Electronic Companion to *Telehealth's double-edged sword: Hidden costs of expanding access to virtual care*

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Appendix A: Impact of Telehealth Adoption on Volume of Auxiliary Tasks

In this section, we assess the impacts of telehealth adoption on the volume of auxiliary tasks, including patient history reviews, order placement, and prescription refills. Physicians typically review patient histories prior to any clinical encounter to ensure continuity and accuracy of care, while orders and refills are often managed asynchronously, independent of direct patient contact. We define $Histories_{i,t}$, $Orders_{i,t}$, and $Refills_{i,t}$ as the number of patient histories reviewed, orders placed, and refills processed by physician i in month t, respectively.

Table EC.1 presents the estimation results for these outcomes. While we do not find a statistically significant effect on the number of patient history reviews or orders placed, high adopters processed approximately nine fewer prescription refills per month relative to low adopters. This suggests a potential "crowding-out" effect, in which the intensity of managing larger caseloads and rising message volumes may reduce a physician's capacity to handle auxiliary clinical tasks.

Table EC.1 2SLS estimates for auxiliary tasks.

	$Histories_{i,t}$	$Orders_{i,t}$	$Refills_{i,t}$
VARIABLES	[1]	[2]	[3]
$Treated_{i,t}$	0.153	-5.423	-8.850**
	(3.619)	(9.613)	(4.246)
$TotSchAppt_{i,t}$	0.005***	-0.002***	-0.004**
	(0.000)	(0.000)	(0.002)
$COVIDCases_t$	-0.014***	-0.004	0.008***
	(0.004)	(0.004)	(0.001)
$COVIDDeaths_t$	-0.904***	0.084***	1.001***
	(0.212)	(0.002)	(0.108)
$COVIDAdmission_t$	4.054***	1.094	-2.107***
	(1.041)	(1.504)	(0.301)
$Patients_{i,t}$	0.410***	0.219***	0.233***
	(0.052)	(0.023)	(0.068)
Provider F.E.s	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes
Observations	8388	8388	8388
Adj R-squared	0.931	0.906	0.949

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix B: Panel Size Robustness Analyses

In our main analyses, we define panel size ($Panel_{i,t}$) as the number of unique patients seen by physician i over the a rolling 12-month window ending in month t. Table EC.2 reports results using alternative panel definitions based on 9-month and 15-month windows. The estimates remain consistent with our main findings, indicating that the results are not sensitive to the specific panel length used.

Table EC.2 2SLS results for different definitions of physician panel size.

VARIABLES	9-month	12-month	15-month
$Treated_{i,t}$	60.376**	106.544**	201.114***
	(27.241)	(44.049)	(63.505)
Control Variables	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes
Observations	8388	8388	8388
Adj R-squared	0.935	0.929	0.924

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix C: Turnover Robustness Analysis

In our main analyses, we exclude the final six months of the sample period from the turnover analysis to distinguish permanent departures from potential temporary absences ($N = 148$ exits). The results, reported in Column [1] of Table EC.3, show that each additional month of telehealth adoption is associated with a 0.16 percentage point increase in the probability of physician exit.

To assess robustness to the length of the exclusion window, Columns [2]–[3] of Table EC.3 report estimates excluding the last 9 ($N = 123$ exits) and 12 months ($N = 119$ exits), respectively. The results remain stable, with estimated effects of 0.13–0.14 percentage points, reinforcing the consistency of the main findings across alternative sample restrictions.

In addition, we examine whether more recent telehealth exposure drives exit decisions more strongly. In Columns [4]–[6], we re-estimate the model using a 6-month, 9-month, and 12-month rolling measures of telehealth exposure, which places greater weight on recent clinical activity. The results indicate that each additional month of telehealth use is associated with a 0.58–0.84 percentage point increase in exit probability.

Overall, across alternative sample definitions and exposure windows, the findings consistently indicate that sustained telehealth adoption is associated with higher physician turnover.

Table EC.3 2SLS estimates for physician exit.

	Cumulative Effect			Rolling Effect		
	Exclusion Window			Rolling Window		
	Last 6 Months	Last 9 Months	Last 12 Months	Last 6 Months	Last 9 Months	Last 12 Months
VARIABLES	[1]	[2]	[3]	[4]	[5]	[6]
$CumulativeAdoption_{i,t}$	0.0016***	0.0013***	0.0014**			
	(0.0004)	(0.0004)	(0.0006)			
$RollingAdoption_{i,t}$				0.0084***	0.0066***	0.0058***
				(0.0027)	(0.0023)	(0.0022)
Tenure F.E.s	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7138	6505	5880	7138	7138	7138
Adj R-squared	0.256	0.263	0.259	0.256	0.255	0.252

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix D: Full Presentation of the Robustness Analyses

D.1. Parallel Trend Analysis

Table EC.4 reports the estimation results for the pre-treatment differences among the treated and control physicians. Overall, with few exceptions, we find no significant pre-treatment differences across all outcomes.

Table EC.4 Parallel trend analysis.

	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$	$Messages_{i,t}$	$Calls_{i,t}$	$Exit_{i,t}$	$Charge_{i,t}$
$Treated_i \times Month_{-14}$	100.524	8.121	2.129	1.081	5.256	0.957	-25.830*	0.143	-1906.491
	(69.712)	(12.270)	(2.556)	(6.660)	(6.745)	(6.238)	(8.665)	(0.073)	(4455.905)
$Treated_i \times Month_{-13}$	96.783	6.234	2.407	-1.486	5.74	0.676	-26.112*	0.132	-8774.948
	(72.343)	(12.341)	(4.350)	(7.374)	(3.050)	(6.569)	(7.006)	(0.075)	(14126.591)
$Treated_i \times Month_{-12}$	92.284	2.389	0.263	-0.926	1.997	-0.49	-23.424*	0.121	-3489.624
	(67.532)	(11.640)	(1.982)	(6.568)	(6.242)	(6.192)	(7.105)	(0.062)	(5905.233)
$Treated_i \times Month_{-11}$	81.112	8.033	4.137	1.345	2.762	-2.066	-25.557*	0.080	-8552.045
	(58.796)	(11.598)	(3.951)	(4.920)	(7.107)	(4.371)	(6.963)	(0.076)	(14120.836)
$Treated_i \times Month_{-10}$	79.535	1.931	0.758	-2.738	2.64	-2.712	-21.482*	0.017	-4591.946
	(58.630)	(11.797)	(2.157)	(5.849)	(7.296)	(7.673)	(7.199)	(0.057)	(9846.046)
$Treated_i \times Month_{-9}$	80.715	2.483	1.57	-3.272	2.588	-3.112	-24.293	0.029	4343.619
	(59.151)	(10.227)	(4.172)	(4.965)	(4.629)	(5.048)	(8.381)	(0.039)	(6829.748)
$Treated_i \times Month_{-8}$	65.773	1.438	-1.473	-1.628	5.073	-2.593	-22.97	0.053	-8131.084
	(50.289)	(4.409)	(2.345)	(2.882)	(5.256)	(4.510)	(8.240)	(0.067)	(15118.930)
$Treated_i \times Month_{-7}$	55.833	7.476	3.293	0.318	4.702	-4.819	-23.076	0.029	-12997.916
	(44.701)	(8.805)	(2.882)	(4.312)	(4.194)	(4.187)	(10.179)	(0.053)	(22747.912)
$Treated_i \times Month_{-6}$	43.839	1.898	0.837	-0.604	3.75	-2.211	-22.729	0.029	13224.797
	(39.592)	(10.454)	(2.102)	(6.571)	(5.439)	(3.905)	(7.946)	(0.031)	(8992.397)
$Treated_i \times Month_{-5}$	28.574	-6.263	-0.817	-5.065	2.731	-1.952	-19.731*	0.038	12033.339
	(37.357)	(4.439)	(1.126)	(3.916)	(3.802)	(3.102)	(6.073)	(0.058)	(8135.605)
$Treated_i \times Month_{-4}$	27.396	-1.026	-1.071	-4.004	5.047	-0.821	-22.644	0.048	14665.397
	(35.284)	(7.585)	(1.633)	(4.334)	(5.200)	(5.383)	(8.848)	(0.046)	(13068.812)
$Treated_i \times Month_{-3}$	37.857	-2.22	-2.166	-4.21	5.653	-2.175	-22.44	0.028	12157.866
	(38.673)	(8.618)	(2.327)	(5.676)	(3.116)	(5.140)	(8.533)	(0.033)	(10658.738)
$Treated_i \times Month_{-2}$	21.361	5.163	2.091	1.217	4.339	-1.008	-21.372	0.052	10859.379
	(33.699)	(7.767)	(2.203)	(4.881)	(3.875)	(3.871)	(7.840)	(0.049)	(7572.859)
$Treated_i \times Month_{-1}$	9.557	-1.713	0.545	-4.41	6.873	-1.817	-19.467*	0.011	12243.051
	(31.253)	(9.163)	(2.095)	(6.437)	(5.334)	(3.310)	(6.579)	(0.039)	(6444.005)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2644	2644	2644	2644	1844	2644	2644	2644	2644

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

D.2. Alternative Post-treatment Time Window

Table EC.5 presents the estimation results for the main outcomes when excluding data only up to December 2020 (shortening the exclusion window by six months), while Table EC.6 presents the estimation results when excluding data up to December 2021 (extending it by six months). Overall, the results remain consistent with our main findings, in which we excluded only the months from March 2020 through June 2021.

Table EC.5 2SLS results for main outcomes – Excluding March 2020 to Dec 2020.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	164.449**	-10.504	7.370***	-17.568***	-3.748***
	(69.229)	(11.003)	(1.692)	(2.670)	(0.233)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	9504	9504	9504	9504	5973
Adj R-squared	0.919	0.944	0.863	0.917	0.898

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.

Table EC.6 2SLS results for main outcomes – Excluding March 2020 to Dec 2021.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	109.805***	-5.347	11.575***	-11.408**	-5.010***
	(39.733)	(6.494)	(1.136)	(4.680)	(0.060)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	7273	7273	7273	7273	4490
Adj R-squared	0.930	0.944	0.863	0.918	0.897

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.

D.3. Alternative Treatment Thresholds

Table EC.7 presents the estimation results for panel size and visit volumes by type using a 15% threshold, while Table EC.8 shows the results under a 20% threshold. Overall, the findings remain consistent across all specifications, supporting the robustness of our results to alternative treatment definitions.

Table EC.7 2SLS results for main outcomes – Classifying treatment group based on a 15% telehealth rate threshold.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	105.700***	-5.376	10.276***	-11.175**	-3.769***
	(45.047)	(8.457)	(1.787)	(5.392)	(0.159)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8388	8388	8388	8388	5226
Adj R-squared	0.929	0.944	0.859	0.918	0.900

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Table EC.8 2SLS results for main outcomes – Classifying treatment group based on a 20% telehealth rate threshold.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	112.539**	-5.724	9.702***	-10.551*	-3.804***
	(51.039)	(9.133)	(2.610)	(6.098)	(0.134)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8388	8388	8388	8388	5226
Adj R-squared	0.929	0.944	0.859	0.918	0.900

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

D.4. Time-invariant Treatment Status after Initial Adoption

Table EC.9 presents the estimation results for the main outcomes when treated physicians are classified as "permanently treated" following their first month exceeding the 10% threshold. The results remain consistent with our main estimates with time-varying treatment status.

Table EC.9 2SLS results for main outcomes – Time-invariant treatment status after initial adoption.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	123.866***	-6.300	14.100***	-15.333**	-4.247***
	(42.580)	(10.269)	(0.730)	(4.031)	(0.035)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8388	8388	8388	8388	5226
Adj R-squared	0.929	0.944	0.861	0.918	0.900

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

D.5. Treatment Intensity Effect

Tables EC.10 and EC.11 present the OLS and 2SLS estimates of the impact of telehealth rate on physician outcomes, respectively. Overall, the findings are consistent with our main results, indicating that higher telehealth adoption is associated with larger patient panels, driven by a shift from the care of existing patients to new consultations.

Table EC.10 OLS results for main outcomes – Telehealth intensity rate.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$[1]	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	-0.728	2.111	5.322	2.084	-5.241
	(68.330)	(8.470)	(2.198)	(9.733)	(1.935)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8806	8806	8806	8806	5656
Adj R-squared	0.927	0.943	0.864	0.916	0.896

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.
[1] $TelehealthRate_{i,t}$ is constructed from the same components as $Visits_{i,t}$, which may introduce mechanical correlation. While we retain this result because it aligns with our main conclusion—that telehealth adoption did not affect overall visit volume—we caution that this specific estimate should be interpreted with care.

Table EC.11 2SLS results for main outcomes – Telehealth intensity rate.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$[1]	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	173.519**	-8.825	12.851***	-13.975	-5.255***
	(83.385)	(14.003)	(4.667)	(9.376)	(0.049)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8388	8388	8388	8388	5226
Adj R-squared	0.930	0.944	0.862	0.918	0.900

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.
[1] $TelehealthRate_{i,t}$ is constructed from the same components as $Visits_{i,t}$, which may introduce mechanical correlation. While we retain this result because it aligns with our main conclusion—that telehealth adoption did not affect overall visit volume—we caution that this specific estimate should be interpreted with care.

D.6. Matching

Table EC.12 shows covariate balance before and after matching, demonstrating the successful mitigation of baseline imbalances. Table EC.13 presents estimation results on the matched sample, which are consistent with our main findings but show larger coefficients in their respective directions.

Table EC.12 Covariate balance before and after matching.

	Unmatched	Mean		
Variable	Matched	Treated	Control	SMD[1]
Dermatology	U	0.090	0.554	-1.134
	M	0.142	0.217	-0.181
Neurology	U	0.620	0.250	0.799
	M	0.667	0.598	0.149
avg_panelsize_2019	U	559.100	620.680	-0.083
	M	441.240	454.560	-0.018
avg_visits_2019	U	80.547	98.032	-0.173
	M	68.008	75.679	-0.076
avg_messages_2019	U	23.461	8.278	0.490
	M	8.7654	9.832	-0.034
avg_telephones_2019	U	36.723	41.382	-0.089
	M	30.418	22.557	0.149
avg_orders_2019	U	34.217	19.715	0.306
	M	13.605	13.079	0.011
avg_refills_2019	U	31.527	11.061	0.574
	M	11.482	8.511	0.083
avg_charges_2019	U	36615	46072	-0.152
	M	36084	33160	0.047

[1] SMD = Standardized Mean Difference.

Table EC.13 2SLS results on the matched sample.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	146.044***	-8.662	21.330***	-12.306**	-6.123*
	(52.667)	(16.510)	(6.124)	(5.926)	(3.385)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	4896	4896	4896	4896	3486
Adj R-squared	0.922	0.935	0.815	0.905	0.881

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix E: Details of Instrumental Variable Analysis and Alternative IVs

Table EC.14 presents the first-stage estimation results from the 2SLS analysis, using $LaggedPeerRate_{i,t}$ as the instrument for the treatment variable. The instrument exhibits a strong and positive coefficient, indicating that it is a strong predictor of physician i's telehealth adoption status in month t. This provides empirical support for the relevance criterion of the instrumental variable. In addition, the first-stage F-statistics are well above 10, satisfying the conventional threshold for instrument strength (Staiger and Stock 1994).

Table EC.14 First stage results of 2SLS with $LaggedPeerRate_{i,t}$ as the IV.

VARIABLES	[1]
$LaggedPeerRate_{i,t}$	0.550***
	(0.038)
$TotSchAppt_{i,t}$	0.000
	(0.000)
$COVIDCases_t$	0.000***
	(0.000)
$COVIDDeaths_t$	0.010***
	(0.003)
$COVIDAdmissions_t$	-0.003***
	(0.000)
Provider F.E.s	Yes
Month-Year F.E.s	Yes
Observations	8388
Adj R-squared	0.719
F-Value	286.796

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.

In Tables EC.15 and EC.16, we present the estimation results for the key outcomes using the two-month and three-month lagged peer telehealth rates, respectively, as instruments—rather than the one-month lag used in our main analyses. The results are both qualitatively and quantitatively consistent with our main findings, suggesting that our conclusions are robust to the choice of instrumental variable.

Table EC.15 2SLS results for main outcomes – Using 2-month lagged peer telehealth rate as IV.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	95.701***	-7.450	14.582***	-16.169***	-2.320*
	(34.049)	(11.524)	(1.885)	(3.522)	(1.231)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8185	8185	8185	8185	5118
Adj R-squared	0.933	0.944	0.855	0.919	0.903

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.

Table EC.16 2SLS results for main outcomes – Using 3-month lagged peer telehealth rate as IV.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	81.794**	-2.066	13.701***	-11.021	-3.220***
	(32.606)	(5.954)	(0.662)	(8.912)	(0.733)
Control Variables	Yes	Yes	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8007	8007	8007	8007	5025
Adj R-squared	0.929	0.944	0.861	0.918	0.900

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix F: OLS Results

Tables EC.17 present the OLS estimation results for the main outcomes. Overall, the OLS estimates tend to underestimate the magnitude of the effects associated with telehealth adoption.

Table EC.17 OLS results for the main outcomes.

VARIABLES	$Panel_{i,t}$	$Visits_{i,t}$	$NewPatients_{i,t}$	$FollowUps_{i,t}$	$Procedures_{i,t}$
$Treated_{i,t}$	-22.912	-0.660	2.084	-0.306	-2.983
	(36.810)	(4.089)	(0.765)	(4.868)	(1.789)
$TotSchAppt_{i,t}$	0.049	0.020	0.006	0.010	0.003
	(0.025)	(0.009)	(0.003)	(0.005)	(0.001)
$COVIDCases_t$	0.011**	0.000	0.000	0.000	0.000
	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
$COVIDDeaths_t$	15.440*	-0.038	-0.609	0.575	0.651
	(1.567)	(0.217)	(0.247)	(0.872)	(0.654)
$COVIDAdmissions_t$	-2.546**	0.033	0.086	-0.055	-0.045
	(0.161)	(0.007)	(0.042)	(0.102)	(0.262)
Provider F.E.s	Yes	Yes	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes	Yes	Yes
Observations	8806	8806	8806	8806	5656
Adj R-squared	0.927	0.943	0.864	0.916	0.896

Standard errors are in parentheses. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Appendix G: Log-Transforming the Key Outcomes

While some of our outcome variables exhibit mild skewness, we rely on a linear specification in the main analysis for two key reasons. First, our comparisons involve physicians across different departments with substantially different baseline levels of panel size and revenue. In such cases, interpreting treatment effects in percentage terms—as is standard with log-transformed outcomes—can be misleading. For instance, a 10% reduction in charges may translate to a vastly different dollar amount in Dermatology than in General Medicine. Second, the linear specification produces effect estimates in level terms (e.g., additional patients, dollars), which are more intuitive and policy-relevant for clinical and administrative audience.

Nevertheless, to assess the robustness of our findings, we re-estimate the models using log-transformed outcome variables. Table EC.18 reports estimates using the natural logarithm of panel size, visit volume, and total charges. The results are consistent with our main findings, indicating an approximately 16.3% increase in panel size and no statistically significant effects on visit volume or total charges.

Table EC.18 2SLS estimates for the log transform of panel size, visit volume, and total charges.

VARIABLES	$\log(Panel_{i,t})$	$\log(Visits_{i,t})$	$\log(Charge_{i,t})$
$Treated_{i,t}$	0.151**	-0.040	-0.215
	(0.065)	(0.077)	(0.166)
Control Variables	Yes	Yes	Yes
Provider F.E.s	Yes	Yes	Yes
Month-Year F.E.s	Yes	Yes	Yes
Observations	8388	8388	8388
Adj R-squared	0.897	0.902	0.907

Standard errors are in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.1$.