Online Appendix — Not For Publication

Strategic Patient Discharge: The Case of Long-Term Care Hospitals

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A Complete Summary Statistics

Table A1: Summary Statistics for All Patients (2004-2013)

Variable	**Mean**	**Std. Dev.**
Length of Stay	28.766	41.844
Released on or after magic day	0.681	0.466
Total Payment ($)	31,933.43	24,332.54
Amount Paid by Medicare ($)	31,814.61	26,883.69
Estimated Costs ($)	37,578.69	37,022.04
Portion Discharged Alive	0.861	0.346
Portion Discharged Dead	0.139	0.346
Portion Discharged to Home Care	0.34	0.474
Portion Discharged to Hospital	0.123	0.329
Portion Discharged to Nursing Facility	0.391	0.488
Admission Type: Emergency	0.011	0.104
Admission Type: Urgent	0.198	0.398
Admission Type: Elective	0.785	0.411
Admission Type: Other	0.006	0.079
Admission Source: Community	0.186	0.389
Admission Source: Nursing Facility	0.025	0.155
Admission Source: General Hospital	0.777	0.416
Admission Source: Other Source	0.007	0.085
Male	0.484	0.5
White	0.729	0.445
African-American	0.202	0.401
Asian	0.012	0.111
Hispanic	0.033	0.18
Age less than 25	0.001	0.038
Ave between 25 and 44	0.039	0.193
Age between 45 and 64	0.191	0.393
Age between 65 and 74	0.305	0.46
Age between 75 and 84	0.301	0.459
Age over 85	0.164	0.37
N = 1,452,287		

Table A2: Summary Statistics for DRG 207 Patients (2004-2013)

Variable	**Mean**	**Std. Dev.**
Length of Stay	38.06	40.24
Released on or after magic day	0.672	0.47
Total Payment ($)	57,609.66	33,061.67
Amount Paid by Medicare ($)	57,536.17	37,143.23
Estimated Costs ($)	67,061.07	51,780.64
Portion Discharged Alive	0.736	0.441
Portion Discharged Dead	0.264	0.441
Portion Discharged to Home Care	0.132	0.338
Portion Discharged to Hospital	0.166	0.372
Portion Discharged to Nursing Facility	0.437	0.496
Admission Type: Emergency	0.011	0.105
Admission Type: Urgent	0.202	0.402
Admission Type: Elective	0.781	0.414
Admission Type: Other	0.006	0.076
Admission Source: Community	0.122	0.327
Admission Source: Nursing Facility	0.013	0.115
Admission Source: General Hospital	0.857	0.35
Admission Source: Other Source	0.003	0.054
Male	0.502	0.5
White	0.745	0.436
African-American	0.192	0.394
Asian	0.015	0.122
Hispanic	0.024	0.154
Age less than 25	0.002	0.04
Ave between 25 and 44	0.03	0.17
Age between 45 and 64	0.187	0.39
Age between 65 and 74	0.355	0.478
Age between 75 and 84	0.32	0.466
Age over 85	0.107	0.309
$N = 170,365$		

Table A3: Share of discharges on the magic day and the preceding day

Comparison Set	Day before magic day	Magic Day	Ratio	P-value[1]	Diff-in-Ratios	P-value[2]
Home	0.017	0.103	6.06	0.000		
Nursing Facility	0.009	0.076	8.44	0.000	-2.38	0.010
Acute Care Hospital	0.016	0.024	1.5	0.001	4.56	0.000
Death	0.018	0.019	1.06	0.517	5.01	0.000
2004	0.016	0.036	2.25	0.000	3.19	0.000
2013	0.016	0.087	5.44	0.000		
For-profit	0.010	0.092	9.20	0.000	4.60	0.000
Non-profit	0.015	0.069	4.60	0.000		
Select or Kindred	0.010	0.089	8.91	0.000	3.29	0.000
Other	0.013	0.073	5.62	0.000		
Before Acquisition	0.014	0.087	6.21	0.000	8.93	0.000
After Acquisition	0.007	0.106	15.14	0.000		
Co-located	0.012	0.101	8.42	0.000	1.78	0.074
Not Co-located	0.011	0.073	6.64	0.000		

Note: P-values from Wald tests of nonlinear hypotheses. Difference-in-ratios for nursing facility, acute-care hospital, and death discharges are all with respect to home discharges. Except for the discharge destination rows, the statistics include hospital stays ending in discharge to home or nursing facility care.

[1] P-value under the null hypothesis that the ratio is equal to one.

[2] P-value under the null hypothesis that the difference-in-ratios equals zero.

Table A4: Summary Statistics for Nine Most Common DRGs

	DRG									
	177	189	190	193	207	539	592	871	949	Pooled
Mean length of stay	25.3	26.4	21.0	22.3	42.4	33.2	30.4	26.0	24.2	30.0
Standard deviation	(12.6)	(20.2)	(10.0)	(12.2)	(24.1)	(15.0)	(16.6)	(14.1)	(18.1)	(19.6)
Payment and Cost Estimates (in $)										
Mean daily payments	1,186	1,245	1,139	1,124	1,639	1,013	974	1,100	981	1,249
Mean full payments	33,466	39,929	27,289	28,401	7,8749	36,334	33,594	33,307	27,153	44,626
Mean magic day payments	9,116	1,3264	8,087	7,846	33,562	8,857	11,765	12,356	9,488	16,308
Mean daily cost est.	1,267	1,341	1,191	1,184	1,689	1,081	1,026	1,179	1,098	1,319
Discharge Type										
Discharged alive	0.84	0.83	0.89	0.85	0.73	0.94	0.87	0.83	0.95	0.82
Discharged to home	0.29	0.29	0.54	0.39	0.13	0.41	0.30	0.28	0.41	0.28
Discharged to hospital	0.09	0.11	0.08	0.09	0.16	0.13	0.12	0.10	0.14	0.12
Discharged to nursing facility	0.46	0.42	0.26	0.37	0.44	0.39	0.44	0.44	0.39	0.40
LTCH Type										
For-profit, HwH	0.14	0.17	0.14	0.12	0.23	0.17	0.18	0.13	0.17	0.17
For-profit, standalone	0.61	0.56	0.57	0.63	0.50	0.54	0.58	0.67	0.56	0.57
Non-profit, HwH	0.07	0.08	0.05	0.06	0.09	0.10	0.07	0.06	0.03	0.07
Non-profit, standalone	0.17	0.18	0.23	0.18	0.18	0.18	0.18	0.16	0.14	0.24
N^1	38,318	71,563	28,139	26,492	90,755	18,923	36,669	50,494	16,160	377,513

[1] This count includes hospital stays that result in a discharge to home care or a nursing facility. This is the sample we use to estimate the model in Section 5. See Table A7 for the descriptions on these DRGs.

Table A5: Per-diem estimates (in $)

	Mean	**25th Percentile**	**Median**	**75th Percentile**
Panel A: Per-diem rate				
Overall	1,249	1,050	1,195	1,414
For-profit, HwH	1,235	1,005	1,179	1,480
For-profit, standalone	1,228	1,043	1,178	1,368
Non-profit, HwH	1,280	1,055	1,220	1,503
Non-profit, standalone	1,317	1,117	1,257	1,507
Select	1,250	1,024	1,206	1,482
Kindred	1,232	1,049	1,187	1,377
Other	1,257	1,058	1,198	1,405
Panel B: Full LTCH PPS payment				
Overall	44,626	30,938	35,155	61,702
For-profit, HwH	46,876	30,517	35,195	72,845
For-profit, standalone	43,817	31,318	35,208	43,111
Non-profit, HwH	44,177	33,746	33,746	68,396
Non-profit, standalone	45,256	30,853	35,302	63,558
Select	47,480	31,310	35,577	73,571
Kindred	46,358	33,097	36,889	59,953
Other	42,661	30,092	34,059	42,658
Panel C: Magic day payments				
Overall	16,308	8,742	12,450	22,710
For-profit, HwH	17,763	8,965	13,529	29,478
For-profit, standalone	16,351	9,209	12,630	20,749
Non-profit, HwH	14,437	7,018	11,352	23,111
Non-profit, standalone	15,536	7,918	11,127	24,193
Select	18,114	9,592	13,742	30,162
Kindred	18,448	10,666	14,591	25,715
Other	14,555	7,763	11,234	18,895
N = 377,513				

Table A6: Average daily cost estimates (in $)

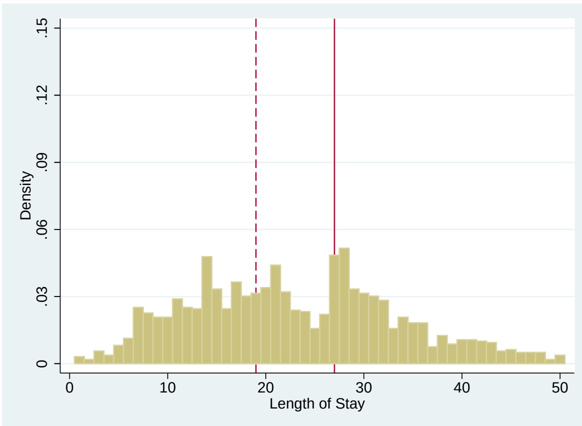
	Mean	**25th Percentile**	**Median**	**75th Percentile**
Overall	1,319	1,075	1,280	1,526
For-profit, HwH	1,266	1,003	1,237	1,501
For-profit, standalone	1,300	1,078	1,267	1,488
Non-profit, HwH	1,398	1,100	1,365	1,640
Non-profit, standalone	1,401	1,135	1,372	1,631
Select	1,279	1,028	1,267	1,497
Kindred	1,293	1,078	1,253	1,487
Other	1,348	1,089	1,301	1,558
N = 377,513				

B Other DRGs

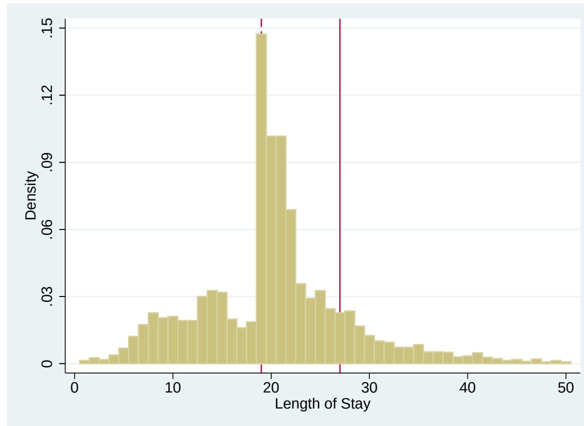
While our paper at times focuses on DRG 207, in this appendix we extend the analysis to other DRGs, summarized above in Appendix A. Our structural estimation uses the nine most common DRGs in order to increase the variation in magic days in the data. Table A7 describes each of these DRGs. Figure A1 plots discharge patterns for the next three most common DRGs after DRG 207 in 2004 and 2013, along with their respective SSO thresholds. Figure A2 plots realized Medicare payments and discharge patterns that suggest other DRGs have similar discharge practices.

Table A7: DRG Descriptions

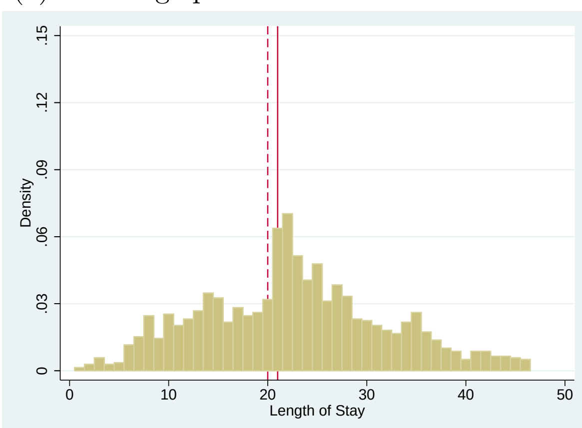
DRG	Description
177	Respiratory infections and inflammations with major complicating conditions
189	Pulmonary edema and respiratory failure
190	Chronic obstructive pulmonary disease with major complicating conditions
193	Simple pneumonia and pleurisy with major complicating conditions
207	Respiratory system diagnosis with ventilator support of over 96 hours
539	Osteomyelitis with major complicating conditions
592	Skin ulcers
871	Septicemia without mechanical ventilation of over 96 hours with major complicating conditions
949	Aftercare with complication conditions or major complicating conditions



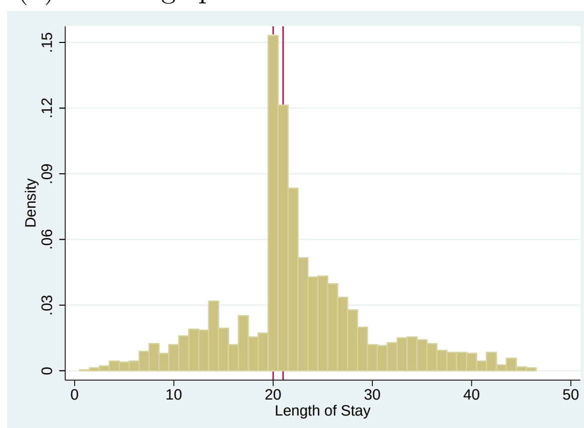
(a) Discharge practices for DRG 189 in 2004



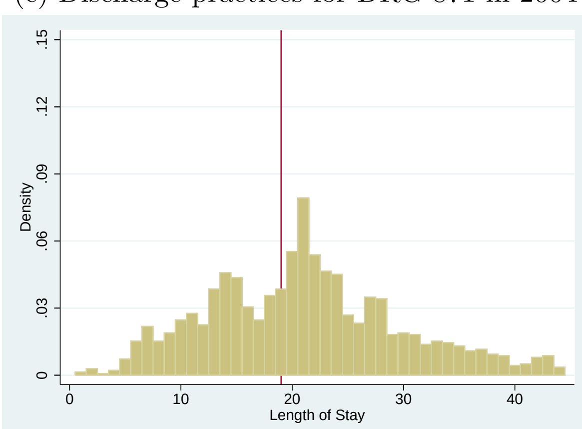
(b) Discharge practices for DRG 189 in 2013



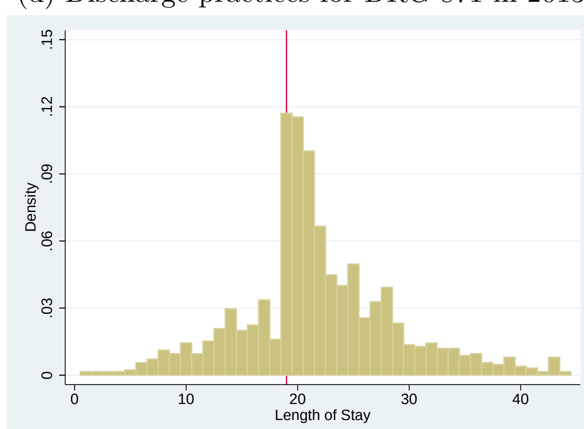
(c) Discharge practices for DRG 871 in 2004



(d) Discharge practices for DRG 871 in 2013

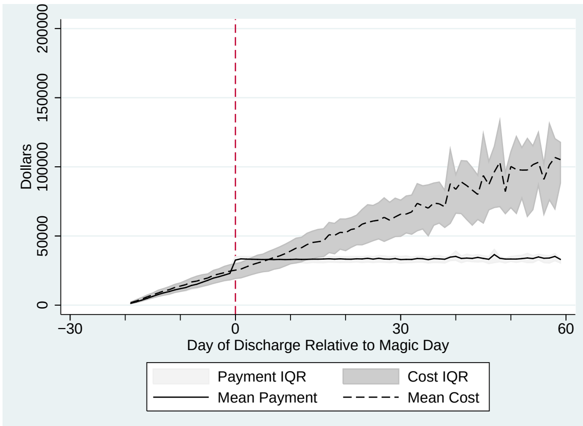


(e) Discharge practices for DRG 177 in 2004

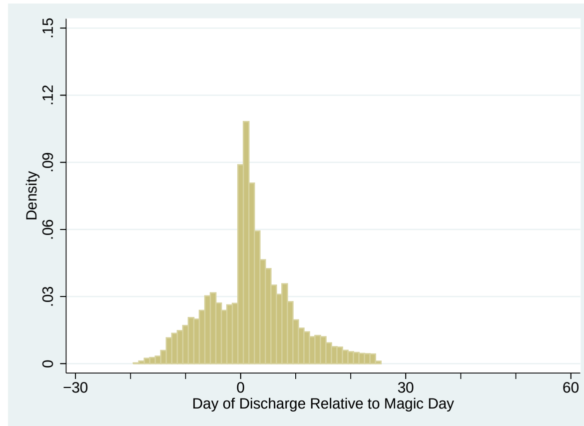


(f) Discharge practices for DRG 177 in 2013

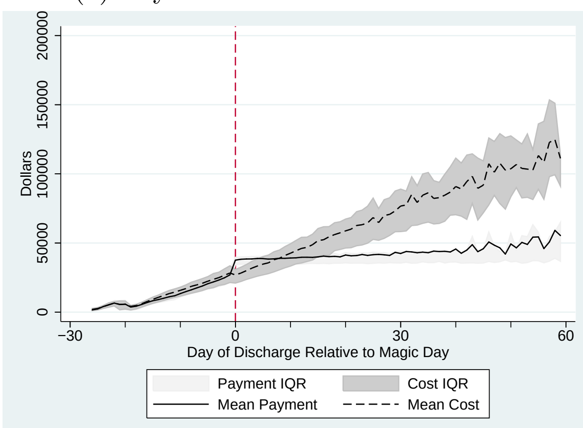
Figure A1: Discharge timing across DRGs and years



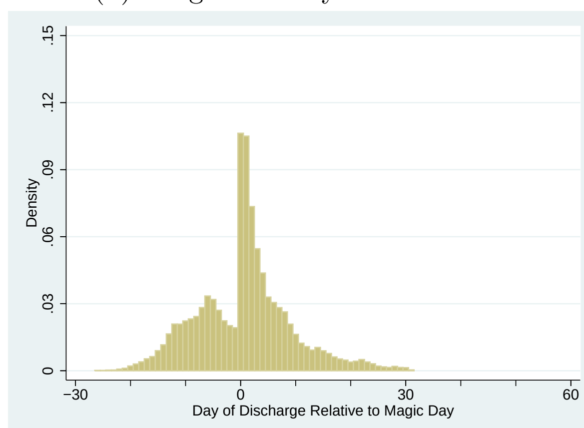
(a) Payoffs and Costs for DRG 177



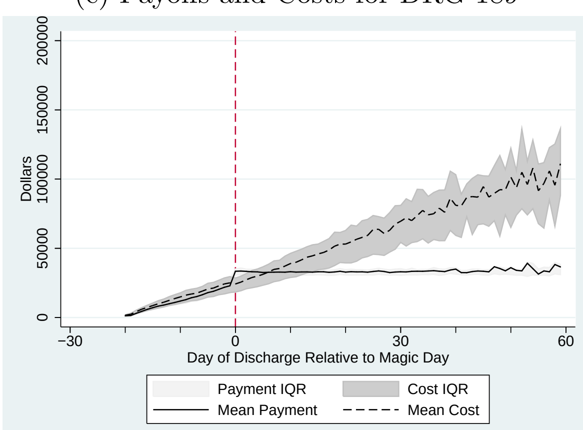
(b) Lengths of stay for DRG 177



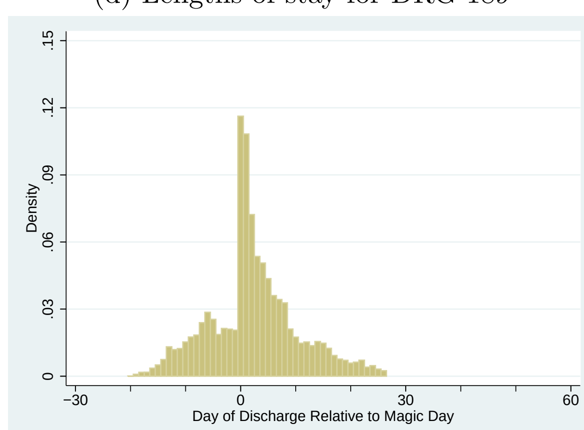
(c) Payoffs and Costs for DRG 189



(d) Lengths of stay for DRG 189



(e) Payoffs and Costs for DRG 871



(f) Lengths of stay for DRG 871

Figure A2: Costs, payoffs and discharge patterns for other DRGs

C Payment Policy Details & Example

Medicare calculates the PPS by starting with an LTCH Standard Federal Rate, or LTCH base rate, which was $39,794.95 in FY2010. Two adjustments are then applied to this base rate. The first is a hospital wage index adjustment that incorporates geographic differences in costs due to health-sector wages. The second is a Medicare severity long-term care diagnosis related group (MT-LTC-DRG) adjustment. The MT-LTC-DRG weight adjusts the payment to account for patient diagnoses (principal and secondary), procedures, age, sex, and discharge status based on the expected relative costliness of patients in each group. The final adjusted amount is known as the full LTCH payment.

For short stays, Medicare pays LTCHs the least of the following:

1. The full MS-LTC-DRG payment, or
2. 100 percent of the cost of the case, or
3. 120 percent of the MS-LTC-DRG specific per-diem amount multiplied by the length of stay, or
4. A blend of the inpatient MS-DRG amount and 120 percent of the LTCH per-diem amount, where the portion coming from the LTCH per-diem amount increases with the length of stay.

Starting in calendar year 2013 there is also a "very short stay outlier" payment. Cases with stays less than or equal to the IPPS average length of stay are reimbursed at weakly lower rates than SSOs. These payments are set to the least of the four possibilities enumerated in the SSO case above but replace the blended case with just the inpatient MS-DRG amount.[43]

Full MS-LTC-DRG payment

Example of Full LTCH-PPS Payment in 2010, DRG 207	
LTCH Base Rate	\$39,794.95
Labor-related portion of base rate	\$39,794.95 × 0.75779 = \$30,156.22
Non-labor related portion of base rate	\$39,794.95 × 0.24221 = \$9,638.73
Labor-related portion adjusted for wage index (CBSA 16974)	\$30,156.22 × 1.0471 = \$31,576.57
Wage-adjusted LTCH Base Rate	\$41,215.31
MS-LTC-DRG 207 Relative Weight	2.0288
Total Adjusted Federal Prospective Payment	\$41,215.31 × 2.0288 = \$83,617.62

For more examples of computing full LTCH-PPS payments, see CMS document: `https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/LongTermCareHospitalPPS/Downloads/LTCH_sso_ex_2007and2008.zip`.

[43] To discourage LTCHs from avoiding extremely high-cost patients, Medicare will share costs beyond what are reimbursed through the standard long-term care payment. In 2015, for example, if the costs incurred by an LTCH were more than the full long-term care payment *plus* \$14,972, then Medicare will pay 80 percent of the difference. According to our data, this happens in about 10 percent of long-term stays for DRG 207.

100 percent of cost of case

$$\text{cost of case} = (\text{covered charges}) \times (\text{cost-to-charge ratio})$$

The hospital-specific cost-to-charge ratio is just what it sounds like. It is calculated for each hospital using cost data from the most recent cost report submitted from that hospital. Hospital CCR has two parts: operative CCR (total Medicare operating costs / total Medicare operating charges) and capital CCR (total Medicare capital costs / total Medicare capital charges). The CCR for each year is published in the LTCH Impact Files in August before the year begins and is based on most recent historical Medicare cost reports which are required on an annual basis.

$$\$45,501.00 \times 0.311 = \$14,150.81 = \text{Estimated Cost}$$

*Assumes covered charges = $45,501.00 and hospital CCR = 0.311.

120 percent of per-diem amount

*LTC-DRG average length of stay: 26.6 days. This case assumes an 8 day length of stay.

$$\begin{aligned} \text{MS-LTC-DRG per diem} &= \text{Full LTC-DRG Payment / Average Length of Stay of the LTC-DRG} \\ &= \$45,060.70/26.6 \text{ days} \\ &= \$1,698.34 \text{ per day} \\ \text{120 percent of per-diem amount} &= \$1,698.34 \times 8 \text{ days} \times 1.2 \\ &= \$16,304.06 \end{aligned}$$

Blend Alternative

Computing the IPPS payment is considerably more involved, so for this example we simply assume it is $24,442.17. The portion coming from the 120 percent of LTCH per diem is: $\frac{\text{length of stay}}{\text{SSO threshold}} = \frac{8}{22.2} = 0.36$. The rest comes from the inpatient comparable per-diem amount that, after a complex series of calculations, is $24,442.17. The blended amount is then:

$$0.36 \times \$16,304.06 + 0.64 \times \$24442.17 = \$21,512.45$$

Since the "100 percent of cost" amount is the least, the law indicates that it is the will be paid out.

After our data period, CMS has continued to make changes to the LTCH-PPS. In FY 2018, the "very short stay outlier" payment was eliminated. In addition, CMS began calculating payments for discharges prior to the SSO threshold according to the "blended" formula described in option 4 above rather than the lowest payment of all four options. This change, which effectively raised payments for discharges prior to the SSO threshold, was implemented in part due to concerns that hospitals were delaying discharges in response to the SSO policy.[44] However, the revised policy still results in a discontinuity in payments at the SSO threshold.

[44] See `http://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNMattersArticles/downloads/MM10273.pdf` for a detailed list of recent policy changes regarding LTCH payments.

D Probit Model: Coefficient Estimates and other DRGs

Table A8 contains the estimated coefficients from the probit model for DRG 207. Table A9 presents the estimated marginal effects of the baseline probit model for other DRGs. Table A10 shows (a sample of) the estimated probit coefficients for the interacted models for DRG 207.

Table A8: Probit Estimates for DRG 207

	Coefficients	Std. Err.
Days relative to magic day (λs)		
-14	0	(Omitted group)
-13	-0.021	(0.022)
-12	0.068	(0.026)
-11	0.103	(0.029)
-10	0.193	(0.032)
-9	0.333	(0.036)
-8	0.446	(0.041)
-7	0.497	(0.046)
-6	0.482	(0.051)
-5	0.486	(0.053)
-4	0.514	(0.062)
-3	0.522	(0.066)
-2	0.568	(0.070)
-1	0.665	(0.075)
0	1.601	(0.080)
1	1.470	(0.087)
2	1.414	(0.089)
3	1.413	(0.094)
4	1.430	(0.099)
5	1.566	(0.104)
6	1.659	(0.105)
7	1.608	(0.109)
8	1.538	(0.113)
9	1.495	(0.117)
10	1.496	(0.121)
11	1.518	(0.125)
12	1.596	(0.129)
13	1.693	(0.132)
14	1.646	(0.135)
Underlying Hazard Rate		
t	-0.048	(0.009)
t^2	0.0004	(0.0001)
Constant	-1.893	(0.107)

Table A9: Marginal Effects on Probability of Discharge
Other DRGs

Day of stay (t)	Probability of Discharge on Magic Day[1]	Probability of Discharge on Day Preceding Magic Day[2]	Hazard Ratio[3]
		DRG 189	
19	11.02	1.73	6.39
	(0.358)	(0.074)	[204.9]
20	11.40	1.81	6.29
	(0.353)	(0.080)	[203.3]
21	11.77	1.90	6.20
	(0.352)	(0.086)	[201.3]
22	12.11	1.98	6.12
	(0.354)	(0.093)	[199.0]
23	12.23	2.06	6.05
	(0.358)	(0.101)	[196.5]
24	12.72	2.13	5.98
	(0.364)	(0.109)	[193.8]
25	12.99	2.19	5.92
	(0.372)	(0.117)	[191.0]
26	13.23	2.25	5.87
	(0.382)	(0.125)	[188.0]
27	13.43	2.30	5.83
	(0.393)	(0.134)	[184.9]
		DRG 871	
19	11.80	1.72	6.87
	(0.716)	(0.088)	[115.7]
20	13.02	1.99	6.55
	(0.619)	(0.119)	[103.7]
21	14.22	2.27	6.27
	(0.629)	(0.183)	[91.43]
		DRG 177	
19	9.56	2.54	3.77
	(0.499)	(0.120)	[86.05]
20	10.22	2.77	3.69
	(0.567)	(0.139)	[91.55]

Note: Standard errors in parentheses. P-values in brackets. This sample contains only episodes of hospitalization that terminated in discharge to home care or nursing facilities.

[1] $\Phi(\gamma_0 + \gamma_1 t + \gamma_2 t^2 + \mu_0) * 100$

[2] $\Phi(\gamma_0 + \gamma_1 t + \gamma_2 t^2 + \mu_{-1}) * 100$

[3] Hazard ratio: $\frac{\Phi(\gamma_0+\gamma_1 t+\gamma_2 t^2+\mu_0)}{\Phi(\gamma_0+\gamma_1 t+\gamma_2 t^2+\mu_{-1})}$. Square brackets contain the p-value from a Wald test for $H_0 : HR = \frac{\Phi(\gamma_0+\gamma_1 t+\gamma_2 t^2+\mu_0)}{\Phi(\gamma_0+\gamma_1 t+\gamma_2 t^2+\mu_{-1})} = 1$.

Table A10: Selected Probit Coefficients by Subgroup, DRG 207 at $day = 29$

Model #/Partition	SSO Threshold Day	Preceding Day
Model #1:		
For-profit	2.96 (0.332)	1.95 (0.333)
Not for profit	2.85 (0.340)	2.12 (0.332)
Model #2:		
Kindred and Select	3.09 (0.322)	2.05 (0.324)
Other	2.99 (0.328)	2.17 (0.322)
Model #3:		
After Acquisition	3.27 (0.247)	2.02 (0.245)
Before Acquisition	3.21 (0.254)	2.32 (0.249)
Never Acquired	3.13 (0.246)	2.22 (0.242)
Model #4:		
HwH	2.36 (0.284)	3.41 (0.284)
Not HwH	2.31 (0.282)	3.19 (0.287)

Note: Standard errors in parentheses.

E Strategic Discharge and Capacity Constraints

This appendix considers whether capacity constraints affect LTCHs' decisions to strategically discharge patients. Measuring the capacity utilization of LTCHs is difficult because we only have data for their Medicare patients, and even then we only observe the quarter of the year in which their stays began. Nevertheless, we can create a rough proxy for capacity utilization by constructing a variable for each LTCH-quarter that gives the number of Medicare patient-days per LTCH bed per quarter across all the DRGs in our data. We use this variable to gauge how the probability of discharge varies across our measure of capacity utilization, with the idea being that hospitals that routinely have more patients per bed would also be more likely to be capacity constrained.[45] Table A11 shows the probability of being discharged on the magic day and the day before it for DRG 207, the main DRG we analyze in the paper. Broken down by decile based on the number of Medicare patient-days per LTCH bed per quarter (so the 10th decile is the set of hospitals that have the most Medicare patient-days per LTCH bed per quarter, i.e., the hospitals that are the most capacity constrained according to this rough measure of capacity utilization), the ratio of the discharge probabilities for the magic day over the day before it clearly shows that the probability of engaging in strategic discharge initially increases in the LTCH's capacity utilization, but then flattens out.

Table A11: Strategic Discharge by Capacity Utilization

Medicare Patient Days	Probability of Discharge			P-value of difference
Per Bed Decile	SSO Threshold Day	Preceding Day	Ratio	with lower decile
1	0.048	0.016	2.99	-
2	0.066	0.013	5.23	0.000
3	0.078	0.011	7.29	0.000
4	0.081	0.01	8.17	0.250
5	0.09	0.01	8.8	0.001
6	0.088	0.009	9.79	0.417
7	0.095	0.009	10.79	0.022
8	0.091	0.01	9.39	0.219
9	0.091	0.011	8.65	0.980
10	0.09	0.01	8.76	0.866

Note: The proxy for capacity constraint is described in the text. Discharge results are for DRG 207.

Motivated by the summary statistics in Table A11, we further consider this issue using the same type of probit analysis as in Section 4.2. Table A12 shows that LTCHs in the first tercile of capacity utilization (i.e., the least capacity constrained) engage in less strategic discharging than hospitals in the second or third tercile (between the second and third there is no statistically significant difference).

The next two tables show the heterogeneous effects of this relationship across different hospital types. Table A13 repeats the analysis from Table A12 but interacts the extent of capacity utilization with indicators for whether the LTCH is a for-profit facility or not. The table shows that the difference in strategic discharging across for-profit and non-profit LTCHs is greatest

[45] It should be noted that this proxy for capacity utilization may suffer from non-classical measurement error, as it may be correlated with other factors such as the Medicare share of total hospital days at each LTCH.

Table A12: Probit Marginal Effects by Capacity Utilization, DRG 207

	Predicted Prob. of Discharge		Hazard	Ratio of
	SSO Threshold Day	Preceding Day	Ratio	Hazard Ratios[1]
Tercile of Capacity Utilization:				
First	7.36 (0.381)	1.31 (0.121)	5.63 [0.000]	
Second	9.38 (0.435)	1.00 (0.079)	9.31 [0.000]	1.65 [0.000]
Third	9.39 (0.481)	0.949 (0.070)	9.90 [0.000]	1.76 [0.000]

Note: Standard errors in parentheses. P-values in brackets. This sample contains only episodes of hospitalization that terminated in discharge to home care or nursing facilities.
[1] Ratio of hazard ratios are relative to the first tercile.

within the bottom tercile of capacity utilization. Furthermore, only non-profit LTCHs become more likely to strategically discharge patients as they become more capacity constrained. Table A14 repeats the analysis from Table A12 but interacts the extent of capacity utilization with indicators for whether the LTCH is owned by a chain or not. The table shows that chain-owned LTCHs engage in more strategic discharging than non-chain-owned LTCHs, but this difference is mainly at lower levels of capacity utilization. Finally, while chain-owned LTCHs do not increase their use of strategic discharge until they become very capacity constrained (third tercile), non-chain-owned LTCHs do so at lower levels of capacity utilization.

Table A13: Probit Marginal Effects by Capacity Utilization by For-Profit Status, DRG 207

	Predicted Prob. of Discharge		Hazard	Within Ratio of	Across Ratio of
	SSO Threshold Day	Preceding Day	Ratio	Hazard Ratios[1]	Hazard Ratios[2]
Tercile of Capacity Utilization:					
First:					
For-Profit	8.48	1.03	8.14		
	(0.482)	(0.110)	[0.000]		
Non-Profit	5.54	1.79	3.09		2.63
	(0.520)	(0.260)	[0.002]		[0.005]
Second:					
For-Profit	9.60	0.91	10.55	1.30	
	(0.480)	(0.079)	[0.000]	[0.126]	
Non-Profit	8.76	1.29	6.79	2.19	1.55
	(0.730)	(0.200)	[0.000]	[0.026]	[0.104]
Third:					
For-Profit	9.31	0.86	10.83	1.33	
	(0.526)	(0.066)	[0.000]	[0.121]	
Non-Profit	9.79	1.39	7.04	2.28	1.54
	(1.130)	(0.215)	[0.000]	[0.048]	[0.146]

Note: Standard errors in parentheses. P-values in brackets. This sample contains only episodes of hospitalization that terminated in discharge to home care or nursing facilities.
[1] Ratio of hazard ratios are relative to the first-tercile-capacity-row for the same type of hospital. That is, it compares for-profits (or non-profits) at different terciles of capacity utilization to those in the first tercile.
[2] Ratio of hazard ratios are relative to the same capacity-tercile-row for the other type of hospital. That is, it compares for-profits and non-profits within the same tercile of capacity utilization.

Table A14: Probit Marginal Effects by Capacity Utilization by Chain-Owned Status, DRG 207

	Predicted Prob. of Discharge		Hazard	Within Ratio of	Across Ratio of
	SSO Threshold Day	Preceding Day	Ratio	Hazard Ratios[1]	Hazard Ratios[2]
Tercile of Capacity Utilization:					
First:					
Chain	8.52	1.01	8.44		
	(0.576)	(0.130)	[0.000]		
Non-Chain	6.22	1.58	3.94		2.14
	(0.471)	(0.191)	[0.000]		[0.011]
Second:					
Chain	9.56	0.91	10.50	1.24	
	(0.503)	(0.091)	[0.000]	[0.243]	
Non-Chain	9.18	1.12	8.20	2.08	1.28
	(0.725)	(0.133)	[0.000]	[0.010]	[0.281]
Third:					
Chain	9.71	0.76	12.81	1.53	
	(0.650)	(0.070)	[0.000]	[0.081]	
Non-Chain	8.87	1.25	7.10	1.80	1.80
	(0.677)	(0.130)	[0.000]	[0.025]	[0.166]

Note: Standard errors in parentheses. P-values in brackets. This sample contains only episodes of hospitalization that terminated in discharge to home care or nursing facilities.

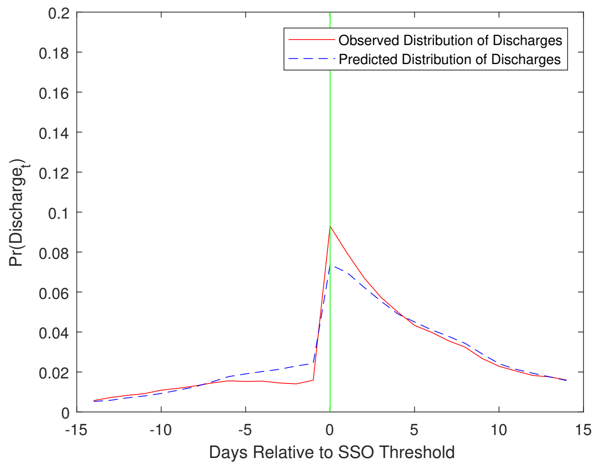
[1] Ratio of hazard ratios are relative to the first-tercile-capacity-row for the same type of hospital. That is, it compares Chain-owned (or Non-chain-owned) at different terciles of capacity utilization to those in the first tercile.

[2] Ratio of hazard ratios are relative to the same capacity-tercile-row for the other type of hospital. That is, it compares Chain-owned and Non-chain-owned within the same tercile of capacity utilization.

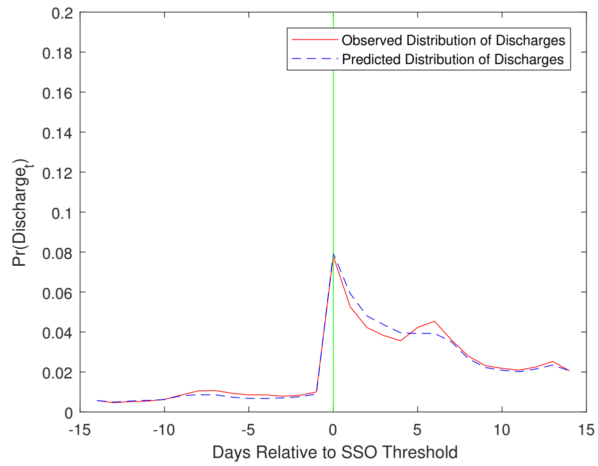
F Additional Figures for Counterfactual Analysis

Figure A3 displays the observed (solid line) discharge probabilities over time and the predicted (dashed line) discharge probabilities corresponding to the estimates in column (1) of Table 5, where the horizontal axis in these figures is the number of days relative to the magic day (vertical line).[46] Panel (a) compares the predicted and observed discharge distributions for the entire sample of pooled DRGs while panel (b) focuses on just DRG 207.

Figure A3: Observed and predicted discharge probabilities



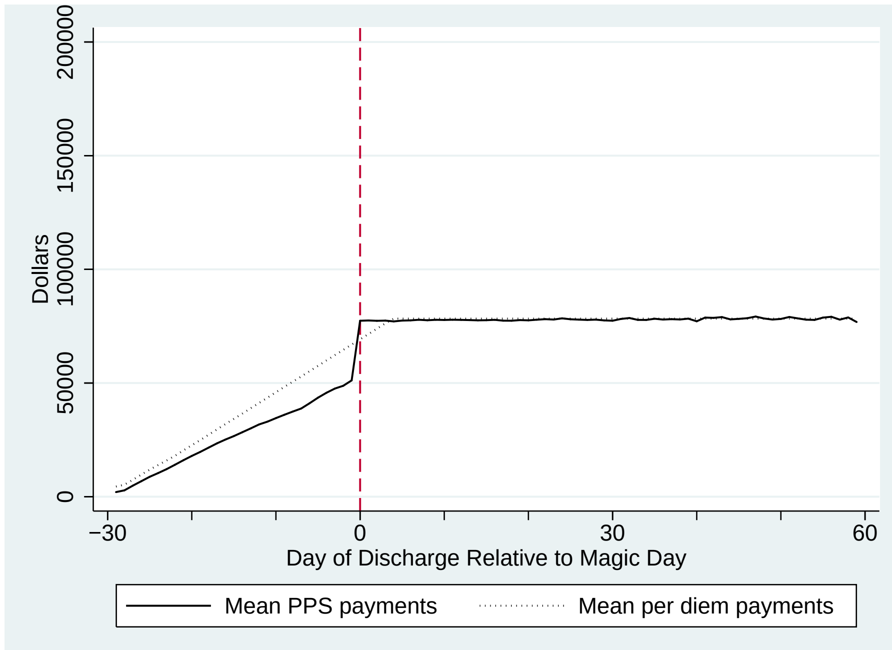
(a) Pooled DRGs



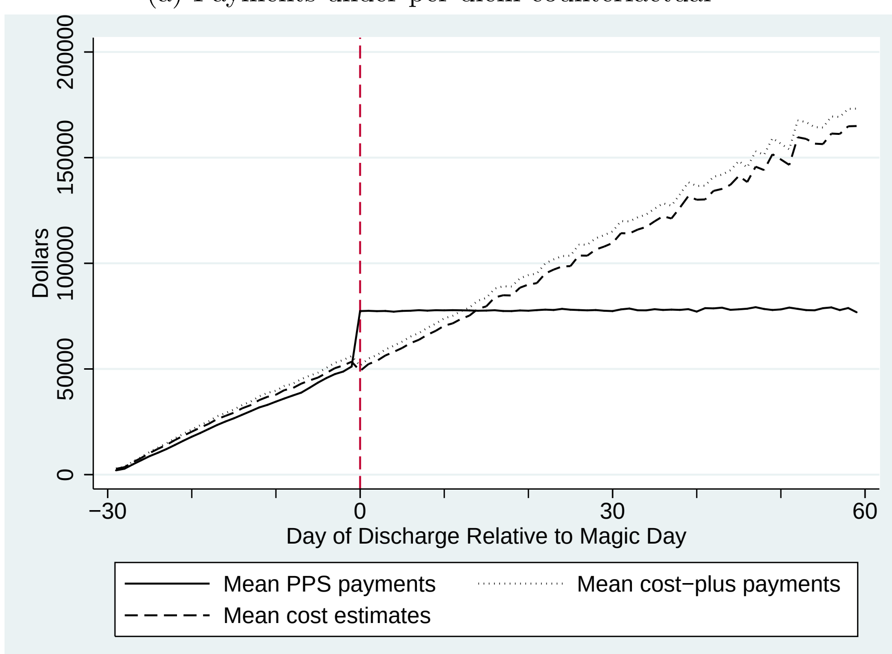
(b) DRG 207

Figure A4 compares the reimbursement schemes we consider in the counterfactual analysis to the current PPS.

[46]The predicted discharge probabilities are computed by simulating the model 100,000 times.



(a) Payments under per-diem counterfactual



(b) Payments under cost-plus counterfactual

Figure A4: Counterfactual Reimbursement Policies for DRG 207.