanded version of those presented in column (4) of Table 5. Table A.2 shows the first stage results for the IV regression that estimates whether search affects prices. The first stage is given in equation (3) and reproduced below.

(A1)

$$searched_{ijmt} = (post_t * corporate\ employee_i)\beta_1^1 + Z_c\gamma^1 + \lambda_w^1 + \lambda_{jm}^1 + \lambda_i^1 + \varepsilon_{ijmt}^1$$

As seen in column (1) of Table A.2, when the first definition of $called_{ijmt}$ is used, access increases the probability of having price information about a particular procedure by just over 9 percentage points. When it is assumed that employees do not forget the price information they were previously given (column (2)), the impact of access on price information increases slightly. And when the extreme assumption is made that employees receive information about every procedure they have after their first call, the impact of access on procedures searched for increases to 15.3 percent. In each case, the first stage F-statistic is larger than 37.

Table A.1—Testing for Differential Pretrend of Corporate Employees

	Baseline	Pre-period dummies
Post * corporate employee	-0.016***	-0.017***
	(0.004)	(0.004)
Corporate * weeks preceding access: 1		0.023
		(0.025)
2		-0.005
		(0.013)
3		-0.030*
		(0.018)
4		-0.011
		(0.010)
5		0.009
		(0.013)
6		-0.018
		(0.023)
7		-0.023
		(0.015)
8		-0.039*
		(0.022)
9		-0.001
		(0.014)
10		-0.020
		(0.022)
11		0.027
		(0.016)
12		-0.033**
		(0.016)
13		-0.019
		(0.023)
14		0.024
		(0.024)
15		-0.011
		(0.027)
16		0.033
		(0.025)
17		0.002
		(0.017)
18		0.020
		(0.024)
19		-0.012
		(0.036)
20		-0.002
		(0.017)

Dependent variable Ln(price). Column includes indicators for 20 weeks before corporate access interacted with corporate indicator. See Table 4 for listing of controls.. Standard errors clustered by market. * p<.10, ** p<.05, *** p<.01

Table A.2—The Impact of Access on Searching for Price Information

	One month	One month or previous call	Everything after first call
	(1)	(2)	(3)
Post * corporate employee	0.093***	0.113***	0.153***
	(0.015)	(0.018)	(0.023)
F-stat	37.12	40.59	44.51
Adjusted R-squared	0.998	0.998	0.998
N	387,774	387,774	387,774

Dependent variable whether person called within specified time period of getting care. Column (1) within 30 days; column (2) also counts procedures previously called about; column (3) counts all procedures after an employee's first call. Regressions include week-year, employee, and market-procedure-setting fixed effects, and indicator for whether employee had fulfilled deductible. Standard errors clustered by market. * p<.10, ** p<.05, *** p<0.01.

Online Appendix B: Data Appendix

In this appendix, I provide additional summary statistics for the corporate employees and show that the sample inclusion criteria do not significantly impact the main results. The additional summary statistics for searchers and nonsearchers appear in Table B.1. Results that show the robustness of the main result to the use of different sample inclusion criteria are presented in Table B.2.

Turnover in the restaurant business tends to be very high, particularly among fast food restaurants. This is at least partially due to the high proportions of teenagers and students employed in this industry. My data include two groups of employees: corporate office employees and head chefs and managers at the company's restaurants. The data do not include information or health claims for the line cooks, waiters, waitresses, greeters, or other employees who were not managers or head chefs. As a consequence, turnover is much lower in my sample than for the industry as whole. In addition, turnover tends to be lower during recessions; my data cover the years 2009 and 2010. The composition and time frame of my sample reduce concerns that turnover is significantly affecting the results, but do not eliminate them entirely.

Table B.1—Summary Statistics for Corporate Employees, Searchers and Nonsearchers

	Searchers	Non-searchers	p-value of difference
	(1)	(2)	(3)
Price, relative to market-procedure-setting mean, 2010 pre-access	0.001	0.001	0.890
Median per-person spending, 2010 pre-access	1,336	869	0.008
Age	43.92	42.54	0.155
Number covered by insurance plan	2.90	2.81	0.354
More generous insurance	0.36	0.52	0.010
Median household income	66,047	63,683	0.289
Fraction with college or more	0.41	0.39	0.460
Fraction white	0.80	0.79	0.471
Number of corporate employees	77	567	

Corporate employees in 2010 only. Means for searchers and non-searchers presented except rows three and four which present median per-person spending. Last column shows p-value for test of differences across searchers and non-searchers. Only corporate employees included.

To be included in the main sample, the person had to have been employed at the firm for at least six months in 2010. In the claims data, I only observe claims for a person if she is employed with the firm at the time of the medical care. Because of this, differential entry or separation from employment in the corporate and noncorporate groups could bias the estimated results. Employees from the corporate offices did not ever switch over to noncorporate employment. There were very few employees who switched from noncorporate positions to corporate positions.

I estimate equation (1) for different samples. First, I restrict the sample to those employed for at least 9 months in 2010; second, I restrict the sample to those employed for at least all of 2010; and third, I return to the baseline sample but exclude the employees who switched from the noncorporate group to the corporate group. The results are presented in Table B.2. As seen in that table, the estimated impact of access on prices changes very little across the different samples. In each case, the data suggest that access reduced the prices paid by 1.5 percent to 1.6 percent.

Table B.2—The Impact of Access on Prices for Different Samples

	Baseline	Nine months employment	One year employment	Exclude switchers
	(1)	(2)	(3)	(4)
Post * corporate employee	-0.016***	-0.016***	-0.015***	-0.016***
	(0.004)	(0.005)	(0.005)	(0.004)
Adjusted R-squared	0.925	0.925	0.927	0.925
N	387,774	370,287	349,451	387,037

Dependent variable is Ln(price). Regressions include week-year, employee, and market-procedure-setting fixed effects, and indicators for whether employee had fulfilled deductible. Different samples used in each column. Column (1) reproduces result from main sample. Column (2) restricts to people employed at company for at least 9 months in 2010. Column (3) restricts to people employees at company for at least all of 2010. Column (4) drops the few employees who switched from non-corporate to corporate. Standard errors clustered by market. * p<.10, ** p<.05 *** p<.01

Online Appendix C: Search Near the Deductible Threshold

In this appendix, I present additional evidence on the impact of health insurance coverage on search. In particular, I restrict the sample to employees who have access to Compass and are within $200 of the deductible threshold. I estimate whether those just below the deductible threshold are more likely to search than those who are just above it. To the extent that the employees are forward-looking in their consumption of health care, this comparison will tend to understate the association between the marginal price for care and search behavior. In the raw data, those just above the threshold searched in 1.4 percent of the weeks while those just below the threshold searched in 2.7 percent of the weeks.

As seen in column (1) of Table C.1, a simple probit regression of calling on search closely reproduces this raw difference in means. Unfortunately, there is very little statistical power to distinguish the marginal effect from the null hypothesis. The point estimate itself suggests employees who had met their deductibles were 70 percent less likely to search in a given week than those who had not met their deductibles. Although this difference is consistent with the associations seen in the main text, it could be driven by omitted time trends: as weeks pass, more people are likely to have met their deductibles. Column (2) includes week fixed effects that account for this possibility. The point estimate falls slightly, but remains economically large. In the final column, controls for the demand for care are included. As in the main text, this is a cubic in cumulative medical spending up to the previous week. There is little difference in the estimated marginal effects between columns (2) and (3). Although these estimated impacts of meeting the deductible on search are very imprecisely estimated, they are consistent with the results presented in the main text and suggest a role for moral hazard in search.

Table C.1—Search and Meeting the Deductible

	Baseline	Week fixed effects	Demand control
	(1)	(2)	(3)
Met deductible	-0.011	-0.009	-0.008
	(0.012)	(0.011)	(0.010)
Week fixed effects		x	x
Demand controls			x
Mean dependent variable	0.017	0.017	0.017
Pseudo R-squared	0.011	0.171	0.197
Observations	479	479	479

Marginal effects from probit regressions presented. Sample restricted to corporate employees in 2010 within $200 of deductible threshold. Demand controls are a cubic in the cumulative medical spending up to the previous week. Standard errors clustered by employee. * p<.10, ** p<.05, *** p<.01.