

Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Study Exclusion Criteria

Exclusion Criteria	Admissions, No.	Excluded Admissions, No.	Hospitals, No.	Excluded Hospitals, No.
Original sample	11,488,591		3,603	
Non-acute hospitals, not in a US state or the District of Columbia, or opened or closed during the study period	11,336,497	152,094	3,373	230
Hospitals with fewer than 350 Medicare admissions in any year	11,304,629	31,868	3,126	247
Did not have Medicare Cost Report data	11,304,386	243	3,125	1
Missing value for resident-to-bed ratio	11,301,237	3,149	3,123	2
Patient enrolled in health maintenance organization and therefore did not have complete claims data	8,880,535	2,420,702	3,123	0
Hospitals missing more than two months of data in the pre-reform period or one month of data in the post-reform period	8,879,427	1,108	3,104	19
Admissions that spanned July 1, 2011	8,823,867	55,560	3,104	0
Admissions with death date reported before admission date	8,823,678	189	3,104	0
Admissions for patients younger than 66 years (to allow a 180-day look back for risk adjustment) and for patients greater than 90 years (because changes in the proportion of such patients treated aggressively may not be reflected in administrative data)	6,594,238	2,229,440	3,104	0
Admissions for acute myocardial infarction (AMI) and patient discharged alive in fewer than two days, because such cases may not represent actual AMIs	6,497,712	96,526	3,104	0
For instances when a patient was transferred from one hospital to another for a qualifying condition or surgical procedure, the entire episode of care was evaluated as a single admission rather than two admissions	6,384,273	113,439	3,104	0
Final sample	6,384,273		3,104	

eTable 2. Sample Patient Characteristics for All Hospitals and by Hospital Teaching Intensity for July 1, 2009 to June 30, 2010

Characteristic	Combined Medical Conditions						Combined Surgical Categories					
	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)
Resident-to-bed ratio	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60
Overall Sample, No.	960,529	514,361	121,850	200,239	76,090	47,989	1,231,916	656,020	146,932	258,811	99,176	70,977
Age, Mean Years (SD)	78.9 (6.9)	79.0 (6.9)	79.0 (6.9)	78.9 (6.9)	78.6 (7.0)	77.9 (7.1)	76.1 (6.7)	76.2 (6.8)	76.3 (6.8)	76.2 (6.7)	75.8 (6.7)	75.3 (6.5)
Male Gender, No. (%)	454,247 (47.3)	240,936 (46.8)	57,297 (47.5)	95,330 (47.6)	36,344 (47.8)	23,710 (49.4)	481,775 (39.1)	252,617 (38.5)	57,588 (39.2)	101,192 (39.1)	39,832 (40.2)	30,546 (43.0)
Race, No. (%)												
White	803,332 (83.6)	442,272 (86.0)	102,710 (84.3)	166,204 (83.0)	57,216 (75.2)	34,930 (72.8)	1,112,070 (90.3)	599,750 (91.4)	133,098 (90.6)	232,771 (90.0)	85,808 (86.5)	60,643 (85.4)
Black	110,518 (11.5)	49,668 (9.7)	12,610 (10.4)	23,107 (11.5)	15,275 (20.1)	9,858 (20.5)	73,229 (5.9)	32,878 (5.0)	8,031 (5.5)	15,630 (6.0)	9,627 (9.7)	7,063 (10.0)
Hispanic	17,700 (1.8)	8,643 (1.7)	2,407 (2.0)	3,978 (2.0)	1,284 (1.7)	1,388 (2.9)	14,632 (1.2)	7,707 (1.2)	1,868 (1.3)	3,085 (1.2)	947 (1.0)	1,025 (1.4)
Other	28,979 (3.0)	13,778 (2.7)	4,123 (3.4)	6,950 (3.5)	2,315 (3.0)	1,813 (3.8)	31,985 (2.6)	15,685 (2.4)	3,935 (2.7)	7,325 (2.8)	2,794 (2.8)	2,246 (3.2)
Comorbidities, No. (%)												
CHF	185,120 (19.3)	98,625 (19.2)	22,387 (18.4)	38,167 (19.1)	16,041 (21.1)	9,900 (20.6)	108,189 (8.8)	57,518 (8.8)	12,369 (8.4)	22,950 (8.9)	9,068 (9.1)	6,284 (8.9)
Valvular Disease	53,716 (5.6)	28,720 (5.6)	6,508 (5.3)	11,519 (5.8)	4,164 (5.5)	2,805 (5.8)	59,913 (4.9)	31,004 (4.7)	7,010 (4.8)	13,316 (5.2)	5,024 (5.1)	3,559 (5.0)
Hypertension	673,476 (70.1)	358,372 (69.7)	85,816 (70.4)	140,194 (70.0)	54,569 (71.7)	34,525 (71.9)	834,771 (67.8)	444,307 (67.7)	100,006 (68.1)	175,967 (68.0)	67,573 (68.1)	46,918 (66.1)
Peripheral vascular disease	106,685 (11.1)	57,660 (11.2)	13,666 (11.2)	21,884 (10.9)	8,420 (11.1)	5,055 (10.5)	95,010 (7.7)	48,285 (7.4)	11,371 (7.7)	20,642 (8.0)	8,210 (8.3)	6,502 (9.2)
Diabetes with chronic complications	71,985 (7.5)	38,228 (7.4)	9,035 (7.4)	15,130 (7.6)	5,819 (7.6)	3,773 (7.9)	45,271 (3.7)	23,160 (3.5)	5,464 (3.7)	9,750 (3.8)	3,898 (3.9)	2,999 (4.2)
Diabetes without chronic complications,	299,114 (31.1)	160,410 (31.2)	38,331 (31.5)	61,314 (30.6)	24,040 (31.6)	15,019 (31.3)	257,246 (20.9)	137,035 (20.9)	31,230 (21.3)	53,951 (20.9)	20,649 (20.8)	14,381 (20.3)
Chronic pulmonary disease	275,289 (28.7)	150,889 (29.3)	36,122 (29.6)	56,573 (28.3)	20,532 (27.0)	11,173 (23.3)	218,513 (17.7)	117,213 (17.9)	26,616 (18.1)	46,116 (17.8)	16,943 (17.1)	11,625 (16.4)
Pulmonary circulation disease	31,169 (3.2)	16,075 (3.1)	3,686 (3.0)	6,640 (3.3)	2,801 (3.7)	1,967 (4.1)	28,658 (2.3)	14,568 (2.2)	3,143 (2.1)	6,312 (2.4)	2,565 (2.6)	2,070 (2.9)
Renal failure	237,722 (24.7)	126,850 (24.7)	29,846 (24.5)	49,923 (24.9)	19,234 (25.3)	11,869 (24.7)	93,503 (7.6)	48,682 (7.4)	11,100 (7.6)	20,389 (7.9)	7,732 (7.8)	5,600 (7.9)

Liver disease	16,619 (1.7)	8,468 (1.7)	2,038 (1.7)	3,412 (1.7)	1,407 (1.8)	1,294 (2.7)	14,664 (1.2)	7,032 (1.1)	1,665 (1.1)	3,085 (1.2)	1,445 (1.5)	1,437 (2.0)
Peptic ulcer disease with bleeding	421 (0.04)	219 (0.04)	60 (0.05)	82 (0.04)	34 (0.04)	26 (0.1)	671 (0.1)	344 (0.05)	72 (0.05)	138 (0.05)	66 (0.1)	51 (0.1)
AIDs	342 (0.04)	140 (0.03)	30 (0.02)	64 (0.03)	58 (0.1)	50 (0.1)	194 (0.02)	78 (0.01)	19 (0.01)	41 (0.02)	31 (0.03)	25 (0.04)
Metastatic cancer	18,859 (2.0)	9,734 (1.9)	2,261 (1.9)	3,961 (2.0)	1,693 (2.2)	1,210 (2.5)	42,363 (3.4)	20,101 (3.1)	4,367 (3.0)	8,641 (3.3)	4,668 (4.7)	4,586 (6.5)
Solid tumor without metastasis	30,714 (3.2)	15,916 (3.1)	3,833 (3.2)	6,369 (3.2)	2,695 (3.5)	1,901 (4.0)	33,606 (2.7)	16,243 (2.5)	3,660 (2.5)	6,863 (2.7)	3,432 (3.5)	3,408 (4.8)
Lymphoma	10,982 (1.1)	5,746 (1.1)	1,317 (1.1)	2,292 (1.1)	959 (1.3)	668 (1.4)	9,857 (0.8)	4,916 (0.8)	1,134 (0.8)	2,064 (0.8)	975 (1.0)	768 (1.1)
Other neurological disorders	72,735 (7.6)	40,050 (7.8)	9,394 (7.7)	14,209 (7.1)	5,654 (7.4)	3,428 (7.1)	87,285 (7.1)	48,005 (7.3)	10,584 (7.4)	17,890 (6.9)	6,158 (6.2)	4,378 (6.2)

eTable 3. Sample Patient Characteristics for All Hospitals and by Hospital Teaching Intensity for July 1, 2010 to June 30, 2011

Characteristic	Combined Medical Conditions						Combined Surgical Categories					
	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)
Resident-to-bed ratio	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60
Overall Sample, No.	933,830	499,992	117,373	193,897	74,812	47,756	1,199,579	637,765	143,389	250,847	97,328	70,250
Age, Mean Years (SD)	78.9 (7.0)	79.0 (7.0)	79.9 (7.0)	78.9 (7.0)	78.6 (7.0)	77.9 (7.0)	76.0 (6.7)	76.1 (6.8)	76.2 (6.8)	76.1 (6.7)	75.7 (6.7)	75.2 (6.6)
Male Gender, No. (%)	443,705 (47.5)	235,410 (47.1)	55,759 (47.5)	92,891 (47.9)	35,672 (47.7)	23,973 (50.2)	473,414 (39.5)	248,569 (39.0)	56,126 (39.1)	98,944 (39.4)	39,336 (40.4)	30,439 (43.3)
Race, No. (%)												
White	779,638 (83.5)	428,896 (85.8)	99,069 (84.4)	160,573 (82.8)	56,281 (75.2)	34,819 (72.9)	1,080,948 (90.1)	582,076 (91.3)	129,815 (90.5)	225,168 (89.8)	84,006 (86.3)	59,883 (85.2)
Black	107,924 (11.6)	48,554 (9.7)	12,115 (10.3)	22,557 (11.6)	14,975 (20.0)	9,723 (20.4)	71,246 (5.9)	31,949 (5.0)	7,699 (5.4)	15,143 (6.0)	9,437 (9.7)	7,018 (10.0)
Hispanic	16,955 (1.8)	8,343 (1.7)	2,263 (1.9)	3,830 (2.0)	1,190 (1.6)	1,329 (2.8)	14,899 (1.2)	7,700 (1.2)	1,904 (1.3)	3,256 (1.3)	991 (1.0)	1,048 (1.5)
Other	29,313 (3.1)	14,199 (2.8)	3,926 (3.3)	6,937 (3.6)	2,366 (3.2)	1,885 (3.9)	32,486 (2.7)	16,040 (2.5)	3,971 (2.8)	7,280 (2.9)	2,894 (3.0)	2,301 (3.3)
Comorbidities, No. (%)												
CHF	185,017 (19.8)	97,708 (19.5)	22,264 (19.0)	38,388 (19.8)	16,269 (21.7)	10,388 (21.8)	106,864 (8.9)	56,661 (8.9)	12,128 (8.5)	22,882 (9.1)	8,983 (9.2)	6,210 (8.8)
Valvular Disease	54,607 (5.8)	29,208 (5.8)	6,542 (5.6)	11,584 (6.0)	4,355 (5.8)	2,918 (6.1)	59,060 (4.9)	30,509 (4.8)	6,980 (4.9)	12,816 (5.1)	5,153 (5.3)	3,602 (5.1)
Hypertension	670,079 (71.8)	357,703 (71.5)	84,599 (72.1)	138,729 (71.6)	54,225 (72.5)	34,823 (72.9)	824,325 (68.7)	438,708 (68.8)	99,187 (69.2)	172,586 (68.8)	66,745 (68.6)	47,099 (67.0)
Peripheral vascular disease	104,893 (11.2)	56,799 (11.4)	13,297 (11.3)	21,408 (11.0)	8,153 (10.9)	5,236 (11.0)	93,124 (7.8)	47,362 (7.4)	11,219 (7.8)	20,318 (8.1)	7,927 (8.1)	6,298 (9.0)
Diabetes with chronic complications	73,282 (7.8)	38,507 (7.7)	9,096 (7.8)	15,685 (8.1)	6,027 (8.1)	3,967 (8.3)	46,206 (3.9)	23,517 (3.7)	5,336 (3.7)	10,171 (4.1)	4,079 (4.2)	3,103 (4.4)
Diabetes without chronic complications,	297,954 (31.9)	159,808 (32.0)	37,754 (32.2)	60,854 (31.4)	24,285 (32.5)	15,253 (31.9)	255,835 (21.3)	136,324 (21.4)	30,868 (21.5)	53,700 (21.4)	20,493 (21.1)	14,450 (20.6)
Chronic pulmonary disease	271,444 (29.1)	149,416 (29.9)	35,144 (30.0)	55,304 (28.5)	20,213 (27.0)	11,367 (23.8)	216,028 (18.0)	115,732 (18.2)	26,374 (18.4)	45,459 (18.1)	17,008 (17.5)	11,455 (16.3)
Pulmonary circulation disease	33,994 (3.6)	17,862 (3.6)	3,911 (3.3)	7,150 (3.7)	2,972 (4.0)	2,099 (4.4)	29,764 (2.5)	15,262 (2.4)	3,295 (2.3)	6,425 (2.6)	2,658 (2.7)	2,124 (3.0)
Renal failure	245,861 (26.3)	131,468 (26.3)	30,581 (26.1)	51,373 (26.5)	20,060 (26.8)	12,379 (25.9)	99,743 (8.3)	52,034 (8.2)	12,002 (8.4)	21,536 (8.6)	8,061 (8.3)	6,110 (8.7)
Liver disease	17,800 (1.9)	9,233 (1.9)	2,179 (1.9)	3,595 (1.9)	1,499 (2.0)	1,294 (2.7)	15,599 (1.3)	7,592 (1.2)	1,769 (1.2)	3,140 (1.3)	1,502 (1.5)	1,596 (2.3)
Peptic ulcer disease with bleeding	328 (0.04)	181 (0.04)	30 (0.03)	63 (0.03)	32 (0.04)	22 (0.05)	609 (0.1)	297 (0.05)	90 (0.06)	117 (0.05)	63 (0.1)	42 (0.1)
AIDs	360 (0.04)	120 (0.02)	26 (0.02)	75 (0.04)	69 (0.1)	70 (0.1)	261 (0.02)	83 (0.01)	33 (0.02)	56 (0.02)	46 (0.05)	43 (0.1)
Metastatic cancer	17,974 (1.9)	9,219 (1.8)	2,146 (1.8)	3,695 (1.9)	1,584 (2.1)	1,330 (2.8)	39,759 (3.3)	18,837 (3.0)	4,003 (2.8)	8,058 (3.2)	4,341 (4.5)	4,520 (6.4)
Solid tumor without metastasis	29,596 (3.2)	15,219 (3.0)	3,617 (3.1)	6,172 (3.2)	2,541 (3.4)	2,047 (4.3)	32,927 (2.7)	15,859 (2.5)	3,670 (2.6)	6,544 (2.6)	3,450 (3.5)	3,404 (4.8)
Lymphoma	11,300 (1.2)	5,809 (1.2)	1,352 (1.2)	2,383 (1.2)	982 (1.3)	774 (1.6)	9,680 (0.8)	4,814 (0.8)	1,079 (0.8)	2,043 (0.8)	949 (1.0)	795 (1.1)
Other neurological disorders	72,384 (7.8)	39,649 (7.9)	9,236 (7.9)	14,306 (7.4)	5,707 (7.6)	3,486 (7.3)	86,717 (7.2)	47,537 (7.5)	10,689 (7.5)	17,599 (7.0)	6,499 (6.7)	4,393 (6.3)

eTable 4. Sample Patient Characteristics for All Hospitals and by Hospital Teaching Intensity for July 1, 2011 to June 30, 2012

Characteristic	Combined Medical Conditions						Combined Surgical Categories					
	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)	All Hospitals (N=3104)	Non-Teaching Hospitals (N=1985)	Very Minor Teaching Hospitals (N=443)	Minor Teaching Hospitals (N=442)	Major Teaching Hospitals (N=138)	Very Major Teaching Hospitals (N=96)
Resident-to-bed ratio	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60	-	0	>0-<0.05	0.05-<0.25	0.25-<0.60	≥0.60
Overall Sample, No.	895,997	477,231	114,490	185,227	72,188	46,811	1,162,422	617,042	140,091	241,922	94,110	69,257
Age, Mean Years (SD)	78.8 (7.0)	78.9 (7.0)	78.9 (7.0)	78.9 (7.0)	78.6 (7.0)	77.9 (7.1)	76.0 (6.7)	76.0 (6.8)	76.1 (6.8)	76.0 (6.7)	75.6 (6.7)	75.1 (6.6)
Male Gender, No. (%)	426,572 (47.6)	224,967 (47.1)	54,797 (47.9)	88,864 (48.0)	34,641 (48.0)	23,303 (49.8)	457,617 (39.4)	239,608 (38.8)	55,050 (39.3)	95,056 (39.3)	38,031 (40.4)	29,872 (43.1)
Race, No. (%)												
White	745,539 (83.2)	408,090 (85.5)	96,140 (84.0)	153,146 (82.7)	53,843 (74.6)	34,320 (73.3)	1,046,667 (90.0)	563,131 (91.3)	126,696 (90.4)	216,632 (89.6)	81,062 (86.1)	59,146 (85.4)
Black	104,365 (11.6)	46,733 (9.8)	11,985 (10.5)	21,525 (11.6)	14,713 (20.4)	9,409 (20.1)	68,647 (5.9)	30,926 (5.0)	7,448 (5.3)	14,528 (6.0)	9,058 (9.6)	6,687 (9.7)
Hispanic	16,271 (1.8)	8,060 (1.7)	2,213 (1.9)	3,659 (2.0)	1,126 (1.6)	1,213 (2.6)	14,143 (1.2)	7,050 (1.1)	2,009 (1.4)	3,126 (1.3)	971 (1.0)	987 (1.4)
Other	29,822 (3.3)	14,348 (3.0)	4,152 (3.6)	6,947 (3.8)	2,506 (3.5)	1,869 (4.0)	32,965 (2.8)	15,935 (2.6)	3,938 (2.8)	7,636 (3.2)	3,019 (3.2)	2,437 (3.5)
Comorbidities, No. (%)												
CHF	121,102 (13.5)	62,940 (13.2)	14,839 (13.0)	25,116 (13.6)	11,007 (15.2)	7,200 (15.4)	95,126 (8.2)	49,806 (8.1)	11,113 (7.9)	20,363 (8.4)	7,967 (8.5)	5,877 (8.5)
Valvular Disease	39,690 (4.4)	21,042 (4.4)	4,843 (4.2)	8,549 (4.6)	3,156 (4.4)	2,100 (4.5)	53,691 (4.6)	27,752 (4.5)	6,399 (4.6)	11,585 (4.8)	4,728 (5.0)	3,227 (4.7)
Hypertension	609,369 (68.0)	324,105 (67.9)	78,198 (68.3)	126,170 (68.1)	49,138 (68.1)	31,758 (67.8)	784,375 (67.5)	417,683 (67.7)	94,956 (67.8)	164,113 (67.8)	62,941 (66.9)	44,682 (64.5)
Peripheral vascular disease	85,007 (9.5)	45,270 (9.5)	11,161 (9.8)	17,521 (9.5)	6,682 (9.3)	4,373 (9.3)	78,941 (6.8)	40,240 (6.5)	9,480 (6.8)	17,277 (7.1)	6,624 (7.0)	5,320 (7.7)
Diabetes with chronic complications	56,411 (6.3)	29,772 (6.2)	6,950 (6.1)	11,860 (6.4)	4,647 (6.4)	3,182 (6.8)	38,974 (3.4)	19,979 (3.2)	4,588 (3.3)	8,448 (3.5)	3,266 (3.5)	2,693 (3.9)
Diabetes without chronic complications,	263,456 (29.4)	141,291 (29.6)	33,936 (29.6)	53,488 (28.9)	21,249 (29.4)	13,492 (28.8)	238,763 (20.5)	127,317 (20.6)	28,983 (20.7)	50,225 (20.8)	18,861 (20.0)	13,377 (19.3)
Chronic pulmonary disease	232,833 (26.0)	128,249 (26.9)	30,431 (26.6)	47,115 (25.4)	17,345 (24.0)	9,693 (20.7)	197,494 (17.0)	105,977 (17.2)	24,173 (17.3)	41,355 (17.1)	15,307 (16.3)	10,682 (15.4)
Pulmonary circulation disease	23,407 (2.6)	12,005 (2.5)	2,770 (2.4)	4,968 (2.7)	2,182 (3.0)	1,482 (3.2)	26,507 (2.3)	13,502 (2.2)	2,992 (2.1)	5,646 (2.3)	2,360 (2.5)	2,007 (2.9)
Renal failure	222,889 (24.9)	118,521 (24.8)	28,479 (24.9)	46,273 (25.0)	18,341 (25.4)	11,275 (24.1)	93,840 (8.1)	49,405 (8.0)	11,152 (8.0)	20,206 (8.4)	7,539 (8.0)	5,538 (8.0)
Liver disease	15,178 (1.7)	7,897 (1.7)	1,809 (1.6)	3,042 (1.6)	1,333 (1.8)	1,097 (2.3)	13,917 (1.2)	6,595 (1.1)	1,547 (1.1)	2,836 (1.2)	1,401 (1.5)	1,538 (2.2)
Peptic ulcer disease with bleeding	253 (0.03)	127 (0.03)	33 (0.03)	65 (0.04)	15 (0.02)	13 (0.03)	502 (0.04)	271 (0.04)	59 (0.04)	90 (0.04)	41 (0.04)	41 (0.1)
AIDs	340 (0.04)	119 (0.02)	44 (0.04)	67 (0.04)	65 (0.1)	45 (0.1)	200 (0.02)	67 (0.01)	18 (0.01)	45 (0.02)	33 (0.04)	37 (0.1)
Metastatic cancer	15,892 (1.8)	8,164 (1.7)	1,873 (1.6)	3,201 (1.7)	1,491 (2.1)	1,163 (2.5)	36,096 (3.1)	16,871 (2.7)	3,631 (2.6)	7,337 (3.0)	3,856 (4.1)	4,401 (6.4)
Solid tumor without metastasis	24,011 (2.7)	12,446 (2.6)	2,932 (2.6)	4,989 (2.7)	2,066 (2.9)	1,578 (3.4)	25,400 (2.2)	12,344 (2.0)	2,782 (2.0)	5,184 (2.1)	2,625 (2.8)	2,465 (3.6)
Lymphoma	9,982 (1.1)	5,075 (1.1)	1,202 (1.1)	2,078 (1.1)	955 (1.3)	672 (1.4)	9,264 (0.8)	4,580 (0.7)	1,017 (0.7)	1,950 (0.8)	921 (1.0)	796 (1.1)
Other neurological disorders	57,632 (6.4)	31,584 (6.6)	7,455 (6.5)	11,342 (6.1)	4,469 (6.2)	2,782 (5.9)	79,047 (6.8)	43,467 (7.0)	9,843 (7.0)	16,054 (6.6)	5,670 (6.0)	4,113 (5.9)

eTable 5. Adjusted Odds of the Test of Controls for 30-Day All-Location Mortality After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	Resident-to-Bed Ratio x Pre Year 2	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.06 (0.97 – 1.16)	0.23
Stroke	0.98 (0.93 – 1.04)	0.57
Gastrointestinal bleeding	1.02 (0.90 – 1.15)	0.75
Congestive heart failure	1.06 (0.99 – 1.14)	0.09
Combined medical conditions	1.02 (0.98 – 1.06)	0.28
Surgical categories		
General surgery	0.94 (0.86 – 1.03)	0.17
Orthopedic surgery	1.16 (1.04 – 1.30)	0.008
Vascular surgery	0.998 (0.996 – 0.999)	0.008
Combined surgical categories	1.01 (0.95 – 1.07)	0.71

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Pre Year 2). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals between Pre Year 2 and Pre Year 1. If the term is not significant the 95% level then both pre years are used as the referent group in the main model. If term is significant (as is the case for orthopedic surgery and vascular surgery), only Pre Year 1 is used as the referent group for those models.

eTable 6. Adjusted Odds of the Test of Controls for 30-Day All-Cause Readmissions After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	Resident-to-Bed Ratio x Pre Year 2	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.01 (0.94 – 1.09)	0.72
Stroke	1.001 (0.94 – 1.07)	0.97
Gastrointestinal bleeding	1.06 (0.98 – 1.15)	0.13
Congestive heart failure	1.02 (0.97 – 1.07)	0.44
Combined medical conditions	1.01 (0.98 – 1.05)	0.40
Surgical categories		
General surgery	1.00 (0.96 – 1.05)	0.96
Orthopedic surgery	1.03 (0.98 – 1.07)	0.27
Vascular surgery	0.98 (0.90 – 1.07)	0.68
Combined surgical categories	0.99 (0.96 – 1.02)	0.52

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Pre Year 2). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals between Pre Year 2 and Pre Year 1. If the term is not significant the 95% level then both pre years are used as the referent group in the main model. If term is significant (as is the case for orthopedic surgery and vascular surgery), only Pre Year 1 is used as the referent group for those models.

eTable 7. Adjusted Odds for 30-Day All-Location Mortality After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals, Excluding Patients From the State of New York

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.05 (0.96 – 1.15)	0.28
Stroke	1.01 (0.95 – 1.06)	0.86
Gastrointestinal bleeding	0.99 (0.87 – 1.12)	0.83
Congestive heart failure	0.96 (0.89 – 1.02)	0.19
Combined medical conditions	0.99 (0.96 – 1.03)	0.62
Surgical categories		
General surgery	0.99 (0.91 – 1.08)	0.82
Orthopedic surgery	1.01 (0.91 – 1.13)	0.80
Vascular surgery	1.05 (0.94 – 1.18)	0.36
Combined surgical categories	1.01 (0.96 – 1.07)	0.70

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.

eTable 8. Adjusted Odds for 30-Day All-Cause Readmissions After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals, Excluding Patients From the State of New York

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	0.94 (0.87 – 1.01)	0.08
Stroke	1.08 (1.01 – 1.15)	0.02
Gastrointestinal bleeding	0.98 (0.91 – 1.06)	0.60
Congestive heart failure	1.01 (0.96 – 1.06)	0.78
Combined medical conditions	1.00 (0.97 – 1.03)	0.97
Surgical categories		
General surgery	1.02 (0.98 – 1.07)	0.28
Orthopedic surgery	1.02 (0.98 – 1.07)	0.35
Vascular surgery	0.99 (0.90 – 1.08)	0.74
Combined surgical categories	1.01 (0.99 – 1.04)	0.36

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.

eTable 9. Adjusted Odds for 30-Day All-Location Mortality After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals, Excluding Patients Transferred From Nursing Homes

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.04 (0.96 – 1.13)	0.32
Stroke	1.02 (0.96 – 1.07)	0.57
Gastrointestinal bleeding	0.95 (0.85 – 1.07)	0.38
Congestive heart failure	0.95 (0.89 – 1.01)	0.09
Combined medical conditions	0.99 (0.96 – 1.03)	0.62
Surgical categories		
General surgery	0.99 (0.91 – 1.07)	0.75
Orthopedic surgery	1.00 (0.91 – 1.11)	0.96
Vascular surgery	0.99 (0.89 – 1.10)	0.80
Combined surgical categories	0.99 (0.94 – 1.04)	0.67

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.

eTable 10. Adjusted Odds for 30-Day All-Cause Readmissions After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals, Excluding Patients Transferred From Nursing Homes

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	0.94 (0.88 – 1.01)	0.08
Stroke	1.05 (0.99 – 1.12)	0.09
Gastrointestinal bleeding	0.94 (0.87 – 1.01)	0.08
Congestive heart failure	1.02 (0.97 – 1.06)	0.45
Combined medical conditions	0.99 (0.97 – 1.02)	0.61
Surgical categories		
General surgery	1.01 (0.97 – 1.05)	0.74
Orthopedic surgery	1.02 (0.98 – 1.06)	0.32
Vascular surgery	0.95 (0.88 – 1.04)	0.27
Combined surgical categories	1.00 (0.97 – 1.03)	0.96

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.

eTable 11. Adjusted Odds of the Bootstrapped Model for 30-Day All-Location Mortality After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.05 (0.98 – 1.13)	0.15
Stroke	1.02 (0.97 – 1.07)	0.52
Gastrointestinal bleeding	0.98 (0.87 – 1.09)	0.66
Congestive heart failure	0.95 (0.89 – 1.01)	0.09
Combined medical conditions	1.00 (0.96 – 1.03)	0.73
Surgical categories		
General surgery	0.99 (0.92 – 1.06)	0.71
Orthopedic surgery	1.08 (0.97 – 1.20)	0.17
Vascular surgery	0.98 (0.87 – 1.11)	0.80
Combined surgical categories	0.99 (0.94 – 1.04)	0.62

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms. To estimate confidence intervals and p values that account for the correlation between patient observations, the bootstrap procedure was utilized.

eTable 12. Adjusted Odds of the Bootstrapped Model for 30-Day All-Cause Readmissions After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	0.94 (0.88 – 0.99)	0.03
Stroke	1.06 (0.99 – 1.14)	0.09
Gastrointestinal bleeding	0.95 (0.88 – 1.03)	0.24
Congestive heart failure	1.02 (0.97 – 1.06)	0.52
Combined medical conditions	1.00 (0.96 – 1.03)	0.77
Surgical categories		
General surgery	1.01 (0.96 – 1.05)	0.81
Orthopedic surgery	1.02 (0.99 – 1.06)	0.19
Vascular surgery	0.95 (0.89 – 1.02)	0.16
Combined surgical categories	1.00 (0.97 – 1.03)	0.89

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms. To estimate confidence intervals and p values that account for the correlation between patient observations, the bootstrap procedure was utilized.

eTable 13. Adjusted Odds for 30-Day In-Hospital Mortality After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	1.08 (0.97 – 1.20)	0.16
Stroke	1.02 (0.96 – 1.08)	0.50
Gastrointestinal bleeding	1.03 (0.89 – 1.19)	0.72
Congestive heart failure	1.08 (0.98 – 1.20)	0.13
Combined medical conditions	1.02 (0.98 – 1.06)	0.35
Surgical categories		
General surgery	0.92 (0.82 – 1.02)	0.11
Orthopedic surgery	1.02 (0.89 – 1.17)	0.74
Vascular surgery	0.97 (0.86 – 1.09)	0.57
Combined surgical categories	0.97 (0.91 – 1.04)	0.42

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive relative to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.

² The test of controls for acute myocardial infarction, congestive heart failure, and general surgery found the Resident-to-bed ratio (RB) x Pre Year 2 and RB x Pre Year 1 were statistically different so in these models RB x Pre Year 1 alone was used as the referent group in the model.

eTable 14. Adjusted Odds for 7-Day All-Cause Readmissions After Duty Hour Reforms in More-Intensive Relative to Less-Intensive Teaching Hospitals

	More-Intensive Relative to Less-Intensive Teaching Hospitals in the Post-Reform Period (Resident-to-Bed Ratio x Post Year 1)	
	Odds Ratio (95% CI)	P Value
Medical conditions		
Acute myocardial infarction	0.87 (0.79 – 0.97)	0.01
Stroke	1.00 (0.91 – 1.10)	0.96
Gastrointestinal bleeding	1.00 (0.90 – 1.12)	0.95
Congestive heart failure	1.00 (0.93 – 1.07)	0.98
Combined medical conditions	0.97 (0.93 – 1.01)	0.18
Surgical categories		
General surgery	1.02 (0.96 – 1.08)	0.52
Orthopedic surgery	0.96 (0.90 – 1.03)	0.22
Vascular surgery	0.99 (0.86 – 1.13)	0.82
Combined surgical categories	0.99 (0.95 – 1.03)	0.51

¹The Resident-to-bed ratio is a continuous variable that reflects hospital teaching-intensity. Odds ratios represent the regression coefficients from the interaction term (Resident-to-bed ratio x Post Year 1). This term estimates the relative change in outcomes in more-intensive related to less-intensive teaching hospitals in the first year after implementation of duty hour reforms compared to the two years prior the reforms.