Supplementary Online Content

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

eAppendix. Statistical Methods

Physician database

Physicians responsible for care of the patient were identified by linking the National Provider Identifier (NPI) to a database developed by Doximity, a company that provides online professional networking services for U.S. physicians. Doximity has assembled information on physician specialty for all U.S. physicians (including registered members of the service and non-registered physicians) from multiple sources and data partnerships, including the National Plan and Provider Enumeration System NPI Registry, the American Board of Medical Specialties, other specialty societies, state licensing boards, and collaborating hospitals and medical schools. Approximately 95% of physicians in our Medicare sample were matched to the database. Details and validation of the Doximity database are described elsewhere.[1,2]

Statistical analysis

We examined the association between physician gender and patient outcomes (30-day mortality and readmission rates) using multivariable linear probability models.[3] The linear probability model is a special case of a binomial regression model that fits an ordinary least square (OLS) regression to a binary dependent variable.[3,4] The regression coefficients can be interpreted as the differences in the probability of having an event – the adjusted risk difference – and the ease of interpretation often outweigh technical limitations.[3] We used a multivariable linear probability model for two reasons: (A) computational efficiency (given large sample size and >1,000 covariates, including DRG and hospital fixed effects), and (B) problems with complete or quasi-complete separation in logistic regression models (for some of our analyses). As a

sensitivity analysis, we compared the results from logistic regression models and those from linear probability models and showed almost identical results.

We calculated risk-adjusted 30-day mortality and readmission rates by estimating predicted probabilities of outcomes for each hospitalization with the distribution of covariates in the national sample, fixing physician gender at female versus male (known as the marginal standardization form of predictive margins).[5] We used Stata's "margins" command to calculate risk-adjusted patient outcomes for female and male physicians, and the standard errors were obtained using the delta method.[5]

Sensitivity analyses

We conducted several sensitivity analyses. First, to address the possibility that female physicians may treat healthier patients, we restricted the study population to hospitalized patients treated by physicians who specialize in the care of hospitalized patients ("hospitalists"). Hospitalists typically work in shifts; therefore, within the same hospital, patients treated by hospitalists are plausibly quasi-randomized to a given physician based on when patients became sick and on hospitalists' work schedule.[6] We defined hospitalists using a validated approach: general internists with at least 20 evaluation and management (E&M) billings in a given year (equivalent to 5 or more E&M billings in a 5% sample used in the original study) and who filed at least 90% of their total E&M billings in an inpatient setting as defined by Current Procedural Terminology [CPT] codes (99221-99223, 99231-99233, and 99251-99255).[7] This minimum number was required to obtain stable estimates of the proportion of inpatient E&M billings and not to serve as the minimum number of patients treated by hospitalists. This approach for identifying

hospitalists in the Medicare sample has been validated with high sensitivity (84.2%), specificity (96.5%), and positive predictive value (88.9%).[7] Second, to evaluate whether our findings were sensitive to how we attributed patients to physicians, we reanalyzed our data using two alternative attribution methods: (1) attributing patients to physicians who had largest number of E&M claims and (2) attributing patients to physicians who filed the first E&M claim for a given hospitalization.[8-10] Third, we addressed the possibility that within some hospitals internists may practice in intensive care units (in lieu of, or in addition to, critical care specialists) and that male internists are more likely to work in intensive care units and have severely ill patients. To address this issue, we reanalyzed the data after excluding hospitals with a medical ICU. Fourth, to test whether our findings were sensitive to follow-up periods for measuring patient outcomes, we used 60-day mortality and readmissions, instead of 30-day patient outcomes. Fifth, to address the possibility that our age variables (patient age and physician age) may not be granular enough to fully account for the differences, we used age variables as continuous variables with quadratic and cubic terms to allow for non-linear relationships. Lastly, we used logistic regression models instead of linear probability models (with standard errors clustered at the physician level). To overcome a failure of the likelihood maximization algorithm to converge, we combined MS-DRG codes that had no events into clinically similar categories.[11]

eTable 1. *ICD-9* (*International Classification of Diseases, 9th Revision*) Codes

Condition	ICD-9 codes
Sepsis	0031, 0202, 0223, 0362, 0380, 0381, 03810, 03811, 03812, 03819, 0382, 0383, 03840, 03841, 03842, 03843, 03844, 03849, 0388, 0389, 0545, 449, 77181, 7907, 99591, 99592
Pneumonia	00322, 0203, 0204, 0205, 0212, 0221, 0310, 0391, 0521, 0551, 0730, 0830, 1124, 1140, 1144, 1145, 11505, 11515 11595, 1304, 1363, 4800, 4801, 4802, 4803, 4808, 4809, 481, 4820, 4821, 4822, 4823, 48230, 48231, 48232, 48239, 4824, 48240, 48241, 48242, 48249, 4828, 48281, 48282, 48283, 48284, 48289, 4829, 483, 4830, 4831, 4838, 4841, 4843, 4845, 4846, 4847, 4848, 485, 486, 5130, 5171
Congestive heart failure	39891, 4280, 4281, 42820, 42821, 42822, 42823, 42830, 42831, 42832, 42833, 42840, 42841, 42842, 42843, 4289
Chronic obstructive pulmonary disease	490, 4910, 4911, 4912, 49120, 49121, 49122, 4918, 4919, 4920, 4928, 494, 4940, 4941, 496
Urinary tract infection	03284, 59000, 59001, 59010, 59011, 5902, 5903, 59080, 59081, 5909, 5950, 5951, 5952, 5953, 5954, 59581, 59582, 59589, 5959, 5970, 59780, 59781, 59789, 59800, 59801, 5990
Acute renal failure	5845, 5846, 5847, 5848, 5849, 586
Arrhythmia	4270, 4271, 4272, 42731, 42732, 42760, 42761, 42769, 42781, 42789, 4279, 7850, 7851
Gastrointestinal bleeding	4560, 45620, 5307, 53082, 53100, 53101, 53120, 53121, 53140, 53141, 53160, 53161, 53200, 53201, 53220, 53221, 53240, 53241, 53260, 53261, 53300, 53301, 53320, 53321, 53340, 53341, 53360, 53361, 53400, 53401, 53420, 53421, 53440, 53441, 53460, 53461, 5693, 5780, 5781, 5789

eTable 2. Hospital and Patient Characteristics by Physician Gender

		Female physicians N=18,751	Male physicians N=39,593
Hospital characteristics			
Hospital size	Small (<100 beds)	1,085 (6.1%)	3,268 (8.6%)
	Medium (100-399 beds)	9,280 (52.1%)	21,281 (55.7%)
	Large (≥400 beds)	7,460 (41.9%)	13,628 (35.7%)
Teaching status	Major	5,168 (29.0%)	8,061 (21.1%)
	Minor	6,119 (34.3%)	13,015 (34.1%)
	Non-teaching	6,538 (36.7%)	17,101 (44.8%)
Hospital region	Northeast	4,746 (26.8%)	8,574 (22.7%)
	Midwest	4,057 (22.9%)	9,148 (24.2%)
	South	5,517 (31.1%)	13,167 (34.8%)
	West	3,402 (19.2%)	6,903 (18.3%)
Profit status	For-profit	1,932 (10.8%)	5,411 (14.2%)
	Nonprofit	13,947 (78.2%)	28,850 (75.6%)
	Public	1,946 (10.9%)	3,916 (10.3%)
RUCA	Urban	15,669 (89.3%)	31,810 (84.7%)
	Suburban	326 (1.9%)	830 (2.2%)
	Large rural	1,262 (7.2%)	3,886 (10.4%)
	Small rural	293 (1.7%)	1,029 (2.7%)
ICU	No	2,135 (11.9%)	5,355 (13.9%)
	Yes	15,797 (88.1%)	33,102 (86.1%)
Patient characteristics			
Average length of stay, days (SD)		4.6 (3.9)	4.8 (4.0)
Primary diagnosis*	Respiratory system	87,339 (21.0%)	272,974 (22.7%)
	Circulatory system	75,318 (18.1%)	221,440 (18.5%)
	Kidney & urinary tract	48,596 (11.7%)	132,748 (11.1%)
	Infectious & parasitic disease	40,450 (9.7%)	121,140 (10.1%)
	Digestive system	43,579 (10.5%)	122,097 (10.2%)
	Nervous system	35,973 (8.7%)	101,689 (8.5%)
	Others	84,304 (20.3%)	228,208 (19.0%)
Discharge location	Home	244,069 (58.7%)	691,535 (57.6%)
	Skilled nursing facility	110,364 (26.6%)	316,375 (26.4%)
	Rehabilitation facility	10,076 (2.4%)	29,854 (2.5%)
	Hospice	19,838 (4.8%)	53,408 (4.5%)
	Others	31,212 (7.5%)	109,124 (9.1%)

All p-values <0.001. Numbers are No. (%). Abbreviations: RUCA, rural-urban commuting area; ICU, intensive care unit; SD, standard deviation *Defined using Major Diagnostic Category (MDC).

eTable 3. Association Between Physician Gender and Patient Outcomes by Expected Mortality Rates

	Quintile of predicted mortality	No. of hospitalizations (No. of physicians)	Adjusted 30-day patient outcomes		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	1st (Lowest)	256,125 (37,348)	**1.06%** (0.98% to 1.14%)	**1.16%** (1.11% to 1.21%)	**-0.10%** (-0.20% to -0.01%)	0.04
	2nd	256,710 (37,500)	**2.98%** (2.84% to 3.11%)	**3.08%** (3.00% to 3.16%)	**-0.10%** (-0.27% to +0.06%)	0.21
	3rd	256,631 (37,529)	**6.10%** (5.90% to 6.29%)	**6.43%** (6.32% to 6.54%)	**-0.33%** (-0.57% to -0.10%)	0.005
	4th	256,476 (37,340)	**12.77%** (12.49% to 13.05%)	**13.39%** (13.23% to 13.54%)	**-0.62%** (-0.95% to -0.29%)	<0.001
	5th (Highest)	257,636 (36,660)	**32.29%** (31.89% to 32.69%)	**33.32%** (33.10% to 33.54%)	**-1.03%** (-1.51% to -0.56%)	<0.001
30-day readmission rate	1st (Lowest)	249,347 (37,279)	**10.45%** (10.19% to 10.70%)	**10.71%** (10.57% to 10.85%)	**-0.26%** (-0.56% to +0.04%)	0.09
	2nd	249,779 (37,496)	**13.59%** (13.31% to 13.88%)	**14.18%** (14.02% to 14.33%)	**-0.58%** (-0.92% to -0.25%)	0.001
	3rd	249,878 (37,577)	**15.92%** (15.62% to 16.22%)	**16.53%** (16.37% to 16.70%)	**-0.62%** (-0.97% to -0.26%)	0.001
	4th	249,915 (37,142)	**17.56%** (17.25% to 17.87%)	**18.26%** (18.09% to 18.44%)	**-0.70%** (-1.07% to -0.33%)	<0.001
	5th (Highest)	250,221 (36,671)	**17.63%** (17.32% to 17.94%)	**18.12%** (17.95% to 18.29%)	**-0.49%** (-0.86% to -0.12%)	0.01

Risk-adjusted patient outcomes with additional adjustment for physician characteristic and with hospital fixed effects (Model 3). Standard errors were clustered at the physician level.

The *P* value for interaction was <.001 for the mortality analysis and .39 for the readmission analysis.

eTable 4. Analysis of Potential Mechanisms

		No. of hospitalizations (No. of physicians)	Patients' adjusted outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Additional adjustment for LOS	1,283,275 (46,199)	**11.05%** (10.93% to 11.17%)	**11.50%** (11.43% to 11.57%)	**-0.45%** (-0.60% to -0.31%)	<0.001
	Additional adjustment for use of care*	1,283,621 (46,201)	**11.08%** (10.95% to 11.20%)	**11.49%** (11.42% to 11.56%)	**-0.42%** (-0.56% to -0.27%)	<0.001
	Additional adjustment for discharge location	1,283,621 (46,201)	**11.16%** (11.07% to 11.26%)	**11.46%** (11.41% to 11.52%)	**-0.30%** (-0.42% to -0.18%)	<0.001
	Additional adjustment for patient volume	1,283,621 (46,201)	**10.93%** (10.81% to 11.05%)	**11.54%** (11.47% to 11.61%)	**-0.61%** (-0.75% to -0.46%)	<0.001
	Additional adjustment for physicians' years in practice	771,270 (31,420)	**11.13%** (10.98% to 11.29%)	**11.47%** (11.39% to 11.56%)	**-0.34%** (-0.52% to -0.15%)	<0.001
30-day readmission rate	Additional adjustment for LOS	1,248,831 (46,203)	**15.05%** (14.91% to 15.19%)	**15.56%** (15.49% to 15.64%)	**-0.51%** (-0.67% to -0.35%)	<0.001
	Additional adjustment for use of care*	1,249,210 (46,205)	**15.08%** (14.94% to 15.22%)	**15.55%** (15.47% to 15.62%)	**-0.47%** (-0.63% to -0.31%)	<0.001
	Additional adjustment for discharge location	1,249,210 (46,205)	**15.05%** (14.91% to 15.18%)	**15.56%** (15.48% to 15.63%)	**-0.51%** (-0.67% to -0.35%)	<0.001
	Additional adjustment for patient volume	1,249,210 (46,205)	**15.11%** (14.97% to 15.24%)	**15.54%** (15.46% to 15.61%)	**-0.43%** (-0.59% to -0.27%)	<0.001
	Additional adjustment for physicians' years in practice	746,971 (31,353)	**14.90%** (14.73% to 15.07%)	**15.31%** (15.22% to 15.41%)	**-0.41%** (-0.61% to -0.21%)	<0.001

*Defined as total Part B spending per hospitalization, standardized for geographical differences using the CMS method.

Risk-adjusted patient outcomes with additional adjustment for physician characteristic and with hospital fixed effects (Model 3). Standard errors were clustered at the physician level.

LOS denotes length of stay. LOS and use of care were used as continuous variables with quadratic and cubic terms, patient volume was categorized in deciles, and physicians' years in practice was categorized in 5-year increments.

eTable 5. Association Between Physician Gender and Patient Outcomes Among Hospitalist Physicians

		No. of hospitalizations (No. of physicians)	Patient outcomes		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	931,397 (24,429)	**10.57%** (10.44% to 10.69%)	**11.21%** (11.12% to 11.30%)	**-0.65%** (-0.80% to -0.49%)	<0.001
	Model 2: Model 1 + hospital fixed effects	931,394 (24,429)	**10.68%** (10.56% to 10.80%)	**11.16%** (11.08% to 11.24%)	**-0.48%** (-0.64% to -0.33%)	<0.001
	Model 3: Model 2 + physician characteristics	737,986 (18,883)	**10.80%** (10.66% to 10.94%)	**11.17%** (11.08% to 11.26%)	**-0.37%** (-0.55% to -0.19%)	<0.001
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	914,108 (24,461)	**14.65%** (14.51% to 14.80%)	**15.10%** (15.00% to 15.20%)	**-0.45%** (-0.62% to -0.27%)	<0.001
	Model 2: Model 1 + hospital fixed effects	914,108 (24,461)	**14.59%** (14.45% to 14.72%)	**15.13%** (15.04% to 15.22%)	**-0.54%** (-0.71% to -0.37%)	<0.001
	Model 3: Model 2 + physician characteristics	724,539 (18,906)	**14.64%** (14.48% to 14.79%)	**15.11%** (15.02% to 15.21%)	**-0.47%** (-0.67% to -0.28%)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

eTable 6. Association Between Physician Gender and Patient Outcomes, With Patient Outcomes Attributed to Physicians Who Accounted for Largest Number of Evaluation and Management Claims

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	1,554,208 (135,249)	**10.83%** (10.72% to 10.94%)	**11.31%** (11.25% to 11.38%)	**-0.48%** (-0.61% to -0.36%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,554,208 (135,249)	**10.94%** (10.84% to 11.05%)	**11.28%** (11.22% to 11.34%)	**-0.33%** (-0.46% to -0.21%)	<0.001
	Model 3: Model 2 + physician characteristics	1,278,404 (113,491)	**11.12%** (11.00% to 11.25%)	**11.26%** (11.20% to 11.33%)	**-0.14%** (-0.28% to 0.00%)	0.051
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	1,511,279 (133,160)	**15.11%** (14.98% to 15.24%)	**15.58%** (15.51% to 15.66%)	**-0.47%** (-0.62% to -0.32%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,511,279 (133,160)	**15.13%** (15.00% to 15.25%)	**15.58%** (15.51% to 15.65%)	**-0.45%** (-0.59% to -0.30%)	<0.001
	Model 3: Model 2 + physician characteristics	1,243,155 (111,714)	**15.12%** (14.98% to 15.27%)	**15.59%** (15.51% to 15.66%)	**-0.47%** (-0.63% to -0.30%)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

When there were multiple physicians billing equal number of E&M claims for a given hospitalization, we randomly picked one physician among the group of physicians with the largest number of E&M claims. This is why the sample sizes were different from our main model.

eTable 7. Association Between Physician Gender and Patient Outcomes, With Patient Outcomes Attributed to Physicians Who Billed the First Evaluation and Management Claim

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	1,536,205 (156,166)	**10.83%** (10.73% to 10.93%)	**11.32%** (11.25% to 11.38%)	**-0.49%** (-0.61% to -0.37%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,536,205 (156,166)	**10.93%** (10.83% to 11.03%)	**11.29%** (11.23% to 11.34%)	**-0.36%** (-0.47% to -0.24%)	<0.001
	Model 3: Model 2 + physician characteristics	1,263,893 (131,262)	**11.14%** (11.03% to 11.26%)	**11.32%** (11.26% to 11.38%)	**-0.17%** (-0.31% to -0.04%)	0.01
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	1,493,582 (155,475)	**15.14%** (15.01% to 15.27%)	**15.53%** (15.46% to 15.60%)	**-0.39%** (-0.54% to -0.24%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,493,582 (155,475)	**15.18%** (15.06% to 15.30%)	**15.52%** (15.45% to 15.59%)	**-0.34%** (-0.48% to -0.20%)	<0.001
	Model 3: Model 2 + physician characteristics	1,228,798 (130,637)	**15.20%** (15.06% to 15.34%)	**15.55%** (15.48% to 15.62%)	**-0.35%** (-0.51% to -0.19%)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

eTable 8. Association Between Physician Gender and 30-Day Patient Mortality, Excluding Hospitals With a Medical ICU

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	204,449 (11,916)	**11.11%** (10.80% to 11.42%)	**11.68%** (11.49% to 11.86%)	**-0.57%** (-0.93% to -0.20%)	0.002
	Model 2: Model 1 + hospital fixed effects	204,445 (11,914)	**11.17%** (10.87% to 11.47%)	**11.66%** (11.49% to 11.83%)	**-0.49%** (-0.84% to -0.13%)	0.01
	Model 3: Model 2 + physician characteristics	167,220 (9,598)	**11.16%** (10.80% to 11.53%)	**11.78%** (11.60% to 11.96%)	**-0.62%** (-1.04% to -0.19%)	0.004
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	196,032 (11,136)	**15.21%** (14.82% to 15.60%)	**15.96%** (15.74% to 16.17%)	**-0.74%** (-1.18% to -0.30%)	0.001
	Model 2: Model 1 + hospital fixed effects	196,032 (11,136)	**15.46%** (15.10% to 15.83%)	**15.88%** (15.70% to 16.06%)	**-0.42%** (-0.84% to -0.001%)	0.049
	Model 3: Model 2 + physician characteristics	160,172 (8,969)	**15.34%** (14.92% to 15.75%)	**15.94%** (15.74% to 16.13%)	**-0.60%** (-1.08% to -0.12%)	0.01

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

eTable 9. Association Between Physician Gender and 60-Day Patient Outcomes

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
60-day mortality rate	Model 1: Risk-adjusted 60-day mortality rate*	1,553,050 (57,591)	**15.07%** (14.95% to 15.19%)	**15.88%** (15.80% to 15.96%)	**-0.81%** (-0.96% to -0.66%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,553,047 (57,591)	**15.20%** (15.09% to 15.32%)	**15.84%** (15.76% to 115.91%)	**-0.63%** (-0.77% to -0.49%)	<0.001
	Model 3: Model 2 + physician characteristics	1,260,252 (46,015)	**15.36%** (15.22% to 15.49%)	**15.88%** (15.80% to 15.96%)	**-0.52%** (-0.69% to -0.36%)	<0.001
60-day readmission rate	Model 1: Risk-adjusted 60-day readmission rate*	1,512,895 (57,561)	**22.53%** (22.38% to 22.68%)	**23.19%** (23.09% to 23.29%)	**-0.66%** (-0.84% to -0.48%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,512,895 (57,561)	**22.57%** (22.43% to 22.71%)	**23.18%** (23.10% to 23.26%)	**-0.61%** (-0.78% to -0.44%)	<0.001
	Model 3: Model 2 + physician characteristics	1,227,536 (46,010)	**22.62%** (22.46% to 22.78%)	**23.19%** (23.10% to 23.28%)	**-0.57%** (-0.76% to -0.37%)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

eTable 10. Association Between Physician Gender and Patient Outcomes, With Physician Age and Patient Age Modeled as Continuous Variables

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted risk difference (95%CI) Female − Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	1,583,028 (57,896)	**10.82%** (10.71% to 10.93%)	**11.49%** (11.42% to 11.56%)	**-0.67%** (-0.80% to -0.54%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,583,024 (57,896)	**10.91%** (10.81% to 11.01%)	**11.46%** (11.40% to 11.52%)	**-0.55%** (-0.67% to -0.42%)	<0.001
	Model 3: Model 2 + physician characteristics	1,283,621 (46,201)	**11.07%** (10.95% to 11.20%)	**11.49%** (11.42% to 11.56%)	**-0.42%** (-0.56% to -0.27%)	<0.001
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	1,540,797 (57,876)	**15.01%** (14.89% to 15.14%)	**15.57%** (15.49% to 15.65%)	**-0.56%** (-0.70% to -0.41%)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,540,797 (57,876)	**15.00%** (14.89% to 15.13%)	**15.57%** (15.50% to 15.64%)	**-0.56%** (-0.70% to -0.42%)	<0.001
	Model 3: Model 2 + physician characteristics	1,249,210 (46,205)	**15.02%** (14.88% to 15.15%)	**15.57%** (15.49% to 15.64%)	**-0.55%** (-0.71% to -0.39%)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

eTable 11. Association Between Physician Gender and Patient Outcomes Using Logistic Regression Models

		No. of hospitalizations (No. of physicians)	Patient outcomes (95%CI)		Adjusted odds ratio (95%CI) Female vs Male	p-value
			Female physicians	Male physicians		
30-day mortality rate	Model 1: Risk-adjusted 30-day mortality rate*	1,582,979 (57,895)	**10.81%** (10.70% to 10.92%)	**11.49%** (11.42% to 11.56%)	**0.92** (0.91 to 0.94)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,582,031 (57,731)	**10.90%** (10.80% to 11.01%)	**11.47%** (11.41% to 11.53%)	**0.93** (0.92 to 0.95)	<0.001
	Model 3: Model 2 + physician characteristics	1,282,626 (46,059)	**11.07%** (10.94% to 11.19%)	**11.50%** (11.43% to 11.57%)	**0.95** (0.93 to 0.97)	<0.001
30-day readmission rate	Model 1: Risk-adjusted 30-day readmission rate*	1,540,793 (57,876)	**15.02%** (14.89% to 15.14%)	**15.57%** (15.49% to 15.64%)	**0.96** (0.95 to 0.97)	<0.001
	Model 2: Model 1 + hospital fixed effects	1,540,044 (57,706)	**15.02%** (14.90% to 15.14%)	**15.57%** (15.50% to 15.64%)	**0.96** (0.95 to 0.97)	<0.001
	Model 3: Model 2 + physician characteristics	1,248,503 (46,036)	**15.03%** (14.89% to 15.16%)	**15.57%** (15.50% to 15.65%)	**0.96** (0.95 to 0.97)	<0.001

*Risk-adjustment using patients' age, gender, race, primary diagnosis, coexisting conditions (Elixhauser comorbidity index), median household income, Medicaid status, and year indicators.

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