

Potential Impact of the Site-Neutral Payment Policy on Regions and Hospitals with Differential LTAC Utilization: A National Study of Medicare Beneficiaries

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INTRODUCTION

- Long-term acute care hospitals (LTACs) are the fastest growing & most expensive post-acute care provider
- By 2018, CMS will fully implement a new site-neutral payment (SNP) policy reducing LTAC reimbursement for patients without prolonged mechanical ventilation or ICU stay ≥ 3 days prior to transfer.
- Half of the variation in LTAC use is unrelated to patients' severity of illness so the impact of SNP policy may differentially affect regions and hospitals

OBJECTIVES

- To examine the magnitude of SNP policy's potential impact on regions with different LTAC supply and hospitals with different LTAC use

METHODS

- Design and Setting:** Retrospective cohort study using a 5% sample of national Medicare data.
- Population:** Hospitalized older adults (≥ 65 years) transferred to an LTAC in fiscal year 2012.
- Exclusion:** Patients without Medicare parts A or B, or those with Medicare part C in the 12 months prior
- Predictors:** Regional supply (LTAC beds per capita in the hospital referral region (HRR), **Figure 1**); Hospital LTAC transfer rate in 2011 where low & high transfer hospitals defined as $<$ or \geq median transfer rate of 1.32%
- Outcome:** Meets SNP criteria; patient characteristics
- Analysis:** Cochran-Armitage and Spearman correlation coefficients to test for trends across tertiles of regional supply (low, < 5 ; moderate, 5- < 11 ; high, ≥ 11 beds per 100,000 residents). Descriptive statistics to compare patients from high transfer hospitals to patients from propensity score-matched low hospitals

Table 1. Characteristics Prior to Index Hospitalization

Characteristics	Regional LTAC Supply				Hospital LTAC Transfer Rate		
	Low (n=685)	Moderate (n=1355)	High (n=1858)	p	Low (n=598)	High (n=1075)	p
Age, years, n(%)							0.93
65-69	138 (20.1)	240 (17.7)	298 (16.0)	0.01	121 (20.2)	206 (19.2)	
70-74	161 (23.5)	288 (21.3)	404 (21.7)	0.48	132 (22.1)	232 (21.6)	
75-79	131 (19.1)	272 (20.1)	378 (20.3)	0.52	116 (19.4)	223 (20.7)	
80-84	150 (21.9)	263 (19.4)	348 (18.7)	0.09	114 (19.1)	198 (18.4)	
>84	105 (15.3)	292 (21.5)	430 (23.1)	<0.01	115 (19.2)	216 (20.1)	
Female, n (%)	352 (51.4)	718 (53.0)	1004 (54.0)	0.23	303 (50.7)	584 (54.3)	0.15
White, n(%)	516 (75.3)	973 (71.8)	1458 (78.5)	<0.01	466 (77.9)	803 (74.7)	
Hospital stays, med (IQR)	1 (0-3)	1 (0-3)	1 (0-2)	0.11	1 (0-3)	1 (0-3)	0.23
Charlson, med (IQR)	4 (2-6)	4 (2-5)	4 (2-5)	0.22	4 (2-6)	4 (2-6)	0.45
Frailty Index, median	0.23	0.26	0.25	0.74	0.24	0.26	0.09

Figure 1. Regional LTAC Supply by HRR

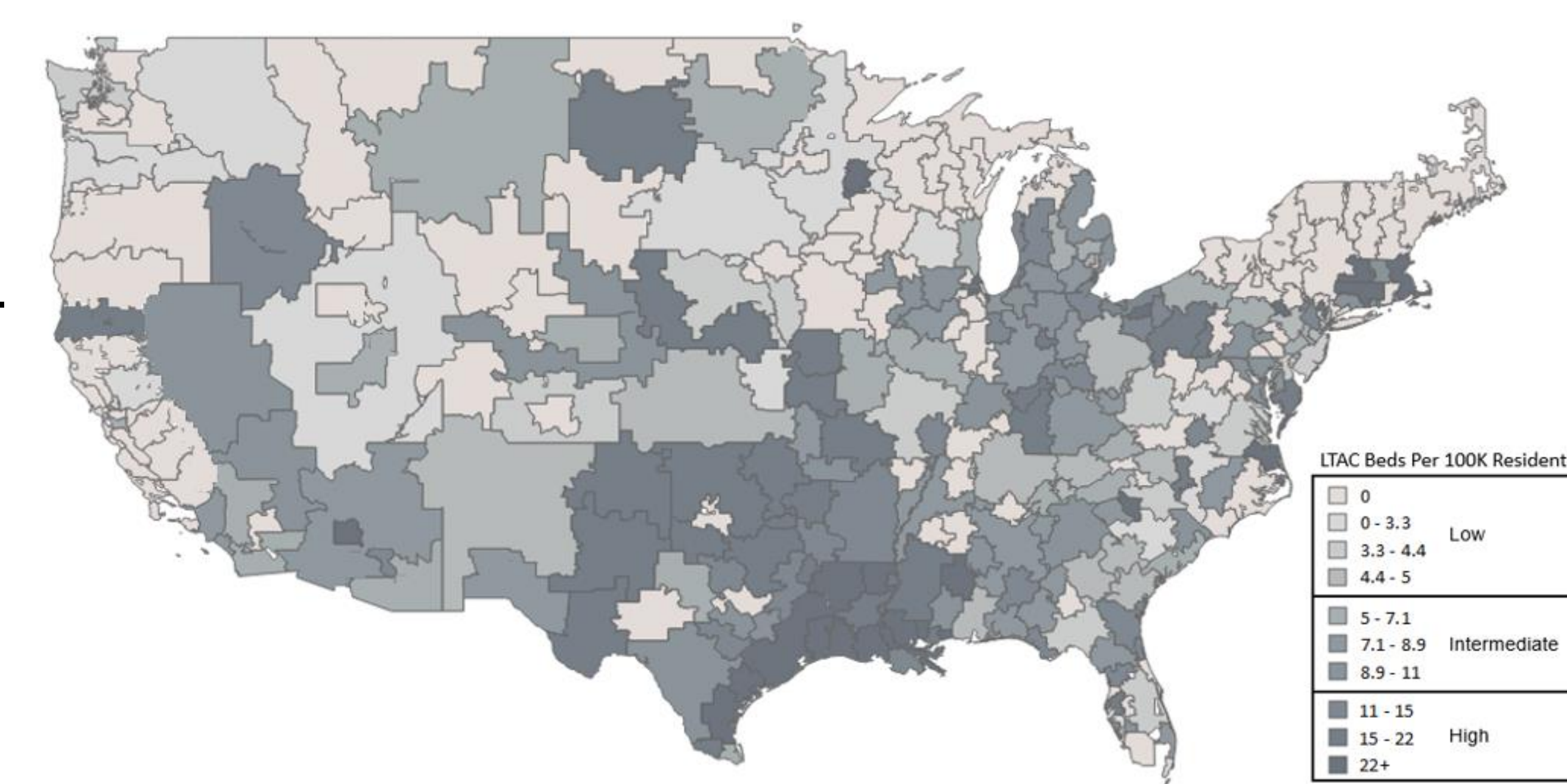


Table 2. Characteristics During Index ACH & LTAC Stay

Characteristics	Regional LTAC Supply				Hospital LTAC Transfer Rate		
	Low (n=685)	Moderate (n=1355)	High (n=1858)	p	Low (n=598)	High (n=1075)	p
SNP	206 (30.1)	528 (39.0)	881 (47.4)	<0.01	218 (36.5)	460 (42.8)	0.01
LOS, days							
Hospital	14 (8-22)	11 (6-17)	9 (6-15)	<0.01	12 (7-19)	10 (6-16)	<0.01
LTAC	25 (18-35)	23 (18-32)	23 (18-31)	0.02	23 (17-33)	24 (18-33)	0.31
Total	40 (29-54)	35 (27-48)	33 (26-44)	<0.01	37 (28-50)	35 (26-48)	0.04
DRG weight, med	3.06	2.07	1.91	<0.01	2.69	1.99	<0.01
LTAC MDC							
Respiratory	307 (44.8)	494 (36.5)	665 (35.8)	<0.01	250 (41.8)	397 (36.9)	0.05
Infectious	80 (11.7)	216 (15.9)	247 (13.3)	0.82	66 (11.0)	147 (13.7)	0.12
MSK	38 (5.7)	87 (6.4)	159 (8.6)	<0.01	44 (7.4)	84 (7.8)	0.74
MV							<0.01
None	405 (59.1)	939 (69.3)	1435 (77.2)	<0.01	394 (65.9)	778 (72.4)	
Brief (<96 hrs)	45 (6.6)	86 (6.4)	113 (6.1)	0.63	30 (5.0)	71 (6.6)	
Long (≥ 96 hrs)	235 (34.3)	330 (24.4)	310 (16.7)	<0.01	174 (29.1)	226 (21.0)	
Tracheostomy	183 (26.7)	215 (15.9)	201 (10.8)	<0.01	133 (22.2)	148 (13.8)	<0.01
Feeding Tube	140 (20.4)	195 (14.4)	178 (9.6)	<0.01	97 (16.2)	136 (12.7)	0.04

STUDY FLOW

- Regional:** Of 4,730 Medicare beneficiaries transferred to an LTAC, 832 excluded for non-continuous Medicare A or B coverage, Part C coverage, missing data, AK or HI admission, or not 1st claim in study period
- Hospital:** Of 3,898 patients included in regional analysis, an additional 2,223 excluded for index hospital with < 20 total claims (n=20) and index hospital exclusion from propensity-score matching (n=2,203)

LIMITATIONS

- Severity and complexity of illness determined using administrative data only
- Generalizability to patients with private insurance or Medicare Advantage plans unknown, however fee-for-service beneficiaries are two-thirds of LTAC population

Table 3. Characteristics of SNP-Eligible Patients

Characteristics	Regional LTAC Supply			Hospital LTAC Transfer Rate		
	Low (n=206)	High (n=881)	p	Low (n=218)	High (n=460)	p
LOS, days						
Hospital	8 (5-13)	7 (4-10)	<0.01	8 (5-12)	7 (4-10)	0.01
LTAC	24 (17-31)	23 (18-29)	0.30	22 (17-30)	23 (17-32)	0.42
Total	33 (25-43)	30 (24-38)	0.01	30 (24-42)	31 (24-39)	0.71
Hospital DRG weight	1.8 (1.2-2.4)	1.5 (1.1-2.1)	<0.01	1.9 (1.3-2.6)	1.6 (1.1-2.1)	0.03
LTAC MDC						
Respiratory	43 (20.9)	209 (23.7)	0.10	51 (23.4)	104 (22.6)	0.82
Infectious	26 (12.6)	107 (12.2)	0.36	18 (8.3)	64 (13.9)	0.03
MSK	27 (13.1)	112 (12.7)	0.71	34 (15.6)	66 (14.4)	0.67
Selected Tx						
Feeding Tube	10 (4.9)	33 (3.8)	0.70	9 (4.1)	14 (3.0)	0.47
Central Line	51 (24.8)	182 (20.0)	0.11	50 (22.9)	104 (22.6)	0.92

DISCUSSION

- Site-neutral payment policy will broadly impact the LTAC market, but will affect high LTAC supply regions and high LTAC transfer hospitals to a greater extent.
- Patients who will be reimbursed at lower SNP rates are comparable across regions and hospitals
- Future research should examine LTAC access in the SNP era, and how this policy will affect on health outcomes and costs.

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